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Revitalizing Auto Communities Environmental Response (RACER) Trust

2015-2016 ANNUAL GROUNDWATER MONITORING REPORT

Plants 2, 3, and 6 Industrial Land

Lansing, Michigan

June 27, 2016

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ACRONYMS AND ABBREVIATIONS

Annual Report	2015-2016 Annual Groundwater Monitoring Report
APC	Adam's Plating Company
Arcadis	Arcadis of Michigan, LLC
bgs	below ground surface
COC	constituent of concern
DW	Drinking Water
FSP	Field Sampling Plan
ft/ft	foot per foot
GSI	Groundwater Surface Water Interface
IGMP	Revised Interim Groundwater Monitoring Work Plan
LNAPL	light non-aqueous phase liquid
MDEQ	Michigan Department of Environmental Quality
mg/L	milligrams per liter
NTU	nephelometric turbidity units
PCE	tetrachloroethene
QAPP	Quality Assurance Project Plan
QC	quality control
RACER Trust	Auto Communities Environmental Response Trust
RFI	Resource Conservation and Recovery Act Facility Investigation
RFI Supplemental Report	RFI Supplemental Phase 2 Activities Summary Report
SDG	sample delivery group
SIM	selected ion monitoring
Site	RACER Trust Plants 2, 3, and 6 located in Lansing, Michigan
SOP	Standard Operating Procedure
SVOC	semi-volatile organic compound
TAL	Target Analyte List
TCL	Target Compound List
TDS	total dissolved solids
µg/L	micrograms per liter
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound

EXECUTIVE SUMMARY

This 2015-2016 Annual Groundwater Monitoring Report (Annual Report) has been prepared on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust in support of the Resource Conservation and Recovery Act Facility Investigation and draft Corrective Measures Study prepared for RACER Trust Plants 2, 3, and 6, located in Lansing, Michigan (Site).

This Annual Report summarizes groundwater monitoring completed between June 2015 and March 2016. Based on the results of sampling and review of the updated plume stability evaluation, Arcadis of Michigan, LLC (Arcadis) offers the following conclusions:

- Groundwater Potentiometric Surface Maps – Contour maps for the three saturated zones at the Site illustrate a complex hydrogeologic system. The potentiometric surface in the perched zone has been relatively stable to increasing since monitoring began at the Site. Potentiometric trends within the lower zones (deep overburden, weathered bedrock, and bedrock) are highly variable, likely related to changes in municipal pumping.
- Light Non-Aqueous Phase Liquid (LNAPL) – Trend plots indicate that, when present, LNAPL gradually increases in thickness until reaching equilibrium within the well and stabilizing; there is no indication of LNAPL migration.
- Analytical Results – Indicate that concentrations of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals exceed Residential Drinking Water (DW) Criteria during at least one event at the Site. Other than nickel, vanadium, and arsenic, impacts noted at the property boundary do not exceed current DW Criteria. The elevated concentrations of metals are in some cases a result of natural geochemical conditions and/or slight shifts in Site geochemistry associated with the presence of LNAPL or VOCs. The exception is nickel on the eastern boundary of Plant 3, which is attributed to off-site activities.
- Storm Sewer Sampling – No exceedances of the Groundwater-Surface Water Interface (GSI) Criteria were detected during the sampling event. Annual sampling will continue in accordance with the Revised Interim Groundwater Monitoring Work Plan (IGMP; Arcadis 2014a).
- Geochemical Signature Evaluation – Variability in the geochemical data and groundwater signatures suggest hydraulic connections between the perched and deep overburden and weathered bedrock zones, but these may be spatially discontinuous. There does not appear to be a consistent difference in geochemical signatures between the perched and weathered bedrock zones; rather, geochemical signatures appear to vary within each zone. There are similarities between perched zone and weather bedrock zone geochemical signatures in some areas (for example, the western and central-eastern portions of Plant 2) and indicate a mixed groundwater signature, suggesting there may be some seepage between the perched zone and deep overburden/weathered bedrock in these areas.
- Examination of Geochemical Indicator Parameters – Groundwater at the Site is mildly reducing in all three groundwater-bearing zones evaluated (perched, deep overburden, and weathered bedrock). As previously indicated, reducing conditions tend to mobilize metals associated with iron minerals (e.g., arsenic, copper, cobalt, iron, manganese, nickel, lead, vanadium, and zinc). The pattern and concentrations of metal exceedances at the Site are consistent with slight shifts in the geochemical

environment from more to less iron reducing, and vice versa, leading to sporadic and inconsistent exceedances for some or all of these metals which, in the majority of cases, are not linked to Site-related sources. Elevated metals coincident with more strongly reducing conditions associated with VOC impacts are generally limited in extent.

- The occurrence of groundwater containing methane and oxygen in close proximity, and often together, indicates a capacity for biological degradation of both VOCs and 1,4-dioxane within both the perched and lower water-bearing zones.
- Plume Stability – Results of the updated statistical analysis are consistent with the findings of the 2014-2015 plume stability assessment (Arcadis 2015d) and the 2014 preliminary plume stability assessment (Arcadis 2014b). Recent data support the determination that stable or decreasing VOCs with elevated concentrations of metals are a result of minor shifts in Site geochemistry.
    - Concentrations of 1,4-dioxane in the perched zone are considered stable based on analysis of the existing dataset, and 1,4-dioxane has not been detected in monitoring wells installed around the perimeter of the perched plume; these appear to be receding from the eastern Plant 6 property boundary.
    - Concentrations of 1,4-dioxane in the deep overburden and weathered bedrock exhibit an increasing trend at several monitoring wells located downgradient of the Plant 3 source area and at Plant 2 along the plume axis and at the toe. However, datasets at many locations are limited to 3 years or less, and it is difficult to distinguish between increasing trends and inherent variability that may be significant at this Site due to complex flow pathways inherent to the weathered bedrock zone. Source area concentrations at Plant 3 appear to have stabilized in the recent monitoring events. In June 2016, additional monitoring wells were installed to provide increased monitoring at the downgradient perimeter of the lower plume and further evaluate plume stability and potential for migration.
    - Additional work will be completed at Plant 2 in June 2016 to further evaluate the connection between perched and weathered bedrock 1,4-dioxane plumes, evaluate the migration and stability of the lower 1,4-dioxane plume, and install additional sentinel monitoring wells.
- The Lansing Township municipal water supply wells, located west of Plants 2 and 3 (TWP-Well #3, TWP-Well #4 and TWP-Well #5), were sampled in spring 2016. 1.4-Dioxane was not detected in these wells.

  Based on these conclusions, no immediate action is recommended at this time. Monitoring at these locations will continue per the IGMP (Arcadis 2014a) through the second quarter biennial event. Changes to the IGMP will be evaluated as part of the second quarter 2016 reporting.

1 INTRODUCTION

Arcadis of Michigan, LLC (Arcadis) prepared this 2015-2016 Annual Groundwater Monitoring Report (Annual Report) on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust in support of the Resource Conservation and Recovery Act Facility Investigation (RFI) and draft Corrective Measures Study prepared for RACER Trust Plants 2, 3, and 6 located in Lansing, Michigan (Site). Figure 1 provides the location of the Site. This Annual Report summarizes groundwater monitoring completed between June 2015 and March 2016, consistent with the requirements of the Revised Interim Groundwater Monitoring Work Plan (IGMP, Arcadis 2014a), approved in revised form by the Michigan Department of Environmental Quality (MDEQ) on November 19, 2014.

To date, quarterly groundwater monitoring reports have been provided to the MDEQ following each sampling event. As outlined by the IGMP, this Annual Report includes quarterly data (e.g., tabulated data, figures, analytical narrative) and provides the following:

- Objective and scope of the sampling events
- Summary of groundwater elevations and light non-aqueous phase liquid (LNAPL) gauging data, including contour maps and trend plots
- Summary of LNAPL recovery completed in accordance with the 2015 LNAPL Removal Work Plan (Arcadis 2015)
- Updated plume stability and geochemical discussion
- Geochemical signature evaluation of the perched and weathered bedrock groundwater at Plant 2
- Conclusions and recommendations for revisions to the IGMP, as appropriate.

2 SAMPLING METHODS

The following subsections provide a brief outline of the sampling methodology used at the Site. The IGMP is based on the Interim Groundwater Monitoring Work Plan (Arcadis 2013a), modified per the conclusions presented in the Preliminary Groundwater Geochemical and Plume Stability Assessment (Arcadis 2014b), as well as communication with the MDEQ. The Field Sampling Plan (FSP; Arcadis 2011a) provides detailed methodology regarding the collection of groundwater samples and includes appropriate Arcadis Standard Operating Procedures (SOPs).

2.1 Groundwater Monitoring Methods

During the second and fourth quarter 2015 semiannual sampling events, and prior to sample collection, site-wide gauging was completed using an electronic water level meter or oil/water interface probe (for LNAPL monitoring wells). Gauging was completed within a 24-hour period, with few exceptions due to access or other issues. During the third quarter 2015 and first quarter 2016 sampling events, gauging was limited to those wells selected for sampling and LNAPL monitoring. Groundwater samples were collected in a manner consistent with the low-flow sampling techniques outlined in the FSP (Arcadis 2011a), Arcadis' SOP for low-flow sample collection, and generally consistent with the MDEQ's Remediation and Redevelopment Division Op Memo 2, Attachment 5. An emphasis was placed on collecting low-turbidity samples (less than 10 nephelometric turbidity units [NTU]) for metals analysis.

Groundwater samples were analyzed following the MDEQ's RRD Op Memo 2, Attachment 5 guidelines, as established in the Resource Conservation and Recovery Act Facility Investigation Work Plan (Phase 1; Arcadis 2011b). The IGMP provides the rationale for selecting the monitoring constituents of concern (COCs) in detail. The sampling matrix provided as part of the IGMP is included as Table 1. In general, groundwater samples were submitted for analysis for one or more of the following:

- 1,4-Dioxane by United States Environmental Protection Agency (USEPA) Method 8260B selected ion monitoring (SIM)
- Target Compound List (TCL) volatile organic compounds (VOCs), as defined in Table 3 of the Quality Assurance Project Plan (QAPP; Arcadis 2011c), by USEPA Method 8260B
- Total metals (varied combinations of the following: antimony, arsenic, barium, boron, cadmium, total chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc) by USEPA Method 6020, and, at discrete locations, metals associated with known impacts (e.g., hexavalent chromium in Area 14 at Plant 3)
    - Filtered metals were submitted for specific wells in the event that turbidity below 10 NTU could be achieved during purging (USEPA Method 6020)
- Semi-volatile organic compounds (SVOCs) by USEPA Method 8270
- Geochemical parameters: sulfate, nitrate, methane, dissolved and total iron, manganese, and field parameters (pH, dissolved oxygen [DO], and oxidation-reduction potential).

As part of the IGMP, monitoring wells that had been sampled less than four times (primarily new wells) were sampled quarterly for all parameters until sufficient data were available to evaluate the relevant list

of COCs and plume stability at that location if applicable. Changes to sampling frequency, COC list, and any other proposed changes to the IGMP will be evaluated and proposed following the second quarter biennial sampling event.

Field quality control (QC) samples were collected and analyzed in accordance with the QAPP (Arcadis 2011c). One sample delivery group (SDG) per plant was reported by the laboratory at a Level 3 (full reporting) QC package, and the remainder were reported at a Level 2 (modified reporting) QC package. The Level 3 data package underwent complete validation/verification as described in the FSP and QAPP (Arcadis 2011a, 2011c, respectively). This varies from the approved QAPP, which requires all datasets to be fully validated. This quality assurance/QC approach is sufficient for quarterly validation, which does not require the same rigor as the RFI data.

2.1.1 Municipal Well Sampling

Sampling of the Lansing Township wells (TWP-Well #3, TWP-Well #4, and TWP-Well #5) were initially completed in January 2016. However, at that time, TWP-Well #3 was not operational and not available for sampling. TWP-Well #3 was back online and sampled in May 2016. The locations of the municipal wells are included on a figure provided in Appendix H. Samples were collected from the sampling port during normal well operations and submitted to Merit Laboratories in Lansing, Michigan for analysis of 1,4-dioxane using USEPA Method 8260 SIM. Samples from TWP-Well #3 were also submitted for VOC analysis. 1,4-Dioxane was not detected at any of the three wells, and no other compound exceeded Part 201 Criteria. A summary of the municipal well analytical data is included in Appendix H, along with the laboratory analytical reports.

2.2 Geochemical Signature Evaluation

A geochemical evaluation of 11 monitoring wells on Plant 2 was performed to compare “geochemical signatures” between the shallow and deep zones. The selected wells were analyzed for the following parameters:

- Magnesium, sodium, potassium, and calcium using Method SW6020A
- Chloride using Method E300.0
- Sulfate using Method E300.0
- Total alkalinity using Method SM2320B.

2.3 Light Non-Aqueous Phase Liquid Monitoring

LNAPL thicknesses in monitoring wells are monitored to verify that LNAPL is stable and not migrating. LNAPL monitoring wells were gauged quarterly with an oil/water interface probe. Gauging methods were consistent with the 2013 Interim Groundwater Monitoring Work Plan (Arcadis 2013a), approved by the MDEQ on June 6, 2013, which builds on procedures outlined in the FSP (Arcadis 2011a).

2.4 LNAPL Recovery

As outlined in the Summary of LNAPL Transmissivity Results memorandum (Arcadis 2015a) and the LNAPL Removal Work Plan (Arcadis 2015b), LNAPL removal efforts at Plant 2 were completed quarterly, beginning in the second quarter of 2015. Removal of LNAPL is documented quarterly as part of the quarterly groundwater monitoring reports. LNAPL recovery from the second quarter of 2015 through the first quarter of 2016 is summarized in **Table 4**. LNAPL removal will continue through the end of 2018 or until there is no longer accumulation of greater than 1 foot of LNAPL in a well from one quarterly bailing event to the next, whichever occurs first. If bailing continues through the end of 2018, the benefit of continued LNAPL removal will be evaluated as part of the 5-year review.

2.5 Groundwater Elevation Monitoring

Monitoring wells were gauged during semi-annual events using an electronic water level meter within a 24-hour period. Gauging methods were consistent with the IGMP and FSP (Arcadis 2011a).

2.6 Annual Storm Sewer Sampling

The RFI Supplemental Phase 2 Activities Summary Report (Arcadis 2014c) summarizes historical storm sewer sampling. Consistent with the IGMP, on November 20, 2015, seven storm sewer samples were collected and analyzed for the following:

- TCL VOCs using USEPA Method SW8260B
- 1,4-Dioxane using Method SW8260B-SIM
- Target Analyte List (TAL) metals (antimony, arsenic, barium, boron, cadmium, chromium, hexavalent chromium, cobalt, copper, lead, manganese, mercury [Method 7471B], nickel, selenium, silver, vanadium, and zinc) using Method SW6020A.

At each location, a grab sample was collected with a peristaltic pump. Storm sewer samples were only collected after an extended period (5 days or more) of less than 0.25 inch of cumulative precipitation. Dry conditions verified that the storm sewer samples were representative of base-flow groundwater conditions.

One sampling location (P3-MH-S) could not be located during the November 2015 sampling event, and may be buried under gravel. This location will be relocated during the fourth quarter 2016 storm sewer sampling.

3 RESULTS

The following subsections provide a summary of the sampling activities completed between June 2015 and March 2016. Table 2 provides a complete summary of groundwater analytical data. Figures illustrating the exceedances of the Part 201 Residential Drinking Water (DW) Criteria for each quarterly event are provided as Appendix A. Appendix B provides the validated laboratory analytical reports.

3.1 Groundwater Monitoring Results

Quarterly monitoring under the IGMP began in May 2014 following two site-wide annual events completed in 2012 and 2013. The IGMP was revised several times in 2014 based on MDEQ comments. Further revisions to the IGMP were approved in August 2015 to incorporate an updated understanding of plume stability based on data collected and time-series concentrations trends at that time. The following table summarizes dates of the quarterly events, the version of the IGMP used at that time, and deviations from the IGMP:

Event Date	Event Type	Version of IGMP	Deviations from Plan
June 1 through 21, 2015	Semi-Annual	November 2014	MW-14-68 and MW-14-69 were dry and could not be sampled*
September 8 through 11, 2015	Quarterly	August 2015	None
November 30 through December 9, 2015	Semi-Annual	August 2015	None
March 14 through 17, 2016	Quarterly	August 2015	None

* = MW-14-68 and MW-14-69 were installed to verify that the lower zones on Plant 6 are not saturated migration zones for 1,4-dioxane.

Figures 2 and 3 illustrate monitoring well locations and the extent of groundwater impacts. The following provides a general discussion of the groundwater analytical results and trends throughout the year:

- VOCs and SVOCs exceeding DW Criteria during at least one event include bis(2-ethylhexyl)phthalate, 1,4-dioxane, 1,1-dichloroethene, tetrachloroethene (PCE), vinyl chloride (VC), benzene, ethylbenzene, and total xylenes.

Previous correspondence with Merit Laboratories, Inc. has indicated that the persistent low-level phthalates detected in groundwater at the Site are associated with laboratory cross-contamination.

- Metals exceeding DW Criteria during at least one event include arsenic, copper, chromium, lead, iron, manganese, nickel, sodium, and vanadium throughout the Site (Appendix A). Iron and sodium were collected as part of the geochemical evaluation and are believed to represent background conditions.
- Hexavalent chromium (chromium VI) exceeded the DW criterion at monitoring well CH-14-RO in the north-central portion of Plant 3 near the former plating operation. This is consistent with previous groundwater investigation and monitoring results. Chromium VI concentrations continue to demonstrate a consistent decreasing trend at CH-14-RO.

During the monitoring period, there were several detections of COCs observed in weathered bedrock at or near the property boundary. The following outlines these detections and proposes one or more explanations for the occurrence:

- MW-14-58 - The concentration of 1,4-dioxane at MW-14-58, located in the perched zone, has ranged from 24 to 46 micrograms per liter (µg/L) during the monitoring period; consistently below the current 1,4-dioxane DW Criteria of 85 µg/L, but above the proposed DW criteria of 7.2 µg/L. As previously reported, the detections of 1,4-dioxane at this location could be associated with the perched plume at Plant 2, or commingled with the former Adam's Plating Company (APC) perched groundwater plume. Possible commingling of APC and RACER Trust impacts complicates further delineation to the west. Based on the most recent sampling event completed by the MDEQ at the APC Site (October 2014), 1,4-dioxane within the perched zone is delineated to the west by existing APC monitoring wells. Appendix C includes the October 2014 APC sampling results.
- MW-13-42 – An existing weathered bedrock monitoring well located west of the lower 1,4-dioxane plume. 1,4-Dioxane has been detected at concentrations near the western Plant 2 property boundary below the current DW Criteria, but above the proposed DW Criteria. The concentration has ranged from 14 µg/L to 20 µg/L during three of the previous four quarters. This well consistently contains a very low volume of water, and was dry during the December 2015 sampling event. The plume stability analysis outlined in Section 4 confirms an increasing trend at this location. This could be due to slow spreading as the lower 1,4-dioxane impacts encounter the Saginaw Formation on the northern portion of Plant 2. Well MW-15-73 was installed to a slightly deeper depth in December 2015 west of MW-13-42 to act as a replacement and provide delineation along the western portion of the lower 1,4-dioxane plume.
- MW-15-73 – A weathered bedrock well installed in December 2015 located along the western property boundary of Plant 2. MW-15-73 was sampled for the first time during the March 2016 quarterly sampling event. 1,4-Dioxane was detected at 6 µg/L, which is below the current and proposed DW criteria.
- MW-14-56, a weathered bedrock well located near the western Plant 2 property boundary. 1,4-Dioxane was detected at concentrations ranging from 7 to 9 µg/L during the past four quarterly sampling events and the plume at this location appears to be stable. As discussed with the MDEQ on January 2016, results along W. Genesee Street from the December 2015 1,4-Dioxane Plume Toe Investigation (Arcadis 2016), suggest that this detection could be related to a deeper 1,4-dioxane impact associated with the former APC.
- MW-13-32 – A well located in the southeastern corner of Plant 3 within Area 16. Total nickel was detected at a concentration of 3.63 milligrams per liter (mg/L; DW criterion: 0.10 mg/L) during the December 2015 sampling event. Total nickel was also detected during the same event at a concentration of 20.7 mg/L at MW-13-31 (located west of MW-13-32). Well MW-13-31 is installed in fill with a limited amount of available water. The well goes dry during sampling, and samples collected are typically turbid (e.g., turbidity exceeded the monitoring limit of 999 NTU in December 2015). The December 2015 sample from MW-13-31 was filtered at the time of collection, and analysis indicates dissolved nickel at a concentration of 8.24 mg/L. This result suggests that at least a portion of the nickel in groundwater at this location is related to suspended sediment. If high turbidity values are detected during future events, the samples will be lab filtered to eliminate the

potential for filter breakthrough in the field and eliminate suspended sediment to the extent practical. During the most recent sampling, additional precautions were taken to reduce turbidity, and the nickel concentrations detected in wells MW-13-32 and MW-13-31 decreased to 0.056 and 1.90 mg/L, respectively.

  - Groundwater elevation in this area has indicated that a component of the groundwater flow is westerly, onto the Site. A detailed summary of the nickel occurrence at Plant 3 has been provided to the MDEQ for both soil and groundwater (Arcadis 2014, 2015a, 2015c).

- Various metals, primarily arsenic, copper, nickel, lead, and vanadium, were detected above DW Criteria near the property boundaries at several other monitoring well locations similar to previous sampling events. As outlined in Section 4, an evaluation of the plume stability indicates that metals at the Site generally appear stable and are spatially limited.
- Samples from well TW-14-02, located at the toe of the lower 1,4-dioxane plume on Plant 2, have exhibited elevated concentrations of 1,4-dioxane since first being sampled during the second quarter 2015. Detections of 1,4-dioxane ranged from 2,500 µg/L to 3,300 µg/L during the monitoring period. Additional work was completed in December 2015 to characterize the area around TW-14-02 and other potential contributing factors such as the perched 1,4-dioxane LNAPL source area located to the north (Arcadis 2016). The results of the investigation suggest a high degree of variability of 1,4-dioxane concentrations within the core of the lower plume. The plume stability analysis outlined in Section 4 shows a stable trend for 1,4-dioxane in TW-14-02. Well TW-14-02 will continue to be monitored quarterly.

In addition to the specific concerns outlined above, an updated plume stability analysis is included as Section 4. At this time, impacts noted at the property boundary do not exceed current DW Criteria, except for concentrations of select metals, which are linked to reducing conditions and the presence of organic compounds at the Site. No immediate action is recommended based on the June 2015 to March 2016 groundwater monitoring data. Monitoring at these locations will continue per the IGMP, and constituent trends and plume stability will be further evaluated over time.

3.2 Light Non-Aqueous Phase Liquid Monitoring

LNAPL is present in the central portion of Plant 2 (Area 5-2) and in the north-central portion of Plant 3 (Area 17). LNAPL monitoring well locations and approximate extent of LNAPL are presented on the figures provided as Appendix A. The trend plots indicate that, in general, LNAPL, when present, gradually increases in thickness until the LNAPL thickness reaches equilibrium within the well and stabilizes. For the deeper LNAPL, the wells take longer to equilibrate with the confined LNAPL conditions relative to the static water level within the formation. Based on the monitoring, there is no indication of LNAPL migration. Table 3 summarizes measured LNAPL thickness, and Appendix D includes LNAPL trend plots.

3.3 Groundwater Elevation Monitoring

In general, there are three to four water-bearing zones at the Site:

- Perched Zone – Occurring within the fill, interbedded zone, and occasionally within the glacial till, between 5 and 30 feet below ground surface (bgs). Can occur as shallow unconfined water within the fill material or under confined conditions within the interbedded zone or till.
- Deep Overburden (Plant 3 only) – Unconfined saturated zone occurring within deep unconsolidated sediments that are saturated at 65 to 70 feet bgs. This zone is hydraulically connected to the bedrock aquifer.
- Weathered Bedrock – Although part of the bedrock, this zone is hydraulically distinct. The weathered zone varies in thickness between approximately 5 and 15 feet, based on degree of weathering, and consists of fully weathered to partially consolidated sandstone and shale. This zone is more permeable than consolidated bedrock and provides a preferential pathway for migration of the lower 1,4-dioxane plume.
- Bedrock (including the weathered and underlying bedrock zone) – Bedrock at the Site is encountered at depths ranging from 55 feet bgs at Plant 6 to 110 feet bgs in areas of Plant 3. Depending on where it is encountered, the bedrock aquifer can be unconfined, semi-confined, or confined it has a potentiometric surface at approximately 65 to 70 feet bgs.

Table 4 includes a summary of groundwater elevation measurements collected at the Site. Groundwater elevation trend graphs for key wells at each Plant are provided in Appendix E. Trends within each water-bearing zone are discussed below.

3.3.1 Perched Zone

Due to the predominance of clay-rich sediments, the interbedded zone has an overall low-permeability and is characterized by isolated sand zones within layers of silt and clay. The potentiometric surface measured within the perched zones is presented on Figures 4 (Plants 2 and 6) and 5 (Plant 3). Both figures include groundwater contours for all wells less than 25 feet deep. The lower conductivity clays and silts that dominate this zone result in high horizontal and vertical gradients. Sand zones are discontinuous and often do not correlate from well to well, and minor variations in well screen elevation have a large impact on the potentiometric surface. Therefore, although the contour maps represent the overall shallow potentiometric surface, they are of limited use to determine groundwater flow direction.

The trend graphs included in Appendix E indicate the groundwater elevations in the perched zone have been relatively stable at Plants 2 and 3. Perched wells on Plant 6 are more variable, with some wells showing a long-term increase in water levels; potentially associated with the surface and subsurface modifications during demolition.

3.3.2 Deep Overburden

Saturated deep overburden is present only at Plant 3. Groundwater present within the deep overburden is hydraulically connected to the weathered bedrock and bedrock zones. Figure 6 presents groundwater elevation contours for deep overburden wells located on Plant 3. In the northern portion of Plant 3, the apparent groundwater gradient is northwesterly. Groundwater mounding is apparent beneath the coliseum with a component of groundwater flow to the southeast, consistent with the lower 1,4-dioxane distribution.

The trend graphs included in Appendix E indicate that groundwater elevations in certain deep overburden and weathered bedrock wells are highly variable. This could be related to increased recharge through the Site, as well as long-term trends in municipal pumping.

3.3.3 Bedrock

Similar to the perched zone, the depth of a monitoring well within the weathered bedrock or bedrock zones plays a large role in the potentiometric head observed at a location. Large vertical gradients occur in formations with vertical anisotropy and indicate a lack of vertical groundwater communication. Traditional groundwater elevation contour maps were not prepared for the weathered bedrock wells or bedrock wells, as they would be of limited use for interpreting groundwater flow direction and transport.

For the bedrock (or by extension, the weathered bedrock), the effective head or "corrected" groundwater elevation can be calculated based on the observed vertical gradients. As indicated in Table 6, the vertical gradient tends to be limited near the coliseum and increases to the south to a maximum of 0.70 foot per foot (ft/ft) downward at wells MW-13-52/MW-13-50, located on Plant 6. This variation in vertical gradient appears to coincide with bedrock formation. Near the coliseum, where the bedrock encountered consists of the more uniform and permeable Grand River Formation, the vertical gradient is negligible. To the south, within the interbedded sandstone and shale of the Saginaw Formation, the gradient is strongly downward. Review of the bedrock wells and other deep boring logs suggests an approximate geologic contact between the Grand River and Saginaw Formations oriented roughly southwest-northeast. Figure 7 includes the location of the geologic contact.

To calculate the effective head for the bedrock (Figure 7), an average downward gradient 0.4 ft/ft was applied to bedrock monitoring wells installed within the Saginaw Formation, as follows:

$$GW_{eff} = GW - (dh/dl * \Delta Elev)$$

Where:

GW_{eff} = effective groundwater elevation
GW = measured groundwater elevation
dh/dl = vertical gradient
ΔElev = change in elevation between deepest well and measured well

As shown on Figure 7, the corrected bedrock groundwater contours are a good match for the distribution of the lower 1,4-dioxane plume located within the weathered bedrock zone. An effective head map specifically for the weathered bedrock zone is difficult to calculate because of the limited number of weathered bedrock wells available in the past and the relative heterogeneity of the zone limits the use of a specific correction factor. With the addition of ten new weathered bedrock wells in 2016, this evaluation will be revisited to determine if a specific weathered bedrock correction is workable. However, the distribution of 1,4-dioxane within the weathered bedrock is consistent with a groundwater flow from north to south in the lower zone.

Groundwater elevation trend plots for select bedrock wells are included as part of Appendix E. Similar to the weathered bedrock wells, long-term trends suggest variable potentiometric head changes in bedrock, likely due to changes in municipal pumping.

3.4 Annual Storm Sewer Sampling

The results of the storm sewer sampling event are similar to previous sampling events. Of the eight locations, one could not be sampled. P3-MH-S could not be located and may be buried. The results of the sampling were compared to the Part 201 Groundwater-Surface Water Interface (GSI) Criteria. A summary of the results is provided below.

- Plant 2 1,4-Dioxane - 1,4-Dioxane was detected at the P2-MH-NW (discharge from Plant 2 to Plant 3) and at P2 outfall on Plant 3 at concentrations ranging from 8 to 25 µg/L. GSI Criteria for 1,4-dioxane is 2,800 µg/L.
- Inorganics, including arsenic, barium, boron, copper, lead, manganese, nickel, and zinc were detected on all three Plants, but at concentrations below GSI criteria.
- Plant 6 Xylenes - Xylenes have historically been detected at the Plant 6 outfall to the City of Lansing storm sewer system. During the fourth quarter 2015, a sample was collected from manhole P6-MH2-SW located upgradient from the Plant 6 outfall. Xylenes were not detected at this location. In addition, in December 2015, soil excavations were completed in the two xylene source areas (RFI Areas 9 and 7). It is expected that this will further reduce the potential for xylenes to enter the Plant 6 storm system.

A summary of the fourth quarter 2015 storm sewer sampling results are included on a table as part of **Appendix F**. Appendix F also includes figures indicating storm sewer sampling locations. Results of the storm sewer sampling are consistent with previous events, and no immediate action is recommended. Monitoring at these locations will continue per the approved IGMP. The next storm sewer sampling event is planned for fourth quarter 2016.

4 GEOCHEMICAL SIGNATURE EVALUATION

Major ion data were collected to better assess hydraulic connections between the perched and deep overburden and weathered bedrock zones. These data were plotted in Piper and Stiffs diagrams (Figures 8 and 9) to show the dominant water types at each monitoring location and assist in determining spatial relationships between the zones. The Piper and Stiff diagrams suggest that there is no systematic or consistent difference in geochemical signatures between the perched and weathered bedrock zones; rather, geochemical signatures appear to vary within each zone. Perched zone and weather bedrock zone geochemical signatures are similar in some areas; for example, the western and central-eastern portions of the Site, and indicated a mixed groundwater signature, suggesting there may be some hydraulic communication between the two zones in these areas. The variability in the geochemical data and groundwater signatures suggests that hydraulic connection between the perched and weathered zones may be spatially discontinuous. The Stiff diagram map (Figure 15) shows that geochemical signatures appear to vary as a function of location on site rather than by zone, supporting the conclusion that complex and spatially variable flow pathways are present at the Site.

The conclusions above are based on the following specific observations:

- Generally, samples were classified as calcium-bicarbonate type, calcium- sulfate, or calcium-chloride type.
- Wells with high total dissolved solids (TDS) appear to be related to high chloride and sulfate, and are generally observed on the west side of the Site. Conversely, low TDS appear to be related to lower chloride and sulfate, and are generally observed on the central-east side of Plant 2.
- Monitoring wells MW-14-59, MW-14-60, and P2-MW-04 in the perched zone, and monitoring well MW-14-61 in the weathered bedrock zone appear to have more similar geochemical signatures than other wells on site. These wells have the lowest TDS, and have relatively low sulfate and chloride. Spatially, they are located in the central-east region of Plant 2. Similar geochemical signatures in these wells may suggest potential hydraulic connection between the zones in this part of Plant 2.
- Monitoring wells MW-14-56 (weathered bedrock zone) and MW-12-09 (perched zone) are collocated and have similar geochemical signatures, with the exception of higher chloride in weathered bedrock zone monitoring well MW-14-56. These wells have elevated TDS, sulfate, and chloride. These geochemical similarities may suggest hydraulic connectivity between the perched and weathered bedrock zones in the western area of the Plant 2.
- Monitoring wells TW-14-02 (weathered bedrock zone) and MW-14-54 (perched zone) are located near each other, in the southern portion of the Site, but show very different geochemical signatures. This difference in geochemical signatures between the two zones, even given that the monitoring wells are located in the same area of the Site implies a lack of hydraulic connection between the zones in this area of the Plant 2.
- Adjacent weathered bedrock zone monitoring wells MW-13-43 and PW-14-02, show somewhat similar geochemical signatures; however, monitoring well MW-13-43 is enriched in sulfate and TDS. The data illustrate that, even with the proximity of these two monitoring wells, spatially inconsistent geochemical conditions and variability are evident within groundwater in the weathered bedrock at Plant 2.

5 EXAMINATION OF GEOCHEMICAL INDICATOR PARAMETERS

Examination of geochemical indicator parameters (DO, oxidation–reduction potential, nitrate, dissolved and total iron and manganese, sulfate, methane) for groundwater across the Site indicates that groundwater at the Site is mildly reducing in all three groundwater-bearing zones. The geochemical data were used to identify the dominant redox conditions at each monitoring well sampled during June 2015, with the data presented on Figures 10 and 11. As previously indicated, reducing conditions tend to mobilize iron, manganese, and other metals associated with iron minerals (e.g., arsenic, copper, cobalt, nickel, lead, vanadium, and zinc).

In the perched zone (Figure 10), limited pockets of more strongly reducing conditions associated with areas of elevated VOC (excluding 1,4-dioxane) concentrations are observed. The geochemistry at monitoring wells without VOC impacts also show mildly reducing conditions and indicate that regional groundwater in the perched zone is mildly reducing, which is conducive to the occurrence of mobile metal species, even under ambient conditions.

In the deep overburden and weathered bedrock (Figure 11), conditions are generally reducing. These conditions are observed, even in the absence of VOC impacts, and are likely to represent ambient geochemical conditions. Reducing conditions were identified in all of the bedrock wells screened below the weathered bedrock that were sampled. Concentrations of metals above criteria in the deep overburden and weathered bedrock are sporadic, and while geochemical conditions are conducive to mobilize metals species, there is no consistent relationship between reducing conditions, dissolved iron, and elevated metals.

The pattern and concentrations of metal exceedances at the Site are consistent with slight shifts in the geochemical environment from more to less iron reducing, and vice versa, leading to sporadic and inconsistent exceedances for some or all of these metals which, in the majority of cases, are not linked to specific Site-related sources. Elevated metals that are coincident with more strongly reducing conditions associated with VOC impacts are limited in extent, as are areas of elevated VOCs (excluding 1,4-dioxane).

Reducing conditions, where elevated concentrations of methane are present, may also aid in the biodegradation of 1,4-dioxane. Strongly reducing methanogenic conditions generated by the biodegradation of VOCs, as observed in the perched zone in areas of the Site, generate methane, which when more aerobic, oxygen-containing groundwater is encountered in the presence of 1,4-dioxane, can assist in the biological degradation of 1,4-dioxane. The geochemical data for the perched and deep overburden and weathered bedrock zones suggest that methane is present in groundwater, along with elevated DO concentrations; however, the spatial distribution of these conditions is variable (Figures 10 and 11). The combination of methane and oxygen in groundwater where 1,4-dioxane is present has been demonstrated to result in the presence of active microbial populations capable of degrading 1,4-dioxane (Arcadis 2015d) and may be contributing to the stable to decreasing plume configuration at locations where suitable geochemical conditions are present.

6 GROUNDWATER PLUME STABILITY

Arcadis completed a preliminary geochemical and plume stability assessment for groundwater at the Site in April 2014 (Arcadis 2014b). The primary objective of this assessment was to provide an initial evaluation of plume stability and determine the suitability of monitored plume stability as a remedial alternative. The preliminary plume stability assessment used data collected between October 2011 and the first quarter of 2014, as well as geochemical data collected during the August-September 2013 event. An updated plume stability assessment was completed as part of the 2014-2015 Annual Groundwater Sampling Report (Arcadis 2015d) incorporating additional data collected during 2014 and first quarter 2015. The plume stability assessment presented in this section represents an updated analysis of time-series concentration trends using data collected since the first quarter of 2015. New geochemical data were collected during the second quarter of 2015 and were analyzed to evaluate the dominant geochemical conditions for each well and confirm that geochemical conditions remain suitable for ongoing natural attenuation at the Site.

The updated statistical analysis of dissolved-phase COC concentrations with time was completed using the Mann-Kendall slope trend test, consistent with the methodology used in previous evaluations. The updated analysis includes monitoring wells and COC pairs that may not have met the analysis criteria described below at the time of the previous analysis. The Mann-Kendall trend test was completed using data collected since 2010 for well/COC pairs meeting the following criteria:

- At least four sampling events have been completed
- At least 65% of the sampling results were above detection (minimum of three sampling results above detection)
- At least one detection in the dataset exceeded the lowest criteria. For 1,4-dioxane, this would include the proposed DW Criteria of 7.2 µg/L.

The plume stability assessment was completed in accordance with USEPA guidance (USEPA 2009). Correlations were accepted as significant for p-values less than or equal to 0.10 (90% confidence level). If no trend was identified, concentrations were reviewed visually and, if appropriate, noted as likely stable. Additional information regarding the Mann-Kendall analysis and methods is provided in the 2014 Preliminary Groundwater Geochemical and Plume Stability Assessment (Arcadis 2014b).

The following updated plume stability evaluation includes the following information:

- Table 7 presents comprehensive Mann-Kendall analysis results.
- Tables 8 through 10 provide a summary of the results grouped by water-bearing zone and COC.
- DW Criteria exceedances during the 2015 and 2016 sampling events are shown on the figures provided as Appendix A.
- The overall trend results are displayed spatially on Figures 12 through 16.
- Appendix G presents plots of concentrations over time for all well/COC pairs meeting criteria for trend analysis.

6.1 Perched Zone

6.1.1 1,4-Dioxane

Of the 12 perched monitoring wells that met the criteria for inclusion of 1,4-dioxane in the statistical assessment, four demonstrated decreasing trends in 1,4-dioxane concentrations, and no trends were identified in the remaining eight. This is consistent with the trends observed during the previous plume stability evaluation. With the exception of MW-14-58, where stable concentrations are observed, concentrations of 1,4-dioxane above the proposed DW Criteria (7.2 µg/L) observed in the perched zone are central to the Site, and monitoring wells with concentrations below detection exist between these wells and the site boundary. Consistent with the findings of the 2014 preliminary plume stability evaluation and the 2014-2015 plume stability evaluation, the 1,4-dioxane plume appears to be stable to decreasing in the perched zone. Rates of biological attenuation of 1,4-dioxane are relatively slow compared to other VOCs, and it is likely that given the short timeframes assessed (generally less than 2 years) substantial decreasing trends will not be observed, hence the predominance of stable trends. Monitoring data collected over a longer time period will likely identify more decreasing trends and allow estimation of degradation rates.

6.1.2 Volatile Organic Compounds

Concentrations of VOCs in the perched zone are sporadic, and a large plume footprint was not observed; rather, VOC concentrations in groundwater above DW Criteria are limited to discrete source areas (e.g., Area 2, Area 9) and areas immediately surrounding observed LNAPL. Review of VOC data found that the criteria for statistical assessment was met at three locations only. The trend analysis results were consistent with the previous plume stability assessment. An increasing benzene trend was identified at MWBP-12-UST1-4. This well is near the southern property boundary of Plant 6. Nearby well MWBP-12A-UST1-4, between MWBP-12-UST1-4 and the property boundary, has not yielded detectable benzene concentrations during recent sampling events. Arcadis will continue monitoring MWBP-12-UST1-4 and MWBP-12A-UST1-4 to ensure that benzene is not migrating towards the site boundary. Benzene was not observed at concentrations that met the criteria for statistical analysis at any other locations in the perched zone. The remaining wells analyzed exhibited no apparent trends (P6-SB-32 for ethylbenzene, isopropyl benzene, toluene, and total xylene concentrations) or a decreasing trend (MW-03-06) for VC concentrations.

6.1.3 Metals

The majority of statistical analyses run on concentrations of metals in perched zone monitoring wells were determined to be decreasing or exhibit no trend, suggesting overall stability in metals impacts above criteria. The majority of exceedances are within or close to areas with VOC or LNAPL impacts, and increasing trends generally occur where VOC impacts are sufficient to cause a shift to more reducing geochemical conditions. Because VOC impacts and LNAPL are spatially limited, metals impacts are as well. Additionally, the low concentrations observed in VOC-impacted areas (e.g., failure to meet the criteria listed at the beginning of this section for inclusion in this analysis) indicated that VOCs are unlikely to be a long-term driver of reducing conditions, and a geochemical shift toward slightly more oxidizing conditions, where many of the observed metal species are less mobile, is anticipated. The trend

evaluation for metals focused on monitoring wells near the site boundary to evaluate the potential for off-site metal impacts. The following increasing trends were observed with remaining monitoring wells at the site boundary exhibiting stable to decreasing concentrations of metals:

- Arsenic at MW-12-16, located in the southern right-of-way of Michigan Avenue near the Plant 6 boundary, was detected at its highest level (0.027 mg/L) in December 2015. Arsenic at this location is within the range of state-wide levels (Cummings 1989), and concentrations observed are likely related to strongly reducing conditions observed at this well. The reducing conditions may be a result of VOC impacts located in Area 7 on the north side of W. Michigan Ave. An excavation was completed in December 2016 in this area to remove the highest concentrations of VOCs in soil.
- Manganese at UNK-09 (Area 17), where the maximum concentration (0.052 mg/L) from sampling completed in 2013-2015 was 0.002 mg/L greater than the aesthetic DW Criteria. Manganese is not believed to be Site-related, and concentrations observed are consistent with regional concentrations.
- Nickel at MW-13-32, located in Area 16 near the southeastern boundary of Plant 3. The maximum nickel concentration at this location is 4.66 mg/L, an order of magnitude higher than at other locations at the Site. Visual inspection of the trend data indicates that concentrations are likely stable with significant fluctuations. MW-13-31, which previously showed an increasing nickel trend, shows no trend with the addition of the 2015-2016 sampling results. Prior increasing trends were driven by an unusually elevated concentration in March 2015. A detection of 20.7 mg/L of nickel at MW-13-31 (from December 4, 2015) was excluded from the trend analysis based on turbidity that exceeded measurable limits (>999 NTU). In addition to the potential association of nickel with turbidity, as noted in the Area 16 Evaluation of Nickel in Groundwater memorandum (Arcadis 2015c) it is possible that dissolved-phase nickel in Area 16 is associated with fill material placed at the adjacent railroad property.

6.2 Deep Overburden and Weathered Bedrock

6.2.1 1,4-Dioxane

Of the 16 deep overburden and weathered bedrock monitoring wells that met the criteria for inclusion in the statistical assessment, nine exhibited increasing trends (MW-13-25, MW-13-34, MW-13-42, MW-13-43, MW-13-45, MW-13-48, MW-14-56, PW-14-01, and PW-14-03). PW-14-03 is located just downgradient of the Plant 3 source area and has a limited dataset (only four monitoring events), with the increasing trend driven by low concentrations in the first sampling event (September 2014), followed by evidence of stabilization over the past three quarters. Monitoring wells MW-13-42, MW-13-43, and MW-13-45 are located within the weathered bedrock on a transect across the middle of the lower 1,4-dioxane plume. Concentrations at these locations continue to increase, but based on data from upgradient weathered bedrock well MW-13-22 (which has stabilized since the last plume stability assessment as well as PW-14-03 and which appears to be stabilizing), it is believed that concentrations at these locations will also stabilize with time.

MW-13-48 is located within the deep overburden at the Plant 3 property boundary. Concentrations at this location have demonstrated a steady increase from December 2014 to December 2015. Additional monitoring will confirm trends at this location.

PW-14-01, near the toe of the plume, shows an increasing trend due to an elevated concentration of 1,4-dioxane during December 2015. Nearby well TW-14-02 did not demonstrate a trend and appears to be stable. 1,4-Dioxane has not been detected in downgradient weathered bedrock sentinel monitoring wells MW-13-50, MW-13-51, MW-13-52, and MW-13-53. The concentrations of 1,4-dioxane at PW-14-01 and TW-14-02 may be influenced by 1,4-dioxane in the overlying perched zone (Arcadis 2016), which may be linked to increasing trends or fluctuations. However, the general stability of the plume observed at TW-14-02 and PW-14-01 suggest that contributions from the perched zone may be stable, de minimis or seasonal in nature. Additional work will be completed around the lower 1,4-dioxane plume toe in June 2016 to further evaluate the connection between the perched and lower plumes, evaluate potential 1,4-dioxane migration within the weathered bedrock, and install additional sentinel wells around the toe of the plume.

6.2.2 Volatile Organic Compounds

Two monitoring wells in the deep overburden and weathered bedrock met the criteria for VOC trend assessment. No trend was observed in VC concentrations at MW-04-03(3) and MW-04-04(3). VC present is not believed to be Site-related. The RFI Supplemental Report (Arcadis 2014c) provides additional detail regarding VC impacts in the deep overburden and bedrock zones at Plant 3.

6.2.3 Metals

In general, concentrations of metals appear to be stable or decreasing. No metals plume could be identified in the deep overburden and weathered bedrock, and concentrations of metals above criteria were present at discrete locations only. Spatially limited increasing trends in arsenic and manganese concentrations near Areas 12, 14, and 17 were observed, but can be attributed to minor shifts in geochemistry, are generally within the range of state-wide levels (Cummings 1989), and are not Site-related (i.e., not related to the presence of any VOCs or any known metal source). The majority of identified exceedances are close to the DW Criteria.

6.3 Bedrock

6.3.1 Metals

Observed metals exceedances in bedrock wells are sporadic and intermittent with few discernible trends, and concentrations are generally considered stable, with detected exceedances near DW Criteria. Trends observed are consistent with the previous plume stability assessment. One increasing trend in arsenic concentrations was identified at MW-04-02(3), but current concentrations are within or near known state-wide concentrations (Cummings 1989). Additionally, an increasing trend in arsenic concentrations was identified at MW-91-5. However, there was no apparent trend with concentrations between 0.010 and 0.011 mg/L when the analysis was performed, excluding an unusually low, non-detect concentration reported in December 2012. The locations of exceedances and the increasing arsenic trends are not collocated with any known metals sources or impacts of VOCs and do not appear to be Site-related; rather, they are likely due to natural fluctuations in geochemistry of the bedrock zone.

6.3.2 Volatile Organic Compounds

VC was observed in bedrock and included in the trend analysis for two locations (MW-04-02[3] and MW-91-4). No apparent VC concentration trend was observed in MW-04-02(3), and MW-91-4 exhibits a decreasing trend. VC in bedrock and the deep overburden at Plant 3 is likely associated with an off-site source and not discussed further as part of this evaluation. The RFI Supplemental Report (Arcadis 2014c) provides additional detail regarding VC impacts in the deep overburden and bedrock zones at Plant 3.

6.4 Plume Stability Assessment Summary

The results of the updated statistical analysis are consistent with the findings of the 2014-2015 plume stability assessment completed as part of the 2014-2015 Annual Groundwater Monitoring Report (Arcadis 2015d) and the Preliminary Groundwater Geochemical and Plume Stability Assessment (Arcadis 2014b). Results of the updated evaluation are summarized as follows:

- There is no discernable metals plume in the perched zone, deep overburden, weathered bedrock, or bedrock zones, and trends in metals concentrations are typically not apparent. Where increasing trends in metals concentrations are present, they are not believed to be indicative of an expanding plume.
- Elevated concentrations of metals in the perched zone appear to be a result of minor shifts in site geochemistry and have largely been noted as a regional issue, particularly in the case of arsenic and manganese.
- Concentrations of VOCs in the perched zone are spatially limited or associated with identified LNAPL. Concentration trends suggest that VOC concentrations in the perched zone are stable.
- Concentrations of 1,4-dioxane in the perched zone are considered stable based on analysis of the existing dataset, and 1,4-dioxane has not been detected in monitoring wells installed around the perimeter of the perched plume.
- Concentrations of 1,4-dioxane in the deep overburden and weathered bedrock exhibit an increasing trend at monitoring wells downgradient of the Plant 3 source area. Pre-design work is currently underway to evaluate technologies to address the lower 1,4-dioxane plume.
- With the exception of PW-14-01, monitoring wells in the weathered bedrock along the lower 1,4-dioxane plume do not exhibit increasing trends south of the perched 1,4-dioxane impacts. The general stability of the plume observed at the toe suggests that contributions from the perched zone may be stable, de minimis, or seasonal in nature.
- Rates of biodegradation of 1,4-dioxane are typically slower than for other VOCs, and longer time-series datasets are required to appropriately identify decreasing trends over inherent variability and thus determine rates of degradation.

7 CONCLUSIONS

This Annual Report summarizes the groundwater monitoring activities completed between June 2015 and March 2016 consistent with the IGMP. Based on the results of the sampling and review of the plume stability evaluation, Arcadis offers the following conclusions:

- Groundwater Potentiometric Surface Maps – Contour maps for the three saturated zones at the Site illustrate a complex hydrogeologic system. The potentiometric surface in the perched zone has been relatively stable to increasing since monitoring began at the Site. Potentiometric trends within the lower zones (deep overburden, weathered bedrock, and bedrock) are highly variable, likely related to changes in municipal pumping.
- LNAPL – Trend plots indicate that, when present, LNAPL gradually increases in thickness until reaching equilibrium within the well and stabilizing; there is no indication of LNAPL migration.
- Analytical Results – Indicate that concentrations of VOCs, SVOCs, and metals exceed Residential DW Criteria during at least one event at the Site. Other than nickel, vanadium, and arsenic, impacts noted at the property boundary do not exceed current DW Criteria. The elevated concentrations of metals are in some cases a result of natural geochemical conditions and/or slight shifts in site geochemistry associated with the presence of LNAPL or VOCs. The exception is nickel on the eastern boundary of Plant 3, which is attributed to off-site activities.
- Storm Sewer Sampling – No exceedances of the GSI Criteria were detected during the sampling event. Annual sampling will continue in accordance with the Revised IGMP (Arcadis 2014a).
- Geochemical Signature Evaluation – Variability in the geochemical data and groundwater signatures suggests that hydraulic connections between the perched and deep overburden and weathered bedrock zones are present, but may be spatially discontinuous. There does not appear to be a consistent difference in geochemical signatures between the perched and weathered bedrock zones; rather, geochemical signatures appear to be variable within each zone. Perched zone and weathered bedrock zone geochemical signatures are similar in some areas (for example, the western and central-eastern portions of Plant 2), and indicate a mixed groundwater signature, suggesting that there may be some seepage between the perched zone and deep overburden/weathered bedrock in these areas.
- Examination of Geochemical Indicator Parameters – Groundwater at the Site is mildly reducing in all three groundwater-bearing zones evaluated (perched, deep overburden, and weathered bedrock). As previously indicated, reducing conditions tend to mobilize metals associated with iron minerals (e.g., arsenic, copper, cobalt, iron, manganese, nickel, lead, vanadium, and zinc). The pattern and concentrations of metal exceedances at the Site are consistent with slight shifts in the geochemical environment from more to less iron reducing, and vice versa, leading to sporadic and inconsistent exceedances for some or all of these metals which, in the majority of cases, are not linked to Site-related sources. Elevated metals that are coincident with more strongly reducing conditions associated with VOC impacts are generally limited in extent.
- The occurrence of groundwater containing methane and oxygen in close proximity, and often together, indicates a capacity for biological degradation of both VOCs and 1,4-dioxane within both the perched and lower water-bearing zones.

- Plume Stability – Results of the updated statistical analysis are consistent with the findings of the 2014-2015 Plume Stability Assessment (Arcadis 2015d) and the 2014 Preliminary Plume Stability Assessment (Arcadis 2014b). Recent data support the determination that stable or decreasing VOCs with elevated concentrations of metals is a result of minor shifts in site geochemistry.
    - Concentrations of 1,4-dioxane in the perched zone are considered stable based on analysis of the existing dataset, and 1,4-dioxane has not been detected in monitoring wells installed around the perimeter of the perched plume. They appear to be receding from the eastern Plant 6 property boundary.
    - Concentrations of 1,4-dioxane in the deep overburden and weathered bedrock exhibit an increasing trend at several monitoring wells located downgradient of the Plant 3 source area and at Plant 2 along the plume axis and at the toe. However, datasets at many locations are limited to 3 years or less, and it is difficult to distinguish between increasing trends and inherent variability that may be significant at this Site due to complex flow pathways inherent to the weathered bedrock zone. Source area concentrations at Plant 3 appear to have stabilized in the recent monitoring events. In June 2016, additional monitoring wells were installed to provide increased monitoring at the downgradient perimeter of the lower plume and further evaluate the plume stability and potential for migration.
    - Additional work will be completed at Plant 2 in June 2016 to further evaluate the connection between perched and weathered bedrock 1,4-dioxane plumes, evaluate the migration and stability of the lower 1,4-dioxane plume, and install additional sentinel monitoring wells.

The Lansing Township municipal water supply wells located west of Plants 2 and 3 (TWP-Well #3, TWP-Well #4, and TWP-Well #5) were sampled in Spring 2016. 1.4-Dioxane was not detected in these wells.

Based on these conclusions, no immediate action is recommended at this time. However, please see the proposed changes below. Monitoring at these locations will continue per the IGMP (Arcadis 2014a) through the second quarter biennial event.

8 PROPOSED CHANGES TO THE REVISED INTERIM GROUNDWATER MONITORING WORK PLAN

As outlined in the IGMP, changes to the sampling plan will be proposed, as appropriate, based on data collected at new monitoring wells, the plume stability evaluation, and observed COCs. Adjustments to the IGMP will be evaluated following review of the second quarter biennial sampling results. A no-purge pilot study was implemented on selected wells during the second quarter 2016 sampling event using Hydrasleeve™ samplers. No-purge pilot data will be evaluated as part of the second quarter 2016 groundwater monitoring report, and additional no-purge sampling may be incorporated into the IGMP. The revisions to the IGMP will also incorporate annual sampling of Lansing Township water supply wells TWP 90-03, TWP 90-04, and TWP 90-05.

An evaluation of the current IGMP and an outline of proposed changes will be provided to the MDEQ in a separate submittal during third quarter 2016. Pending discussion and MDEQ approval, the proposed changes could be instituted prior to the semi-annual event in fourth quarter 2016.

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TABLES

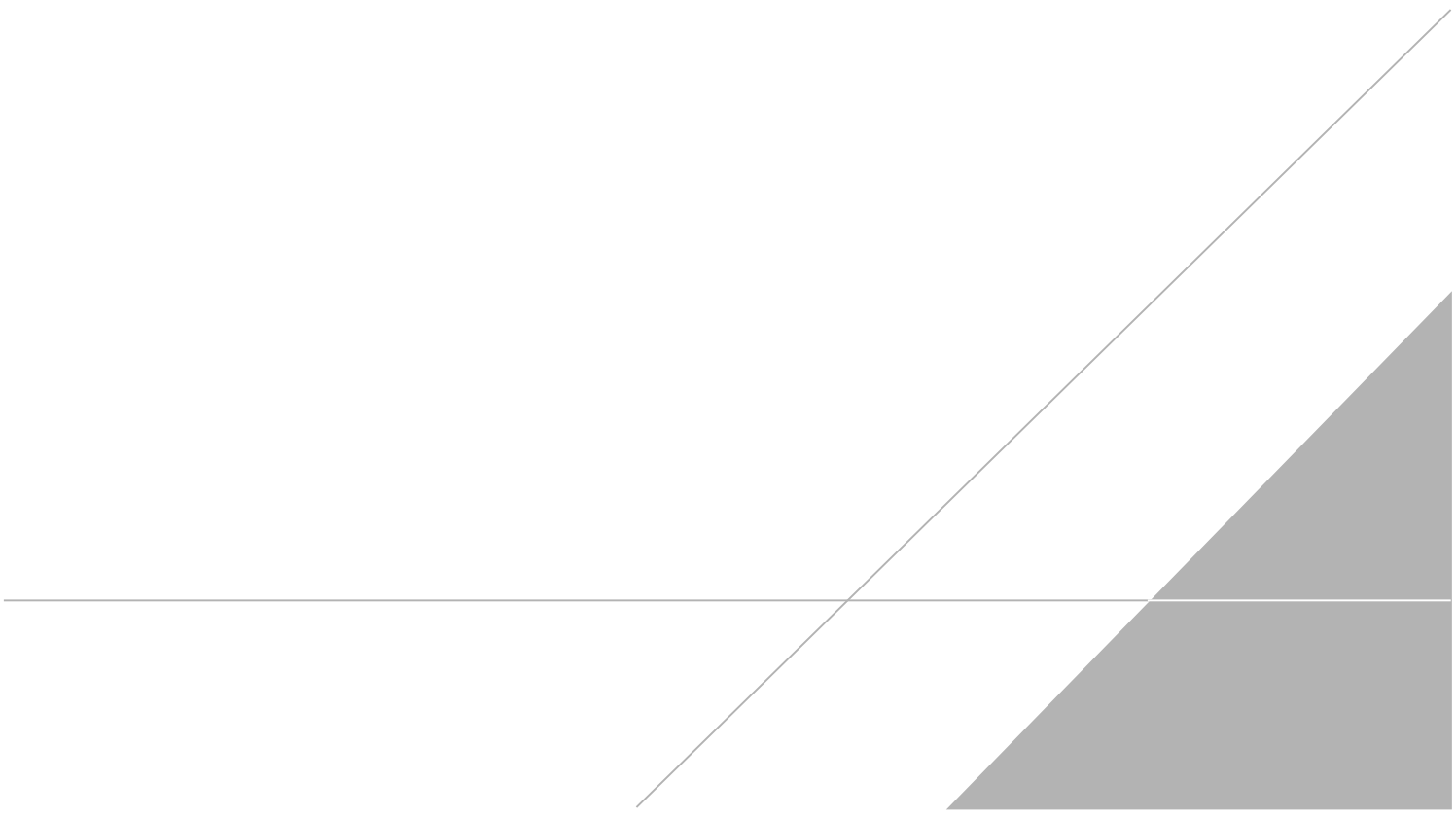


Table 1
Final Interim Groundwater Monitoring Summary
2015 - 2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well	Frequency	Analyte							Annual Geochem Sampling****	Biannual Sampling*****	Function
		VOCs	1,4-Dioxane	SVOCs	Select Metals*	Hexavalent Chromium	Metals**	TAL Metals***			
Plant 2											
Perched											
MW-01(2)	SA	X			X				X	X	VOC sentinel
MW-03(2)	SA	X			X				X	X	boundary
MW-12-09	SA	X	X							X	perched 1,4-dioxane sentinel
MW-12-18	SA	X								X	VOC sentinel
P2-MW-04	SA	X	X		X				X		perched 1,4-dioxane
P2-SB-20	SA	X	X								perched 1,4-dioxane sentinel
LMW-12-01	Q	Gauge only									LNAPL Monitoring
LMW-12-02	Q	Gauge only									LNAPL Monitoring
LMW-12-03D	Q	Gauge only									LNAPL Monitoring
LMW-12-03S	Q	Gauge only									LNAPL Monitoring
LMW-12-04	Q	Gauge only									LNAPL Monitoring
LMW-12-05	Q	Gauge only									LNAPL Monitoring
LMW-12-06	Q	Gauge only									LNAPL Monitoring
LMW-12-07	Q	Gauge only									LNAPL Monitoring
LMW-12-08	Q	Gauge only									LNAPL Monitoring
LMW-14-12D	Q	Gauge only									LNAPL Monitoring
LMW-14-13D	Q	Gauge only									LNAPL Monitoring
LMW-14-14D	Q	Gauge only									LNAPL Monitoring
LMW-14-15D	Q	Gauge only									LNAPL Monitoring
LMW-15-16D	Q	Gauge only									LNAPL Monitoring
LMW-15-17D	Q	Gauge only									LNAPL Monitoring
PMW-01	Q	Gauge only									LNAPL Monitoring
PMW-02	Q	Gauge only									LNAPL Monitoring
PMW-03	Q	Gauge only									LNAPL Monitoring
P2-SB-37	Q	Gauge only									LNAPL Monitoring
MW-02(2)	SA	Gauge only									groundwater elevation monitoring
MW-12-07	SA	Gauge only								X	groundwater elevation monitoring
MW-12-08	SA	Gauge only								X	groundwater elevation monitoring
MW-12-17	SA	Gauge only							X		groundwater elevation monitoring
P2-MW-01	SA	Gauge only								X	groundwater elevation monitoring
P2-MW-02	SA	Gauge only								X	groundwater elevation monitoring
P2-MW-03	SA	Gauge only								X	groundwater elevation monitoring
P2-SB-03	SA	Gauge only							X	X	groundwater elevation monitoring
P2-SB-06	SA	Gauge only									groundwater elevation monitoring
MW-14-54	SA	X			X						VOCs
MW-14-55	SA	X			X						VOCs
MW-14-57	SA	X	X		X						perched 1,4-dioxane
MW-14-58	SA	X	X		X						perched 1,4-dioxane
MW-14-59	SA	X	X								perched 1,4-dioxane
MW-14-60	SA	X	X		Mn only						perched 1,4-dioxane
MW-14-62	SA	X	X								perched 1,4-dioxane
Deep Overburden and Weathered Bedrock											
MW-13-42	Q	X	X							X	lower 1,4-dioxane
MW-13-43	Q	X	X						X		lower 1,4-dioxane
MW-13-45	Q	X	X								lower 1,4-dioxane
MW-13-51	SA	X	X							X	lower 1,4-dioxane sentinel
MW-14-56	Q	X	X								lower 1,4-dioxane sentinel
MW-14-61	SA	X	X								lower 1,4-dioxane sentinel
MW-14-63	SA	X	X								lower 1,4-dioxane sentinel
MW-15-72	Q	X	X	X			X				lower 1,4-dioxane, <4 samples
MW-15-73	Q	X	X	X			X				lower 1,4-dioxane, <4 samples
PW-14-01	SA	X	X								lower 1,4-dioxane
PW-14-02	SA	X	X								lower 1,4-dioxane
TW-14-02	Q	X	X	X			X				lower 1,4-dioxane, <4 samples
Bedrock											
MW-12-01	SA	X	X						X	X	bedrock sentinel
MW-12-02	SA	X	X						X		bedrock sentinel
MW-12-05	Q	X	X						X		bedrock sentinel
MW-13-44	Q	X	X								bedrock sentinel
MW-12-06	SA	X	X						X	X	bedrock sentinel
Storm Sewer											
P2-MH-NW	A	X	X					X			
P2-MH-W	A	X	X					X			

Notes:

* Select metals include arsenic, nickel, lead, vanadium, chromium, and copper.

**Metals include antimony, arsenic, barium, boron, cadmium, chromium, chromium VI, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc.

***TAL metals defined in Table 3 of the Quality Assurance Project Plan (ARCADIS 2011b).

****Monitoring wells indicated will be sampled annually for geochemical parameters including nitrate, sulfate, total and dissolved iron and manganese, and methane.

*****Monitoring wells indicated will be sampled biannually, commencing the 2nd Quarter 2016 event for VOCs; 1,4-dioxane; SVOCs; and an extended metals analytical suite comprising antimony, arsenic, barium, boron, cadmium, chromium, cobalt, copper, lead, manganese, mercury, nickel, selenium, silver, vanadium, and zinc.

New wells will be added to the figures and incorporated into the semi-annual monitoring once four samples are collected and a COC list is determined.

SA = semi-annual
Q = quarterly
A = annual

VOCs = volatile organic compounds
LNAPL = light non-aqueous phase liquid
SVOC = semi-volatile organic compound

TAL = Target Analyte List
COC = constituent of concern

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	CH-14-RO 06/08/15 CH-14-RO_060815	CH-14-RO 12/02/15 CH-14-RO_120215	MW-01(2) 06/04/15 MW-01(2)_060415	MW-01(2) 12/08/15 MW-01(2)_120815	MW-14-61 12/07/15 MW-14-61_120715	MW-01(2) 12/08/15 MW-01(2)_120815	MW-02-01(3) 06/03/15 MW-02-01(3)_060315	MW-02-01(6) 06/10/15 MW-02-01(6)_061015	MW-02-02(3) 06/04/15 MW-02-02(3)_060415	MW-02-02(3) 12/02/15 MW-02-02(3)_120215	MW-02-02(6) 06/10/15 MW-02-02(6)_061015
Air Monitoring														
Methane	µg/L	- -	- -	1.3 O	NA	35 O	NA	NA	NA	6.9 O	720 [h]	190	NA	170
Field														
Conductance, specific	mS/cm	- -	- -	1.157	1,087	5.806	5.006	NA	NA	0.652	5.023	5.793	6,318	3.788
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.35	0.27	2.08	1.8	NA	NA	1.12	1.35	0.2	0.85	1.44
Oxidation reduction potential (ORP	millivolts	- -	- -	70.6	75.8	75.5	27.6	NA	NA	-88.5	78.9	-65.8	68.2	65.8
pH	s.u.	- -	- -	7.01	6.87	6.74	6.7	NA	NA	7.21	6.84	6.53	6.18	6.84
Temperature, field	Deg C	- -	- -	17.51	11.48	15.65	11.25	NA	NA	15.12	26.51	17.67	5.62	24.12
Turbidity (field)	NTU	- -	- -	6.53	6.13	7.96	3.62	NA	NA	34.4	48.6	7.14	9.21	5.3
Volatile Organic Compounds														
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,2-Dibromoethane (Ethylene dibr	µg/L	0.05	5.7	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,2-Dichlorobenzene	µg/L	600	13	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,4-Dichlorobenzene	µg/L	75	17	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,4-Dioxane	µg/L	7.2	2,800	NA	NA	NA	NA	NA	NA	NA	NA	<5 [<5]	<3	NA
1,1,1-Trichloroethane	µg/L	200	89	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
2-Hexanone	µg/L	1,000	- -	NA	NA	<10	<10	NA	NA	NA	NA	<10 [<10]	<10	NA
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
Acetone	µg/L	730	1,700	NA	NA	<10	<10	NA	NA	NA	NA	<10 [<10]	<10	NA
1,1,2-Trichloroethane	µg/L	5	330	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
Bromodichloromethane	µg/L	80	- -	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,1-Dichloroethane	µg/L	880	740	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
Bromoform	µg/L	80	- -	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,1-Dichloroethene	µg/L	7	130	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
Bromomethane (Methyl bromide)	µg/L	10	35	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
1,2-Dichloroethane	µg/L	5	360	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
Carbon disulfide	µg/L	800	- -	NA	NA	<1	<1	NA	NA	NA	NA	<1 [<1]	<1	NA
Carbon tetrachloride	µg/L	5	45	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
cis-1,2-Dichloroethene	µg/L	70	620	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Chlorobenzene	µg/L	100	25	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
trans-1,2-Dichloroethene	µg/L	100	1,500	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Chloroform (Trichloromethane)	µg/L	80	350	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Trichloroethene	µg/L	5	200	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Chloromethane (Methyl chloride)	µg/L	260	- -	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Tetrachloroethene	µg/L	5	60	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
cis-1,3-Dichloropropene	µg/L	- -	- -	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Vinyl chloride	µg/L	2	13	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Chloroethane	µg/L	430	1,100	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Benzene	µg/L	5	200	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Methyl acetate	µg/L	- -	- -	NA	NA	<10	<10	<10	NA	NA	NA	<10 [<10]	<10	NA
Ethylbenzene	µg/L	74	18	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Methylene chloride	µg/L	5	1,500	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Styrene	µg/L	100	80	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Toluene	µg/L	790	270	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
trans-1,3-Dichloropropene	µg/L	- -	- -	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	NA	NA	6	11	<1	NA	NA	NA	<1 [<1]	<1	NA
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	NA	NA	<10	<10	<10	NA	NA	NA	<10 [<10]	<10	NA
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	NA	NA	<10	<10	<10	NA	NA	NA	<10 [<10]	<10	NA
1,2,4-Trichlorobenzene	µg/L	70	99	NA	NA	<1	<1	<1	NA	NA	NA	<1 [<1]	<1	NA
1,2-Dichloropropane	µg/L	5	230	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
1,3-Dichlorobenzene	µg/L	6.6	28	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
Cyclohexane	µg/L	- -	- -	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
Methyl cyclohexane	µg/L	- -	- -	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
Dibromochloromethane	µg/L	80	- -	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
Isopropyl benzene	µg/L	800	28	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
o-Xylene	µg/L	- -	- -	NA	NA	<1	NA	<1	<1	NA	NA	<1 [<1]	<1	NA
m&p-Xylene	µg/L	- -	- -	NA	NA	<2	NA	<2	<2	NA	NA	<2 [<2]	<2	NA
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	NA	NA	<3	NA	<3	<3	NA	NA	<3 [<3]	<3	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID:		MI GW	MI GW	CH-14-RO	CH-14-RO	MW-01(2)	MW-01(2)	MW-14-61	MW-01(2)	MW-02-01(3)	MW-02-01(6)	MW-02-02(3)	MW-02-02(3)	MW-02-02(6)
Date Collected:		(DEQ2013) RES	(DEQ2013) GSI	06/08/15	12/02/15	06/04/15	12/08/15	12/07/15	12/08/15	06/03/15	06/10/15	06/04/15	12/02/15	06/10/15
Sample Name:	Units	DW		CH-14-RO_060815	CH-14-RO_120215	MW-01(2)_060415	MW-01(2)_120815	MW-14-61_120715	MW-01(2)_120815	MW-02-01(3)_060315	MW-02-01(6)_061015	MW-02-02(3)_060415	MW-02-02(3)_120215	MW-02-02(6)_061015
Semivolatile Organic Compounds														
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	CH-14-RO 06/08/15 CH-14-RO_060815	CH-14-RO 12/02/15 CH-14-RO_120215	MW-01(2) 06/04/15 MW-01(2)_060415	MW-01(2) 12/08/15 MW-01(2)_120815	MW-14-61 12/07/15 MW-14-61_120715	MW-01(2) 12/08/15 MW-01(2)_120815	MW-02-01(3) 06/03/15 MW-02-01(3)_060315	MW-02-01(6) 06/10/15 MW-02-01(6)_061015	MW-02-02(3) 06/04/15 MW-02-02(3)_060415	MW-02-02(3) 12/02/15 MW-02-02(3)_120215	MW-02-02(6) 06/10/15 MW-02-02(6)_061015
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics														
Calcium	mg/L	- -	- -	NA	NA	NA	NA	124	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	**0.71** [a]	NA	**2.77** [a]	NA	NA	NA	**2.55** [a]	**11.5** [a]	**3.99** [a]	NA	**4.76** [a]
Magnesium	mg/L	400	- -	NA	NA	NA	NA	52.1	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	2.37	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	22.5	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	<0.002	<0.002	0.009	NA	NA	0.008	NA	NA	NA	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	**15.2** [b]	**11.1** [b]	0.006	NA	NA	<0.005	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	**14.6** [ab]	**11.8** [ab]	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	<0.005	<0.005	0.012	NA	NA	0.005	NA	NA	NA	NA	NA
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003	NA	NA	<0.003	NA	NA	NA	NA	NA
Manganese	mg/L	0.05	4.5	0.007	NA	**0.122** [a]	NA	NA	NA	**0.051** [a]	**0.308** [a]	**3.17** [a]	NA	**0.114** [a]
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	0.03	0.027	0.025	NA	NA	0.021	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	**0.014** [a]	<0.005	<0.005	NA	NA	<0.005	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered														
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	122	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	**0.69** [a]	NA	**2.33** [a]	NA	NA	NA	**1.54** [a]	**9.86** [a]	**3.66** [a]	NA	**4.79** [a]
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	51.8	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	2.35	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	22.3	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	0.007	NA	**0.114** [a]	NA	NA	NA	0.046	**0.305** [a]	**3.12** [a]	NA	**0.114** [a]
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry														
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	402	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	60	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	**23.7** [a]	NA	<0.1 O	NA	NA	NA	<0.5	<0.5	<0.1 O	NA	<0.5
Sulfate	mg/L	250	- -	172	NA	65 O	NA	54	NA	65	24	**1,000 O** [a]	NA	38

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2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-02-03(6)	MW-02-03(6)	MW-02-04(3)	MW-02-04(3)	MW-03(2)	MW-03(2)	MW-03-01	MW-03-01	MW-03-01	MW-03-04	MW-03-04
Date Collected:				06/08/15	12/09/15	06/04/15	12/02/15	06/04/15	12/08/15	03/24/15	06/03/15	12/07/15	06/04/15	12/08/15
Sample Name:				MW-02-03(6)_060815	MW-02-03(6)_120915	MW-02-04(3)_060415	MW-02-04(3)_120215	MW-03(2)_060415	MW-03(2)_120815	MW-03-01_032415	MW-03-01_060315	MW-03-01_120715	MW-03-04_060415	MW-03-04_120815
Air Monitoring														
Methane	µg/L	- -	- -	460 O	NA	NA	NA	<0.50 O	NA	NA	97 O	NA	24 O	NA
Field														
Conductance, specific	mS/cm	- -	- -	8.366	8.507	4.009	3,704	7.128	7.201	14.46	14.44	14,065	1.705	1,330
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.5	0.45	6.15	0.58	0.54	1.07	0.46	0.62	0.37	0.53	1.86
Oxidation reduction potential (ORP	millivolts	- -	- -	94.8	80.5	-37.6	0.3	66.9	105.2	-24.9	81.7	-15.8	85.3	113.8
pH	s.u.	- -	- -	6.81	6.78	7.3	6.7	6.73	6.68	6.58	6.71	6.59	6.9	6.68
Temperature, field	Deg C	- -	- -	22.61	10.92	15.35	12.04	16.56	10.66	9.83	25.34	10.82	16.14	9.73
Turbidity (field)	NTU	- -	- -	284	20.8	NA	9.48	2.99	5.28	23.9	9.06	7.81	0.99	7.45
Volatile Organic Compounds														
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	**16** [a]	**14** [a]	<5	<3	NA	NA	<5	<5 [<5]	<3 [<3]	**32** [a]	**42** [a]
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10 [<10]	<10 [<10]	<10	<10 [<10]	<10 [<10]	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10 [<10]	<10 [<10]	<10	<10 [<10]	<10 [<10]	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Vinyl chloride	µg/L	2	13	1	2	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10 [<10]	<10 [<10]	<10	<10 [<10]	<10 [<10]	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	2 [2]	4 [2]	<1	<1 [<1]	<1 [<1]	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10 [<10]	<10 [<10]	<10	<10 [<10]	<10 [<10]	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10 [<10]	<10 [<10]	<10	<10 [<10]	<10 [<10]	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1 [<1]	<1 [<1]	<1	<1 [<1]	<1 [<1]	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2 [<2]	<2 [<2]	<2	<2 [<2]	<2 [<2]	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3 [<3]	<3 [<3]	<3	<3 [<3]	<3 [<3]	<3	<3

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RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-02-03(6) 06/08/15 MW-02-03(6)_060815	MW-02-03(6) 12/09/15 MW-02-03(6)_120915	MW-02-04(3) 06/04/15 MW-02-04(3)_060415	MW-02-04(3) 12/02/15 MW-02-04(3)_120215	MW-03(2) 06/04/15 MW-03(2)_060415	MW-03(2) 12/08/15 MW-03(2)_120815	MW-03-01 03/24/15 MW-03-01_032415	MW-03-01 06/03/15 MW-03-01_060315	MW-03-01 12/07/15 MW-03-01_120715	MW-03-04 06/04/15 MW-03-04_060415	MW-03-04 12/08/15 MW-03-04_120815
Semivolatile Organic Compounds														
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-02-03(6) 06/08/15 MW-02-03(6)_060815	MW-02-03(6) 12/09/15 MW-02-03(6)_120915	MW-02-04(3) 06/04/15 MW-02-04(3)_060415	MW-02-04(3) 12/02/15 MW-02-04(3)_120215	MW-03(2) 06/04/15 MW-03(2)_060415	MW-03(2) 12/08/15 MW-03(2)_120815	MW-03-01 03/24/15 MW-03-01_032415	MW-03-01 06/03/15 MW-03-01_060315	MW-03-01 12/07/15 MW-03-01_120715	MW-03-04 06/04/15 MW-03-04_060415	MW-03-04 12/08/15 MW-03-04_120815
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics														
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	**22.2** [a]	NA	NA	NA	**2.28** [a]	NA	NA	**19.4** [a]	NA	**2.38** [a]	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	**0.096** [ab]	**0.059** [ab]	NA	NA	**0.012 [0.013]** [ab]	0.009 [0.009]	**0.035** [ab]	**0.039 [0.04]** [ab]	**0.035 [0.034]** [ab]	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	0.012	0.01	NA	NA	0.007 [0.007]	<0.005 [<0.005]	<0.005	0.009 [<0.005]	<0.005 [<0.005]	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	0.012	0.007	NA	NA	0.006 [0.007]	0.007 [0.006]	<0.005	<0.005 [<0.005]	<0.005 [<0.005]	NA	NA
Lead	mg/L	0.004	0.044	**0.005** [a]	**0.005** [a]	NA	NA	<0.003 [<0.003]	<0.003 [<0.003]	<0.003	<0.003 [<0.003]	<0.003 [<0.003]	NA	NA
Manganese	mg/L	0.05	4.5	**0.321** [a]	NA	NA	NA	**0.709** [a]	NA	NA	**0.248** [a]	NA	**0.152** [a]	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	0.041	0.042	NA	NA	0.040 [0.041]	0.032 [0.031]	0.02	0.020 [0.019]	0.020 [0.021]	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	**0.013** [a]	**0.005** [a]	NA	NA	<0.005 [<0.005]	<0.005 [<0.005]	<0.005	<0.005 [<0.005]	<0.005 [<0.005]	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered														
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	**14.1** [a]	NA	NA	NA	**1.90** [a]	NA	NA	**18.7** [a]	NA	**2.12** [a]	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	**0.079** [ab]	**0.055** [ab]	NA	NA	NA	NA	**0.034** [ab]	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	<0.005	<0.005	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	<0.005	<0.005	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	<0.003	<0.003	NA	NA	NA	NA	<0.003	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	**0.222** [a]	NA	NA	NA	**0.740** [a]	NA	NA	**0.234** [a]	NA	**0.151** [a]	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	0.036	0.038	NA	NA	NA	NA	0.02	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	<0.005	<0.005	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry														
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	<0.5	NA	NA	NA	2.7 O	NA	NA	<0.5	NA	<0.1 O	NA
Sulfate	mg/L	250	- -	44	NA	NA	NA	89 O	NA	NA	157	NA	79 O	NA

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-03-06 06/05/15 MW-03-06_060515	MW-03-06 12/08/15 MW-03-06_120815	MW-03-07 06/10/15 MW-03-07_061015	MW-03-07 12/08/15 MW-03-07_120815	MW-03-08 06/04/15 MW-03-08_060415	MW-03-08 12/08/15 MW-03-08_120815	MW-04-01(3) 06/04/15 MW-04-01(3)_060415	MW-04-01(6) 06/04/15 MW-04-01(6)_060415	MW-04-04(3) 06/02/15 MW-04-04(3)_060215	MW-04-04R 06/08/15 MW-04-04R_060815	MW-04-05(6) 06/03/15 MW-04-05(6)_060315
Air Monitoring														
Methane	µg/L	- -	- -	NA	NA	46	NA	33 O	NA	3	13 O	20 O	7.5 O	120 O
Field														
Conductance, specific	mS/cm	- -	- -	12.16	12.077	1.089	1,097	1.387	2	1.036	1.089	1.614	1.139	9.405
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	1.1	0.38	0.57	0.46	1.19	0.35	0.24	0.7	0.21	0.54	0.64
Oxidation reduction potential (ORP	millivolts	- -	- -	56.7	121.5	106.1	-46.4	86.7	29.9	-22.5	46.8	-37.6	90.9	84.4
pH	s.u.	- -	- -	6.75	6.95	7.22	6.79	7.35	7.15	6.69	6.95	6.93	6.78	6.9
Temperature, field	Deg C	- -	- -	20.28	10.74	26.79	9.96	26.09	11.07	12.04	23.51	15.06	19.62	21.43
Turbidity (field)	NTU	- -	- -	7.88	5.72	7.55	11.5	41.8	13.8	8.88	76.9	9.6	2.65	4.89
Volatile Organic Compounds														
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,4-Dioxane	µg/L	7.2	2,800	6	7	NA	**28 [30]** [a]	<5	<3	NA	<5	NA	NA	NA
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	NA	<10 [<10]	<10	<10	NA	<10	NA	NA	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Acetone	µg/L	730	1,700	12	<10	NA	<10 [<10]	<10	<10	NA	<10	NA	NA	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Bromoform	µg/L	80	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Carbon disulfide	µg/L	800	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Chlorobenzene	µg/L	100	25	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Trichloroethene	µg/L	5	200	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Tetrachloroethene	µg/L	5	60	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Vinyl chloride	µg/L	2	13	**5** [a]	**7** [a]	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Chloroethane	µg/L	430	1,100	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Benzene	µg/L	5	200	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Methyl acetate	µg/L	- -	- -	<10	<10	NA	<10 [<10]	<10	<10	NA	<10	NA	NA	<10
Ethylbenzene	µg/L	74	18	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Methylene chloride	µg/L	5	1,500	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Styrene	µg/L	100	80	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Toluene	µg/L	790	270	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	NA	<10 [<10]	<10	<10	NA	<10	NA	NA	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	NA	<10 [<10]	<10	<10	NA	<10	NA	NA	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Cyclohexane	µg/L	- -	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
Isopropyl benzene	µg/L	800	28	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
o-Xylene	µg/L	- -	- -	<1	<1	NA	<1 [<1]	<1	<1	NA	<1	NA	NA	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	NA	<2 [<2]	<2	<2	NA	<2	NA	NA	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	NA	<3 [<3]	<3	<3	NA	<3	NA	NA	<3

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2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-03-06 06/05/15 MW-03-06_060515	MW-03-06 12/08/15 MW-03-06_120815	MW-03-07 06/10/15 MW-03-07_061015	MW-03-07 12/08/15 MW-03-07_120815	MW-03-08 06/04/15 MW-03-08_060415	MW-03-08 12/08/15 MW-03-08_120815	MW-04-01(3) 06/04/15 MW-04-01(3)_060415	MW-04-01(6) 06/04/15 MW-04-01(6)_060415	MW-04-04(3) 06/02/15 MW-04-04(3)_060215	MW-04-04R 06/08/15 MW-04-04R_060815	MW-04-05(6) 06/03/15 MW-04-05(6)_060315
Semivolatile Organic Compounds														
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics														
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	**2.26** [a]	NA	**1.71** [a]	NA	**1.06** [a]	**2.60** [a]	**3.83** [a]	**4.82** [a]	**5.65** [a]
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	**0.027** [ab]	**0.025** [ab]	NA	NA	NA	NA	NA	NA	NA	**0.020 [0.021]** [ab]	**0.014** [ab]
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	0.015	0.006	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	0.009
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	0.007
Lead	mg/L	0.004	0.044	<0.003	<0.003	NA	NA	NA	NA	NA	NA	NA	<0.003 [<0.003]	<0.003
Manganese	mg/L	0.05	4.5	NA	NA	**0.075** [a]	NA	**0.106** [a]	NA	0.022	**0.199** [a]	**0.370** [a]	0.033	**0.280** [a]
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	0.032	0.026	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	0.008
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	<0.005
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered														
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	**2.24** [a]	NA	**0.83** [a]	NA	**0.95** [a]	**1.36** [a]	**3.21** [a]	**4.18** [a]	**4.92** [a]
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	**0.075** [a]	NA	**0.090** [a]	NA	0.021	**0.173** [a]	**0.356** [a]	0.031	**0.279** [a]
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry														
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	<0.5	NA	<0.1 O	NA	<0.1 O	<0.1 O	<0.5	<0.5	<0.5
Sulfate	mg/L	250	- -	NA	NA	62	NA	27 O	NA	98 O	150 O	173	36	127

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Air Monitoring															
Methane	µg/L	- -	- -	NA	7.0 O	NA	NA	NA	NA	NA	9.5	NA	14 O	NA	22 O
Field															
Conductance, specific	mS/cm	- -	- -	8,675	NA	3.625	2.21	2,133	0.52	535	NA	1.951	1.073	1.187	NA
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.51	NA	0.22	1.07	4.18	1.82	2.78	NA	0.47	0.79	0.51	NA
Oxidation reduction potential (ORP	millivolts	- -	- -	6	NA	186.6	99.3	47.4	128.3	76.4	NA	6	116.7	-23.4	NA
pH	s.u.	- -	- -	6.81	NA	7.13	6.85	6.92	6.62	7.06	NA	6.99	7.07	6.75	NA
Temperature, field	Deg C	- -	- -	10.79	NA	22.61	18.62	12.6	16.59	11.46	NA	8.59	19.73	9.39	NA
Turbidity (field)	NTU	- -	- -	9.57	NA	52.3	6.18	9.23	4.32	18.1	NA	250	18.5	7.69	NA
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	NA	NA	NA	NA	NA	NA	NA	<5	<3	<5	<3	<5
1,1,1-Trichloroethane	µg/L	200	89	<1	NA	NA	<1	<1	25	22	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	NA	NA	<1	<1	3	2	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	NA	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	NA	NA	<3	<3	<3	<3	<3	<3	<3	<3	<3

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	**47.8** [a]	NA	NA	NA	NA	NA	**10.7** [a]	NA	**8.19** [a]	NA	**9.63** [a]
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	0.01	**0.019** [ab]	NA	0.005	<0.002	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	<0.005	0.008	NA	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	<0.005	<0.005	NA	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.004	0.044	<0.003	<0.003	NA	<0.003	<0.003	NA	NA	NA	NA	NA	NA	NA
Manganese	mg/L	0.05	4.5	NA	**0.437** [a]	NA	NA	NA	NA	NA	**0.120** [a]	NA	**0.320** [a]	NA	**0.106** [a]
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	0.008	0.008	NA	0.008	0.008	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	<0.005	<0.005	NA	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	**31.7** [a]	NA	NA	NA	NA	NA	**3.82** [a]	NA	**6.57** [a]	NA	**9.14** [a]
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	**0.013** [ab]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	**0.390** [a]	NA	NA	NA	NA	NA	**0.092** [a]	NA	**0.312** [a]	NA	**0.104** [a]
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	0.006	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	<0.5	NA	NA	NA	NA	NA	<0.5	NA	<0.5	NA	<0.5
Sulfate	mg/L	250	- -	NA	56	NA	NA	NA	NA	NA	124	NA	138	NA	**1,840** [a]

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Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	13 O	NA	NA	NA	9.3	10 O	NA	1.1 O	NA
Field															
Conductance, specific	mS/cm	- -	- -	3.526	3.499	NA	0.902	0.894	3.684	3.07	2.203	6.645	6.451	0.786	1.838
Conductance, specific	µmhos/cm	- -	- -	NA	NA	2,270.65	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.82	0.56	1.2	0.5	1.26	0.17	0.32	0.58	0.59	0.47	2.43	0.45
Oxidation reduction potential (ORP	millivolts	- -	- -	-84.8	-11.6	-83.32	-121.6	-90.8	-29.2	3.3	62.2	21.9	133.8	56.8	76
pH	s.u.	- -	- -	6.92	6.88	6.94	7.21	7.24	6.74	6.73	6.8	6.54	6.56	7.39	7.13
Temperature, field	Deg C	- -	- -	15.65	11.98	13.65	23.5	5.95	20.71	8.94	22.1	17.8	9.52	26.45	12.24
Turbidity (field)	NTU	- -	- -	0.65	29.6	3.99	5.31	3.02	8.62	23.2	24.1	72	16.4	241	58
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	**10** [a]	**8** [a]	**11** [a]	<5	<3	<5	5	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	NA	<3	<3	<3	<3

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-12-05 09/11/15 MW-12-05_091115	MW-12-05 12/08/15 MW-12-05_120815	MW-12-05 03/16/16 MW-12-05_031616	MW-12-06 06/10/15 MW-12-06_061015	MW-12-06 12/07/15 MW-12-06_120715	MW-12-09 06/03/15 MW-12-09_060315	MW-12-09 12/02/15 MW-12-09_120215	MW-12-10 06/10/15 MW-12-10_061015	MW-12-11 06/02/15 MW-12-11_060215	MW-12-11 12/04/15 MW-12-11_120415	MW-12-12 06/04/15 MW-12-12_060415	MW-12-12 12/04/15 MW-12-12_120415
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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ARCADIS Design & Consultancy for natural and built assets

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	447	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	**7.86** [a]	NA	NA	NA	**0.48** [a]	**9.74** [a]	NA	**2.97** [a]	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	57	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	6.18	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	**262** [a]	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	**0.012** [ab]	0.01	0.003	0.002
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	0.009	0.07	0.047	<0.005
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	0.01	<0.005
Lead	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	<0.003	0.004	<0.003
Manganese	mg/L	0.05	4.5	NA	NA	NA	0.048	NA	NA	NA	**0.507** [a]	**0.734** [a]	NA	**0.133** [a]	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	0.015	**0.137** [ab]	0.072	0.074
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005	<0.005
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	433	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	**6.19** [a]	NA	NA	NA	0.02	**8.40** [a]	NA	**0.43** [a]	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	57.5	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	6.01	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	**263** [a]	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.01	0.002	<0.002
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.071	<0.005	0.012
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	0.008
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	<0.003	<0.003
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	0.046	NA	NA	NA	**0.497** [a]	**0.741** [a]	NA	**0.076** [a]	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.140** [ab]	0.04	0.068
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	330	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	249	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	<0.5	NA	NA	NA	<0.5	<0.5	NA	0.70 O	NA
Sulfate	mg/L	250	- -	NA	NA	NA	24	NA	NA	**1,120** [a]	38	235	NA	98 O	NA

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RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-12-13 06/11/15 MW-12-13_061115	MW-12-13 12/04/15 MW-12-13_120415	MW-12-14 06/09/15 MW-12-14_060915	MW-12-15 06/10/15 MW-12-15_061015	MW-12-16 06/09/15 MW-12-16_060915	MW-12-16 12/02/15 MW-12-16_120215	MW-12-17 06/10/15 MW-12-17_061015	MW-12-18 06/08/15 MW-12-18_060815	MW-12-18 12/09/15 MW-12-18_120915	MW-12-20 06/02/15 MW-12-20_060215	MW-12-20 12/02/15 MW-12-20_120215	MW-12-21 06/03/15 MW-12-21_060315
Air Monitoring															
Methane	µg/L	- -	- -	1.7 O	NA	2.7	280	NA	NA	160 O	NA	NA	NA	NA	1.9 O
Field															
Conductance, specific	mS/cm	- -	- -	1.619	1.413	1.334	1.242	2.103	2.155	0.718	NA	2.772	1.172	1.18	2.207
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.78	1.03	0.6	0.11	0.38	0.38	0.31	NA	0.21	1.34	1.2	1.95
Oxidation reduction potential (ORP	millivolts	- -	- -	98	128.7	71.7	-74.2	-55.8	49.5	-10.2	NA	20	-39.3	-26.1	-65.8
pH	s.u.	- -	- -	7.12	7.19	6.72	6.79	6.8	6.85	7.41	NA	6.98	6.86	6.83	6.67
Temperature, field	Deg C	- -	- -	19.58	10.7	19.33	21.27	14.55	11.89	18.46	NA	11.61	17.25	12.47	17.17
Turbidity (field)	NTU	- -	- -	3.25	44	27.3	10.2	9.65	3.77	2.22	NA	7.93	8.14	830	9.18
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	<5 [<5]	<3	NA	NA	NA	NA	NA	NA	NA	<5	<3	<5
1,1,1-Trichloroethane	µg/L	200	89	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10 [<10]	<10	NA	NA	NA	<10	NA	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10 [<10]	<10	NA	NA	NA	<10	NA	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1 [<1]	<1	NA	NA	NA	<1	NA	1	2	<1	<1	<1
Bromoform	µg/L	80	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10 [<10]	<10	NA	NA	NA	<10	NA	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10 [<10]	<10	NA	NA	NA	<10	NA	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10 [<10]	<10	NA	NA	NA	<10	NA	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1 [<1]	<1	NA	NA	NA	<1	NA	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2 [<2]	<2	NA	NA	NA	<2	NA	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3 [<3]	<3	NA	NA	NA	<3	NA	<3	<3	<3	<3	<3

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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ARCADIS Design & Consultancy for natural and built assets

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	**2.20** [a]	NA	**0.66** [a]	**8.29** [a]	NA	NA	0.24	NA	NA	NA	NA	**17.1** [a]
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	0.003 [0.002]	0.003	NA	NA	NA	**0.027** [ab]	NA	NA	NA	NA	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	<0.005 [<0.005]	0.027	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	<0.005 [<0.005]	0.012	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.004	0.044	<0.003 [<0.003]	<0.003	NA	NA	NA	<0.003	NA	NA	NA	NA	NA	NA
Manganese	mg/L	0.05	4.5	**0.108** [a]	NA	**0.358** [a]	**0.324** [a]	NA	NA	**0.360** [a]	NA	NA	NA	NA	**0.193** [a]
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	0.014 [0.014]	0.023	NA	NA	NA	0.005	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	<0.005 [<0.005]	<0.005	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	**2.21** [a]	NA	<0.02	**7.67** [a]	NA	NA	0.17	NA	NA	NA	NA	**15.0** [a]
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	**0.113** [a]	NA	**0.350** [a]	**0.309** [a]	NA	NA	**0.334** [a]	NA	NA	NA	NA	**0.176** [a]
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	0.018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	<0.5	NA	1.9	<0.5	NA	NA	<0.5	NA	NA	NA	NA	<0.5
Sulfate	mg/L	250	- -	157	NA	162	<10	NA	NA	55	NA	NA	NA	NA	**719** [a]

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-12-21 12/03/15 MW-12-21_120315	MW-13-22 06/03/15 MW-13-22_060315	MW-13-22 09/09/15 MW-13-22_090915	MW-13-22 12/03/15 MW-13-22_120315	MW-13-22 03/15/16 MW-13-22_031516	MW-13-23 06/03/15 MW-13-23_060315	MW-13-23 12/03/15 MW-13-23_120315	MW-13-24 06/02/15 MW-13-24_060215	MW-13-24 12/02/15 MW-13-24_120215	MW-13-25 06/04/15 MW-13-25_060415	MW-13-25 12/04/15 MW-13-25_120415	MW-13-26 06/03/15 MW-13-26_060315
Air Monitoring															
Methane	µg/L	- -	- -	NA	5.8 O	NA	NA	NA	3.1 O	NA	350 O	NA	6.2	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	2.002	1.782	1.871	1.935	NA	1.995	2.165	1.478	1.923	2.156	2.028	1.386
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	941.44	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.62	1.51	0.37	0.26	1.66	1.01	1.32	1.69	0.85	0.91	1.1	0.62
Oxidation reduction potential (ORP	millivolts	- -	- -	29.3	-150.3	-36.4	28.6	-48.68	41.6	144.5	-137.8	15.5	-29.1	71.3	-60.8
pH	s.u.	- -	- -	6.65	6.75	6.63	6.71	7.03	6.65	6.51	7.04	6.55	6.45	6.54	6.67
Temperature, field	Deg C	- -	- -	9.86	14.99	16.02	10.69	12.11	19.01	8.97	18.31	12.7	15.11	10	17.39
Turbidity (field)	NTU	- -	- -	199	4.11	1.8	8.38	2.33	1,000	402	7.77	30.4	8.95	36.7	8.78
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	**400 Y [a]**	**158 [a]**	**240 Y [a]**	**166 [a]**	**145 [a]**	<5	6	<5	<3	**20 [a]**	**21 [a]**	<5
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-12-21 12/03/15 MW-12-21_120315	MW-13-22 06/03/15 MW-13-22_060315	MW-13-22 09/09/15 MW-13-22_090915	MW-13-22 12/03/15 MW-13-22_120315	MW-13-22 03/15/16 MW-13-22_031516	MW-13-23 06/03/15 MW-13-23_060315	MW-13-23 12/03/15 MW-13-23_120315	MW-13-24 06/02/15 MW-13-24_060215	MW-13-24 12/02/15 MW-13-24_120215	MW-13-25 06/04/15 MW-13-25_060415	MW-13-25 12/04/15 MW-13-25_120415	MW-13-26 06/03/15 MW-13-26_060315
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	**8.54** [a]	NA	NA	NA	**10.2** [a]	NA	**5.96** [a]	NA	**9.03** [a]	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	mg/L	0.05	4.5	NA	**0.080** [a]	NA	NA	NA	**1.50** [a]	NA	**0.248** [a]	NA	**0.670** [a]	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	**8.54** [a]	NA	NA	NA	**0.68** [a]	NA	**5.26** [a]	NA	**8.94** [a]	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	**0.070** [a]	NA	NA	NA	**1.36** [a]	NA	**0.236** [a]	NA	**0.670** [a]	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	<0.5	NA	NA	NA	<0.5	NA	<0.5	NA	<0.1 O	NA	NA
Sulfate	mg/L	250	- -	NA	**658** [a]	NA	NA	NA	**867** [a]	NA	**722** [a]	NA	**700 O** [a]	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-26 12/04/15 MW-13-26_120415	MW-13-28 06/03/15 MW-13-28_060315	MW-13-28 12/03/15 MW-13-28_120315	MW-13-29 06/03/15 MW-13-29_060315	MW-13-29 12/04/15 MW-13-29_120415	MW-13-30 06/03/15 MW-13-30_060315	MW-13-30 12/03/15 MW-13-30_120315	MW-13-31 06/03/15 MW-13-31_060315	MW-13-31 09/09/15 MW-13-31_090915	MW-13-31 12/04/15 MW-13-31_120415	MW-13-31 03/15/16 MW-13-31_031516	MW-13-32 06/03/15 MW-13-32_060315
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	16 O	NA	NA	NA	10 O	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	1.44	1.709	0.966	2.157	2.491	1.63	1.492	1.083	0.936	NA	NA	1.464
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	516.23	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.85	2.09	0.6	1.98	0.97	1.78	1.06	8.64	0.58	NA	2.11	0.53
Oxidation reduction potential (ORP	millivolts	- -	- -	29.1	-90.3	146.3	-2.6	105.5	-75.4	24.1	-62.8	74.3	NA	73.45	24.9
pH	s.u.	- -	- -	6.6	11.73	8.14	6.58	6.47	6.67	6.62	6.83	6.88	NA	6.86	6.73
Temperature, field	Deg C	- -	- -	10.09	16.7	12.13	20.64	10.05	24.09	9.64	12.85	19.25	NA	8.19	12.35
Turbidity (field)	NTU	- -	- -	8.25	6.83	34.7	8.14	35	518	52.7	101	5.75	999	17.36	9.55
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,4-Dioxane	µg/L	7.2	2,800	3	<5	5	**18** [a]	**21** [a]	<5	<3	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	NA	NA	NA	NA
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	NA	NA	NA	NA	NA
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	NA	NA	NA	NA	NA

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-26 12/04/15 MW-13-26_120415	MW-13-28 06/03/15 MW-13-28_060315	MW-13-28 12/03/15 MW-13-28_120315	MW-13-29 06/03/15 MW-13-29_060315	MW-13-29 12/04/15 MW-13-29_120415	MW-13-30 06/03/15 MW-13-30_060315	MW-13-30 12/03/15 MW-13-30_120315	MW-13-31 06/03/15 MW-13-31_060315	MW-13-31 09/09/15 MW-13-31_090915	MW-13-31 12/04/15 MW-13-31_120415	MW-13-31 03/15/16 MW-13-31_031516	MW-13-32 06/03/15 MW-13-32_060315
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	**8.37** [a]	NA	NA	NA	**43.5** [a]	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	0.007 [0.003]	<0.002 [<0.002]	**0.005 [0.011** [ab]**]**	<0.002	0.002
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	**1.02 [0.481]** [b]	0.005 [<0.005]	**1.38 [0.794]** [b]	0.012	0.062
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	**0.044 [0.021]** [b]	0.007 [0.007]	**0.266 [0.007]** [b]	0.006	0.007
Lead	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	**0.068 [0.03]** [ab]	<0.003 [<0.003]	**0.344 [0.321]** [ab]	<0.003	<0.003
Manganese	mg/L	0.05	4.5	NA	NA	NA	**0.785** [a]	NA	NA	NA	**0.856** [a]	NA	NA	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	**2.16 [1.14]** [ab]	0.017 [0.017]	**20.7 [13.3]** [ab]	0.056	**1.77** [ab]
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	<0.005 [<0.005]	**0.038 [0.061]** [ab]	<0.005	<0.005
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	**5.46** [a]	NA	NA	NA	**18.7** [a]	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002 [<0.002]	<0.002	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.034 [0.043]	<0.005	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.046 [<0.005]** [b]	0.006	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 [<0.003]	<0.003	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	**0.785** [a]	NA	NA	NA	**0.506** [a]	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8.24 [10.7]** [ab]	0.053	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	<0.005	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	<0.5	NA	NA	NA	<0.5	NA	NA	NA	NA
Sulfate	mg/L	250	- -	NA	NA	NA	**841** [a]	NA	NA	NA	47	NA	NA	NA	NA

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Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	<0.50 O	NA	14	NA	NA	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	0.996	1,486	NA	0.866	862	1.961	1,827	1.781	2.023	1.564	1.738	2.47
Conductance, specific	µmhos/cm	- -	- -	NA	NA	731.06	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	2.65	1.29	3.87	6.48	1.67	1.32	1.06	0.26	0.3	0.35	0.23	0.5
Oxidation reduction potential (ORP	millivolts	- -	- -	78.7	55.6	105.04	67.9	111	-94.7	-34.6	-70.1	61.7	112.8	40.6	-143.7
pH	s.u.	- -	- -	7	6.06	6.98	7.01	6.47	7.12	6.95	6.84	6.93	11.37	11.7	7.21
Temperature, field	Deg C	- -	- -	19.13	7.56	11.6	12.46	9.67	22.89	11.57	14.68	11.43	22.57	10.88	15.38
Turbidity (field)	NTU	- -	- -	NA	9.89	15.73	9.55	999	9.05	59	8.31	1.47	6.36	9.21	7.22
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,2-Dichlorobenzene	µg/L	600	13	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,4-Dichlorobenzene	µg/L	75	17	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,4-Dioxane	µg/L	7.2	2,800	NA	NA	NA	NA	NA	**56** [a]	**70** [a]	NA	NA	NA	NA	<5
1,1,1-Trichloroethane	µg/L	200	89	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
2-Hexanone	µg/L	1,000	- -	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Acetone	µg/L	730	1,700	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10
1,1,2-Trichloroethane	µg/L	5	330	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Bromodichloromethane	µg/L	80	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,1-Dichloroethane	µg/L	880	740	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Bromoform	µg/L	80	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,1-Dichloroethene	µg/L	7	130	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Bromomethane (Methyl bromide)	µg/L	10	35	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,2-Dichloroethane	µg/L	5	360	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Carbon disulfide	µg/L	800	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Carbon tetrachloride	µg/L	5	45	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
cis-1,2-Dichloroethene	µg/L	70	620	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Chlorobenzene	µg/L	100	25	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Chloroform (Trichloromethane)	µg/L	80	350	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Trichloroethene	µg/L	5	200	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Tetrachloroethene	µg/L	5	60	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Vinyl chloride	µg/L	2	13	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Chloroethane	µg/L	430	1,100	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Benzene	µg/L	5	200	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Methyl acetate	µg/L	- -	- -	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10
Ethylbenzene	µg/L	74	18	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Methylene chloride	µg/L	5	1,500	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Styrene	µg/L	100	80	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Toluene	µg/L	790	270	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	NA	NA	NA	NA	NA	<10	<10	NA	NA	NA	NA	<10
1,2,4-Trichlorobenzene	µg/L	70	99	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,2-Dichloropropane	µg/L	5	230	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
1,3-Dichlorobenzene	µg/L	6.6	28	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Cyclohexane	µg/L	- -	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Methyl cyclohexane	µg/L	- -	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Dibromochloromethane	µg/L	80	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
Isopropyl benzene	µg/L	800	28	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
o-Xylene	µg/L	- -	- -	NA	NA	NA	NA	NA	<1	<1	NA	NA	NA	NA	<1
m&p-Xylene	µg/L	- -	- -	NA	NA	NA	NA	NA	<2	<2	NA	NA	NA	NA	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	NA	NA	NA	NA	NA	<3	<3	NA	NA	NA	NA	<3

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-32 09/09/15 MW-13-32_090915	MW-13-32 12/04/15 MW-13-32_120415	MW-13-32 03/15/16 MW-13-32_031516	MW-13-33 06/03/15 MW-13-33_060315	MW-13-33 12/04/15 MW-13-33_120415	MW-13-34 06/04/15 MW-13-34_060415	MW-13-34 12/01/15 MW-13-34_120115	MW-13-35 06/09/15 MW-13-35_060915	MW-13-35 12/02/15 MW-13-35_120215	MW-13-36R 06/08/15 MW-13-36R_060815	MW-13-36R 12/02/15 MW-13-36R_120215	MW-13-38 06/05/15 MW-13-38_060515
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	**0.78** [a]	NA	**9.51** [a]	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	<0.002	<0.002	<0.002 [<0.002]	<0.002 [<0.002]	<0.002 [<0.002]	NA	NA	NA	0.003	0.003	0.002	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	0.014	**0.510** [b]	**0.189 [0.203]** [b]	0.007 [0.008]	0.032 [0.034]	NA	NA	NA	<0.005	<0.005	<0.005	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	0.009	**0.023** [b]	0.011 [0.011]	<0.005 [<0.005]	**0.084 [0.081]** [b]	NA	NA	NA	<0.005	**0.028** [b]	<0.005	NA
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003 [<0.003]	<0.003 [<0.003]	**0.022 [0.022]** [a]	NA	NA	NA	<0.003	<0.003	<0.003	NA
Manganese	mg/L	0.05	4.5	NA	NA	NA	0.013	NA	**0.109** [a]	NA	NA	NA	NA	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	**0.251** [ab]	**3.63** [ab]	**1.90 [1.99]** [ab]	0.010 [0.01]	0.061 [0.06]	NA	NA	NA	0.005	0.007	0.009	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	<0.005	<0.005	<0.005 [<0.005]	<0.005 [<0.005]	**0.008 [0.008]** [a]	NA	NA	NA	<0.005	**0.012** [a]	**0.009** [a]	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	**0.60** [a]	NA	**9.04** [a]	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	<0.002 [<0.002]	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	0.005 [0.005]	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	0.010 [0.009]	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	<0.003 [<0.003]	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	<0.005	NA	**0.105** [a]	NA	NA	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	0.012 [0.011]	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	<0.5	NA	0.27 O	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	NA	NA	NA	95	NA	190 O	NA	NA	NA	NA	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Location ID: / Date Collected: / Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-38 12/02/15 MW-13-38_120215	MW-13-39B 06/02/15 MW-13-39B_060215	MW-13-40 06/05/15 MW-13-40_060515	MW-13-40 12/02/15 MW-13-40_120215	MW-13-41 06/05/15 MW-13-41_060515	MW-13-41 12/02/15 MW-13-41_120215	MW-13-42 06/04/15 MW-13-42_060415	MW-13-42 09/11/15 MW-13-42_091115	MW-13-42 03/15/16 MW-13-42_031516	MW-13-43 06/10/15 MW-13-43_061015	MW-13-43 09/10/15 MW-13-43_091015	MW-13-43 12/03/15 MW-13-43_120315
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	53 O	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	1,960	1.301	7.072	6,972	6.167	5,335	NA	NA	NA	2.878	2.726	5.196
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.4	0.31	0.43	0.53	0.2	0.49	NA	NA	NA	0.8	0.35	0.45
Oxidation reduction potential (ORP	millivolts	- -	- -	-203.3	-128.9	-63.6	-19.3	-81.9	-1.1	NA	NA	NA	-78.8	-45.6	45.7
pH	s.u.	- -	- -	7.65	7.2	6.79	6.73	6.93	6.91	NA	NA	NA	6.95	7.11	6.21
Temperature, field	Deg C	- -	- -	9.07	12.22	14.59	10.23	14.52	9.52	NA	NA	NA	21.07	17.92	8.37
Turbidity (field)	NTU	- -	- -	9.65	9.63	77.1	9.02	89.1	7.29	NA	NA	NA	15.7	9.38	7.99
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	<3	NA	<5	<3	**19** [a]	**11** [a]	**14** [a]	**20** [a]	**20** [a]	**300 Y** [a]	**360 Y** [a]	**350 Y** [a]
1,1,1-Trichloroethane	µg/L	200	89	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	24	NA	<10	<10	<10	<10	<10	<10	<10	<10	11	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	NA	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	NA	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	NA	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

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Location ID: / Date Collected: / Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-38 12/02/15 MW-13-38_120215	MW-13-39B 06/02/15 MW-13-39B_060215	MW-13-40 06/05/15 MW-13-40_060515	MW-13-40 12/02/15 MW-13-40_120215	MW-13-41 06/05/15 MW-13-41_060515	MW-13-41 12/02/15 MW-13-41_120215	MW-13-42 06/04/15 MW-13-42_060415	MW-13-42 09/11/15 MW-13-42_091115	MW-13-42 03/15/16 MW-13-42_031516	MW-13-43 06/10/15 MW-13-43_061015	MW-13-43 09/10/15 MW-13-43_091015	MW-13-43 12/03/15 MW-13-43_120315
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	576
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.43** [a]	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	162
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.51
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	213	NA	**569** [a]
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	0.007 [0.008]	**0.032** [ab]	**0.028** [ab]	**0.024** [ab]	**0.014** [ab]	NA	NA	NA	0.003	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.738	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005	NA	NA
Chromium	mg/L	- -	0.16	NA	0.008 [0.007]	0.006	<0.005	0.006	<0.005	NA	NA	NA	<0.005	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA
Lead	mg/L	0.004	0.044	NA	<0.003 [<0.003]	<0.003	<0.003	<0.003	<0.003	NA	NA	NA	<0.003	NA	NA
Manganese	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.054** [a]	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0001	NA	NA
Nickel	mg/L	0.1	0.12	NA	<0.005 [0.005]	0.027	0.026	0.028	0.028	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.0010** [b]	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.41** [a]	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	**0.030** [ab]	NA	**0.022** [ab]	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	<0.003	NA	<0.003	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.055** [a]	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	0.024	NA	0.028	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	419	NA	654
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	**580** [a]	NA	**529** [a]
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA
Sulfate	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	189	NA	**1,780** [a]

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ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-43 03/16/16 MW-13-43_031616	MW-13-44 06/10/15 MW-13-44_061015	MW-13-44 09/11/15 MW-13-44_091115	MW-13-44 12/03/15 MW-13-44_120315	MW-13-44 03/16/16 MW-13-44_031616	MW-13-45 06/04/15 MW-13-45_060415	MW-13-45 09/10/15 MW-13-45_091015	MW-13-45 12/03/15 MW-13-45_120315	MW-13-45 03/15/16 MW-13-45_031516	MW-13-46 06/04/15 MW-13-46_060415	MW-13-46 12/01/15 MW-13-46_120115	MW-13-47 06/04/15 MW-13-47_060415
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	NA	1.371	1.43	1.426	NA	1.371	1.328	1.247	NA	1.894	2,046	1.786
Conductance, specific	µmhos/cm	- -	- -	1,477.19	NA	NA	NA	646.21	NA	NA	NA	658.61	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	1.1	2.05	0.46	1.02	0.66	0.35	1.49	0.99	0.99	0.94	1.02	1.39
Oxidation reduction potential (ORP	millivolts	- -	- -	-61.11	-23.1	-117.3	-42.6	-276.6	-76.9	79.3	-24.4	-77.35	-54.6	-3.9	-96.8
pH	s.u.	- -	- -	6.57	8.59	7.11	7.07	8.07	7.17	7.37	6.98	7.22	6.68	6.44	6.96
Temperature, field	Deg C	- -	- -	11.76	20.65	15.06	6.2	12.14	21.32	18.62	5.28	14.25	18.75	9.77	20.08
Turbidity (field)	NTU	- -	- -	9.24	9.2	7.14	6.34	55.2	8.25	7.41	5.48	5.69	60.2	574	7.84
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	**280 Y** [a]	<5	<3	<3	6	**48** [a]	**56** [a]	**50** [a]	**51** [a]	<5	<3	<5
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

Table 2
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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-43 03/16/16 MW-13-43_031616	MW-13-44 06/10/15 MW-13-44_061015	MW-13-44 09/11/15 MW-13-44_091115	MW-13-44 12/03/15 MW-13-44_120315	MW-13-44 03/16/16 MW-13-44_031616	MW-13-45 06/04/15 MW-13-45_060415	MW-13-45 09/10/15 MW-13-45_091015	MW-13-45 12/03/15 MW-13-45_120315	MW-13-45 03/15/16 MW-13-45_031516	MW-13-46 06/04/15 MW-13-46_060415	MW-13-46 12/01/15 MW-13-46_120115	MW-13-47 06/04/15 MW-13-47_060415
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	128	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	2	1.2	NA	0.026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	<0.0005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.004	0.044	NA	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	<0.0001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	**0.0007** [b]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	377	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	190	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	NA	<10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location ID:		MI GW	MI GW	MW-13-47	MW-13-48	MW-13-48	MW-13-48	MW-13-49	MW-13-49	MW-13-50	MW-13-50	MW-13-51	MW-13-51	MW-13-52	MW-13-52
Date Collected:		(DEQ2013) RES	(DEQ2013) GSI	12/01/15	06/04/15	12/01/15	03/15/16	06/04/15	12/01/15	06/05/15	12/09/15	06/05/15	12/09/15	06/10/15	12/09/15
Sample Name:	Units	DW		MW-13-47_120115	MW-13-48_060415	MW-13-48_120115	MW-13-48_031516	MW-13-49_060415	MW-13-49_120115	MW-13-50_060515	MW-13-50_120915	MW-13-51_060515	MW-13-51_120915	MW-13-52_061015	MW-13-52_120915
Air Monitoring															
Methane	µg/L	- -	- -	NA	26	NA	NA	NA	NA	NA	NA	NA	NA	18 O	NA
Field															
Conductance, specific	mS/cm	- -	- -	1,750	2.169	2,105	NA	1.64	1,608	1.028	1.069	1.47	1.536	1.244	1.302
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	1,186.94	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.67	0.31	0.81	0.98	1.32	3.64	0.48	0.42	0.59	0.32	0.37	0.86
Oxidation reduction potential (ORP	millivolts	- -	- -	-55.6	-81.3	-42.6	-76.23	-102.6	-30.9	-78.2	-41.5	-41.2	-18.4	-89.5	-50.9
pH	s.u.	- -	- -	6.79	6.69	6.58	6.75	7.03	6.77	6.9	7.03	6.83	6.8	6.93	6.95
Temperature, field	Deg C	- -	- -	11.45	20.32	11.1	11.19	20.5	8.88	21.57	11.64	20.05	10.48	29.82	11.01
Turbidity (field)	NTU	- -	- -	16.6	5.68	5.3	34.64	5.69	2.52	2.94	14.6	6.95	11	14.7	18.7
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	<3	**210 Y [a]**	**380 Y [a]**	**280 Y [a]**	<5	<3	<5	<3	<5	<3	<5	<3
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-47 12/01/15 MW-13-47_120115	MW-13-48 06/04/15 MW-13-48_060415	MW-13-48 12/01/15 MW-13-48_120115	MW-13-48 03/15/16 MW-13-48_031516	MW-13-49 06/04/15 MW-13-49_060415	MW-13-49 12/01/15 MW-13-49_120115	MW-13-50 06/05/15 MW-13-50_060515	MW-13-50 12/09/15 MW-13-50_120915	MW-13-51 06/05/15 MW-13-51_060515	MW-13-51 12/09/15 MW-13-51_120915	MW-13-52 06/10/15 MW-13-52_061015	MW-13-52 12/09/15 MW-13-52_120915
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-47 12/01/15 MW-13-47_120115	MW-13-48 06/04/15 MW-13-48_060415	MW-13-48 12/01/15 MW-13-48_120115	MW-13-48 03/15/16 MW-13-48_031516	MW-13-49 06/04/15 MW-13-49_060415	MW-13-49 12/01/15 MW-13-49_120115	MW-13-50 06/05/15 MW-13-50_060515	MW-13-50 12/09/15 MW-13-50_120915	MW-13-51 06/05/15 MW-13-51_060515	MW-13-51 12/09/15 MW-13-51_120915	MW-13-52 06/10/15 MW-13-52_061015	MW-13-52 12/09/15 MW-13-52_120915
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	**12.9** [a]	NA	NA	NA	NA	NA	NA	NA	NA	**8.19** [a]	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	mg/L	0.05	4.5	NA	**0.240** [a]	NA	NA	NA	NA	NA	NA	NA	NA	**0.110** [a]	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	**12.9** [a]	NA	NA	NA	NA	NA	NA	NA	NA	**7.89** [a]	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	**0.234** [a]	NA	NA	NA	NA	NA	NA	NA	NA	**0.111** [a]	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	<0.1 O	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA
Sulfate	mg/L	250	- -	NA	120 O	NA	NA	NA	NA	NA	NA	NA	NA	36	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-13-53 06/05/15 MW-13-53_060515	MW-13-53 12/09/15 MW-13-53_120915	MW-14-54 06/11/15 MW-14-54_061115	MW-14-54 12/08/15 MW-14-54_120815	MW-14-55 06/08/15 MW-14-55_060815	MW-14-55 12/04/15 MW-14-55_120415	MW-14-56 06/03/15 MW-14-56_060315	MW-14-56 09/11/15 MW-14-56_091115	MW-14-56 12/02/15 MW-14-56_120215	MW-14-56 03/16/16 MW-14-56_031616	MW-14-57 06/08/15 MW-14-57_060815	MW-14-57 12/04/15 MW-14-57_120415
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	1.246	1.367	2.006	1,921	2.034	2.356	4.974	4.911	5.12	NA	0.947	1.043
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	4,177.50	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	1.53	1.21	0.14	0.33	2.74	1.93	7.7	0.6	1.16	3.11	0.22	0.34
Oxidation reduction potential (ORP	millivolts	- -	- -	-37.4	-12.9	-57.5	-9	-48.8	-11.1	-60.5	-56.1	83.1	93.6	-34.6	53.1
pH	s.u.	- -	- -	6.85	6.82	7.84	7.5	7.19	6.99	7.42	6.71	6.63	6.63	7.42	7.19
Temperature, field	Deg C	- -	- -	20.11	12.42	18.12	12.99	20.4	11.41	20.81	15.32	8.02	12.41	22.31	11.9
Turbidity (field)	NTU	- -	- -	16	42.8	9.98	5.49	147	8.65	98.6	NA	5.91	60.69	6.55	4.39
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,4-Dioxane	µg/L	7.2	2,800	<5	<3	<5	NA	<5	NA	7	**8** [a]	7	**9** [a]	<5 [<5]	<3 [<3]
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<5 Y	<1	1	4	<1	<1	<1	<1	10 [10]	16 [17]
2-Hexanone	µg/L	1,000	- -	<10	<10	<50 Y	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10 [<10]
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Acetone	µg/L	730	1,700	<10	<10	<50 Y	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10 [<10]
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Bromodichloromethane	µg/L	80	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,1-Dichloroethane	µg/L	880	740	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	1 [1]	1 [1]
Bromoform	µg/L	80	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,1-Dichloroethene	µg/L	7	130	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,2-Dichloroethane	µg/L	5	360	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Carbon disulfide	µg/L	800	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Carbon tetrachloride	µg/L	5	45	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Chlorobenzene	µg/L	100	25	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Trichloroethene	µg/L	5	200	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Tetrachloroethene	µg/L	5	60	<1	<1	<5 Y	<1	**57** [a]	**100** [ab]	<1	<1	<1	<1	<1 [<1]	<1 [<1]
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Vinyl chloride	µg/L	2	13	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Chloroethane	µg/L	430	1,100	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Benzene	µg/L	5	200	<1	<1	**113 Y** [a]	2	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Methyl acetate	µg/L	- -	- -	<10	<10	<50 Y	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10 [<10]
Ethylbenzene	µg/L	74	18	<1	<1	**90 Y** [ab]	2	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Methylene chloride	µg/L	5	1,500	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Styrene	µg/L	100	80	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Toluene	µg/L	790	270	<1	<1	21 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<50 Y	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10 [<10]
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<50 Y	<10	<10	<10	<10	<10	<10	<10	<10 [<10]	<10 [<10]
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,2-Dichloropropane	µg/L	5	230	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Cyclohexane	µg/L	- -	- -	<1	<1	<18 XY	2	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Dibromochloromethane	µg/L	80	- -	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
Isopropyl benzene	µg/L	800	28	<1	<1	<5 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
o-Xylene	µg/L	- -	- -	<1	<1	19 Y	<1	<1	<1	<1	<1	<1	<1	<1 [<1]	<1 [<1]
m&p-Xylene	µg/L	- -	- -	<2	<2	280 Y	<2	<2	<2	<2	<2	<2	<2	<2 [<2]	<2 [<2]
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	**299 Y** [ab]	<3	<3	<3	<3	<3	<3	<3	<3 [<3]	<3 [<3]

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	3	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	5	NA	NA	NA	<1	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	<1	NA	<1	NA	<1	NA	NA	NA	<1 [<1]	NA
Atrazine	µg/L	3	7.3	NA	NA	<1	NA	<1 S	NA	<1	NA	NA	NA	<1 S [<1]	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	<1	NA	<1	NA	<1	NA	NA	NA	<1 [<1]	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	<1	NA	<1 S	NA	<1	NA	NA	NA	<1 S [<1]	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	**7 B** [a]	NA	NA	NA	**11 B** [a]	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	<1	NA	<1 S	NA	6	NA	NA	NA	<1 S [<1]	NA
Carbazole	µg/L	85	10	NA	NA	<1	NA	<1 S	NA	<1	NA	NA	NA	<1 S [<1]	NA
Chrysene	µg/L	1.6	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	<2	NA	NA	NA	<2	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	<2	NA	NA	NA	<1	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	<1	NA	NA	NA	<1	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	8.98	NA	NA	NA	NA	623	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	1.35	NA	NA	NA	NA	257	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	0.63	NA	NA	NA	NA	4.99	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	**446** [a]	NA	NA	NA	NA	**322** [a]	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA	<0.005 [<0.005]	NA
Arsenic	mg/L	0.01	0.01	NA	NA	0.002	0.003	0.002	<0.002	0.009	NA	NA	NA	<0.002 [<0.002]	<0.002 [<0.002]
Barium	mg/L	2	1.2	NA	NA	0.018	NA	0.139	NA	0.038	NA	NA	NA	0.020 [0.02]	NA
Boron	mg/L	0.5	7.2	NA	NA	0.07	NA	0.04	NA	0.1	NA	NA	NA	0.24 [0.24]	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	NA	NA	<0.0005 [<0.0005]	NA
Chromium	mg/L	- -	0.16	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.318** [b]	NA	NA	NA	<0.005 [<0.005]	<0.005 [<0.005]
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	<0.005	NA	0.007	NA	0.015	NA	NA	NA	<0.005 [<0.005]	NA
Copper	mg/L	1	0.02	NA	NA	<0.005	<0.005	<0.005	<0.005	**0.025** [b]	NA	NA	NA	<0.005 [<0.005]	<0.005 [<0.005]
Lead	mg/L	0.004	0.044	NA	NA	<0.003	<0.003	<0.003	<0.003	**0.008** [a]	NA	NA	NA	<0.003 [<0.003]	<0.003 [<0.003]
Manganese	mg/L	0.05	4.5	NA	NA	0.014	NA	**0.117** [a]	NA	**0.279** [a]	NA	NA	NA	**0.100 [0.101]** [a]	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	<0.0001	NA	<0.0001	NA	<0.0001	NA	NA	NA	<0.0001 [<0.0001]	NA
Nickel	mg/L	0.1	0.12	NA	NA	<0.005	<0.005	**0.352** [ab]	**0.518** [ab]	**0.607** [ab]	NA	NA	NA	0.010 [0.009]	0.011 [0.011]
Selenium	mg/L	0.05	- -	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA	<0.005 [<0.005]	NA
Silver	mg/L	0.034	0.0002	NA	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	NA	NA	<0.0005 [<0.0005]	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA	NA	<0.005 [<0.005]	<0.005 [<0.005]
Zinc	mg/L	2.4	0.26	NA	NA	<0.005	NA	<0.005	NA	0.022	NA	NA	NA	<0.005 [<0.005]	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	0.002	NA	0.005	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	0.14	NA	0.031	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	0.04	NA	0.1	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	<0.0005	NA	<0.0005	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	0.007	NA	0.015	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	<0.005	NA	0.007	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	<0.003	NA	<0.003	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	**0.108** [a]	NA	**0.279** [a]	NA	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	<0.0001	NA	<0.0001	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	**0.352** [ab]	NA	**0.607** [ab]	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	<0.0005	NA	<0.0005	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	<0.005	NA	0.011	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	704	NA	NA	NA	NA	396	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	99	NA	NA	NA	NA	**818** [a]	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	NA	NA	NA	47	NA	NA	NA	NA	**1,500** [a]	NA	NA	NA

Table 2
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RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-14-58 06/03/15 MW-14-58_060315	MW-14-58 12/03/15 MW-14-58_120315	MW-14-59 06/04/15 MW-14-59_060415	MW-14-59 12/04/15 MW-14-59_120415	MW-14-60 06/04/15 MW-14-60_060415	MW-14-60 12/07/15 MW-14-60_120715	MW-14-61 06/09/15 MW-14-61_060915	MW-14-61 12/07/15 MW-14-61_120715	MW-14-62 06/09/15 MW-14-62_060915	MW-14-62 12/09/15 MW-14-62_120915	MW-14-63 06/02/15 MW-14-63_060215	MW-14-63 06/02/15 MW-14-63_060215
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	5.765	3.819	1.081	1.053	1.384	1.207	1.011	1.015	0.899	0.769	NA	1.166
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.12	0.38	0.16	0.33	0.18	0.46	0.67	0.97	0.22	0.06	NA	0.4
Oxidation reduction potential (ORP	millivolts	- -	- -	-50.8	-31.2	-78	-16.4	-126.8	-73.8	-53.7	-17.8	-121.3	89.4	NA	-90.3
pH	s.u.	- -	- -	6.66	6.65	7.02	7.07	7.26	7.26	7.07	6.97	11.64	11.47	NA	6.68
Temperature, field	Deg C	- -	- -	16.17	10.97	21.44	13.33	23.85	9.07	16.89	3.86	16.42	13.4	NA	21.77
Turbidity (field)	NTU	- -	- -	3.99	4.98	2.58	9.38	2.98	4.1	7.32	15.9	4.57	2.29	NA	38.2
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1
1,4-Dioxane	µg/L	7.2	2,800	**46** [a]	**24** [a]	**200 Y** [a]	**200 Y** [a]	**160** [a]	**150** [a]	6	7	**48** [a]	**67** [a]	NA	<5
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	NA
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA
1,1-Dichloroethane	µg/L	880	740	<1	<1	11	12	<1	<1	<1	<1	56	66	<1	NA
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA
1,1-Dichloroethene	µg/L	7	130	<1	<1	**21** [a]	**39** [a]	<1	<1	<1	<1	<1	<1	<1	NA
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	NA
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	**3** [a]	2	<1	NA	<1	<1	<1	NA
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	18	5	<1	NA	6	4	<1	NA
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	NA
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	NA
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10	NA
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1	NA
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2	NA
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	NA	<3	<3	<3	NA

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-14-58 06/03/15 MW-14-58_060315	MW-14-58 12/03/15 MW-14-58_120315	MW-14-59 06/04/15 MW-14-59_060415	MW-14-59 12/04/15 MW-14-59_120415	MW-14-60 06/04/15 MW-14-60_060415	MW-14-60 12/07/15 MW-14-60_120715	MW-14-61 06/09/15 MW-14-61_060915	MW-14-61 12/07/15 MW-14-61_120715	MW-14-62 06/09/15 MW-14-62_060915	MW-14-62 12/09/15 MW-14-62_120915	MW-14-63 06/02/15 MW-14-63_060215	MW-14-63 06/02/15 MW-14-63_060215
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,4,6-Trichlorophenol	µg/L	120	5	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,4-Dichlorophenol	µg/L	73	11	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,4,5-Trichlorophenol	µg/L	730	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,4-Dimethylphenol	µg/L	370	380	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,4-Dinitrophenol	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2,6-Dinitrotoluene	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2-Chloronaphthalene	µg/L	1,800	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2-Chlorophenol	µg/L	45	18	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2-Methylnaphthalene	µg/L	260	19	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2-Methylphenol	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2-Nitroaniline	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
2-Nitrophenol	µg/L	20	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
3&4-Methylphenol	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Naphthalene	µg/L	520	11	<1	NA	<1	NA	<1	NA	<1	NA	1	NA	<1	NA
3-Nitroaniline	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4-Chloroaniline	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4-Nitroaniline	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
4-Nitrophenol	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Anthracene	µg/L	43	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Acenaphthene	µg/L	1,300	38	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Acenaphthylene	µg/L	52	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Acetophenone	µg/L	1,500	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Atrazine	µg/L	3	7.3	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Benzaldehyde	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Benzo(a)anthracene	µg/L	2.1	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Benzo(a)pyrene	µg/L	5	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Benzo(g,h,i)perylene	µg/L	1	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Benzo(k)fluoranthene	µg/L	1	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
bis(2-Chloroethyl)ether	µg/L	2	1	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	4 B	NA	3 B	NA	<2	NA	2 B	NA	5 B	NA	4 B	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Caprolactam	µg/L	5,800	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Carbazole	µg/L	85	10	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Chrysene	µg/L	1.6	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Dibenz(a,h)anthracene	µg/L	2	- -	<2	NA	<2	NA	<2	NA	<2	NA	<2	NA	<2	NA
Dibenzofuran	µg/L	- -	4	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Diethyl phthalate	µg/L	5,500	110	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Dimethyl phthalate	µg/L	73,000	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Fluoranthene	µg/L	210	1.6	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Fluorene	µg/L	880	12	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Hexachlorobenzene	µg/L	1	0.2	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Hexachlorobutadiene	µg/L	15	0.053	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Hexachlorocyclopentadiene	µg/L	50	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Hexachloroethane	µg/L	7.3	6.7	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA
Isophorone	µg/L	770	1,300	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
Nitrobenzene	µg/L	3.4	180	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
N-Nitrosodi-n-propylamine	µg/L	5	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
N-Nitrosodiphenylamine	µg/L	270	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-14-58 06/03/15 MW-14-58_060315	MW-14-58 12/03/15 MW-14-58_120315	MW-14-59 06/04/15 MW-14-59_060415	MW-14-59 12/04/15 MW-14-59_120415	MW-14-60 06/04/15 MW-14-60_060415	MW-14-60 12/07/15 MW-14-60_120715	MW-14-61 06/09/15 MW-14-61_060915	MW-14-61 12/07/15 MW-14-61_120715	MW-14-62 06/09/15 MW-14-62_060915	MW-14-62 12/09/15 MW-14-62_120915	MW-14-63 06/02/15 MW-14-63_060215	MW-14-63 06/02/15 MW-14-63_060215
Pentachlorophenol	µg/L	1	2.8	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
Phenanthrene	µg/L	52	2	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
Phenol	µg/L	4,400	450	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
Pyrene	µg/L	140	- -	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA	<1
Inorganics															
Calcium	mg/L	- -	- -	NA	546	NA	83.4	NA	116	NA	NA	NA	39.3	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	137	NA	30.7	NA	33	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	3.36	NA	0.96	NA	8.97	NA	NA	NA	11.1	NA	NA
Sodium	mg/L	230	- -	NA	**362** [a]	NA	139	NA	105	NA	NA	NA	53.6	NA	NA
Antimony	mg/L	0.006	0.13	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Arsenic	mg/L	0.01	0.01	0.008	0.008	0.002	NA	0.002	NA	**0.016** [ab]	NA	0.004	NA	NA	<0.002
Barium	mg/L	2	1.2	0.13	NA	0.087	NA	0.394	NA	0.218	NA	0.016	NA	NA	0.097
Boron	mg/L	0.5	7.2	0.12	NA	0.2	NA	0.33	NA	0.09	NA	0.29	NA	NA	0.06
Cadmium	mg/L	0.005	0.0045	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	NA	<0.0005
Chromium	mg/L	- -	0.16	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Copper	mg/L	1	0.02	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003	NA	<0.003	NA	<0.003	NA	<0.003	NA	NA	<0.003
Manganese	mg/L	0.05	4.5	**0.961** [a]	NA	**0.544** [a]	NA	**0.399** [a]	**0.331** [a]	0.046	NA	<0.005	<0.005	NA	**0.151** [a]
Mercury	mg/L	0.002	0.0000013	<0.0001	NA	<0.0001	NA	<0.0001	NA	<0.0001	NA	<0.0001	NA	NA	<0.0001
Nickel	mg/L	0.1	0.12	0.016	0.014	0.013	NA	0.008	NA	<0.005	NA	<0.005	NA	NA	0.008
Selenium	mg/L	0.05	- -	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Silver	mg/L	0.034	0.0002	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	NA	<0.0005
Vanadium	mg/L	0.0045	0.027	<0.005	<0.005	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Zinc	mg/L	2.4	0.26	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.093
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.06
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.139** [a]
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0001
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	438	NA	430	NA	368	NA	NA	NA	162	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	**1,160** [a]	NA	46	NA	162	NA	NA	NA	25	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	NA	**434** [a]	NA	91	NA	12	NA	NA	NA	31	NA	NA

Table 2
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ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-14-63 12/01/15 MW-14-63_120115	MW-14-64 06/02/15 MW-14-64_060215	MW-14-64 12/02/15 MW-14-64_120215	MW-14-65 06/08/15 MW-14-65_060815	MW-14-65 12/07/15 MW-14-65_120715	MW-14-66 06/05/15 MW-14-66_060515	MW-14-66 12/07/15 MW-14-66_120715	MW-14-67 06/08/15 MW-14-67_060815	MW-14-67 12/03/15 MW-14-67_120315	MW-14-70 03/25/15 MW-14-70_032515	MW-14-70 06/05/15 MW-14-70_060515	MW-14-70 12/07/15 MW-14-70_120715
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	1.19	1.548	1.536	0.972	804	1.229	1.312	2.142	1.715	1.469	1.347	1.586
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.52	0.69	0.34	0.8	2.45	0.31	0.28	0.1	0.4	1.07	0.7	0.53
Oxidation reduction potential (ORP	millivolts	- -	- -	136.5	-91.8	-11.6	26.6	148.6	101.2	151.8	40	174.7	83.3	51.2	174.4
pH	s.u.	- -	- -	6.68	6.93	6.77	7.16	6.32	7.27	7.32	7.02	7.39	7.23	7.17	7.19
Temperature, field	Deg C	- -	- -	10.44	17.74	12.63	19.81	7.47	20.81	9.46	19.12	12.22	15.05	21.05	9.04
Turbidity (field)	NTU	- -	- -	24.3	5.32	10.1	9.87	9.98	1.13	1.82	8.76	3.65	251	9.63	8.81
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	<3	<5	<3	<5	NA	<5	3	<5	<3	<5	<5	<3
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<1	1	2	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

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2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-14-63 12/01/15 MW-14-63_120115	MW-14-64 06/02/15 MW-14-64_060215	MW-14-64 12/02/15 MW-14-64_120215	MW-14-65 06/08/15 MW-14-65_060815	MW-14-65 12/07/15 MW-14-65_120715	MW-14-66 06/05/15 MW-14-66_060515	MW-14-66 12/07/15 MW-14-66_120715	MW-14-67 06/08/15 MW-14-67_060815	MW-14-67 12/03/15 MW-14-67_120315	MW-14-70 03/25/15 MW-14-70_032515	MW-14-70 06/05/15 MW-14-70_060515	MW-14-70 12/07/15 MW-14-70_120715
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,4-Dichlorophenol	µg/L	73	11	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,4-Dimethylphenol	µg/L	370	380	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2-Chlorophenol	µg/L	45	18	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2-Methylnaphthalene	µg/L	260	19	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2-Methylphenol	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2-Nitroaniline	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
2-Nitrophenol	µg/L	20	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
3&4-Methylphenol	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Naphthalene	µg/L	520	11	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
3-Nitroaniline	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4-Chloroaniline	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4-Nitroaniline	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
4-Nitrophenol	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Anthracene	µg/L	43	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Acenaphthene	µg/L	1,300	38	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Acenaphthylene	µg/L	52	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Acetophenone	µg/L	1,500	- -	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	<1	NA
Atrazine	µg/L	3	7.3	NA	<1	NA	<1 S	NA	<1	NA	<1	NA	<1	<1	NA
Benzaldehyde	µg/L	- -	- -	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	<1	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Benzo(a)pyrene	µg/L	5	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	<1	NA	<1 S	NA	<1	NA	<1	NA	<1	<1	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	3 B	NA	NA	NA	2 B	NA	5 B	NA	<2	3 B	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Caprolactam	µg/L	5,800	- -	NA	<1	NA	<1 S	NA	<1	NA	<1	NA	<1	<1	NA
Carbazole	µg/L	85	10	NA	<1	NA	<1 S	NA	<1	NA	<1	NA	<1	<1	NA
Chrysene	µg/L	1.6	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	<2	NA	NA	NA	<2	NA	<2	NA	<2	<2	NA
Dibenzofuran	µg/L	- -	4	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Diethyl phthalate	µg/L	5,500	110	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<2	<1	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Fluoranthene	µg/L	210	1.6	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Fluorene	µg/L	880	12	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Hexachlorobenzene	µg/L	1	0.2	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Hexachloroethane	µg/L	7.3	6.7	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Isophorone	µg/L	770	1,300	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Nitrobenzene	µg/L	3.4	180	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-14-63 12/01/15 MW-14-63_120115	MW-14-64 06/02/15 MW-14-64_060215	MW-14-64 12/02/15 MW-14-64_120215	MW-14-65 06/08/15 MW-14-65_060815	MW-14-65 12/07/15 MW-14-65_120715	MW-14-66 06/05/15 MW-14-66_060515	MW-14-66 12/07/15 MW-14-66_120715	MW-14-67 06/08/15 MW-14-67_060815	MW-14-67 12/03/15 MW-14-67_120315	MW-14-70 03/25/15 MW-14-70_032515	MW-14-70 06/05/15 MW-14-70_060515	MW-14-70 12/07/15 MW-14-70_120715
Pentachlorophenol	µg/L	1	2.8	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Phenanthrene	µg/L	52	2	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Phenol	µg/L	4,400	450	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Pyrene	µg/L	140	- -	NA	<1	NA	NA	NA	<1	NA	<1	NA	<1	<1	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	<0.005	NA
Arsenic	mg/L	0.01	0.01	NA	**0.014** [ab]	NA	<0.002	0.002	0.003	0.003	<0.002	<0.002	0.002	<0.002	<0.002
Barium	mg/L	2	1.2	NA	0.136	NA	0.062	NA	0.037	NA	0.055	NA	0.095	0.066	NA
Boron	mg/L	0.5	7.2	NA	0.09	NA	<0.04	NA	0.11	NA	0.24	NA	<0.04	0.05	NA
Cadmium	mg/L	0.005	0.0045	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	<0.0005	NA
Chromium	mg/L	- -	0.16	NA	<0.005	NA	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	0.033	<0.005	<0.005
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	<0.005	NA
Copper	mg/L	1	0.02	NA	<0.005	NA	0.008	0.006	<0.005	<0.005	0.006	0.009	**0.037** [b]	<0.005	<0.005
Lead	mg/L	0.004	0.044	NA	<0.003	NA	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	0.004	<0.003	<0.003
Manganese	mg/L	0.05	4.5	NA	**0.056** [a]	NA	0.028	NA	**0.843** [a]	NA	**0.454** [a]	NA	**0.420** [a]	**0.193** [a]	NA
Mercury	mg/L	0.002	0.0000013	NA	<0.0001	NA	<0.0001	NA	<0.0001	NA	<0.0001	NA	<0.0002	<0.0001	NA
Nickel	mg/L	0.1	0.12	NA	0.005	NA	0.015	0.051	0.01	0.01	0.011	0.01	0.025	0.007	0.009
Selenium	mg/L	0.05	- -	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	NA	<0.005	<0.005	NA
Silver	mg/L	0.034	0.0002	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	<0.0005	<0.0005	NA
Vanadium	mg/L	0.0045	0.027	NA	<0.005	NA	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	**0.009** [a]	<0.005	<0.005
Zinc	mg/L	2.4	0.26	NA	<0.005	NA	0.006	NA	<0.005	NA	<0.005	NA	0.027	<0.005	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.074	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.04	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.065** [a]	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.014	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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ARCADIS Design & Consultancy for natural and built assets

Location ID:		MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-15-71	MW-15-71	MW-15-71	MW-15-71	MW-15-72	MW-15-72	MW-15-73	MW-15-73	MW-19	MW-19	MW-22	MW-22
Date Collected:				06/02/15	09/09/15	12/01/15	03/15/16	03/15/16	03/16/16	03/15/16	03/16/16	06/05/15	12/03/15	06/08/15	12/07/15
Sample Name:	Units			MW-15-71_060215	MW-15-71_090915	MW-15-71_120115	MW-15-71_031516	MW-15-72_031516	MW-15-72_031616	MW-15-73_031516	MW-15-73_031616	MW-19_060515	MW-19_120315	MW-22_060815	MW-22_120715
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.94 O	NA
Field															
Conductance, specific	mS/cm	- -	- -	0.537	1.231	1.468	NA	NA	NA	NA	NA	0.951	2,789	2.28	2,425
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	376.78	1,710.86	NA	NA	1,298.42	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	8.05	0.75	0.39	5.67	3.65	NA	NA	0.93	1.83	1.92	2.09	0.58
Oxidation reduction potential (ORP	millivolts	- -	- -	-49.8	-92.5	-46.6	101.41	-42.68	NA	NA	-97.59	6.5	142.9	105.6	31.3
pH	s.u.	- -	- -	7.71	7.26	6.93	7.42	6.92	NA	NA	6.92	7.14	6.76	6.92	6.54
Temperature, field	Deg C	- -	- -	14.63	17.96	11.88	11.6	14.28	NA	NA	12.2	14.53	10.5	17.62	11.74
Turbidity (field)	NTU	- -	- -	4.04	21	52.4	5.39	792.78	NA	NA	9.61	121	164	1,000	139
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,4-Dioxane	µg/L	7.2	2,800	<5	<3	<3	<3	NA	**135** [a]	6	NA	<5	**8** [a]	NA	NA
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Acetone	µg/L	730	1,700	<10	<10	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Bromoform	µg/L	80	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Chloroform (Trichloromethane)	µg/L	80	350	2	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Benzene	µg/L	5	200	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Styrene	µg/L	100	80	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Toluene	µg/L	790	270	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	NA	<10	<10	NA	<10	<10	NA	NA
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	<1	<1	NA	NA
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	NA	<2	<2	NA	<2	<2	NA	NA
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	NA	<3	<3	NA	<3	<3	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-15-71 06/02/15 MW-15-71_060215	MW-15-71 09/09/15 MW-15-71_090915	MW-15-71 12/01/15 MW-15-71_120115	MW-15-71 03/15/16 MW-15-71_031516	MW-15-72 03/15/16 MW-15-72_031516	MW-15-72 03/16/16 MW-15-72_031616	MW-15-73 03/15/16 MW-15-73_031516	MW-15-73 03/16/16 MW-15-73_031616	MW-19 06/05/15 MW-19_060515	MW-19 12/03/15 MW-19_120315	MW-22 06/08/15 MW-22_060815	MW-22 12/07/15 MW-22_120715
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	2 B	**7 B** [a]	3 B	2 B	NA	2 B	3 B	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	<2	<2	<2	<2	NA	<2	<2	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	<1	<2	<2	<1	NA	<1	<1	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA

Table 2
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ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-15-71 06/02/15 MW-15-71_060215	MW-15-71 09/09/15 MW-15-71_090915	MW-15-71 12/01/15 MW-15-71_120115	MW-15-71 03/15/16 MW-15-71_031516	MW-15-72 03/15/16 MW-15-72_031516	MW-15-72 03/16/16 MW-15-72_031616	MW-15-73 03/15/16 MW-15-73_031516	MW-15-73 03/16/16 MW-15-73_031616	MW-19 06/05/15 MW-19_060515	MW-19 12/03/15 MW-19_120315	MW-22 06/08/15 MW-22_060815	MW-22 12/07/15 MW-22_120715
Pentachlorophenol	µg/L	1	2.8	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	<1	<1	<1	<1	NA	<1	<1	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	**0.35** [a]	NA	**12.6** [a]	NA	NA	NA	NA	**54.3** [a]	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	<0.002	0.008	0.008	<0.002	NA	<0.002	0.004	NA	NA	NA	**0.049** [ab]	0.005
Barium	mg/L	2	1.2	0.048	0.225	0.265	0.067	NA	0.022	0.069	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	0.07	0.1	0.11	0.07	NA	0.11	0.06	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	<0.0005	<0.0005	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	<0.005	<0.005	<0.005	<0.005	NA	<0.005	0.026	NA	NA	NA	<0.005	<0.005
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	0.005	<0.005	<0.005	<0.005	NA	0.006	0.01	NA	NA	NA	0.005	<0.005
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003	<0.003	NA	<0.003	0.003	NA	NA	NA	<0.003	<0.003
Manganese	mg/L	0.05	4.5	0.013	**0.106** [a]	**0.143** [a]	0.008	NA	**0.210** [a]	**0.540** [a]	NA	NA	NA	**2.85** [a]	NA
Mercury	mg/L	0.002	0.0000013	<0.0001	<0.0002	<0.0002	<0.0001	NA	<0.0001	<0.0001	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	<0.005	0.023	0.008	0.005	NA	0.011	0.1	NA	NA	NA	0.016	0.012
Selenium	mg/L	0.05	- -	<0.005	<0.005	<0.005	<0.005	NA	<0.005	<0.005	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	<0.0005	**0.0007** [b]	<0.0005	<0.0005	NA	<0.0005	<0.0005	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	<0.005	<0.005	<0.005	<0.005	NA	<0.005	**0.005** [a]	NA	NA	NA	<0.005	<0.005
Zinc	mg/L	2.4	0.26	0.005	<0.005	0.005	0.01	NA	0.009	0.041	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.84** [a]	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	0.007	0.007	NA	NA	NA	0.003	NA	NA	NA	0.004	0.005
Barium (dissolved)	mg/L	2	1.2	NA	0.224	0.263	NA	NA	NA	0.059	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	0.1	0.11	NA	NA	NA	0.05	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	<0.0005	<0.0005	NA	NA	NA	<0.0005	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005
Cobalt (dissolved)	mg/L	0.04	0.1	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005
Lead (dissolved)	mg/L	0.004	0.044	NA	<0.003	<0.003	NA	NA	NA	<0.003	NA	NA	NA	<0.003	<0.003
Manganese (dissolved)	mg/L	0.05	4.5	NA	**0.096** [a]	**0.106** [a]	NA	NA	NA	**0.235** [a]	NA	NA	NA	**0.981** [a]	NA
Mercury (dissolved)	mg/L	- -	- -	NA	<0.0002	<0.0001	NA	NA	NA	<0.0001	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	0.024	0.007	NA	NA	NA	0.087	NA	NA	NA	0.01	0.014
Selenium (dissolved)	mg/L	0.05	- -	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	<0.0005	<0.0005	NA	NA	NA	<0.0005	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA	<0.005	<0.005
Zinc (dissolved)	mg/L	2.4	0.26	NA	<0.005	0.008	NA	NA	NA	0.011	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA
Sulfate	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	126	NA

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2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MW-23 06/08/15 MW-23_060815	MW-23 12/03/15 MW-23_120315	MW-91-2 06/08/15 MW-91-2_060815	MW-91-2 12/02/15 MW-91-2_120215	MW-91-4 06/02/15 MW-91-4_060215	MW-91-5 06/02/15 MW-91-5_060215	MW-91-5 12/02/15 MW-91-5_120215	MW-91-6 06/04/15 MW-91-6_060415	MW-91-6 12/01/15 MW-91-6_120115	MWBP-10-UST5-6 06/05/15 MWBP-10-UST5-6_060515	MWBP-10-UST5-6 12/01/15 MWBP-10-UST5-6_120115
Air Monitoring														
Methane	µg/L	- -	- -	3.4 O	NA	2.7 O	NA	26 O	NA	NA	NA	NA	NA	NA
Field														
Conductance, specific	mS/cm	- -	- -	1.295	1,304	1.53	1,020	1.566	0.21	0.264	2.067	1,402	4.233	3.774
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.81	0.44	0.95	0.41	0.5	1.49	0.33	0.98	0.56	0.46	0.26
Oxidation reduction potential (ORP	millivolts	- -	- -	-62.1	-48.6	-75.7	58.3	-50.6	88.3	126	-65.3	-3.2	26.2	-23.5
pH	s.u.	- -	- -	6.99	6.71	7.01	6.48	6.94	6.72	6.5	6.63	6.7	6.91	6.91
Temperature, field	Deg C	- -	- -	16.61	11.8	18.17	12.7	14.21	14.21	11.34	17.98	10.57	17.95	11.61
Turbidity (field)	NTU	- -	- -	8.94	79.1	6.18	5.7	3.77	9.14	17.9	8.23	16.4	5.01	4.25
Volatile Organic Compounds														
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	<5	<3	<5	<3	NA	<5	<3	<5	<3	NA	<3
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Bromoform	µg/L	80	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	NA	<1	<1	<1	<1	1	2
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	NA	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	NA	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	NA	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	NA	<3	<3	<3	<3	<3	<3

Table 2
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Semivolatile Organic Compounds														
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics														
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	**4.28** [a]	NA	**3.78** [a]	NA	**4.64** [a]	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	NA	0.01	0.009	NA	NA	NA	NA	NA	0.008	**0.014** [ab]
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	NA	0.016	0.008	NA	NA	NA	NA	NA	0.006	<0.005
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	<0.01	<0.01	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	NA	<0.005	<0.005	NA	NA	NA	NA	NA	<0.005	<0.005
Lead	mg/L	0.004	0.044	NA	NA	<0.003	<0.003	NA	NA	NA	NA	NA	<0.003	<0.003
Manganese	mg/L	0.05	4.5	**0.071** [a]	NA	**0.057** [a]	NA	**0.331** [a]	NA	NA	NA	NA	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	0.006	0.006	NA	NA	NA	NA	NA	0.005	<0.005
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	<0.005	<0.005	NA	NA	NA	NA	NA	<0.005	<0.005
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered														
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	**2.81** [a]	NA	**3.49** [a]	NA	**4.10** [a]	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	**0.064** [a]	NA	**0.055** [a]	NA	**0.325** [a]	NA	NA	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry														
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	<0.5	NA	<0.5	NA	<0.5	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	188	NA	200	NA	166	NA	NA	NA	NA	NA	NA

Table 2
Summary of 2nd Quarter 2015 through 1st Quarter 2016 Groundwater Analytical Data
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MWBP-11-UST1-4 06/09/15 MWBP-11-UST1-4_060915	MWBP-11-UST1-4 12/01/15 MWBP-11-UST1-4_120115	MWBP-12A-UST1-4 06/09/15 MWBP-12A-UST1-4_060915	MWBP-12A-UST1-4 12/02/15 MWBP-12A-UST1-4_120215	MWBP-12-UST1-4 06/09/15 MWBP-12-UST1-4_060915	MWBP-12-UST1-4 12/01/15 MWBP-12-UST1-4_120115	MWBP-12-UST5-6 06/09/15 MWBP-12-UST5-6_060915	P2-MW-04 06/02/15 P2-MW-04_060215	P2-MW-04 12/01/15 P2-MW-04_120115
Air Monitoring												
Methane	µg/L	- -	- -	NA	NA	94	NA	NA	NA	NA	110 O	NA
Field												
Conductance, specific	mS/cm	- -	- -	0.941	0.96	3.987	3.979	3.097	3.076	2.495	1.91	1.931
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.44	3.51	0.43	0.34	0.18	0.31	0.35	0.37	0.4
Oxidation reduction potential (ORP	millivolts	- -	- -	148.2	117.6	86.2	88.6	131.1	-35.2	-74.3	-89	-35.1
pH	s.u.	- -	- -	10	9.52	6.38	6.63	7.17	7.19	6.92	7.08	7.01
Temperature, field	Deg C	- -	- -	19.21	12.72	15.38	9.89	18.09	12.99	17.48	22.96	10.52
Turbidity (field)	NTU	- -	- -	7.52	7.72	4.31	3.61	2.1	0.95	5.36	8.9	29.6
Volatile Organic Compounds												
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1	<1	<1	<1	<3 Y	<1	NA	<1 [<1]	<1 [<1]
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1	<1	<1	<1	<3 Y	<1	NA	<1 [<1]	<1 [<1]
1,2-Dichlorobenzene	µg/L	600	13	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,4-Dichlorobenzene	µg/L	75	17	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,4-Dioxane	µg/L	7.2	2,800	NA	NA	NA	NA	NA	NA	NA	**40 [42] [a]**	**49 [53] [a]**
1,1,1-Trichloroethane	µg/L	200	89	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
2-Hexanone	µg/L	1,000	- -	<10	<10	<10	<10	<25 Y	NA	NA	<10 [<10]	<10 [<10]
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Acetone	µg/L	730	1,700	<10	<10	<10	<10	<25 Y	NA	NA	<10 [<10]	<10 [<10]
1,1,2-Trichloroethane	µg/L	5	330	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Bromodichloromethane	µg/L	80	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,1-Dichloroethane	µg/L	880	740	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Bromoform	µg/L	80	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,1-Dichloroethene	µg/L	7	130	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Bromomethane (Methyl bromide)	µg/L	10	35	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,2-Dichloroethane	µg/L	5	360	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Carbon disulfide	µg/L	800	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Carbon tetrachloride	µg/L	5	45	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
cis-1,2-Dichloroethene	µg/L	70	620	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Chlorobenzene	µg/L	100	25	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Chloroform (Trichloromethane)	µg/L	80	350	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Trichloroethene	µg/L	5	200	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Tetrachloroethene	µg/L	5	60	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Vinyl chloride	µg/L	2	13	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Chloroethane	µg/L	430	1,100	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Benzene	µg/L	5	200	<1	<1	<1	<1	**157 Y [ah]**	NA	NA	<1 [<1]	<1 [<1]
Methyl acetate	µg/L	- -	- -	<10	<10	<10	<10	<25 Y	NA	NA	<10 [<10]	<10 [<10]
Ethylbenzene	µg/L	74	18	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Methylene chloride	µg/L	5	1,500	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Styrene	µg/L	100	80	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Toluene	µg/L	790	270	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	<10	<10	<10	<25 Y	NA	NA	<10 [<10]	<10 [<10]
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	<10	<10	<10	<25 Y	NA	NA	<10 [<10]	<10 [<10]
1,2,4-Trichlorobenzene	µg/L	70	99	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,2-Dichloropropane	µg/L	5	230	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
1,3-Dichlorobenzene	µg/L	6.6	28	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Methyl cyclohexane	µg/L	- -	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Dibromochloromethane	µg/L	80	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
Isopropyl benzene	µg/L	800	28	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
o-Xylene	µg/L	- -	- -	<1	<1	<1	<1	<3 Y	NA	NA	<1 [<1]	<1 [<1]
m&p-Xylene	µg/L	- -	- -	<2	<2	<2	<2	<5 Y	NA	NA	<2 [<2]	<2 [<2]
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	<3	<3	<3	<8 Y	NA	NA	<3 [<3]	<3 [<3]

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Semivolatile Organic Compounds												
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	MWBP-11-UST1-4 06/09/15 MWBP-11-UST1-4_060915	MWBP-11-UST1-4 12/01/15 MWBP-11-UST1-4_120115	MWBP-12A-UST1-4 06/09/15 MWBP-12A-UST1-4_060915	MWBP-12A-UST1-4 12/02/15 MWBP-12A-UST1-4_120215	MWBP-12-UST1-4 06/09/15 MWBP-12-UST1-4_060915	MWBP-12-UST1-4 12/01/15 MWBP-12-UST1-4_120115	MWBP-12-UST5-6 06/09/15 MWBP-12-UST5-6_060915	P2-MW-04 06/02/15 P2-MW-04_060215	P2-MW-04 12/01/15 P2-MW-04_120115
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics												
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	208
Iron	mg/L	0.3	- -	NA	NA	**15.3** [a]	NA	NA	NA	NA	**3.93** [a]	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	2.44
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	58.5
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	155
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	**0.020** [ab]	**0.022** [ab]	**0.016** [ab]	**0.012** [ab]	**0.018** [ab]	**0.017** [ab]	NA	0.002 [0.002]	0.002 [0.003]
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	<0.005	<0.005	0.005	<0.005	0.006	<0.005	NA	<0.005 [<0.005]	<0.005 [<0.005]
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	0.006	0.012	<0.005	<0.005	<0.005	<0.005	NA	<0.005 [<0.005]	<0.005 [<0.005]
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	NA	<0.003 [<0.003]	<0.003 [<0.003]
Manganese	mg/L	0.05	4.5	NA	NA	**0.633** [a]	NA	NA	NA	NA	**0.147** [a]	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	<0.005	<0.005	0.014	0.015	0.006	0.006	NA	0.010 [0.009]	0.010 [0.01]
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	<0.005	<0.005	<0.005	<0.005	**0.009** [a]	**0.008** [a]	NA	<0.005 [<0.005]	<0.005 [<0.005]
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered												
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	**14.5** [a]	NA	NA	NA	NA	**3.40** [a]	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	0.002 [0.002]
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 [<0.003]
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	**0.628** [a]	NA	NA	NA	NA	**0.145** [a]	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	0.012 [0.011]
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry												
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	330
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	**262 [262]** [a]
Nitrate (as N)	mg/L	10	- -	NA	NA	<0.5	NA	NA	NA	NA	<0.5	NA
Sulfate	mg/L	250	- -	NA	NA	**328** [a]	NA	NA	NA	NA	**365** [a]	**354 [353]** [a]

Table 2
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2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	P2-SB-03 06/09/15 P2-SB-03_060915	P2-SB-20 06/03/15 P2-SB-20_060315	P2-SB-20 12/02/15 P2-SB-20_120215	P3-SB-07 06/04/15 P3-SB-07_060415	P3-SB-28 06/09/15 P3-SB-28_060915	P6-MW-01 06/09/15 P6-MW-01_060915	P6-SB-18 06/10/15 P6-SB-18_061015	P6-SB-18 12/07/15 P6-SB-18_120715	P6-SB-32 06/09/15 P6-SB-32_060915	P6-SB-32 12/01/15 P6-SB-32_120115	P6-SB-35 06/08/15 P6-SB-35_060815	P6-SB-35 12/03/15 P6-SB-35_120315
Air Monitoring															
Methane	µg/L	- -	- -	95 O	NA	NA	<0.50	93 O	39	20	NA	**9,300** [n]	NA	<0.50 O	NA
Field															
Conductance, specific	mS/cm	- -	- -	1.098	0.304	0.4	0.998	0.305	1.73	0.388	0.368	2.089	1.952	0.48	0.358
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	0.46	0.23	1.66	1.15	0.52	0.47	0.38	2.8	0.43	0.3	2.75	4.83
Oxidation reduction potential (ORP	millivolts	- -	- -	-69.5	-55.6	42.9	13.5	26.7	58.2	61.8	179.4	105.1	69.8	78.9	157.8
pH	s.u.	- -	- -	7.16	9.3	9.04	7.05	7.77	6.88	10.58	10.6	6.95	6.78	10.8	10.27
Temperature, field	Deg C	- -	- -	27.74	23.16	7.95	14.33	22.38	18.42	25.49	8.14	24.54	13	23.23	10.05
Turbidity (field)	NTU	- -	- -	6.32	19.7	17.7	6.6	6.04	9.98	7.39	9.6	27.1	5.33	2.15	1.32
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,2-Dichlorobenzene	µg/L	600	13	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,4-Dichlorobenzene	µg/L	75	17	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,4-Dioxane	µg/L	7.2	2,800	NA	<5	<3	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/L	200	89	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
2-Hexanone	µg/L	1,000	- -	NA	<10	<10	NA	NA	NA	NA	NA	<500 Y	<500 Y	NA	NA
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Acetone	µg/L	730	1,700	NA	<10	<10	NA	NA	NA	NA	NA	<500 Y	<500 Y	NA	NA
1,1,2-Trichloroethane	µg/L	5	330	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Bromodichloromethane	µg/L	80	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,1-Dichloroethane	µg/L	880	740	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Bromoform	µg/L	80	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,1-Dichloroethene	µg/L	7	130	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Bromomethane (Methyl bromide)	µg/L	10	35	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,2-Dichloroethane	µg/L	5	360	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Carbon disulfide	µg/L	800	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Carbon tetrachloride	µg/L	5	45	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
cis-1,2-Dichloroethene	µg/L	70	620	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Chlorobenzene	µg/L	100	25	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
trans-1,2-Dichloroethene	µg/L	100	1,500	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Chloroform (Trichloromethane)	µg/L	80	350	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Trichloroethene	µg/L	5	200	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Chloromethane (Methyl chloride)	µg/L	260	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Tetrachloroethene	µg/L	5	60	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
cis-1,3-Dichloropropene	µg/L	- -	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Vinyl chloride	µg/L	2	13	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Chloroethane	µg/L	430	1,100	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Benzene	µg/L	5	200	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Methyl acetate	µg/L	- -	- -	NA	<10	<10	NA	NA	NA	NA	NA	<500 Y	<500 Y	NA	NA
Ethylbenzene	µg/L	74	18	NA	<1	<1	NA	NA	NA	NA	NA	**150 Y** [ab]	**580 Y** [ab]	NA	NA
Methylene chloride	µg/L	5	1,500	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Styrene	µg/L	100	80	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Toluene	µg/L	790	270	NA	<1	<1	NA	NA	NA	NA	NA	100 Y	<50 Y	NA	NA
trans-1,3-Dichloropropene	µg/L	- -	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	NA	<10	<10	NA	NA	NA	NA	NA	<500 Y	<500 Y	NA	NA
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	NA	<10	<10	NA	NA	NA	NA	NA	<500 Y	<500 Y	NA	NA
1,2,4-Trichlorobenzene	µg/L	70	99	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,2-Dichloropropane	µg/L	5	230	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
1,3-Dichlorobenzene	µg/L	6.6	28	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Cyclohexane	µg/L	- -	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Methyl cyclohexane	µg/L	- -	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Dibromochloromethane	µg/L	80	- -	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	<50 Y	NA	NA
Isopropyl benzene	µg/L	800	28	NA	<1	<1	NA	NA	NA	NA	NA	<50 Y	**150 Y** [bh]	NA	NA
o-Xylene	µg/L	- -	- -	NA	<1	<1	NA	NA	NA	NA	NA	850 Y	1,740 Y	NA	NA
m&p-Xylene	µg/L	- -	- -	NA	<2	<2	NA	NA	NA	NA	NA	1,600 Y	4,900 Y	NA	NA
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	NA	<3	<3	NA	NA	NA	NA	NA	**2,450 Y** [ab]	**6,640 Y** [ab]	NA	NA

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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ARCADIS Design & Consultancy for natural and built assets

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Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	**0.78** [a]	NA	NA	0.3	0.05	**2.75** [a]	0.16	NA	**11.2** [a]	NA	0.13	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	0.005	0.004	**0.012** [ab]	NA	0.01	0.008
Barium	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005	NA	0.015	0.013
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	**0.042** [b]	0.018	<0.005	NA	0.006	<0.005
Lead	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	**0.038** [a]	**0.016** [a]	<0.003	NA	<0.003	<0.003
Manganese	mg/L	0.05	4.5	**0.055** [a]	NA	NA	0.012	**0.209** [a]	**0.573** [a]	<0.005	NA	**0.212** [a]	NA	<0.005	NA
Mercury	mg/L	0.002	0.0000013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	<0.005	<0.005	0.008	NA	<0.005	<0.005
Selenium	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	**0.038** [ab]	**0.017** [a]	<0.005	NA	**0.025** [a]	**0.020** [a]
Zinc	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	**0.63** [a]	NA	NA	<0.02	<0.02	**1.93** [a]	0.03	NA	**8.62** [a]	NA	0.07	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	**0.011** [ab]	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	0.006	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	**0.058** [a]	NA	NA	<0.005	**0.185** [a]	**0.594** [a]	<0.005	NA	**0.210** [a]	NA	<0.005	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	0.008	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	<0.5	NA	NA	**12 O** [a]	<0.5	<0.5	<0.5	NA	<0.5	NA	2	NA
Sulfate	mg/L	250	- -	95	NA	NA	120 O	<10	**321** [a]	53	NA	<10	NA	57	NA

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	P6-SB-37 06/08/15 P6-SB-37_060815	P6-SB-37 12/03/15 P6-SB-37_120315	PW-14-01 06/10/15 PW-14-01_061015	PW-14-01 12/08/15 PW-14-01_120815	PW-14-02 06/10/15 PW-14-02_061015	PW-14-02 12/03/15 PW-14-02_120315	PW-14-03 06/09/15 PW-14-03_060915	PW-14-03 12/02/15 PW-14-03_120215	SME-MW-02 06/10/15 SME-MW-02_061015	TW-14-01 06/11/15 TW-14-01_061115	TW-14-02 06/11/15 TW-14-02_061115	TW-14-02 09/10/15 TW-14-02_091015
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	25	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	0.715	0.919	1.593	1.677	2.267	NA	2.633	3.272	2.379	1.516	3.343	3.629
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	2.5	8.07	0.34	0.53	0.96	NA	1.21	0.33	1.12	0.66	0.62	0.57
Oxidation reduction potential (ORP	millivolts	- -	- -	12.4	156.6	-84.7	-10.7	-64.2	NA	-25.1	-13.5	28.1	-93.2	-86.3	-92.7
pH	s.u.	- -	- -	10.89	11.15	7.05	6.91	6.97	NA	6.79	6.59	7.08	6.57	6.96	7.09
Temperature, field	Deg C	- -	- -	21.86	7.01	22.84	8.98	19.64	NA	18.62	12.55	26.92	16.5	18.26	20.13
Turbidity (field)	NTU	- -	- -	9.7	NA	5.93	18.2	5.52	NA	7.5	10.3	70	7.75	7.15	25.4
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,2-Dichlorobenzene	µg/L	600	13	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,4-Dichlorobenzene	µg/L	75	17	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,4-Dioxane	µg/L	7.2	2,800	NA	NA	**350 Y [a]**	**510 Y [a]**	**220 Y [a]**	**470 Y [a]**	**370 Y [a]**	**420 Y [a]**	NA	**50 [a]**	**2,700 Y [a]**	**3,200 Y [3,300 Y] [ab]**
1,1,1-Trichloroethane	µg/L	200	89	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
2-Hexanone	µg/L	1,000	- -	NA	NA	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10 [<10]
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Acetone	µg/L	730	1,700	NA	NA	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10 [<10]
1,1,2-Trichloroethane	µg/L	5	330	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Bromodichloromethane	µg/L	80	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,1-Dichloroethane	µg/L	880	740	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Bromoform	µg/L	80	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,1-Dichloroethene	µg/L	7	130	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Bromomethane (Methyl bromide)	µg/L	10	35	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,2-Dichloroethane	µg/L	5	360	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Carbon disulfide	µg/L	800	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Carbon tetrachloride	µg/L	5	45	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
cis-1,2-Dichloroethene	µg/L	70	620	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Chlorobenzene	µg/L	100	25	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
trans-1,2-Dichloroethene	µg/L	100	1,500	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Chloroform (Trichloromethane)	µg/L	80	350	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Trichloroethene	µg/L	5	200	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Chloromethane (Methyl chloride)	µg/L	260	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Tetrachloroethene	µg/L	5	60	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
cis-1,3-Dichloropropene	µg/L	- -	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Vinyl chloride	µg/L	2	13	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Chloroethane	µg/L	430	1,100	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Benzene	µg/L	5	200	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Methyl acetate	µg/L	- -	- -	NA	NA	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10 [<10]
Ethylbenzene	µg/L	74	18	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Methylene chloride	µg/L	5	1,500	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Styrene	µg/L	100	80	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Toluene	µg/L	790	270	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
trans-1,3-Dichloropropene	µg/L	- -	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	NA	NA	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10 [<10]
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	NA	NA	<10	<10	<10	<10	<10	<10	NA	<10	<10	<10 [<10]
1,2,4-Trichlorobenzene	µg/L	70	99	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,2-Dichloropropane	µg/L	5	230	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
1,3-Dichlorobenzene	µg/L	6.6	28	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Cyclohexane	µg/L	- -	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Methyl cyclohexane	µg/L	- -	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Dibromochloromethane	µg/L	80	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
Isopropyl benzene	µg/L	800	28	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
o-Xylene	µg/L	- -	- -	NA	NA	<1	<1	<1	<1	<1	<1	NA	<1	<1	<1 [<1]
m&p-Xylene	µg/L	- -	- -	NA	NA	<2	<2	<2	<2	<2	<2	NA	<2	<2	<2 [<2]
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	NA	NA	<3	<3	<3	<3	<3	<3	NA	<3	<3	<3 [<3]

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Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3 B
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<2
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1

Table 2
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RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	P6-SB-37 06/08/15 P6-SB-37_060815	P6-SB-37 12/03/15 P6-SB-37_120315	PW-14-01 06/10/15 PW-14-01_061015	PW-14-01 12/08/15 PW-14-01_120815	PW-14-02 06/10/15 PW-14-02_061015	PW-14-02 12/03/15 PW-14-02_120315	PW-14-03 06/09/15 PW-14-03_060915	PW-14-03 12/02/15 PW-14-03_120215	SME-MW-02 06/10/15 SME-MW-02_061015	TW-14-01 06/11/15 TW-14-01_061115	TW-14-02 06/11/15 TW-14-02_061115	TW-14-02 09/10/15 TW-14-02_091015
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1
Inorganics															
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	279	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	**2.52** [a]	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	100	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	3.32	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	NA	NA	79.1	NA	162	191	39.7	NA	NA	83	22.3	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Arsenic	mg/L	0.01	0.01	0.004	0.003	<0.002	NA	<0.002	NA	0.002	NA	NA	0.007	<0.002	0.005
Barium	mg/L	2	1.2	NA	NA	0.261	NA	0.397	NA	0.056	NA	NA	0.594	1.08	1.06
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05
Cadmium	mg/L	0.005	0.0045	NA	NA	<0.0005	NA	<0.0005	NA	<0.0005	NA	NA	<0.0005	<0.0005	<0.0005
Chromium	mg/L	- -	0.16	0.031	0.025	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005	<0.005	0.012
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Copper	mg/L	1	0.02	0.01	0.006	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005	<0.005	<0.005
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003	NA	<0.003	NA	<0.003	NA	NA	<0.003	<0.003	<0.003
Manganese	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	**0.225** [a]	NA	NA	**0.061** [a]
Mercury	mg/L	0.002	0.0000013	NA	NA	<0.0001	NA	<0.0001	NA	<0.0001	NA	NA	<0.0001	<0.0001	<0.0002
Nickel	mg/L	0.1	0.12	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.018
Selenium	mg/L	0.05	- -	NA	NA	<0.005	NA	<0.005	NA	<0.005	NA	NA	<0.005	<0.005	0.022
Silver	mg/L	0.034	0.0002	NA	NA	<0.0005	NA	<0.0005	NA	**0.0006** [b]	NA	NA	**0.0007** [b]	**0.0012** [b]	<0.0005
Vanadium	mg/L	0.0045	0.027	**0.017** [a]	**0.013** [a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Zinc	mg/L	2.4	0.26	NA	NA	<0.005	NA	0.006	NA	0.012	NA	NA	0.005	<0.005	<0.005
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	0.24	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.003
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.06
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.05
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.011
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	**0.197** [a]	NA	NA	**0.061** [a]
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0002
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.018
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.022
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	NA	NA	485	NA	419	230	424	NA	NA	282	439	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	NA	NA	227	NA	**431** [a]	**500** [a]	46	NA	NA	**444** [a]	**937** [a]	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	<0.5	NA	NA	NA
Sulfate	mg/L	250	- -	NA	NA	10	NA	134	**301** [a]	**1,280** [a]	NA	66	43	11	NA

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Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	TW-14-02 12/09/15 TW-14-02_120915	TW-14-02 03/16/16 TW-14-02_031616	TW-14-03 06/10/15 TW-14-03_061015	TW-14-04 06/10/15 TW-14-04_061015	TW-14-05 06/10/15 TW-14-05_061015	TW-14-06 06/09/15 TW-14-06_060915	TW-14-07 06/09/15 TW-14-07_060915	TW-14-08 06/09/15 TW-14-08_060915	TW-14-09 06/09/15 TW-14-09_060915	TW-15-10 06/09/15 TW-15-10_060915	TW-15-11 06/09/15 TW-15-11_060915	TW-15-12 06/10/15 TW-15-12_061015
Air Monitoring															
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Field															
Conductance, specific	mS/cm	- -	- -	3,527	NA	2.358	2.631	1.39	2.914	1.844	1.457	1.763	1.848	1.121	2.56
Conductance, specific	µmhos/cm	- -	- -	NA	2,631.06	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	2.26	0.98	0.5	0.31	0.83	1.34	1.13	0.89	1.94	0.39	0.8	3.42
Oxidation reduction potential (ORP	millivolts	- -	- -	-26.7	-89.44	-61.8	-81.1	-99.8	-81.4	81.1	-75.8	-58.1	-111.9	21.3	40.2
pH	s.u.	- -	- -	6.58	6.88	6.91	6.95	7.08	6.8	6.54	6.89	6.76	7.1	7.01	7.21
Temperature, field	Deg C	- -	- -	9.44	13.91	20.59	21.24	25.9	21.08	19.92	26.46	16.17	21.57	16.69	25.01
Turbidity (field)	NTU	- -	- -	154	8.23	3.18	108	6.21	8.94	9.27	8.11	7.04	6.11	5.28	2.49
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBC	µg/L	0.2	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibro	µg/L	0.05	5.7	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	**2,500 Y [2,600 Y] [a]**	**2,770 Y [2,780 Y] [a]**	**220 Y [a]**	**270 Y [a]**	**240 Y [a]**	**790 Y [a]**	**90 Y [a]**	**350 Y [a]**	**780 Y [a]**	**150 [a]**	**250 Y [a]**	**199 [a]**
1,1,1-Trichloroethane	µg/L	200	89	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10 [<10]	<10 [<10]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10 [<10]	<10 [<10]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	9
Bromoform	µg/L	80	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Benzene	µg/L	5	200	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10 [<10]	<10 [<10]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene	µg/L	100	80	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene	µg/L	790	270	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10 [<10]	<10 [<10]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10 [<10]	<10 [<10]	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene	µg/L	- -	- -	<1 [<1]	<1 [<1]	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2 [<2]	<2 [<2]	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3 [<3]	<3 [<3]	<3	<3	<3	<3	<3	<3	<3	<3	<3	<3

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2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2,3 and 6 - Lansing, Michigan

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	TW-14-02 12/09/15 TW-14-02_120915	TW-14-02 03/16/16 TW-14-02_031616	TW-14-03 06/10/15 TW-14-03_061015	TW-14-04 06/10/15 TW-14-04_061015	TW-14-05 06/10/15 TW-14-05_061015	TW-14-06 06/09/15 TW-14-06_060915	TW-14-07 06/09/15 TW-14-07_060915	TW-14-08 06/09/15 TW-14-08_060915	TW-14-09 06/09/15 TW-14-09_060915	TW-15-10 06/09/15 TW-15-10_060915	TW-15-11 06/09/15 TW-15-11_060915	TW-15-12 06/10/15 TW-15-12_061015
Semivolatile Organic Compounds															
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	<2 [<2]	**2 B [14 B [a]]**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	<2 [<2]	<2 [<2]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	<2 [<2]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Pentachlorophenol	µg/L	1	2.8	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	<1 [<1]	<1 [<1]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganics															
Calcium	mg/L	- -	- -	346 [349]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	**9.03 [9.02]** [a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	118 [118]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	3.69 [3.7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	210 [213]	NA	183	199	126	45.8	46.4	58.7	36.2	57	50	**393** [a]
Antimony	mg/L	0.006	0.13	NA	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	0.010 [0.01]	0.008 [0.008]	0.006	0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	0.007	0.004
Barium	mg/L	2	1.2	NA	1.18 [1.18]	0.609	0.5	0.379	0.025	0.035	0.049	0.029	0.069	0.078	0.384
Boron	mg/L	0.5	7.2	NA	0.04 [0.04]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	NA	<0.0005 [<0.0005]	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium	mg/L	- -	0.16	0.008 [0.008]	<0.005 [<0.005]	<0.005	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	<0.005 [<0.005]	<0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Lead	mg/L	0.004	0.044	<0.003 [<0.003]	<0.003 [<0.003]	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Manganese	mg/L	0.05	4.5	NA	**0.058 [0.057]** [a]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	0.002	0.0000013	NA	<0.0001 [<0.0001]	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Nickel	mg/L	0.1	0.12	0.019 [0.019]	0.017 [0.017]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	mg/L	0.05	- -	NA	0.005 [<0.005]	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver	mg/L	0.034	0.0002	NA	<0.0005 [<0.0005]	<0.0005	<0.0005	<0.0005	**0.0007** [b]	<0.0005	<0.0005	**0.0022** [b]	<0.0005	**0.0013** [b]	<0.0005
Vanadium	mg/L	0.0045	0.027	<0.005 [<0.005]	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	mg/L	2.4	0.26	NA	0.006 [0.006]	<0.005	0.007	<0.005	0.007	0.013	0.01	0.009	0.032	0.008	0.011
Inorganics-Filtered															
Calcium (dissolved)	mg/L	- -	- -	353 [349]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	117 [117]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	3.68 [3.72]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	217 [211]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	0.008 [0.009]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	<0.003 [<0.003]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	0.020 [0.019]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	<0.005 [<0.005]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry															
Alkalinity, carbonate	mg/L	- -	- -	<10 [<10]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	432 [432]	NA	391	439	379	448	305	289	339	284	186	489
Bicarbonate (as CaCO3)	mg/L	- -	- -	580 [560]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	**966 [969]** [a]	NA	**457** [a]	**572** [a]	**300** [a]	30	58	54	48	59	56	**492** [a]
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	22 [22]	NA	101	222	25	**1,430** [a]	**995** [a]	**489** [a]	**613** [a]	**722** [a]	**339** [a]	78

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Air Monitoring										
Methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Field										
Conductance, specific	mS/cm	- -	- -	2.729	0.66	525	0.715	769	0.641	834
Conductance, specific	µmhos/cm	- -	- -	NA	NA	NA	NA	NA	NA	NA
Dissolved oxygen (DO)	mg/L	- -	- -	1.21	0.51	0.21	0.96	0.21	1.91	0.32
Oxidation reduction potential (ORP	millivolts	- -	- -	-100.9	-152.2	137.2	-68.5	111.4	-46.7	46.6
pH	s.u.	- -	- -	6.7	7.48	7.12	7.3	7.03	7.08	6.76
Temperature, field	Deg C	- -	- -	17.62	18.42	10.86	19.6	11.15	18.51	11.22
Turbidity (field)	NTU	- -	- -	7.46	7.9	7.71	5.4	9.09	15.2	34.5
Volatile Organic Compounds										
1,2-Dibromo-3-chloropropane (DB	µg/L	0.2	- -	<1	NA	NA	<1	<1	<1	<1
1,2-Dibromoethane (Ethylene dibr	µg/L	0.05	5.7	<1	NA	NA	<1	<1	<1	<1
1,2-Dichlorobenzene	µg/L	600	13	<1	NA	NA	<1	<1	<1	<1
1,4-Dichlorobenzene	µg/L	75	17	<1	NA	NA	<1	<1	<1	<1
1,4-Dioxane	µg/L	7.2	2,800	**360 Y** [a]	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	µg/L	200	89	<1	NA	NA	<1	<1	<1	<1
2-Hexanone	µg/L	1,000	- -	<10	NA	NA	<10	<10	<10	<10
1,1,2,2-Tetrachloroethane	µg/L	8.5	78	<1	NA	NA	<1	<1	<1	<1
Acetone	µg/L	730	1,700	<10	NA	NA	<10	<10	<10	<10
1,1,2-Trichloroethane	µg/L	5	330	<1	NA	NA	<1	<1	<1	<1
Bromodichloromethane	µg/L	80	- -	<1	NA	NA	<1	<1	<1	<1
1,1-Dichloroethane	µg/L	880	740	<1	NA	NA	<1	<1	<1	1
Bromoform	µg/L	80	- -	<1	NA	NA	<1	<1	<1	<1
1,1-Dichloroethene	µg/L	7	130	<1	NA	NA	<1	<1	<1	<1
Bromomethane (Methyl bromide)	µg/L	10	35	<1	NA	NA	<1	<1	<1	<1
1,2-Dichloroethane	µg/L	5	360	<1	NA	NA	<1	<1	<1	<1
Carbon disulfide	µg/L	800	- -	<1	NA	NA	<1	<1	<1	<1
Carbon tetrachloride	µg/L	5	45	<1	NA	NA	<1	<1	<1	<1
cis-1,2-Dichloroethene	µg/L	70	620	<1	NA	NA	<1	<1	<1	<1
Chlorobenzene	µg/L	100	25	<1	NA	NA	<1	<1	<1	<1
trans-1,2-Dichloroethene	µg/L	100	1,500	<1	NA	NA	<1	<1	<1	<1
Chloroform (Trichloromethane)	µg/L	80	350	<1	NA	NA	<1	<1	<1	<1
Trichloroethene	µg/L	5	200	<1	NA	NA	<1	<1	<1	<1
Chloromethane (Methyl chloride)	µg/L	260	- -	<1	NA	NA	<1	<1	<1	<1
Tetrachloroethene	µg/L	5	60	<1	NA	NA	<1	<1	<1	<1
cis-1,3-Dichloropropene	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1
Vinyl chloride	µg/L	2	13	<1	NA	NA	<1	<1	<1	<1
Chloroethane	µg/L	430	1,100	<1	NA	NA	<1	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	µg/L	1,700	- -	<1	NA	NA	<1	<1	<1	<1
Benzene	µg/L	5	200	<1	NA	NA	<1	<1	<1	<1
Methyl acetate	µg/L	- -	- -	<10	NA	NA	<10	<10	<10	<10
Ethylbenzene	µg/L	74	18	<1	NA	NA	<1	<1	<1	<1
Methylene chloride	µg/L	5	1,500	<1	NA	NA	<1	<1	<1	<1
Styrene	µg/L	100	80	<1	NA	NA	<1	<1	<1	<1
Toluene	µg/L	790	270	<1	NA	NA	<1	<1	<1	<1
trans-1,3-Dichloropropene	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1
Methyl tert butyl ether (MTBE)	µg/L	40	7,100	<1	NA	NA	<1	<1	<1	<1
Trichlorofluoromethane (CFC-11)	µg/L	2,600	- -	<1	NA	NA	<1	<1	<1	<1
Trifluorotrichloroethane (Freon 113	µg/L	170,000	32	<1	NA	NA	<1	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (	µg/L	13,000	2,200	<10	NA	NA	<10	<10	<10	<10
4-Methyl-2-pentanone (Methyl isob	µg/L	1,800	- -	<10	NA	NA	<10	<10	<10	<10
1,2,4-Trichlorobenzene	µg/L	70	99	<1	NA	NA	<1	<1	<1	<1
1,2-Dichloropropane	µg/L	5	230	<1	NA	NA	<1	<1	<1	<1
1,3-Dichlorobenzene	µg/L	6.6	28	<1	NA	NA	<1	<1	<1	<1
Cyclohexane	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1
Methyl cyclohexane	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1
Dibromochloromethane	µg/L	80	- -	<1	NA	NA	<1	<1	<1	<1
Isopropyl benzene	µg/L	800	28	<1	NA	NA	<1	<1	1	<1
o-Xylene	µg/L	- -	- -	<1	NA	NA	<1	<1	<1	<1
m&p-Xylene	µg/L	- -	- -	<2	NA	NA	<2	<2	<2	<2
Total Xylenes (o-Xylene+ m&p-Xyl	µg/L	280	41	<3	NA	NA	<3	<3	<3	<3

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	TW-15-13 06/10/15 TW-15-13_061015	UNK-09 06/05/15 UNK-09_060515	UNK-09 12/03/15 UNK-09_120315	UNK-10 06/05/15 UNK-10_060515	UNK-10 12/03/15 UNK-10_120315	UNK-11 06/05/15 UNK-11_060515	UNK-11 12/03/15 UNK-11_120315
Semivolatile Organic Compounds										
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	µg/L	120	5	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenol	µg/L	73	11	NA	NA	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	µg/L	730	- -	NA	NA	NA	NA	NA	NA	NA
2,4-Dimethylphenol	µg/L	370	380	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	µg/L	7.7	- -	NA	NA	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
2-Chloronaphthalene	µg/L	1,800	- -	NA	NA	NA	NA	NA	NA	NA
2-Chlorophenol	µg/L	45	18	NA	NA	NA	NA	NA	NA	NA
2-Methylnaphthalene	µg/L	260	19	NA	NA	NA	NA	NA	NA	NA
2-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
2-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
2-Nitrophenol	µg/L	20	- -	NA	NA	NA	NA	NA	NA	NA
3&4-Methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	µg/L	1.1	0.3	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	520	11	NA	NA	NA	NA	NA	NA	NA
3-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
4-Bromophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	µg/L	150	7.4	NA	NA	NA	NA	NA	NA	NA
4-Chloroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
4-Chlorophenyl phenyl ether	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
4-Nitroaniline	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
4-Nitrophenol	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Anthracene	µg/L	43	- -	NA	NA	NA	NA	NA	NA	NA
Acenaphthene	µg/L	1,300	38	NA	NA	NA	NA	NA	NA	NA
Acenaphthylene	µg/L	52	- -	NA	NA	NA	NA	NA	NA	NA
Acetophenone	µg/L	1,500	- -	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	3	7.3	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	µg/L	2.1	- -	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	1.5	- -	NA	NA	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	µg/L	1	- -	NA	NA	NA	NA	NA	NA	NA
Biphenyl (1,1-Biphenyl)	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethoxy)methane	µg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
bis(2-Chloroethyl)ether	µg/L	2	1	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	6	25	NA	NA	NA	NA	NA	NA	NA
Butyl benzylphthalate (BBP)	µg/L	1,200	67	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	5,800	- -	NA	NA	NA	NA	NA	NA	NA
Carbazole	µg/L	85	10	NA	NA	NA	NA	NA	NA	NA
Chrysene	µg/L	1.6	- -	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA
Dibenzofuran	µg/L	- -	4	NA	NA	NA	NA	NA	NA	NA
Diethyl phthalate	µg/L	5,500	110	NA	NA	NA	NA	NA	NA	NA
Dimethyl phthalate	µg/L	73,000	- -	NA	NA	NA	NA	NA	NA	NA
Di-n-butylphthalate (DBP)	µg/L	880	9.7	NA	NA	NA	NA	NA	NA	NA
Di-n-octyl phthalate (DnOP)	µg/L	130	- -	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	210	1.6	NA	NA	NA	NA	NA	NA	NA
Fluorene	µg/L	880	12	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	1	0.2	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	µg/L	15	0.053	NA	NA	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	µg/L	50	- -	NA	NA	NA	NA	NA	NA	NA
Hexachloroethane	µg/L	7.3	6.7	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	µg/L	2	- -	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	770	1,300	NA	NA	NA	NA	NA	NA	NA
Nitrobenzene	µg/L	3.4	180	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodi-n-propylamine	µg/L	5	- -	NA	NA	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	µg/L	270	- -	NA	NA	NA	NA	NA	NA	NA

Location ID: Date Collected: Sample Name:	Units	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	TW-15-13 06/10/15 TW-15-13_061015	UNK-09 06/05/15 UNK-09_060515	UNK-09 12/03/15 UNK-09_120315	UNK-10 06/05/15 UNK-10_060515	UNK-10 12/03/15 UNK-10_120315	UNK-11 06/05/15 UNK-11_060515	UNK-11 12/03/15 UNK-11_120315
Pentachlorophenol	µg/L	1	2.8	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	52	2	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4,400	450	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	140	- -	NA	NA	NA	NA	NA	NA	NA
Inorganics										
Calcium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Iron	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA
Magnesium	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA
Potassium	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Sodium	mg/L	230	- -	**235** [a]	NA	NA	NA	NA	NA	NA
Antimony	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA
Arsenic	mg/L	0.01	0.01	0.003	**0.019** [ab]	0.004	0.009	0.005	NA	NA
Barium	mg/L	2	1.2	0.413	NA	NA	NA	NA	NA	NA
Boron	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA
Cadmium	mg/L	0.005	0.0045	<0.0005	NA	NA	NA	NA	NA	NA
Chromium	mg/L	- -	0.16	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
Chromium VI (hexavalent)	mg/L	0.1	0.011	NA	NA	NA	NA	NA	NA	NA
Cobalt	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA
Copper	mg/L	1	0.02	<0.005	<0.005	<0.005	<0.005	<0.005	NA	NA
Lead	mg/L	0.004	0.044	<0.003	<0.003	<0.003	<0.003	<0.003	NA	NA
Manganese	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA
Mercury	mg/L	0.002	0.0000013	<0.0001	NA	NA	NA	NA	NA	NA
Nickel	mg/L	0.1	0.12	NA	<0.005	<0.005	<0.005	<0.005	NA	NA
Selenium	mg/L	0.05	- -	<0.005	NA	NA	NA	NA	NA	NA
Silver	mg/L	0.034	0.0002	**0.0045** [b]	NA	NA	NA	NA	NA	NA
Vanadium	mg/L	0.0045	0.027	NA	<0.005	<0.005	<0.005	<0.005	NA	NA
Zinc	mg/L	2.4	0.26	<0.005	NA	NA	NA	NA	NA	NA
Inorganics-Filtered										
Calcium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	mg/L	0.3	- -	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	mg/L	400	- -	NA	NA	NA	NA	NA	NA	NA
Potassium (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	mg/L	230	- -	NA	NA	NA	NA	NA	NA	NA
Antimony (dissolved)	mg/L	0.006	0.13	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	mg/L	0.01	0.01	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	mg/L	2	1.2	NA	NA	NA	NA	NA	NA	NA
Boron (Dissolved)	mg/L	0.5	7.2	NA	NA	NA	NA	NA	NA	NA
Cadmium (dissolved)	mg/L	0.005	0.0045	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	mg/L	- -	0.16	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	mg/L	0.04	0.1	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	mg/L	1	0.02	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	mg/L	0.004	0.044	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	mg/L	0.05	4.5	NA	NA	NA	NA	NA	NA	NA
Mercury (dissolved)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	mg/L	0.1	0.12	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	mg/L	0.05	- -	NA	NA	NA	NA	NA	NA	NA
Silver (dissolved)	mg/L	0.034	0.0002	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	mg/L	0.0045	0.027	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	mg/L	2.4	0.26	NA	NA	NA	NA	NA	NA	NA
General Chemistry										
Alkalinity, carbonate	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Alkalinity, total (as CaCO3)	mg/L	- -	- -	415	NA	NA	NA	NA	NA	NA
Bicarbonate (as CaCO3)	mg/L	- -	- -	NA	NA	NA	NA	NA	NA	NA
Chloride	mg/L	250	- -	**691** [a]	NA	NA	NA	NA	NA	NA
Nitrate (as N)	mg/L	10	- -	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/L	250	- -	185	NA	NA	NA	NA	NA	NA

Table Notes:
-- Shading indicates result exceeding one or more MDEQ Part 201 Generic Cleanup Criteria and Screening Levels, Dated December 30, 2013.
-- Bold fonts represent data where detections were noted above the MDL but below MDEQ Part 201 Generic Cleanup Criteria.
-- Data shown in [ ] represent duplicate sample analytical results.
- - = Not listed in the MDEQ Criteria Tables.
mS/cm = milliSiemens per centimeter
mg/L = milligrams per liter
s.u. = standard unit
Deg. C. = degrees celcius
NTU = Nephelometric Turbidity Unit
µg/L = micrograms per liter
µmhos/cm = micromhos per centimeter
MDEQ = Michigan Department of Environmental Quality
DW = Drinking Water
GW = Groundwater
GSI = Groundwater-Surface Water
a = Sample exceeds Residential Drinking Water Criteria. 1,4-Dioxane includes the proposed drinking water criteria of 8.5 µg/L.
b = Sample exceeds Groundwater Surface Water Interface Criteria
h = Sample exceeds Non-Residential Groundwater Concentrations for Vapor Intrusion (DEQ May 2013)
NA = Not analyzed during the 2nd Quarter 2015 Sampling Event

Lab and Validation Data Qualifiers:
B = Compounds also found in associated method blank.
X = Elevated reporting limit due to matrix interference.
Y = Elevated reporting limit due to high target concentration.
O = Analysis performed by outside laboratory.

Table 3
Summary of LNAPL Thickness
June 2015 to March 2016
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well ID:	Date Collected:	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Depth to LNAPL (ft. below TOC):	Calc. Thickness NAPL (ft)	Groundwater Elevation (msl):
Plant 2								
LMW-12-01	6/1/2015	864.91	862.14	14.76	12.43	NP	NP	852.48
LMW-12-01	9/8/2015	864.91	862.14	14.81	9.36	NP	NP	855.55
LMW-12-01	11/30/2015	864.91	862.14	14.76	11.44	NP	NP	853.47
LMW-12-01	3/14/2016	864.91	862.14	14.78	7.42	NP	NP	857.49
LMW-12-02	6/1/2015	865.25	862.17	12.89	8.69	NP	NP	856.56
LMW-12-02	9/8/2015	865.25	862.17	12.94	6.24	NP	NP	859.01
LMW-12-02	11/30/2015	865.25	862.17	12.90	8.24	NP	NP	857.01
LMW-12-02	3/14/2016	865.25	862.17	12.90	6.64	NP	NP	858.61
LMW-12-03D	6/1/2015	864.99	862.08	NM	24.11	10.96	13.15	852.71*
LMW-12-03D	9/8/2015	864.99	862.08	NM	16.63	9.77	6.86	854.53*
LMW-12-03D	11/30/2015	864.99	862.08	NM	16.87	10.66	6.21	853.71*
LMW-12-03D	3/14/2016	864.99	862.08	NM	14.90	9.60	5.30	854.86*
LMW-12-03S	6/1/2015	864.93	862.06	11.75	7.36	NP	NP	857.57
LMW-12-03S	9/8/2015	864.93	862.06	11.76	7.13	NP	NP	857.80
LMW-12-03S	11/30/2015	864.93	862.06	11.75	7.30	NP	NP	857.63
LMW-12-03S	3/14/2016	864.93	862.06	11.75	5.39	NP	NP	859.54
LMW-12-04	6/1/2015	864.94	862.12	23.66	11.85	NP	NP	853.09
LMW-12-04	9/8/2015	864.94	862.12	23.68	10.00	NP	NP	854.94
LMW-12-04	11/30/2015	864.94	862.12	NM	11.22	NP	NP	853.72
LMW-12-04	3/14/2016	864.94	862.12	23.69	9.91	NP	NP	855.03
LMW-12-05	6/1/2015	865.03	862.17	NM	13.53	13.50	0.03	851.53*
LMW-12-05	9/8/2015	865.03	862.17	NM	NM	NP	NP	NM
LMW-12-05	11/30/2015	865.03	862.17	NM	12.85	12.78	0.07	852.24*
LMW-12-05	3/14/2016	865.03	862.17	NM	11.85	11.15	0.70	853.81*
LMW-12-06	6/1/2015	865.02	862.15	11.91	6.70	NP	NP	858.32
LMW-12-06	9/8/2015	865.02	862.15	12.02	6.64	NP	NP	858.38
LMW-12-06	11/30/2015	865.02	862.15	11.98	6.98	NP	NP	858.04
LMW-12-06	3/14/2016	865.02	862.15	11.96	6.45	NP	NP	858.57
LMW-12-07	6/1/2015	864.13	861.50	11.96	5.71	NP	NP	858.42
LMW-12-07	9/8/2015	864.13	861.50	12.00	5.54	NP	NP	858.59
LMW-12-07	11/30/2015	864.13	861.50	11.97	5.83	NP	NP	858.30
LMW-12-07	3/14/2016	864.13	861.50	11.95	4.78	NP	NP	859.35
LMW-12-08	6/1/2015	864.40	861.56	NM	10.88	8.53	2.35	855.63*
LMW-12-08	9/8/2015	864.40	861.56	NM	10.65	7.88	2.77	856.24*
LMW-12-08	11/30/2015	864.40	861.56	NM	10.98	8.54	2.44	855.61*
LMW-12-08	3/14/2016	864.40	861.56	NM	NA**	7.54	NA**	NA**
LMW-14-12D	6/1/2015	864.59	862.11	NM	24.53	11.14	13.39	852.10*
LMW-14-12D	9/8/2015	864.59	862.11	NM	24.60	8.21	16.39	854.73*
LMW-14-12D	11/30/2015	864.59	862.11	24.78	24.78	10.15	14.63	852.97*
LMW-14-12D	3/14/2016	864.59	862.11	NM	24.65	8.70	15.95	854.29*
LMW-14-13D	6/1/2015	865.03	862.06	24.55	11.92	NP	NP	853.11
LMW-14-13D	9/8/2015	865.03	862.06	24.48	10.20	NP	NP	854.83
LMW-14-13D	11/30/2015	865.03	862.06	24.46	11.39	NP	NP	853.64
LMW-14-13D	3/14/2016	865.03	862.06	24.40	9.55	NP	NP	855.48
LMW-14-14D	6/1/2015	864.89	861.90	25.21	13.42	NP	NP	851.47
LMW-14-14D	9/8/2015	864.89	861.90	25.30	11.73	NP	NP	853.16
LMW-14-14D	11/30/2015	864.89	861.90	25.12	13.40	NP	NP	851.49
LMW-14-14D	3/14/2016	864.89	861.90	23.05	12.09	NP	NP	852.80
LMW-14-15D	6/1/2015	865.11	861.66	NM	22.61	11.09	11.52	852.86*
LMW-14-15D	9/8/2015	865.11	861.66	NM	22.63	9.65	12.98	854.16*
LMW-14-15D	11/30/2015	865.11	861.66	22.68	22.31	10.48	11.83	853.44*
LMW-14-15D	3/14/2016	865.11	861.66	NM	22.22	9.19	13.03	854.61*

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LMW-15-16D	6/1/2015	865.20	862.24	NM	15.44	15.05	0.39	850.11*
LMW-15-16D	9/8/2015	865.20	862.24	NM	19.72	12.12	7.60	852.32*
LMW-15-16D	11/30/2015	865.20	862.24	NM	21.24	13.75	7.49	850.70*
LMW-15-16D	3/14/2016	865.20	862.24	NM	25.02	12.09	12.93	851.81*
LMW-15-17D	6/1/2015	865.21	862.24	27.29	12.19	NP	NP	853.02
LMW-15-17D	9/8/2015	865.21	862.24	27.30	10.36	NP	NP	854.85
LMW-15-17D	11/30/2015	865.21	862.24	27.31	11.48	NP	NP	853.73
LMW-15-17D	3/14/2016	865.21	862.24	27.28	10.23	NP	NP	854.98
P2-SB-37	6/2/2015	865.90	861.90	NM	8.25	6.73	1.52	859.02*
P2-SB-37	9/8/2015	865.90	861.90	NM	7.93	6.24	1.69	859.49*
P2-SB-37	11/30/2015	865.90	861.90	NM	9.19	7.34	1.85	858.37*
P2-SB-37	3/14/2016	865.90	861.90	NM	7.09	5.52	1.57	860.22*
PMW-01	6/2/2015	860.85	861.33	NM	4.80	1.01	3.79	859.46*
PMW-01	9/8/2015	860.85	861.33	NM	4.70	0.76	3.94	859.69*
PMW-01	11/30/2015	860.85	861.33	NM	5.43	1.90	3.53	858.59*
PMW-01	3/14/2016	860.85	861.33	NM	0.97	0.60	0.37	860.21*
PMW-02	6/2/2015	861.12	861.50	NM	1.70	1.28	0.42	859.80*
PMW-02	9/8/2015	861.12	861.50	NM	1.33	0.81	0.52	860.26*
PMW-02	11/30/2015	861.12	861.50	NM	2.61	2.18	0.43	858.90*
PMW-02	3/14/2016	861.12	861.50	NM	0.83	0.49	0.34	860.60*
PMW-03	6/2/2015	861.59	862.12	6.11	2.18	NP	NP	859.41
PMW-03	9/8/2015	861.59	862.12	6.09	1.10	NP	NP	860.49
PMW-03	11/30/2015	861.59	862.12	6.09	2.27	NP	NP	859.32
PMW-03	3/14/2016	861.59	862.12	NM	1.10	NP	NP	860.49
Plant 3								
LMW-12-09	6/1/2015	863.22	860.40	10.76	4.40	NP	NP	858.82
LMW-12-09	9/8/2015	863.22	860.40	10.82	3.54	NP	NP	859.68
LMW-12-09	11/30/2015	863.22	860.40	10.78	4.63	NP	NP	858.59
LMW-12-09	3/14/2016	863.22	860.40	10.75	3.51	NP	NP	859.71
LMW-12-10	6/1/2015	866.82	863.60	NM	19.39	9.65	9.74	856.19*
LMW-12-10	9/8/2015	866.82	863.60	NM	20.55	9.29	11.26	856.40*
LMW-12-10	11/30/2015	866.82	863.60	NM	21.43	9.96	11.47	855.71*
LMW-12-10	3/14/2016	866.82	863.60	NM	20.95	9.12	11.83	856.51*
LMW-12-11	6/1/2015	866.53	863.53	22.83	12.77	NP	NP	853.76
LMW-12-11	9/8/2015	866.53	863.53	22.91	11.24	NP	NP	855.29
LMW-12-11	11/30/2015	866.53	863.53	22.87	14.28	NP	NP	852.25
LMW-12-11	3/14/2016	866.53	863.53	22.85	12.45	NP	NP	854.08
UNK-13	6/1/2015	859.11	859.91	14.98	4.09	NP	NP	855.02
UNK-13	9/8/2015	859.11	859.91	15.00	3.93	NP	NP	855.18
UNK-13	11/30/2015	859.11	859.91	14.98	4.18	NP	NP	854.93
UNK-13	3/14/2016	859.11	859.91	15.00	3.84	NP	NP	855.27
UNK-14	6/1/2015	859.32	859.70	14.73	3.35	NP	NP	855.97
UNK-14	9/8/2015	859.32	859.70	NM	3.27	3.12	0.15	856.18*
UNK-14	11/30/2015	859.32	859.70	NM	4.03	3.66	0.37	855.62*
UNK-14	3/14/2016	859.32	859.70	NM	3.01	2.55	0.46	856.72*

Note:
*Groundwater elevations have been corrected for the presence of LNAPL using a measured LNAPL density of 0.8995 grams per milliliter.

** Depth to water not detectable with interface probe due to high LNAPL viscosity
ID = identification
ft = feet msl - mean sea level
TOC = top of c LNAPL - light non-aqueous phase liquid
NM = not measured
NP = no product

Table 4
Summary of LNAPL Recovery
June 2015 through March 2016
2015-2016 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well ID:	Recovery Date**:	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Depth to LNAPL (ft. below TOC):	Starting LNAPL Thickness (ft):	Groundwater Elevation (ft msl):	Esitmated LNAPL Volume Recovered (Gallons):	Cumulative LNAPL Volume Recovered (Gallons):	Liquid Recovered (gallons) ****	Cumulative Liquid Recovery (Gallons):
LMW-12-03D	6/11/2015	864.99	862.08	NM	24.11	10.96	13.15	852.71*	2.22***	2.22***	5.00	5.00
LMW-12-03D	9/11/2015	864.99	862.08	NM	16.63	9.77	6.86	854.53*	0.89	3.11	1.15	6.15
LMW-12-03D	12/10/2015	864.99	862.08	NM	16.87	10.66	6.21	853.71*	1.00	4.11	1.00	7.15
LMW-12-03D	3/17/2016	864.99	862.08	NM	14.9	9.6	5.3	854.86*	1.50	5.61	1.75	8.90
LMW-14-12D	6/11/2015	864.59	862.11	NM	24.53	11.14	13.39	852.10*	2.26***	2.26***	5.00	5.00
LMW-14-12D	9/11/2015	864.59	862.11	NM	24.6	8.21	16.39	854.73*	5.00	7.26	5.00	10.00
LMW-14-12D	12/10/2015	864.59	862.11	24.78	24.78	10.15	14.63	852.97*	2.50	9.76	2.50	12.50
LMW-14-12D	3/17/2016	864.59	862.11	NM	24.65	8.7	15.95	854.29*	3.50	13.26	3.60	16.10
LMW-14-13D	6/11/2015	865.03	862.06	24.55	11.92	NP	NP	853.11	NP	NP	NP	NP
LMW-14-13D	9/11/2015	865.03	862.06	24.48	10.2	NP	NP	854.83	NP	NP	NP	NP
LMW-14-13D	12/10/2015	865.03	862.06	24.46	11.39	NP	NP	853.64	NP	NP	NP	NP
LMW-14-13D	3/17/2016	865.03	862.06	24.4	9.55	NP	NP	855.48	NP	NP	NP	NP
LMW-14-14D	6/11/2015	864.89	861.90	25.21	13.42	NP	NP	851.47	NP	NP	NP	NP
LMW-14-14D	9/11/2015	864.89	861.90	25.3	11.73	NP	NP	853.16	NP	NP	NP	NP
LMW-14-14D	12/10/2015	864.89	861.90	25.12	13.4	NP	NP	851.49	NP	NP	NP	NP
LMW-14-14D	3/17/2016	864.89	861.90	23.05	12.09	NP	NP	852.80	NP	NP	NP	NP
LMW-14-15D	6/11/2015	865.11	861.66	NM	22.61	11.09	11.52	852.86*	1.94***	1.94***	5.00	5.00
LMW-14-15D	9/11/2015	865.11	861.66	NM	22.63	9.65	12.98	854.16*	0.00	1.94	0.00	5.00
LMW-14-15D	12/10/2015	865.11	861.66	22.68	22.31	10.48	11.83	853.44*	2.00	3.94	2.00	7.00
LMW-14-15D	3/17/2016	865.11	861.66	NM	22.22	9.19	13.03	854.61*	2.00	5.94	2.10	9.10
LMW-15-16D	6/11/2015	865.20	862.24	NM	15.44	15.05	0.39	850.11*	0.07***	0.07***	1.00	1.00
LMW-15-16D	9/11/2015	865.20	862.24	NM	19.72	12.12	7.6	852.32*	1.50	1.57	1.76	2.76
LMW-15-16D	12/10/2015	865.20	862.24	NM	21.24	13.75	7.49	850.70*	1.20	2.77	1.20	3.96
LMW-15-16D	3/17/2016	865.20	862.24	NM	25.02	12.09	12.93	851.81*	2.00	4.77	2.04	6.00
LMW-15-17D	6/11/2015	865.21	862.24	27.29	12.19	NP	NP	853.02	NP	NP	NP	NP
LMW-15-17D	9/11/2015	865.21	862.24	27.3	10.36	NP	NP	854.85	NP	NP	NP	NP
LMW-15-17D	12/10/2015	865.21	862.24	27.31	11.48	NP	NP	853.73	NP	NP	NP	NP
LMW-15-17D	3/17/2016	865.21	862.24	27.28	10.23	NP	NP	854.98	NP	NP	NP	NP

Per Well Totals (June 2015 through March 2016)

Well ID:	LNAPL Volume Recovered (Gallons):	Total Liquid Recoved (Gallons):
LMW-12-03D	5.61	8.90
LMW-14-12D	13.26	16.10
LMW-14-13D	NP	NP
LMW-14-14D	NP	NP
LMW-14-15D	5.94	9.10
LMW-15-16D	4.77	6.00
LMW-15-17D	NP	NP
Total:	29.58	40.10

Quarterly Event Totals

Quarter:	LNAPL Volume Recovered (Gallons):	Total Liquid Recoved (Gallons):
2nd Quarter 2015	6.49***	16.00
3rd Quarter 2015	7.39	7.91
4th Quarter 2015	6.70	6.70
1st Quarter 2016	9.00	9.49
Total:	29.58	40.10

Notes:
* Groundwater elevations have been corrected for the presence of LNAPL using a measured LNAPL density of 0.8995 grams per milliliter.
** Depth-to-water and depth-to-LNAPL measurements were collected at beginning of the associated quarterly groundwater sampling event.
*** Volume calculations based on an internal well volume of 0.1686 gallon per foot in a 2-inch-diameter well. All wells in this table are 2 inches in diameter.
**** Recovery performed via 1.5-inch-diameter weighted PVC bailers. Volume includes groundwater and LNAPL recovered.

ft. = feet
ID = Identification
msl = mean sea level
NM = Not Measured
NP = No Product
TOC = Top of Casing
LNAPL = light non-aqueous phase liquid
PVC = polyvinyl chloride

Table 5
Summary of Groundwater Elevations
June 2015 to March 2016
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well ID:	Date Collected:	Screened Interval Top (ft bgs)	Screened Interval Bottom (ft bgs)	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Groundwater Elevation (msl):
Plant 2								
LMW-12-01	6/1/2015	7	12	864.91	862.14	14.76	12.43	852.48
LMW-12-01	9/8/2015	7	12	864.91	862.14	14.81	9.36	855.55
LMW-12-01	11/30/2015	7	12	864.91	862.14	14.76	11.44	853.47
LMW-12-01	3/14/2016	7	12	864.91	862.14	14.78	7.42	857.49
LMW-12-02	6/1/2015	5	10	865.25	862.17	12.89	8.69	856.56
LMW-12-02	9/8/2015	5	10	865.25	862.17	12.94	6.24	859.01
LMW-12-02	11/30/2015	5	10	865.25	862.17	12.90	8.24	857.01
LMW-12-02	3/14/2016	5	10	865.25	862.17	12.90	6.64	858.61
LMW-12-03D	6/1/2015	17.3	22.3	864.99	862.08	NM	24.11	852.71*
LMW-12-03D	9/8/2015	17.3	22.3	864.99	862.08	NM	16.63	854.53*
LMW-12-03D	11/30/2015	17.3	22.3	864.99	862.08	NM	16.87	853.71*
LMW-12-03D	3/14/2016	17.3	22.3	864.99	862.08	NM	14.90	854.86*
LMW-12-03S	6/1/2015	4	9	864.93	862.06	11.75	7.36	857.57
LMW-12-03S	9/8/2015	4	9	864.93	862.06	11.76	7.13	857.80
LMW-12-03S	11/30/2015	4	9	864.93	862.06	11.75	7.30	857.63
LMW-12-03S	3/14/2016	4	9	864.93	862.06	11.75	5.39	859.54
LMW-12-04	6/1/2015	16	21	864.94	862.12	23.66	11.85	853.09
LMW-12-04	9/8/2015	16	21	864.94	862.12	23.68	10.00	854.94
LMW-12-04	11/30/2015	16	21	864.94	862.12	NM	11.22	853.72
LMW-12-04	3/14/2016	16	21	864.94	862.12	23.69	9.91	855.03
LMW-12-05	6/1/2015	7	12	865.03	862.17	NM	13.53	851.53*
LMW-12-05	9/8/2015	7	12	865.03	862.17	NM	NM	NM
LMW-12-05	11/30/2015	7	12	865.03	862.17	NM	12.85	852.24*
LMW-12-05	3/14/2016	7	12	865.03	862.17	NM	11.85	853.81*
LMW-12-06	6/1/2015	4	9	865.02	862.15	11.91	6.70	858.32
LMW-12-06	9/8/2015	4	9	865.02	862.15	12.02	6.64	858.38
LMW-12-06	11/30/2015	4	9	865.02	862.15	11.98	6.98	858.04
LMW-12-06	3/14/2016	4	9	865.02	862.15	11.96	6.45	858.57
LMW-12-07	6/1/2015	4	9	864.13	861.50	11.96	5.71	858.42
LMW-12-07	9/8/2015	4	9	864.13	861.50	12.00	5.54	858.59
LMW-12-07	11/30/2015	4	9	864.13	861.50	11.97	5.83	858.30
LMW-12-07	3/14/2016	4	9	864.13	861.50	11.95	4.78	859.35
LMW-12-08	6/1/2015	8	13	864.40	861.56	NM	10.88	855.63*
LMW-12-08	9/8/2015	8	13	864.40	861.56	NM	10.65	856.24*
LMW-12-08	11/30/2015	8	13	864.40	861.56	NM	10.98	855.61*
LMW-12-08	3/14/2016	8	13	864.40	861.56	NM	NA**	NA**
LMW-14-12D	6/1/2015	18	23	864.59	862.11	NM	24.53	852.10*
LMW-14-12D	9/8/2015	18	23	864.59	862.11	NM	24.60	854.73*
LMW-14-12D	11/30/2015	18	23	864.59	862.11	24.78	24.78	852.97*
LMW-14-12D	3/14/2016	18	23	864.59	862.11	NM	24.65	854.29*
LMW-14-13D	6/1/2015	17.5	22.5	865.03	862.06	24.55	11.92	853.11
LMW-14-13D	9/8/2015	17.5	22.5	865.03	862.06	24.48	10.20	854.83
LMW-14-13D	11/30/2015	17.5	22.5	865.03	862.06	24.46	11.39	853.64
LMW-14-13D	3/14/2016	17.5	22.5	865.03	862.06	24.40	9.55	855.48
LMW-14-14D	6/1/2015	18	23	864.89	861.90	25.21	13.42	851.47
LMW-14-14D	9/8/2015	18	23	864.89	861.90	25.30	11.73	853.16
LMW-14-14D	11/30/2015	18	23	864.89	861.90	25.12	13.40	851.49
LMW-14-14D	3/14/2016	18	23	864.89	861.90	23.05	12.09	852.80
LMW-14-15D	6/1/2015	18	23	865.11	861.66	NM	22.61	852.86*
LMW-14-15D	9/8/2015	18	23	865.11	861.66	NM	22.63	854.16*
LMW-14-15D	11/30/2015	18	23	865.11	861.66	22.68	22.31	853.44*
LMW-14-15D	3/14/2016	18	23	865.11	861.66	NM	22.22	854.61*
LMW-15-16D	6/1/2015	19.5	24.5	865.20	862.24	NM	15.44	850.11*
LMW-15-16D	9/8/2015	19.5	24.5	865.20	862.24	NM	19.72	852.32*
LMW-15-16D	11/30/2015	19.5	24.5	865.20	862.24	NM	21.24	850.70*
LMW-15-16D	3/14/2016	19.5	24.5	865.20	862.24	NM	25.02	851.81*
LMW-15-17D	6/1/2015	20	25	865.21	862.24	27.29	12.19	853.02
LMW-15-17D	9/8/2015	20	25	865.21	862.24	27.30	10.36	854.85
LMW-15-17D	11/30/2015	20	25	865.21	862.24	27.31	11.48	853.73
LMW-15-17D	3/14/2016	20	25	865.21	862.24	27.28	10.23	854.98
MW-01(2)	6/1/2015	10	20	875.79	876.10	15.95	9.65	866.14
MW-01(2)	11/30/2015	10	20	875.79	876.10	15.90	9.10	866.69
MW-02(2)	6/1/2015	12	22	875.96	876.20	21.15	10.42	865.54
MW-02(2)	11/30/2015	12	22	875.96	876.20	19.20	9.65	866.31
MW-03(2)	6/1/2015	12	22	876.70	876.79	19.10	10.10	866.60
MW-03(2)	11/30/2015	12	22	876.70	876.79	21.10	10.25	866.45
MW-12-01	6/1/2015	87	110	867.94	865.46	111.00	82.50	785.44
MW-12-01	11/30/2015	87	110	867.94	865.46	111.20	82.40	785.54
MW-12-02	6/1/2015	87	110	853.91	851.88	111.30	73.60	780.31
MW-12-02	11/30/2015	87	110	853.91	851.88	109.40	73.50	780.41
MW-12-05	6/1/2015	75	99	865.19	862.23	102.00	77.87	787.32
MW-12-05	9/8/2015	75	99	865.19	862.23	101.89	77.73	787.46
MW-12-05	11/30/2015	75	99	865.19	862.23	103.68	77.85	787.34
MW-12-05	3/14/2016	75	99	865.19	862.23	101.90	76.65	788.54
MW-12-06	6/1/2015	80.6	99.5	864.64	861.69	103.60	78.75	785.89
MW-12-06	11/30/2015	80.6	99.5	864.64	861.69	103.60	79.40	785.24
MW-12-07	6/1/2015	10	15	872.11	869.21	17.70	9.85	862.26
MW-12-07	11/30/2015	10	15	872.11	869.21	17.70	8.35	863.76
MW-12-08	6/1/2015	19	24	864.53	861.55	27.40	8.60	855.93
MW-12-08	11/30/2015	19	24	864.53	861.55	27.40	8.08	856.45
MW-12-09	6/1/2015	14	19	863.54	860.63	21.60	15.30	848.24
MW-12-09	11/30/2015	14	19	863.54	860.63	21.60	14.70	848.84

Table 5
Summary of Groundwater Elevations
June 2015 to March 2016
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well ID:	Date Collected:	Screened Interval Top (ft bgs)	Screened Interval Bottom (ft bgs)	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Groundwater Elevation (msl):
MW-12-17	6/1/2015	9.5	14.5	875.47	875.83	14.00	8.95	866.52
MW-12-17	11/30/2015	9.5	14.5	875.47	875.83	14.00	8.80	866.67
MW-12-18	6/1/2015	28	33	866.43	864.19	34.80	24.96	841.47
MW-12-18	11/30/2015	28	33	866.43	864.19	34.80	24.25	842.18
MW-13-42	6/1/2015	70	75	861.61	860.03	76.85	76.15	785.46
MW-13-42	9/8/2015	70	75	861.61	860.03	76.94	76.37	785.24
MW-13-42	11/30/2015	70	75	861.61	860.03	76.90	76.75	784.86
MW-13-42	3/14/2016	70	75	861.61	860.03	76.95	76.49	785.12
MW-13-43	6/1/2015	72	77	863.82	860.97	79.79	71.40	792.42
MW-13-43	9/8/2015	72	77	863.82	860.97	79.78	71.29	792.53
MW-13-43	11/30/2015	72	77	863.82	860.97	80.10	71.60	792.22
MW-13-43	3/14/2016	72	77	863.82	860.97	79.75	70.92	792.90
MW-13-44	6/1/2015	96	115	864.24	861.03	119.30	83.21	781.03
MW-13-44	9/8/2015	96	115	864.24	861.03	119.35	83.46	780.78
MW-13-44	11/30/2015	96	115	864.24	861.03	123.00	83.25	780.99
MW-13-44	3/14/2016	96	115	864.24	861.03	119.30	82.07	782.17
MW-13-45	6/1/2015	72	77	863.80	861.54	78.33	70.50	793.30
MW-13-45	9/8/2015	72	77	863.80	861.54	78.34	70.33	793.47
MW-13-45	11/30/2015	72	77	863.80	861.54	78.35	70.70	793.10
MW-13-45	3/14/2016	72	77	863.80	861.54	78.32	70.11	793.69
MW-13-51	6/1/2015	77	87	875.34	872.51	89.80	76.81	798.53
MW-13-51	11/30/2015	77	87	875.34	872.51	89.85	76.00	799.34
MW-14-54	6/1/2015	14	19	865.21	862.21	19.05	16.05	849.16
MW-14-54	11/30/2015	14	19	865.21	862.21	19.05	15.30	849.91
MW-14-55	6/1/2015	13	18	864.17	861.73	20.10	18.90	845.27
MW-14-55	11/30/2015	13	18	864.17	861.73	20.10	18.32	845.85
MW-14-56	6/1/2015	71	76	863.27	860.56	79.00	75.75	787.52
MW-14-56	9/8/2015	71	76	863.27	860.56	79.00	75.96	787.31
MW-14-56	11/30/2015	71	76	863.27	860.56	79.00	76.23	787.04
MW-14-56	3/14/2016	71	76	863.27	860.56	78.98	75.68	787.59
MW-14-57	6/1/2015	15	20	863.97	861.10	21.40	15.28	848.69
MW-14-57	11/30/2015	15	20	863.97	861.10	21.40	14.60	849.37
MW-14-58	6/1/2015	22	27	863.12	860.12	29.95	15.35	847.77
MW-14-58	11/30/2015	22	27	863.12	860.12	29.93	14.90	848.22
MW-14-59	6/1/2015	12	17	864.61	861.80	18.89	8.12	856.49
MW-14-59	11/30/2015	12	17	864.61	861.80	18.89	8.00	856.61
MW-14-60	6/1/2015	15	20	864.65	861.80	23.60	14.00	850.65
MW-14-60	11/30/2015	15	20	864.65	861.80	23.56	13.60	851.05
MW-14-61	6/1/2015	70	75	865.51	862.30	77.50	73.39	792.12
MW-14-61	11/30/2015	70	75	865.51	862.30	77.50	73.40	792.11
MW-14-62	6/1/2015	12	17	865.17	862.25	19.65	6.60	858.57
MW-14-62	11/30/2015	12	17	865.17	862.25	19.64	6.79	858.38
MW-14-63	6/1/2015	68	73	854.64	851.68	76.72	72.35	782.29
MW-14-63	11/30/2015	68	73	854.64	851.68	77.15	72.90	781.74
MW-15-72	3/14/2016	63	68	NS	NS	70.75	60.09	NS
MW-15-73	3/14/2016	78	83	NS	NS	81.25	76.23	NS
P2-MW-01	6/1/2015	31	36	858.00	858.35	35.80	16.25	841.75
P2-MW-01	11/30/2015	31	36	858.00	858.35	35.75	15.24	842.76
P2-MW-02	11/30/2015	31	41	872.24	872.70	40.20	37.33	834.91
P2-MW-03	6/1/2015	27	32	854.18	854.66	27.20	10.81	843.37
P2-MW-03	11/30/2015	27	32	854.18	854.66	27.15	10.15	844.03
P2-MW-04	6/1/2015	26	36	862.28	862.59	36.70	12.09	850.19
P2-MW-04	11/30/2015	26	36	862.28	862.59	35.70	11.33	850.95
P2-SB-03	6/1/2015	14	19	863.89	861.03	22.10	18.84	845.05
P2-SB-03	11/30/2015	14	19	863.89	861.03	22.10	18.10	845.79
P2-SB-06	6/1/2015	24	29	866.06	862.09	33.60	20.32	845.74
P2-SB-06	11/30/2015	24	29	866.06	862.09	33.50	19.30	846.76
P2-SB-20	6/1/2015	8	13	864.46	861.12	16.30	9.70	854.76
P2-SB-20	11/30/2015	8	13	864.46	861.12	16.30	9.85	854.61
P2-SB-37	6/2/2015	5	10	865.90	861.90	NM	8.25	859.02*
P2-SB-37	9/8/2015	5	10	865.90	861.90	NM	7.93	859.49*
P2-SB-37	11/30/2015	5	10	865.90	861.90	NM	9.19	858.37*
P2-SB-37	3/14/2016	5	10	865.90	861.90	NM	7.09	860.22*
PMW-01	6/2/2015	2.59	7.59	860.85	861.33	NM	4.80	859.46*
PMW-01	9/8/2015	2.59	7.59	860.85	861.33	NM	4.70	859.69*
PMW-01	11/30/2015	2.59	7.59	860.85	861.33	NM	5.43	858.59*
PMW-01	3/14/2016	2.59	7.59	860.85	861.33	NM	0.97	860.21*
PMW-02	6/2/2015	2.59	7.59	861.12	861.50	NM	1.70	859.80*
PMW-02	9/8/2015	2.59	7.59	861.12	861.50	NM	1.33	860.26*
PMW-02	11/30/2015	2.59	7.59	861.12	861.50	NM	2.61	858.90*
PMW-02	3/14/2016	2.59	7.59	861.12	861.50	NM	0.83	860.60*
PMW-03	6/2/2015	1.2	6.2	861.59	862.12	6.11	2.18	859.41
PMW-03	9/8/2015	1.2	6.2	861.59	862.12	6.09	1.10	860.49
PMW-03	11/30/2015	1.2	6.2	861.59	862.12	6.09	2.27	859.32
PMW-03	3/14/2016	1.2	6.2	861.59	862.12	NM	1.10	860.49
PW-14-01	6/1/2015	71.6	76.8	864.97	862.38	82.00	68.35	796.62
PW-14-01	11/30/2015	71.6	76.8	864.97	862.38	85.50	68.36	796.61
PW-14-02	6/1/2015	75	80	863.91	861.17	85.20	71.01	792.90
PW-14-02	11/30/2015	75	80	863.91	861.17	89.30	71.20	792.71
TW-14-01	6/1/2015	70	75	865.08	862.27	78.20	68.50	796.58
TW-14-02	6/1/2015	67	72	865.01	862.13	74.90	66.70	798.31
TW-14-02	9/8/2015	67	72	865.01	862.13	74.82	66.64	798.37
TW-14-02	3/14/2016	67	72	865.01	862.13	74.70	65.98	799.03

Table 5
Summary of Groundwater Elevations
June 2015 to March 2016
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RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well ID:	Date Collected:	Screened Interval Top (ft bgs)	Screened Interval Bottom (ft bgs)	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Groundwater Elevation (msl):
TW-14-03	6/1/2015	75	80	864.02	861.32	83.11	71.65	792.37
TW-14-04	6/1/2015	72	77	864.47	861.68	80.10	73.70	790.77
TW-14-05	6/1/2015	72	77	864.25	861.12	79.90	71.40	792.85
TW-15-12	6/1/2015	73	78	860.88	861.23	77.50	68.32	792.56
TW-15-13	6/1/2015	79	84	864.13	861.19	87.18	71.30	792.83
Plant 3								
CH-14-RO	6/1/2015	7	12	866.44	863.68	14.84	9.17	857.27
CH-14-RO	11/30/2015	7	12	866.44	863.68	14.85	9.14	857.30
LMW-12-09	6/1/2015	3	8	863.22	860.40	10.76	4.40	858.82
LMW-12-09	9/8/2015	3	8	863.22	860.40	10.82	3.54	859.68
LMW-12-09	11/30/2015	3	8	863.22	860.40	10.78	4.63	858.59
LMW-12-09	3/14/2016	3	8	863.22	860.40	10.75	3.51	859.71
LMW-12-10	6/1/2015	14	19	866.82	863.60	NM	19.39	856.19*
LMW-12-10	9/8/2015	14	19	866.82	863.60	NM	20.55	856.40*
LMW-12-10	11/30/2015	14	19	866.82	863.60	NM	21.43	855.71*
LMW-12-10	3/14/2016	14	19	866.82	863.60	NM	20.95	856.51*
LMW-12-11	6/1/2015	15	20	866.53	863.53	22.83	12.77	853.76
LMW-12-11	9/8/2015	15	20	866.53	863.53	22.91	11.24	855.29
LMW-12-11	11/30/2015	15	20	866.53	863.53	22.87	14.28	852.25
LMW-12-11	3/14/2016	15	20	866.53	863.53	22.85	12.45	854.08
MW-02-01(3)	6/1/2015	59	69	865.54	863.35	72.20	54.51	811.03
MW-02-01(3)	12/1/2015	59	69	865.54	863.35	72.15	54.07	811.47
MW-02-02(3)	6/1/2015	74	84	862.70	863.11	83.80	67.81	794.89
MW-02-02(3)	11/30/2015	74	84	862.70	863.11	83.75	68.33	794.37
MW-02-03(3)	6/1/2015	79	89	859.63	859.90	89.15	65.69	793.94
MW-02-03(3)	11/30/2015	79	89	859.63	859.90	89.15	66.40	793.23
MW-02-04(3)	6/1/2015	76	86	862.61	862.93	84.32	65.79	796.82
MW-02-04(3)	11/30/2015	76	86	862.61	862.93	84.32	66.99	795.62
MW-04(3)	6/1/2015	10.5	15.5	859.40	859.79	15.70	4.30	855.10
MW-04(3)	11/30/2015	10.5	15.5	859.40	859.79	15.75	4.54	854.86
MW-04-01(3)	6/1/2015	95	105	862.61	862.93	104.60	53.89	808.72
MW-04-01(3)	12/1/2015	95	105	862.61	862.93	104.60	53.58	809.03
MW-04-02(3)	6/1/2015	126	136	861.09	861.26	132.30	68.13	792.96
MW-04-02(3)	11/30/2015	126	136	861.09	861.26	132.30	68.63	792.46
MW-04-03(3)	6/1/2015	80	90	860.72	861.00	87.41	66.93	793.79
MW-04-03(3)	11/30/2015	80	90	860.72	861.00	87.40	67.59	793.13
MW-04-04(3)	6/1/2015	72	82	855.72	856.11	81.59	61.64	794.08
MW-04-04(3)	11/30/2015	72	82	855.72	856.11	81.50	62.25	793.47
MW-05(3)	6/1/2015	10	15	859.02	859.79	15.21	4.28	854.74
MW-05(3)	11/30/2015	10	15	859.02	859.79	15.25	4.73	854.29
MW-06(3)	6/1/2015	6.5	11.5	859.52	859.79	11.51	3.52	856.00
MW-06(3)	11/30/2015	6.5	11.5	859.52	859.79	11.55	3.75	855.77
MW-12-04	6/1/2015	77	100	844.08	844.26	100.01	52.12	791.96
MW-12-04	11/30/2015	77	100	844.08	844.26	100.00	53.68	790.40
MW-12-19	6/1/2015	5	10	859.55	859.96	8.90	DRY	DRY
MW-12-19	12/1/2015	5	10	859.55	859.96	8.90	DRY	DRY
MW-12-20	6/1/2015	75	80	864.20	861.45	79.42	70.44	793.76
MW-12-20	11/30/2015	75	80	864.20	861.45	79.50	70.80	793.40
MW-12-21	6/1/2015	70	75	864.50	861.45	78.08	69.82	794.68
MW-12-21	11/30/2015	70	75	864.50	861.45	78.10	69.32	795.18
MW-13-22	6/1/2015	89	94	864.37	861.50	96.25	73.19	791.18
MW-13-22	9/8/2015	89	94	864.37	861.50	96.22	72.92	791.45
MW-13-22	11/30/2015	89	94	864.37	861.50	96.25	73.51	790.86
MW-13-22	3/14/2016	89	94	864.37	861.50	96.15	72.99	791.38
MW-13-23	6/1/2015	69	74	864.31	861.45	77.54	73.95	790.36
MW-13-23	11/30/2015	69	74	864.31	861.45	77.55	74.37	789.94
MW-13-24	6/1/2015	69	74	864.35	861.48	77.35	69.43	794.92
MW-13-24	11/30/2015	69	74	864.35	861.48	77.35	69.24	795.11
MW-13-25	6/1/2015	67	72	863.77	860.49	74.99	69.72	794.05
MW-13-25	11/30/2015	67	72	863.77	860.49	75.00	69.96	793.81
MW-13-26	6/1/2015	72	77	863.95	861.67	79.20	69.31	794.64
MW-13-26	11/30/2015	72	77	863.95	861.67	79.20	69.17	794.78
MW-13-27	6/2/2015	67	72	864.50	861.54	75.91	71.01	793.49
MW-13-27	11/30/2015	67	72	864.50	861.54	75.90	71.43	793.07
MW-13-28	6/1/2015	99	115.5	864.42	861.61	116.10	73.97	790.45
MW-13-28	11/30/2015	99	115.5	864.42	861.61	115.20	74.29	790.13
MW-13-29	6/1/2015	68	73	862.81	859.81	76.32	69.50	793.31
MW-13-29	11/30/2015	68	73	862.81	859.81	76.30	69.89	792.92
MW-13-30	6/1/2015	72	77	864.53	861.66	79.85	71.70	792.83
MW-13-30	11/30/2015	72	77	864.53	861.66	79.80	71.92	792.61
MW-13-31	6/1/2015	5	10	861.27	858.36	12.80	11.72	849.55
MW-13-31	9/8/2015	5	10	861.27	858.36	12.80	8.68	852.59
MW-13-31	12/1/2015	5	10	861.27	858.36	12.80	11.93	849.34
MW-13-31	3/14/2016	5	10	861.27	858.36	12.80	8.74	852.53
MW-13-32	6/1/2015	5	10	860.11	857.32	12.65	8.46	851.65
MW-13-32	9/8/2015	5	10	860.11	857.32	12.65	7.22	852.89
MW-13-32	12/1/2015	5	10	860.11	857.32	12.65	8.69	851.42
MW-13-32	3/14/2016	5	10	860.11	857.32	12.65	7.09	853.02
MW-13-33	6/1/2015	12	17	860.71	857.69	19.21	16.22	844.49
MW-13-33	12/1/2015	12	17	860.71	857.69	19.20	17.34	843.37
MW-13-34	6/1/2015	74	79	853.92	851.82	79.95	70.34	783.58
MW-13-34	11/30/2015	74	79	853.92	851.82	79.90	70.52	783.40
MW-13-37	6/1/2015	97	112	866.02	863.75	114.45	74.60	791.42

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Well ID:	Date Collected:	Screened Interval Top (ft bgs)	Screened Interval Bottom (ft bgs)	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Groundwater Elevation (msl):
MW-13-37	11/30/2015	97	112	866.02	863.75	115.80	75.44	790.58
MW-13-38	6/1/2015	107	124	866.47	863.71	126.34	75.36	791.11
MW-13-38	11/30/2015	107	124	866.47	863.71	127.30	76.26	790.21
MW-13-39B	6/1/2015	97	112	860.20	857.33	106.55	68.89	791.31
MW-13-39B	11/30/2015	97	112	860.20	857.33	105.30	69.72	790.48
MW-13-40	6/1/2015	72	77	862.67	859.69	78.70	66.21	796.46
MW-13-40	11/30/2015	72	77	862.67	859.69	78.65	66.74	795.93
MW-13-41	6/1/2015	77	82	866.38	863.68	84.74	66.17	800.21
MW-13-41	11/30/2015	77	82	866.38	863.68	84.80	66.44	799.94
MW-13-46	6/1/2015	68	73	854.54	852.12	74.65	68.29	786.25
MW-13-46	11/30/2015	68	73	854.54	852.12	74.65	68.75	785.79
MW-13-47	6/1/2015	99	119	853.74	851.89	113.60	69.97	783.77
MW-13-47	11/30/2015	99	119	853.74	851.89	113.70	69.75	783.99
MW-13-48	6/1/2015	65	70	854.83	852.17	73.07	61.26	793.57
MW-13-48	11/30/2015	65	70	854.83	852.17	73.10	61.25	793.58
MW-13-49	6/1/2015	73	78	853.01	850.55	81.65	70.44	782.57
MW-13-49	11/30/2015	73	78	853.01	850.55	81.65	70.73	782.28
MW-14-64	6/1/2015	98.6	103.6	864.56	861.77	106.28	73.50	791.06
MW-14-64	11/30/2015	98.6	103.6	864.56	861.77	106.30	73.73	790.83
MW-14-65	6/1/2015	5	10	866.34	863.71	13.30	6.30	860.04
MW-14-65	11/30/2015	5	10	866.34	863.71	13.25	6.51	859.83
MW-15-71	6/1/2015	110	115	864.56	861.58	118.33	70.96	793.60
MW-15-71	9/8/2015	110	115	864.56	861.58	118.29	70.66	793.90
MW-15-71	11/30/2015	110	115	864.56	861.58	118.30	71.42	793.14
MW-15-71	3/14/2016	110	115	864.56	861.58	118.25	71.09	793.47
MW-19	6/1/2015	55	65	859.74	859.92	64.30	54.77	804.97
MW-19	11/30/2015	55	65	859.74	859.92	64.35	54.81	804.93
MW-22	6/1/2015	52.5	62.5	859.69	860.08	63.40	53.81	805.88
MW-22	11/30/2015	52.5	62.5	859.69	860.08	63.45	53.81	805.88
MW-23	6/1/2015	52	62	859.45	859.76	61.39	52.80	806.65
MW-23	11/30/2015	52	62	859.45	859.76	61.40	52.65	806.80
MW-88-1	6/1/2015	103.5	140	858.75	859.06	137.29	71.74	787.01
MW-88-1	11/30/2015	103.5	140	858.75	859.06	137.35	72.78	785.97
MW-91-2	6/1/2015	68	78	863.62	863.88	76.61	62.54	801.08
MW-91-2	11/30/2015	68	78	863.62	863.88	76.60	62.75	800.87
MW-91-3	6/1/2015	105	117	860.81	859.35	119.15	71.96	788.85
MW-91-3	11/30/2015	105	117	860.81	859.35	119.15	72.89	787.92
MW-91-4	6/1/2015	116	132.5	855.59	855.93	130.75	63.33	792.26
MW-91-4	11/30/2015	116	132.5	855.59	855.93	130.65	64.15	791.44
MW-91-5	6/1/2015	112.5	128	860.61	861.20	126.58	67.19	793.42
MW-91-5	11/30/2015	112.5	128	860.61	861.20	126.55	67.53	793.08
MW-91-6	6/1/2015	82	98	851.84	852.22	96.35	66.18	785.66
MW-91-6	11/30/2015	82	98	851.84	852.22	NM	66.37	785.47
P3-SB-07	6/1/2015	11	16	866.84	863.63	19.65	9.26	857.58
P3-SB-07	11/30/2015	11	16	866.84	863.63	19.65	9.69	857.15
P3-SB-28	6/1/2015	8	13	866.43	863.63	10.40	6.00	860.43
P3-SB-28	11/30/2015	8	13	866.43	863.63	10.35	6.71	859.72
PW-14-03	6/1/2015	79.6	84.6	864.31	861.55	94.30	76.02	788.29
PW-14-03	11/30/2015	79.6	84.6	864.31	861.55	94.35	76.39	787.92
TW-14-06	6/1/2015	80	87	864.20	861.44	89.31	74.97	789.23
TW-14-07	6/1/2015	83	88	864.45	861.44	91.35	74.81	789.64
TW-14-08	6/1/2015	84	89	864.30	861.42	91.45	74.93	789.37
TW-14-09	6/1/2015	84	89	864.39	861.71	91.85	75.43	788.96
TW-15-10	6/1/2015	85	90	864.81	861.45	94.51	75.34	789.47
TW-15-11	6/1/2015	85	90	864.51	861.60	93.20	75.68	788.83
UNK-09	6/1/2015	11	16	859.42	860.02	15.28	2.67	856.75
UNK-09	11/30/2015	11	16	859.42	860.02	15.29	2.74	856.68
UNK-10	6/1/2015	11	16	859.34	860.05	15.34	3.01	856.33
UNK-10	11/30/2015	11	16	859.34	860.05	15.35	3.20	856.14
UNK-11	6/1/2015	6.5	11.5	859.91	860.17	11.74	5.02	854.89
UNK-11	11/30/2015	6.5	11.5	859.91	860.17	11.75	5.13	854.78
UNK-13	6/1/2015	11	16	859.11	859.91	14.98	4.09	855.02
UNK-13	9/8/2015	11	16	859.11	859.91	15.00	3.93	855.18
UNK-13	11/30/2015	11	16	859.11	859.91	14.98	4.18	854.93
UNK-13	3/14/2016	11	16	859.11	859.91	15.00	3.84	855.27
UNK-14	6/1/2015	10.4	15.4	859.32	859.70	14.73	3.35	855.97
UNK-14	9/8/2015	10.4	15.4	859.32	859.70	NM	3.27	856.18*
UNK-14	11/30/2015	10.4	15.4	859.32	859.70	NM	4.03	855.62*
UNK-14	3/14/2016	10.4	15.4	859.32	859.70	NM	3.01	856.72*
UNK-15	6/1/2015	11	16	859.56	859.94	15.63	3.04	856.52
UNK-15	11/30/2015	11	16	859.56	859.94	15.65	3.34	856.22
Plant 6								
MW-02-01(6)	6/1/2015	35	45	865.54	863.35	40.10	28.78	836.76
MW-02-01(6)	11/30/2015	35	45	865.54	863.35	40.11	27.94	837.60
MW-02-02(6)	6/1/2015	35	45	868.04	868.41	43.45	30.66	837.38
MW-02-02(6)	11/30/2015	35	45	868.04	868.41	43.44	30.07	837.97
MW-02-03(6)	6/1/2015	35	45	869.54	869.97	44.70	31.60	837.94
MW-02-03(6)	11/30/2015	35	45	869.54	869.97	44.70	30.38	839.16
MW-03-01	6/1/2015	28	33	861.37	861.88	33.31	24.40	836.97
MW-03-01	11/30/2015	28	33	861.37	861.88	33.31	23.57	837.80
MW-03-02	6/1/2015	30	40	864.52	864.76	39.40	23.59	840.93
MW-03-02	11/30/2015	30	40	864.52	864.76	39.38	22.88	841.64
MW-03-04	6/1/2015	33	43	865.28	865.53	42.72	23.89	841.39

Table 5
Summary of Groundwater Elevations
June 2015 to March 2016
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Well ID:	Date Collected:	Screened Interval Top (ft bgs)	Screened Interval Bottom (ft bgs)	Reference Elevation (TOC):	Ground Surface Elevation:	Total Well Depth (ft. below TOC):	Depth to Water (ft. below TOC):	Groundwater Elevation (msl):
MW-03-04	11/30/2015	33	43	865.28	865.53	42.70	22.92	842.36
MW-03-06	6/1/2015	30	40	870.45	870.80	40.60	36.56	833.89
MW-03-06	11/30/2015	30	40	870.45	870.80	40.60	36.31	834.14
MW-03-07	6/1/2015	30	40	866.88	867.02	40.55	27.36	839.52
MW-03-07	11/30/2015	30	40	866.88	867.02	40.48	29.65	837.23
MW-03-08	6/4/2015	35	45	869.03	869.39	NM	35.05	833.98
MW-04-01(6)	6/1/2015	78	88	866.85	867.15	89.05	76.98	789.87
MW-04-01(6)	11/30/2015	78	88	866.85	867.15	88.00	77.45	789.40
MW-04-04R	6/1/2015	82	110	873.31	870.64	NM	83.43	789.88
MW-04-04R	11/30/2015	82	110	873.31	870.64	111.08	83.80	789.51
MW-04-05(6)	6/1/2015	20	30	858.33	858.87	29.65	10.64	847.69
MW-04-05(6)	12/1/2015	20	30	858.33	858.87	29.68	9.92	848.41
MW-04-06R	6/1/2015	74	99.5	861.56	858.59	81.00	72.65	788.91
MW-04-06R	11/30/2015	74	99.5	861.56	858.59	78.16	73.22	788.34
MW-12-10	6/1/2015	8	13	860.89	858.82	17.99	11.10	849.79
MW-12-10	12/8/2015	8	13	860.89	858.82	17.98	11.52	849.37
MW-12-11	6/1/2015	13	18	857.26	857.68	16.84	6.05	851.21
MW-12-11	11/30/2015	13	18	857.26	857.68	16.82	5.82	851.44
MW-12-12	6/1/2015	13	18	874.34	874.61	17.25	8.04	866.30
MW-12-12	11/30/2015	13	18	874.34	874.61	17.23	7.32	867.02
MW-12-13	6/1/2015	18.5	23.5	882.60	880.51	25.45	10.90	871.70
MW-12-13	11/30/2015	18.5	23.5	882.60	880.51	25.44	10.34	872.26
MW-12-14	6/1/2015	25	30	872.56	869.28	32.10	26.30	846.26
MW-12-14	11/30/2015	25	30	872.56	869.28	32.09	25.53	847.03
MW-12-15	6/1/2015	18	23	865.23	865.49	22.70	20.23	845.00
MW-12-15	11/30/2015	18	23	865.23	865.49	22.69	19.83	845.40
MW-12-16	6/1/2015	28	33	864.24	864.73	32.21	23.59	840.65
MW-12-16	11/30/2015	28	33	864.24	864.73	32.20	23.45	840.79
MW-13-35	6/1/2015	25	30	864.81	865.23	29.50	24.32	840.49
MW-13-35	11/30/2015	25	30	864.81	865.23	29.52	24.22	840.59
MW-13-36R	6/1/2015	5.5	10.5	878.04	875.28	12.96	6.96	871.08
MW-13-36R	11/30/2015	5.5	10.5	878.04	875.28	12.88	6.09	871.95
MW-13-50	6/1/2015	85	107	872.85	869.93	110.00	86.55	786.30
MW-13-50	11/30/2015	85	107	872.85	869.93	110.00	86.50	786.35
MW-13-52	6/1/2015	70	80	872.50	869.84	81.45	71.50	801.00
MW-13-52	11/30/2015	70	80	872.50	869.84	82.00	71.40	801.10
MW-13-53	6/1/2015	73	83	875.56	873.10	85.45	78.30	797.26
MW-13-53	11/30/2015	73	83	875.56	873.10	85.50	78.22	797.34
MW-14-66	6/1/2015	14	19	877.85	874.73	22.25	5.45	872.40
MW-14-66	11/30/2015	14	19	877.85	874.73	22.24	4.60	873.25
MW-14-67	6/1/2015	13	18	877.76	875.07	20.85	6.60	871.16
MW-14-67	11/30/2015	13	18	877.76	875.07	20.84	5.83	871.93
MW-14-68	6/1/2015	36	41	878.44	875.42	44.09	DRY	DRY
MW-14-68	11/30/2015	36	41	878.44	875.42	44.10	DRY	DRY
MW-14-69	6/1/2015	41	46	883.62	880.72	49.01	DRY	DRY
MW-14-69	11/30/2015	41	46	883.62	880.72	49.02	DRY	DRY
MW-14-70	6/1/2015	16	21	882.79	880.08	23.20	11.48	871.31
MW-14-70	11/30/2015	16	21	882.79	880.08	23.14	10.95	871.84
MWBP-10-UST5-6	6/1/2015	28	38	867.70	867.99	36.90	31.60	836.10
MWBP-10-UST5-6	11/30/2015	28	38	867.70	867.99	36.85	31.40	836.30
MWBP-11-UST1-4	6/1/2015	9	19	868.66	869.07	11.24	2.50	866.16
MWBP-11-UST1-4	11/30/2015	9	19	868.66	869.07	11.26	2.31	866.35
MWBP-12A-UST1-4	6/1/2015	28	38	869.74	869.96	36.85	30.53	839.21
MWBP-12A-UST1-4	11/30/2015	28	38	869.74	869.96	36.61	30.40	839.34
MWBP-12-UST1-4	6/1/2015	15	25	870.02	870.58	11.29	7.25	862.77
MWBP-12-UST1-4	11/30/2015	15	25	870.02	870.58	11.28	7.19	862.83
MWBP-12-UST5-6	6/1/2015	28	38	NS	NS	38.50	33.00	NS
MWBP-12-UST5-6	11/30/2015	28	38	NS	NS	38.50	32.74	NS
MWBP-13A-UST1-4	6/1/2015	28	38	869.99	870.10	38.01	33.12	836.87
MWBP-13A-UST1-4	11/30/2015	28	38	869.99	870.10	38.03	32.90	837.09
P6-MW-01	6/1/2015	23	28	870.10	866.87	31.23	29.51	840.59
P6-MW-01	11/30/2015	23	28	870.10	866.87	31.21	29.32	840.78
P6-SB-07	6/1/2015	15	20	877.36	874.36	23.65	8.31	869.05
P6-SB-07	11/30/2015	15	20	877.36	874.36	23.63	7.09	870.27
P6-SB-18	6/1/2015	3	8	878.46	874.60	12.16	4.41	874.05
P6-SB-18	11/30/2015	3	8	878.46	874.60	12.18	4.29	874.17
P6-SB-21	6/1/2015	3	8	874.20	870.92	11.13	2.72	871.48
P6-SB-21	11/30/2015	3	8	874.20	870.92	11.13	2.73	871.47
P6-SB-32	6/1/2015	7	12	877.79	873.79	16.49	9.21	868.58
P6-SB-32	11/30/2015	7	12	877.79	873.79	16.48	10.18	867.61
P6-SB-35	6/1/2015	3	8	877.76	874.28	11.98	4.25	873.51
P6-SB-35	11/30/2015	3	8	877.76	874.28	11.98	4.10	873.66
P6-SB-37	6/1/2015	5	10	878.12	874.32	13.93	5.63	872.49
P6-SB-37	11/30/2015	5	10	878.12	874.32	13.94	5.32	872.80
SME-MW-02	6/1/2015	33	38	869.30	NS	37.29	34.15	835.15
SME-MW-02	11/30/2015	33	38	869.30	NS	37.30	33.86	835.44

Note:
* Groundwater elevations have been corrected for the presence of LNAPL using a measured LNAPL density of 0.8995 grams per milliliter.
** Depth to water did not register on interface probe due to high LNAPL viscosity.
NM = not collected or not available
ft bgs = feet below ground surface
ID = identification
NA = not applicable
NS = not surveyed
TOC = top of casing

Table 6
Summary of Bedrock Vertical Gradient
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

		Screen (feet below grade)			Ref Elev (ft msl)	GW Elev 11-30-15 (ft msl)	Vertical Gradient (ft/ft)	Formation
		Top	Bottom	Mid-point				
Plant 2								
MW-14-63	W. Bedrock	68	73	70.5	854.64	781.74	0.05	GR Fm
MW-12-02	Bedrock	87	110	98.5	853.91	780.41		
MW-13-43	W. Bedrock	72	77	74.5	863.82	792.22	0.36	Sag Fm
MW-13-44	Bedrock	96	115	105.5	864.24	780.99		
MW-14-61	W. Bedrock	70	75	72.5	865.51	792.11	0.39	Sag Fm
MW-12-06	Bedrock	80.6	99.5	90.05	864.64	785.24		
MW-13-52	W. Bedrock	70	80	75	872.50	801.10	0.70	Sag Fm
MW-13-50	Bedrock	85	107	96	872.85	786.35		
Plant 3								
MW-13-22	W. Bedrock	89	94	91.5	864.37	790.86	0.05	GR Fm
MW-13-28	Bedrock	99	115.5	107.25	864.42	790.13		
MW-13-46	W. Bedrock	68	73	70.5	854.54	785.79	0.02	GR Fm
MW-91-6	Bedrock	82	98	90	851.84	785.47		
MW-04-03	Deep Overburden	80	90	85	860.72	793.13	0.01	GR Fm
MW-04-02	Bedrock	126	136	131	861.09	792.46		
MW-04-04	Deep Overburden	72	82	77	855.72	793.47	0.04	GR Fm
MW-91-4	Bedrock	116	132.5	124.25	855.59	791.44		
MW-13-41	Deep Overburden	77	82	79.5	866.38	799.94	0.27	Sag Fm
MW-13-38	Bedrock	107	124	115.5	866.47	790.21		

Notes:

ft/ft = foot per foot
GW = groundwater
GR Fm - Grand River Formation
Sag Fm - Saginaw Formation
ft msl - feet above mean sea level

Vertical Gradient Geometric Mean Sag Fm	0.40
Vertical Gradient Geometric Mean GR Fm	0.03

Table 7
Complete Mann-Kendall Trend Test Results
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

ARCADIS Design & Consultancy for natural and built assets

Analyte	WellID	Start Date	End Date	Most Recent Result	Sample Size (*n*)	Minimum Result	Maximum Result	Standard Deviation	Arithmetic Mean	Geometric Mean	Sum of Trend (*S*)	Probability (*p*)	90% Trend	% of Detects
Bedrock														
Metals														
Arsenic	MW-04-02(3)	10/11/2011	02/11/2014	0.014	6.00	<0.002	0.014	0.004	0.008	0.007	11	0.0280	Increasing	83%
Arsenic	MW-04-04R	08/23/2013	06/08/2015	0.020	8.00	0.019	0.043	0.008	0.024	0.023	5	0.3170	No Trend	100%
Arsenic	MW-04-06R	08/23/2013	03/24/2015	0.030	7.00	0.009	0.03	0.006	0.021	0.020	6	0.2360	No Trend	100%
Arsenic	MW-12-01	04/18/2012	02/17/2014	0.022	6.00	<0.002	0.022	0.005	0.012	0.011	8	0.1020	No Trend	83%
Arsenic	MW-12-02	04/17/2012	02/13/2014	0.012	6.00	0.007	0.023	0.006	0.012	0.011	-5	0.2350	No Trend	100%
Arsenic	MW-12-04	04/17/2012	11/05/2013	0.010	5.00	<0.002	0.011	0.001	0.011	0.010	-3	0.3250	No Trend	80%
Arsenic	MW-13-28	04/23/2013	02/10/2014	0.002	5.00	0.002	0.021	0.007	0.009	0.007	-10	0.0083	Decreasing	100%
Arsenic	MW-91-4	04/17/2012	02/10/2014	0.005	5.00	0.005	0.014	0.003	0.011	0.010	-5	0.1800	No Trend	100%
Arsenic	MW-91-5	10/12/2011	02/07/2014	0.011	6.00	<0.002	0.011	0.001	0.010	0.010	9	0.0680	Increasing	83%
Copper	MW-12-01	04/18/2012	02/17/2014	0.064	6.00	<0.005	0.064	0.024	0.015	0.007	4	0.2980	No Trend	67%
Copper	MW-12-05	10/04/2012	02/18/2014	0.008	7.00	<0.002	0.045	0.014	0.013	0.009	-1	0.5000	No Trend	86%
Copper	MW-88-1	03/27/2012	02/06/2014	0.018	6.00	<0.005	0.041	0.012	0.017	0.015	-4	0.2980	No Trend	67%
Manganese	MW-04-01(3)	10/12/2011	06/04/2015	0.022	7.00	0.021	0.35	0.122	0.075	0.040	-4	0.3335	No Trend	100%
Manganese	MW-04-01(6)	10/18/2011	06/04/2015	0.199	6.00	0.199	0.624	0.169	0.406	0.372	-1	0.5000	No Trend	100%
Manganese	MW-04-02(3)	10/11/2011	02/11/2014	0.456	6.00	<0.010	0.456	0.074	0.317	0.311	5	0.2350	No Trend	83%
Manganese	MW-04-04R	08/23/2013	06/08/2015	0.033	4.00	0.033	0.059	0.011	0.048	0.047	-2	0.3750	No Trend	100%
Manganese	MW-12-01	04/18/2012	06/10/2015	0.120	7.00	0.058	0.427	0.133	0.186	0.148	5	0.2810	No Trend	100%
Manganese	MW-12-02	04/17/2012	06/02/2015	0.320	7.00	0.126	0.32	0.083	0.207	0.193	3	0.3860	No Trend	100%
Manganese	MW-12-03	02/21/2012	11/06/2013	0.965	4.00	0.072	0.965	0.420	0.479	0.309	4	0.1670	No Trend	100%
Manganese	MW-12-04	04/17/2012	11/05/2013	0.111	5.00	0.111	0.431	0.139	0.182	0.154	-2	0.4080	No Trend	100%
Manganese	MW-12-05	10/04/2012	06/08/2015	0.106	8.00	0.076	0.904	0.283	0.208	0.137	-10	0.1380	No Trend	100%
Manganese	MW-12-06	10/03/2012	06/10/2015	0.048	8.00	0.040	0.337	0.099	0.097	0.074	-8	0.1990	No Trend	100%
Manganese	MW-13-28	04/23/2013	02/10/2014	<0.005	5.00	<0.005	0.118	0.047	0.039	0.022	-8	0.0420	Decreasing	80%
Manganese	MW-88-1	03/27/2012	02/06/2014	0.031	6.00	0.026	0.062	0.014	0.034	0.032	-7	0.1360	No Trend	100%
Manganese	MW-91-3	10/19/2011	02/13/2014	0.023	6.00	0.015	0.023	0.003	0.017	0.017	-2	0.4300	No Trend	100%
Manganese	MW-91-4	04/17/2012	06/02/2015	0.331	6.00	0.309	0.36	0.022	0.332	0.331	-1	0.5000	No Trend	100%
Manganese	MW-91-5	10/12/2011	02/07/2014	0.078	6.00	0.078	0.234	0.062	0.108	0.098	-3	0.3600	No Trend	100%
Zinc	MW-04-02(3)	10/11/2011	02/11/2014	0.177	6.00	0.006	0.471	0.176	0.137	0.059	1	0.5000	No Trend	100%
Volatile Organic Compounds														
Vinyl chloride	MW-04-02(3)	10/11/2011	02/11/2014	12	7	<1	15	3.773	10.100	9.448	-2	0.4430	No Trend	86%
Vinyl chloride	MW-91-4	04/17/2012	02/10/2014	8	6	8	18	3.971	12.833	12.322	-11	0.0280	Decreasing	100%
Perched														
Metals														
Antimony	P6-SB-18	08/08/2011	11/11/2013	0.006	5	0.005	0.008	0.001	0.006	0.006	-1	0.5000	No Trend	100%
Arsenic	MW-02-01(6)	10/17/2011	11/14/2013	0.037	5	0.014	0.037	0.012	0.026	0.024	3	0.3250	No Trend	100%
Arsenic	MW-02-02(6)	10/18/2011	02/19/2014	0.041	6	0.025	0.051	0.011	0.037	0.036	3	0.3600	No Trend	100%
Arsenic	MW-02-03(6)	10/18/2011	12/09/2015	0.059	10	0.007	0.109	0.034	0.057	0.044	15	0.1080	No Trend	100%
Arsenic	MW-03(2)	10/18/2011	12/08/2015	0.009	12	<0.002	0.015	0.005	0.007	0.006	23	0.0604	Increasing	83%
Arsenic	MW-03-01	10/17/2011	12/07/2015	0.035	12	0.005	0.047	0.013	0.027	0.023	24	0.0565	Increasing	100%
Arsenic	MW-03-02	10/17/2011	02/18/2014	0.023	6	0.005	0.025	0.008	0.017	0.015	10	0.0480	Increasing	100%
Arsenic	MW-03-04	10/17/2011	02/18/2014	0.022	6	0.017	0.024	0.002	0.021	0.021	-2	0.4300	No Trend	100%
Arsenic	MW-03-06	10/07/2011	12/08/2015	0.025	10	0.005	0.033	0.009	0.017	0.015	22	0.0300	Increasing	100%
Arsenic	MW-03-07	10/18/2011	02/19/2014	0.020	6	0.013	0.049	0.013	0.023	0.020	-2	0.4300	No Trend	100%
Arsenic	MW-03-08	12/02/2011	11/15/2013	0.009	4	<0.002	0.034	0.013	0.015	0.012	-2	0.3750	No Trend	75%
Arsenic	MW-12-11	12/18/2012	12/04/2015	0.010	9	0.004	0.013	0.004	0.008	0.008	1	0.5000	No Trend	100%
Arsenic	MW-12-16	12/18/2012	12/02/2015	0.027	7	0.011	0.027	0.006	0.019	0.018	12	0.0515	Increasing	100%
Arsenic	MW-13-35	09/20/2013	12/02/2015	0.003	7	0.003	0.012	0.003	0.006	0.006	-10	0.0935	Decreasing	100%
Arsenic	MW-14-58	09/17/2014	12/03/2015	0.008	5	0.005	0.011	0.002	0.008	0.008	1	0.5000	No Trend	100%
Arsenic	MWBP-10A-UST1-4	12/02/2011	02/19/2014	0.018	6	0.018	0.038	0.008	0.028	0.027	-7	0.1360	No Trend	100%
Arsenic	MWBP-10-UST1-4	12/02/2011	02/20/2014	0.054	6	0.037	0.062	0.009	0.052	0.052	1	0.5000	No Trend	100%
Arsenic	MWBP-11-UST1-4	11/29/2011	12/01/2015	0.022	10	0.016	0.032	0.005	0.023	0.023	-11	0.1900	No Trend	100%
Arsenic	MWBP-12A-UST1-4	12/02/2011	12/02/2015	0.012	9	0.003	0.021	0.005	0.013	0.012	2	0.4600	No Trend	100%
Arsenic	MWBP-12-UST1-4	10/18/2011	12/01/2015	0.017	10	0.006	0.018	0.004	0.014	0.013	16	0.0930	Increasing	100%
Arsenic	P2-MW-01	08/29/2011	02/13/2014	0.018	7	<0.002	0.018	0.005	0.010	0.009	8	0.1550	No Trend	71%
Arsenic	P2-MW-02	09/07/2011	02/17/2014	0.003	7	<0.002	0.0327	0.011	0.008	0.004	-10	0.0935	Decreasing	86%
Arsenic	P2-SB-03	12/20/2012	02/14/2014	0.024	5	0.020	0.028	0.003	0.024	0.024	-3	0.3250	No Trend	100%
Arsenic	P2-SB-20	08/31/2011	02/13/2014	0.022	6	0.001	0.035	0.013	0.019	0.012	7	0.1360	No Trend	100%
Arsenic	P6-SB-18	08/08/2011	12/07/2015	0.004	9	0.003	0.0145	0.004	0.007	0.006	-20	0.0220	Decreasing	100%
Arsenic	P6-SB-21	08/04/2011	02/20/2014	0.003	6	0.003	0.0293	0.011	0.008	0.005	-8	0.1020	No Trend	100%
Arsenic	P6-SB-32	12/19/2012	06/09/2015	0.012	10	0.008	0.02	0.004	0.014	0.014	-3	0.4310	No Trend	100%
Arsenic	P6-SB-35	12/19/2012	12/03/2015	0.008	8	0.004	0.015	0.003	0.009	0.009	3	0.4060	No Trend	100%
Arsenic	UNK-09	10/19/2011	12/03/2015	0.004	12	0.004	0.026	0.007	0.015	0.013	2	0.4725	No Trend	100%
Arsenic	UNK-11	11/29/2011	02/11/2014	0.013	6	<0.002	0.015	0.003	0.011	0.011	4	0.2980	No Trend	83%
Barium	MW-02-01(6)	10/17/2011	11/14/2013	1.69	5	0.941	1.74	0.344	1.360	1.325	8	0.0420	Increasing	100%
Barium	MW-02-03(6)	10/18/2011	02/19/2014	1.31	6	0.935	1.31	0.159	1.133	1.124	9	0.0680	Increasing	100%
Boron	P2-MW-04	08/25/2011	02/17/2014	0.57	6	0.10	0.57	0.211	0.312	0.248	11	0.0280	Increasing	100%
Boron	P3-SB-07	08/18/2011	02/12/2014	0.98	6	0.91	1.22	0.109	1.027	1.022	-6	0.1860	No Trend	100%
Chromium	CH-14-RO	08/22/2011	12/02/2015	11.1	10	11.1	27.1	4.802	19.170	18.598	-34	0.0008	Decreasing	100%
Chromium	MW-13-32	08/27/2013	03/15/2016	0.189	11	<0.005	1.43	0.411	0.275	0.104	1	0.5000	No Trend	91%
Chromium VI (hexavalent)	CH-14-RO	08/22/2011	12/02/2015	11.8	10	11.8	28.4	5.484	20.170	19.488	-37	0.0002	Decreasing	100%
Copper	MW-01(2)	10/18/2011	12/08/2015	0.005	10	0.005	0.032	0.008	0.013	0.011	-21	0.0360	Decreasing	100%
Copper	MW-02-01(6)	10/17/2011	11/14/2013	0.040	5	<0.005	0.065	0.026	0.026	0.016	-4	0.2420	No Trend	80%
Copper	MW-02-03(6)	10/18/2011	12/09/2015	0.007	10	<0.002	0.082	0.024	0.019	0.012	1	0.5000	No Trend	90%
Copper	MW-03-08	12/02/2011	11/15/2013	0.021	4	0.018	0.025	0.003	0.022	0.022	-2	0.3750	No Trend	100%
Copper	MW-13-31	11/07/2013	03/15/2016	0.006	10	0.006	0.266	0.090	0.063	0.022	3	0.4310	No Trend	100%
Copper	MW-13-32	08/27/2013	03/15/2016	0.011	11	0.007	0.067	0.018	0.022	0.018	-27	0.0215	Decreasing	100%
Copper	MW-13-36R	12/18/2013	12/02/2015	<0.005	8	<0.005	0.028	0.009	0.013	0.011	-2	0.4520	No Trend	75%
Copper	MW-14-65	09/17/2014	12/07/2015	0.006	5	0.006	0.041	0.016	0.020	0.015	-8	0.0420	Decreasing	100%
Copper	MW-14-67	09/18/2014	12/03/2015	0.009	5	0.006	0.026	0.009	0.011	0.009	1	0.5000	No Trend	100%
Copper	MWBP-10A-UST1-4	12/02/2011	02/19/2014	0.015	6	<0.005	0.061	0.022	0.019	0.010	1	0.5000	No Trend	83%
Copper	MWBP-11-UST1-4	11/29/2011	12/01/2015	0.012	10	0.006	0.032	0.008	0.014	0.013	-20	0.0450	Decreasing	100%
Copper	P2-SB-20	08/31/2011	02/13/2014	0.009	6	0.004	0.029	0.009	0.012	0.010	2	0.4300	No Trend	100%
Copper	P6-SB-18	08/08/2011	12/07/2015	0.018	9	0.018	0.079	0.020	0.043	0.039	-12	0.1300	No Trend	100%
Copper	UNK-03	06/12/2013	02/20/2014	0.012	4	0.005	0.012	0.003	0.008	0.007	1	0.5000	No Trend	100%
Lead	MW-02-01(6)	10/17/2011	11/14/2013	0.012	5	<0.003	0.016	0.007	0.007	0.005	-4	0.2420	No Trend	80%
Lead	MW-02-03(6)	10/18/2011	12/09/2015	0.005	10	<0.003	0.026	0.007	0.007	0.005	2	0.4660	No Trend	80%
Lead	MW-03-08	12/02/2011	11/15/2013	0.012	4	0.004	0.012	0.004	0.009	0.009	2	0.3750	No Trend	100%
Lead	MWBP-10A-UST1-4	12/02/2011	02/19/2014	0.007	6	0.004	0.032	0.010	0.012	0.010	0	0.5770	No Trend	100%
Lead	MWBP-11-UST1-4	11/29/2011	12/01/2015	<0.003	10	<0.003	0.018	0.005	0.006	0.005	-18	0.0660	Decreasing	80%
Lead	P2-SB-20	08/31/2011	02/13/2014	<0.003	6	<0.003	0.018	0.006	0.007	0.005	-10	0.0480	Decreasing	67%
Lead	P6-SB-18	08/08/2011	12/07/2015	0.016	9	0.016	1.49	0.474	0.237	0.083	-14	0.0900	Decreasing	100%
Manganese	CH-14-RO	08/22/2011	06/08/2015	0.007	7	<0.010	0.068	0.023	0.017	0.011	-3	0.3860	No Trend	86%
Manganese	MW-01(2)	10/18/2011	06/04/2015	0.122	7	0.020	0.169	0.048	0.100	0.085	-1	0.5000	No Trend	100%
Manganese	MW-02 (UNK-12)	10/19/2011	02/13/2014	0.188	5	0.133	0.708	0.239	0.293	0.238	-6	0.1170	No Trend	100%
Manganese	MW-02(2)	10/18/2011	02/14/2014	0.122	6	0.020	0.165	0.054	0.086	0.069	5	0.2350	No Trend	100%
Manganese	MW-02-01(6)	10/17/2011	06/10/2015	0.308	6	0.103	0.399	0.106	0.233	0.213	13	0.0083	Increasing	100%
Manganese	MW-02-02(6)	10/18/2011	06/10/2015	0.114	7	0.114	0.478	0.136	0.171	0.146	-6	0.2360	No Trend	100%
Manganese	MW-02-03(6)	10/18/2011	06/08/2015	0.321	7	0.201	0.837	0.212	0.374	0.338	11	0.0680	Increasing	100%
Manganese	MW-03(2)	10/18/2011	06/04/2015	0.709	7	0.709	2.14	0.486	1.511	1.434	-15	0.0150	Decreasing	100%
Manganese	MW-03-01	10/17/2011	06/03/2015	0.248	7	0.207	0.294	0.030	0.257	0.255	3	0.3860	No Trend	100%
Manganese	MW-03-02	10/17/2011	02/18/2014	0.149	6	0.116	0.192	0.024	0.150	0.149	-3	0.3600	No Trend	100%
Manganese	MW-03-04	10/17/2011	06/04/2015	0.152	7	0.128	0.152	0.009	0.134	0.134	11	0.0680	Increasing	100%
Manganese	MW-03-06	10/07/2011	02/20/2014	0.276	6	0.276	0.446	0.058	0.347	0.343	-7	0.1360	No Trend	100%
Manganese	MW-03-07	10/18/2011	06/10/2015	0.075	7	0.050	0.08	0.010	0.070	0.070	9	0.1190	No Trend	100%
Manganese	MW-03-08	12/02/2011	06/04/2015	0.106	5	0.018	0.106	0.036	0.058	0.048	8	0.0420	Increasing	100%
Manganese	MW-04-05(6)	10/13/2011	06/03/2015	0.280	7	0.280	0.546	0.082	0.434	0.427	-17	0.0054	Decreasing	100%
Manganese	MW-05(3)	11/28/2011	02/11/2014	0.007	6	0.007	0.032	0.009	0.020	0.018	-9	0.0680	Decreasing	100%
Manganese	MW-06(3)	11/28/2011	02/11/2014	0.353	6	0.096	0.353	0.096	0.237	0.218	1	0.5000	No Trend	100%
Manganese	MW-12-07	12/19/2012	02/17/2014	0.005	5	<0.010	0.067	0.027	0.018	0.009	-3	0.3250	No Trend	80%

Table 7
Complete Mann-Kendall Trend Test Results
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

Analyte	WellID	Start Date	End Date	Most Recent Result	Sample Size (*n*)	Minimum Result	Maximum Result	Standard Deviation	Arithmetic Mean	Geometric Mean	Sum of Trend (*S*)	Probability (*p*)	90% Trend	% of Detects
Manganese	MW-12-08	12/20/2012	02/17/2014	0.584	5	0.496	0.672	0.073	0.567	0.564	-4	0.2420	No Trend	100%
Manganese	MW-12-09	12/19/2012	02/14/2014	0.638	5	0.552	0.722	0.078	0.634	0.630	-2	0.4080	No Trend	100%
Manganese	MW-12-10	12/18/2012	06/10/2015	0.507	6	0.273	1.33	0.405	0.810	0.711	-1	0.5000	No Trend	100%
Manganese	MW-12-11	12/18/2012	06/02/2015	0.734	6	0.734	0.973	0.082	0.851	0.847	-13	0.0083	Decreasing	100%
Manganese	MW-12-12	12/18/2012	06/04/2015	0.133	6	0.106	1.25	0.428	0.490	0.346	-1	0.5000	No Trend	100%
Manganese	MW-12-13	01/28/2013	06/11/2015	0.108	6	0.108	0.204	0.034	0.138	0.135	-11	0.0280	Decreasing	100%
Manganese	MW-12-14	12/21/2012	06/09/2015	0.358	6	0.313	0.394	0.032	0.359	0.358	-7	0.1360	No Trend	100%
Manganese	MW-12-15	12/18/2012	06/10/2015	0.324	5	0.020	0.341	0.141	0.272	0.190	-2	0.4080	No Trend	100%
Manganese	MW-12-16	12/18/2012	11/05/2013	0.308	4	0.308	0.46	0.070	0.358	0.353	-6	0.0420	Decreasing	100%
Manganese	MW-12-17	12/20/2012	06/10/2015	0.360	7	0.095	0.36	0.088	0.190	0.175	7	0.1910	No Trend	100%
Manganese	MW-12-18	12/19/2012	02/14/2014	0.077	4	0.077	0.247	0.078	0.133	0.119	-6	0.0420	Decreasing	100%
Manganese	MW-13-31	08/22/2013	06/03/2015	0.856	4	0.013	0.856	0.417	0.444	0.192	0	0.6250	No Trend	100%
Manganese	MW-13-33	08/23/2013	06/03/2015	0.013	4	0.013	1.38	0.660	0.394	0.095	-4	0.1670	No Trend	100%
Manganese	MW-14-54	09/19/2014	06/11/2015	0.014	4	0.014	0.028	0.007	0.024	0.023	-2	0.3750	No Trend	100%
Manganese	MW-14-55	09/18/2014	06/08/2015	0.117	4	0.016	2.3	1.122	0.618	0.113	0	0.6250	No Trend	100%
Manganese	MW-14-57	09/19/2014	06/08/2015	0.100	4	0.079	0.218	0.062	0.127	0.117	0	0.6250	No Trend	100%
Manganese	MW-14-58	09/17/2014	06/03/2015	0.961	4	0.782	1.01	0.101	0.906	0.902	0	0.6250	No Trend	100%
Manganese	MW-14-59	09/18/2014	06/04/2015	0.544	4	0.544	0.625	0.038	0.591	0.590	-4	0.1670	No Trend	100%
Manganese	MW-14-60	09/19/2014	12/07/2015	0.331	5	0.258	0.399	0.053	0.338	0.334	6	0.1170	No Trend	100%
Manganese	MW-14-65	09/17/2014	06/08/2015	0.028	4	0.028	0.177	0.074	0.108	0.085	-4	0.1670	No Trend	100%
Manganese	MW-14-66	09/18/2014	06/05/2015	0.843	4	0.692	0.843	0.063	0.755	0.753	4	0.1670	No Trend	100%
Manganese	MW-14-70	09/18/2014	06/05/2015	0.193	4	0.193	0.42	0.113	0.288	0.271	-2	0.3750	No Trend	100%
Manganese	MWBP-10A-UST1-4	12/02/2011	02/19/2014	0.020	6	0.020	0.055	0.014	0.033	0.031	-10	0.0480	Decreasing	100%
Manganese	MWBP-10-UST1-4	12/02/2011	02/20/2014	0.070	6	0.070	0.111	0.015	0.081	0.080	-1	0.5000	No Trend	100%
Manganese	MWBP-10-UST5-6	10/07/2011	02/17/2014	0.123	6	0.100	0.622	0.199	0.281	0.230	-9	0.0680	Decreasing	100%
Manganese	MWBP-11-UST1-4	11/29/2011	02/19/2014	0.127	6	0.021	0.263	0.093	0.090	0.059	-5	0.2350	No Trend	100%
Manganese	MWBP-12A-UST1-4	12/02/2011	06/09/2015	0.633	6	0.119	0.633	0.166	0.412	0.370	3	0.3600	No Trend	100%
Manganese	MWBP-12-UST1-4	10/18/2011	02/19/2014	0.126	6	0.088	0.419	0.121	0.175	0.152	-3	0.3600	No Trend	100%
Manganese	MWBP-12-UST5-6	10/10/2011	11/06/2013	0.237	5	0.237	0.322	0.036	0.262	0.260	-6	0.1170	No Trend	100%
Manganese	MWBP-13A-UST1-4	10/18/2011	02/19/2014	0.562	6	0.378	0.705	0.111	0.514	0.504	9	0.0680	Increasing	100%
Manganese	P2-MW-01	08/29/2011	02/13/2014	0.209	7	<0.010	0.211	0.046	0.158	0.153	7	0.1910	No Trend	86%
Manganese	P2-MW-02	09/07/2011	02/17/2014	0.203	7	0.061	0.317	0.102	0.176	0.148	3	0.3860	No Trend	100%
Manganese	P2-MW-03	08/31/2011	02/14/2014	0.193	7	0.135	0.369	0.083	0.208	0.197	7	0.1910	No Trend	100%
Manganese	P2-MW-04	08/25/2011	06/02/2015	0.147	7	<0.010	0.159	0.018	0.138	0.137	11	0.0680	Increasing	86%
Manganese	P2-SB-03	12/20/2012	06/09/2015	0.055	6	0.042	0.077	0.015	0.056	0.055	5	0.2350	No Trend	100%
Manganese	P2-SB-20	08/31/2011	02/13/2014	0.020	6	0.013	0.177	0.064	0.065	0.043	-9	0.0680	Decreasing	100%
Manganese	P3-SB-07	08/18/2011	06/04/2015	0.012	7	<0.010	0.178	0.063	0.053	0.031	-7	0.1910	No Trend	86%
Manganese	P3-SB-28	08/23/2011	06/09/2015	0.209	7	0.102	0.287	0.065	0.195	0.185	9	0.1190	No Trend	100%
Manganese	P6-SB-07	08/10/2011	02/20/2014	0.040	6	0.028	0.067	0.014	0.049	0.047	-1	0.5000	No Trend	100%
Manganese	P6-SB-21	08/04/2011	02/20/2014	0.219	6	0.016	0.272	0.096	0.208	0.156	-3	0.3600	No Trend	100%
Manganese	P6-SB-32	12/19/2012	06/09/2015	0.212	6	0.159	0.572	0.168	0.331	0.297	-7	0.1360	No Trend	100%
Manganese	P6-SB-37	08/08/2011	02/20/2014	0.007	6	0.007	0.27	0.100	0.077	0.040	-3	0.3600	No Trend	100%
Manganese	SME-MW-02	08/23/2013	06/10/2015	0.225	4	0.015	0.359	0.150	0.175	0.105	0	0.6250	No Trend	100%
Manganese	UNK-03	06/12/2013	02/20/2014	0.119	4	0.119	0.582	0.250	0.337	0.259	0	0.6250	No Trend	100%
Manganese	UNK-09	10/19/2011	02/12/2014	0.048	6	0.016	0.052	0.014	0.038	0.035	11	0.0280	Increasing	100%
Manganese	UNK-10	10/19/2011	02/12/2014	0.145	6	0.090	0.451	0.138	0.215	0.182	1	0.5000	No Trend	100%
Manganese	UNK-11	11/29/2011	02/11/2014	0.261	6	0.094	0.263	0.065	0.202	0.191	3	0.3600	No Trend	100%
Manganese	UNK-15	11/29/2011	02/11/2014	0.048	5	0.013	0.075	0.023	0.049	0.043	2	0.4080	No Trend	100%
Nickel	MW-12-12	12/18/2012	12/04/2015	0.074	11	0.019	1.15	0.361	0.231	0.095	15	0.1379	No Trend	100%
Nickel	MW-12-18	12/19/2012	02/14/2014	0.006	4	0.006	0.104	0.050	0.053	0.030	-6	0.0420	Decreasing	100%
Nickel	MW-13-31	08/22/2013	03/15/2016	0.056	10	0.016	2.75	1.029	0.521	0.077	13	0.1460	No Trend	100%
Nickel	MW-13-32	08/27/2013	03/15/2016	1.90	11	0.043	4.66	1.450	1.689	0.945	21	0.0597	Increasing	100%
Nickel	MW-14-55	09/18/2014	12/04/2015	0.518	5	0.005	0.518	0.235	0.186	0.059	6	0.1170	No Trend	100%
Nickel	MWBP-13A-UST1-4	10/18/2011	02/19/2014	0.158	6	<0.010	0.158	0.052	0.053	0.040	9	0.0680	Increasing	83%
Vanadium	MW-12-15	12/18/2012	11/06/2013	0.004	4	<0.002	0.005	0.001	0.004	0.004	1	0.5000	No Trend	75%
Vanadium	MW-13-35	09/20/2013	12/02/2015	<0.005	7	<0.005	0.008	0.001	0.006	0.006	-13	0.0350	Decreasing	86%
Vanadium	MW-13-36R	12/18/2013	12/02/2015	0.009	8	<0.005	0.015	0.004	0.010	0.009	0	0.5480	No Trend	88%
Vanadium	MWBP-10A-UST1-4	12/02/2011	02/19/2014	0.03	6	0.026	0.033	0.003	0.030	0.030	0	0.5770	No Trend	100%
Vanadium	MWBP-10-UST1-4	12/02/2011	02/20/2014	0.049	6	0.034	0.072	0.016	0.056	0.054	3	0.3600	No Trend	100%
Vanadium	MWBP-12-UST1-4	10/18/2011	12/01/2015	0.008	10	0.003	0.011	0.002	0.008	0.007	12	0.1680	No Trend	100%
Vanadium	P6-SB-18	08/08/2011	12/07/2015	0.017	9	0.016	0.038	0.006	0.022	0.022	-2	0.4600	No Trend	100%
Vanadium	P6-SB-35	12/19/2012	12/03/2015	0.02	8	0.008	0.029	0.006	0.022	0.020	7	0.2370	No Trend	100%
Vanadium	UNK-03	06/12/2013	02/20/2014	<0.004	4	<0.004	0.007	0.001	0.006	0.006	-4	0.1670	No Trend	75%
Volatile Organic Compounds														
1,1-Dichloroethene	MW-14-59	09/18/2014	12/04/2015	39	5	21	39	6.731	30.400	29.772	2	0.4080	No Trend	100%
1,4-Dioxane	MW-02-01(6)	10/17/2011	11/14/2013	25	5	21	26	2.000	24.000	23.931	-3	0.3250	No Trend	100%
1,4-Dioxane	MW-02-02(6)	10/18/2011	02/19/2014	20	6	17	23	1.966	20.333	20.251	-1	0.5000	No Trend	100%
MW-02-03(6)	40834.33333	12/09/2015	14	10	13	18	18	1.713	15.600	15.512	-5	0.3640	No Trend	100%
1,4-Dioxane	MW-03-04	10/17/2011	12/08/2015	42	10	32	54	6.222	43.400	42.982	-33	0.0011	Decreasing	100%
1,4-Dioxane	MW-03-06	10/07/2011	12/08/2015	7	10	6	10	1.549	7.800	7.665	-24	0.0190	Decreasing	100%
1,4-Dioxane	MW-03-07	10/18/2011	12/08/2015	28	7	27	29	0.690	27.857	27.850	4	0.3335	No Trend	100%
1,4-Dioxane	MW-14-58	09/17/2014	12/03/2015	24	5	24	58	16.025	41.400	38.668	-4	0.2420	No Trend	100%
1,4-Dioxane	MW-14-59	09/18/2014	12/04/2015	200	5	200	280	38.471	234.000	231.527	-7	0.0800	Decreasing	100%
1,4-Dioxane	MW-14-60	09/19/2014	12/07/2015	150	5	150	200	20.030	169.200	168.292	-8	0.0420	Decreasing	100%
1,4-Dioxane	MW-14-62	09/19/2014	12/09/2015	67	5	48	230	80.903	114.400	93.772	-2	0.4080	No Trend	100%
1,4-Dioxane	P2-MW-03	10/10/2011	02/14/2014	37	6	15	43	10.759	30.167	28.316	-3	0.3600	No Trend	100%
1,4-Dioxane	P2-MW-04	08/25/2011	12/01/2015	49	10	<5	62	18.572	44.145	37.982	-10	0.2160	No Trend	90%
Benzene	MW-14-54	09/19/2014	12/08/2015	2.000	5	2	600	246.899	166.400	49.032	-4	0.2420	No Trend	100%
Benzene	MWBP-12-UST1-4	10/18/2011	06/09/2015	157.000	9	<5	157	59.449	38.189	9.776	32	0.0001	Increasing	67%
Ethylbenzene	MW-14-54	09/19/2014	12/08/2015	2	5	2	990	426.747	228.800	43.996	-6	0.1170	No Trend	100%
Ethylbenzene	P6-SB-32	08/11/2011	12/01/2015	580	13	<100	1090	271.551	408.077	328.477	-18	0.1489	No Trend	92%
Isopropyl benzene	P6-SB-32	08/11/2011	12/01/2015	150	13	<50	330	81.433	112.154	93.508	-3	0.4505	No Trend	69%
m&p-Xylene	MW-14-54	09/19/2014	12/08/2015	<3	5	<3	730	251.132	304.590	239.390	-6	0.1170	No Trend	80%
m&p-Xylene	P6-SB-32	08/11/2011	12/01/2015	4900	13	1540	6030	1,430.471	3,001.538	2,713.745	9	0.3116	No Trend	100%
Tetrachloroethene	MW-14-55	09/18/2014	12/04/2015	100	5	<1	201	81.623	73.550	30.686	0	0.5920	No Trend	80%
Vinyl chloride	MW-03-06	10/07/2011	12/08/2015	7	10	<1	12	3.339	8.480	7.786	-13	0.1460	No Trend	90%
Weathered Bedrock & Deep Overburden														
Metals														
Arsenic	MW-02-01(3)	10/12/2011	02/06/2014	0.008	5	0.004	0.011	0.003	0.007	0.007	6	0.1170	No Trend	100%
Arsenic	MW-02-03(3)	10/12/2011	02/11/2014	0.013	6	0.006	0.014	0.003	0.010	0.009	12	0.0182	Increasing	100%
Arsenic	MW-02-04(3)	12/19/2012	02/11/2014	0.024	5	0.013	0.024	0.005	0.019	0.019	4	0.2420	No Trend	100%
Arsenic	MW-04-04(3)	03/01/2012	02/10/2014	0.012	6	0.011	0.013	0.001	0.012	0.012	-6	0.1860	No Trend	100%
Arsenic	MW-13-22	03/28/2013	02/10/2014	0.005	5	0.005	0.013	0.003	0.007	0.007	-5	0.1800	No Trend	100%
Arsenic	MW-13-25	04/02/2013	02/07/2014	0.022	6	0.006	0.023	0.006	0.018	0.017	8	0.1020	No Trend	100%
Arsenic	MW-13-27	04/15/2013	02/11/2014	0.004	6	0.004	0.064	0.024	0.015	0.008	-11	0.0280	Decreasing	100%
Arsenic	MW-13-40	12/17/2013	12/02/2015	0.028	8	0.015	0.032	0.006	0.025	0.024	14	0.0540	Increasing	100%
Arsenic	MW-13-41	12/17/2013	12/02/2015	0.014	8	0.013	0.024	0.004	0.018	0.018	3	0.4060	No Trend	100%
Arsenic	MW-14-61	09/19/2014	06/09/2015	0.016	4	0.014	0.02	0.003	0.017	0.017	2	0.3750	No Trend	100%
Arsenic	MW-14-64	09/17/2014	06/02/2015	0.014	4	0.008	0.017	0.005	0.012	0.011	3	0.2710	No Trend	100%
Arsenic	MW-91-2	10/13/2011	12/02/2015	0.009	10	0.004	0.032	0.010	0.014	0.011	-9	0.2420	No Trend	100%

Table 7
Complete Mann-Kendall Trend Test Results
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

Analyte	WellID	Start Date	End Date	Most Recent Result	Sample Size (*n*)	Minimum Result	Maximum Result	Standard Deviation	Arithmetic Mean	Geometric Mean	Sum of Trend (*S*)	Probability (*p*)	90% Trend	% of Detects
Arsenic	MW-91-6	04/04/2013	02/07/2014	0.009	4	0.008	0.011	0.001	0.010	0.009	-2	0.3750	No Trend	100%
Boron	MW-12-21	02/08/2013	02/10/2014	0.33	5	0.26	0.59	0.124	0.394	0.379	4	0.2420	No Trend	100%
Boron	MW-13-29	04/23/2013	02/07/2014	0.38	6	0.19	0.835	0.260	0.584	0.520	-1	0.5000	No Trend	100%
Chromium	MW-14-56	09/18/2014	06/03/2015	0.318	4	0.008	0.318	0.142	0.107	0.051	4	0.1670	No Trend	100%
Copper	MW-12-21	02/08/2013	02/10/2014	<0.005	5	<0.005	0.509	0.217	0.138	0.023	0	0.5920	No Trend	80%
Copper	MW-19	10/19/2011	02/11/2014	0.005	6	0.004	0.053	0.019	0.020	0.014	1	0.5000	No Trend	100%
Lead	MW-19	10/19/2011	02/11/2014	<0.003	6	<0.003	0.029	0.010	0.013	0.010	0	0.5770	No Trend	67%
Manganese	MW-01(3)	10/19/2011	02/11/2014	0.149	6	0.133	0.607	0.187	0.226	0.188	-9	0.0680	Decreasing	100%
Manganese	MW-02-01(3)	10/12/2011	06/03/2015	0.051	6	0.049	0.072	0.008	0.058	0.058	3	0.3600	No Trend	100%
Manganese	MW-02-02(3)	10/13/2011	06/04/2015	3.17	7	0.144	3.17	0.938	1.543	1.170	5	0.2810	No Trend	100%
Manganese	MW-02-03(3)	10/12/2011	02/11/2014	0.098	6	0.098	0.418	0.123	0.170	0.147	-3	0.3600	No Trend	100%
Manganese	MW-02-04(3)	12/19/2012	02/11/2014	0.083	5	0.069	0.275	0.090	0.115	0.097	2	0.4080	No Trend	100%
Manganese	MW-04-03(3)	05/22/2013	02/11/2014	0.215	4	0.168	0.215	0.023	0.190	0.189	6	0.0420	Increasing	100%
Manganese	MW-04-04(3)	03/01/2012	06/02/2015	0.370	7	0.370	0.798	0.146	0.487	0.472	-19	0.0014	Decreasing	100%
Manganese	MW-12-20	02/08/2013	02/11/2014	0.157	5	0.133	0.423	0.125	0.201	0.180	2	0.4080	No Trend	100%
Manganese	MW-12-21	02/08/2013	06/03/2015	0.193	6	0.088	0.571	0.173	0.327	0.280	-1	0.5000	No Trend	100%
Manganese	MW-13-22	03/28/2013	06/03/2015	0.080	7	0.074	0.37	0.106	0.132	0.111	-13	0.0350	Decreasing	100%
Manganese	MW-13-23	03/29/2013	06/03/2015	1.50	7	1.22	8.04	2.714	3.023	2.275	-13	0.0350	Decreasing	100%
Manganese	MW-13-24	04/01/2013	06/02/2015	0.248	7	0.248	4.91	1.711	1.063	0.550	-17	0.0054	Decreasing	100%
Manganese	MW-13-25	04/02/2013	06/04/2015	0.670	7	0.670	4.54	1.405	1.378	1.065	-17	0.0054	Decreasing	100%
Manganese	MW-13-26	04/03/2013	02/10/2014	0.112	6	0.112	4.68	1.820	1.083	0.355	-13	0.0083	Decreasing	100%
Manganese	MW-13-27	04/15/2013	02/11/2014	0.770	6	0.680	19.9	7.805	3.969	1.340	-9	0.0680	Decreasing	100%
Manganese	MW-13-29	04/23/2013	06/03/2015	0.785	8	0.560	1.8	0.390	0.866	0.813	4	0.3600	No Trend	100%
Manganese	MW-13-30	04/24/2013	02/10/2014	2.68	6	0.407	14	5.295	3.319	1.486	-7	0.1360	No Trend	100%
Manganese	MW-13-34	08/20/2013	06/04/2015	0.109	5	0.109	0.31	0.072	0.206	0.195	-2	0.4080	No Trend	100%
Manganese	MW-14-56	09/18/2014	06/03/2015	0.279	4	0.087	0.333	0.106	0.231	0.207	0	0.6250	No Trend	100%
Manganese	MW-14-61	09/19/2014	06/09/2015	0.046	4	0.046	0.057	0.005	0.050	0.050	-6	0.0420	Decreasing	100%
Manganese	MW-14-63	09/18/2014	06/02/2015	0.151	4	0.135	0.245	0.049	0.176	0.172	-2	0.3750	No Trend	100%
Manganese	MW-14-64	09/17/2014	06/02/2015	0.056	4	0.056	0.093	0.017	0.070	0.069	-6	0.0420	Decreasing	100%
Manganese	MW-15-71	06/02/2015	03/15/2016	0.008	4	0.008	0.143	0.068	0.068	0.035	0	0.6250	No Trend	100%
Manganese	MW-19	10/19/2011	02/11/2014	0.615	6	0.039	0.615	0.203	0.251	0.183	1	0.5000	No Trend	100%
Manganese	MW-22	11/29/2011	06/08/2015	2.85	7	0.356	2.85	0.803	1.132	0.950	17	0.0054	Increasing	100%
Manganese	MW-23	11/29/2011	06/08/2015	0.071	7	0.054	0.309	0.092	0.105	0.085	1	0.5000	No Trend	100%
Manganese	MW-91-2	10/13/2011	06/08/2015	0.057	7	0.049	0.178	0.047	0.072	0.065	-1	0.5000	No Trend	100%
Manganese	MW-91-6	4/4/2013	2/7/2014	0.177	4	0.145	0.177	0.015	0.155	0.154	4	0.167	No Trend	100%
Nickel	MW-13-23	3/29/2013	2/11/2014	0.041	6	0.038	0.207	0.083	0.096	0.071	-3	0.36	No Trend	100%
Nickel	MW-13-24	4/1/2013	2/10/2014	0.036	6	0.022	0.161	0.053	0.054	0.041	1	0.5	No Trend	100%
Nickel	MW-13-25	4/2/2013	2/7/2014	0.020	6	0.020	0.105	0.030	0.050	0.043	-7	0.136	No Trend	100%
Nickel	MW-13-26	4/3/2013	2/10/2014	0.011	6	0.011	0.148	0.052	0.042	0.028	-5	0.235	No Trend	100%
Nickel	MW-13-27	4/15/2013	2/11/2014	0.013	6	0.013	0.486	0.190	0.098	0.033	-5	0.235	No Trend	100%
Nickel	MW-13-30	4/24/2013	2/10/2014	0.405	6	0.021	0.405	0.150	0.115	0.063	-3	0.36	No Trend	100%
Nickel	MW-14-56	09/18/2014	06/03/2015	0.607	4	0.053	0.683	0.342	0.350	0.188	2	0.3750	No Trend	100%
Zinc	MW-12-21	02/08/2013	02/10/2014	0.009	5	0.009	0.405	0.163	0.146	0.070	-4	0.2420	No Trend	100%
Zinc	MW-13-23	03/29/2013	02/11/2014	0.809	6	0.017	7.65	2.991	1.656	0.208	-7	0.1360	No Trend	100%
Zinc	MW-13-24	04/01/2013	02/10/2014	0.121	6	<0.010	5.03	2.011	1.130	0.093	-5	0.2350	No Trend	83%
Zinc	MW-13-30	04/24/2013	02/10/2014	0.529	6	<0.005	34.7	14.105	5.912	0.163	-7	0.1360	No Trend	83%
Zinc	MW-19	10/19/2011	02/11/2014	0.040	6	0.032	0.307	0.122	0.153	0.104	1	0.5000	No Trend	100%
Volatile Organic Compounds														
1,4-Dioxane	MW-12-21	02/08/2013	12/03/2015	400	10	<5	510	124.8	383.2	357.4	-14	0.1270	No Trend	90%
1,4-Dioxane	MW-13-22	03/28/2013	03/15/2016	145	12	52	270	74.077	172.2	152.7	6	0.3652	No Trend	100%
1,4-Dioxane	MW-13-25	04/02/2013	12/04/2015	21	10	<5	21	4.783	12.620	11.861	29	0.0046	Increasing	80%
1,4-Dioxane	MW-13-29	04/23/2013	12/04/2015	21	10	15	130	34.042	35.200	28.094	-30	0.0035	Decreasing	100%
1,4-Dioxane	MW-13-34	08/20/2013	12/01/2015	70	9	17	99	22.045	54.333	49.822	18	0.0380	Increasing	100%
1,4-Dioxane	MW-13-41	12/17/2013	12/02/2015	11	8	11	19	3.335	13.625	13.295	-6	0.2740	No Trend	100%
1,4-Dioxane	MW-13-42	12/17/2013	03/15/2016	20	9	6	20	5.159	12.111	11.178	34	0.0000	Increasing	100%
1,4-Dioxane	MW-13-43	12/13/2013	03/16/2016	280	10	220	360	46.952	296.0	292.6	21	0.0360	Increasing	100%
1,4-Dioxane	MW-13-45	12/13/2013	03/15/2016	51	10	24	56	12.009	40.000	38.260	36	0.0003	Increasing	100%
1,4-Dioxane	MW-13-48	12/19/2013	03/15/2016	280	9	34	380	117.205	158.333	120.288	34	0.0000	Increasing	100%
1,4-Dioxane	MW-14-56	09/18/2014	03/16/2016	9	7	<5	9	1.203	6.957	6.872	13	0.0350	Increasing	86%
1,4-Dioxane	MW-14-61	09/19/2014	12/07/2015	7	5	<5	10	1.886	7.540	7.357	-4	0.2420	No Trend	80%
1,4-Dioxane	PW-14-01	09/19/2014	12/08/2015	510	5	260	510	90.443	364.000	355.590	7	0.0800	Increasing	100%
1,4-Dioxane	PW-14-02	09/18/2014	12/03/2015	470	5	210	580	162.880	384.000	353.773	0	0.5920	No Trend	100%
1,4-Dioxane	PW-14-03	09/18/2014	06/09/2015	370	8	77	370	131.221	289.3	244.8	16	0.0310	Increasing	100%
1,4-Dioxane	TW-14-02	06/11/2015	03/16/2016	2770	4	2500	3200	294.774	2,792.500	2,781.207	0	0.6250	No Trend	100%
Vinyl chloride	MW-04-03(3)	02/29/2012	02/11/2014	14	6	8	20	4.355	13.167	12.563	1	0.5000	No Trend	100%
Vinyl chloride	MW-04-04(3)	03/01/2012	02/10/2014	5	6	3	6	1.033	4.667	4.561	-4	0.2980	No Trend	100%

Table 8
Summary of Mann-Kendall Trend Test Results - Perched Wells
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

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Analyte	No Trend[1]	Decreasing Trend[1]	Increasing Trend[1]	Total Trends	Average Maximum	Lowest Criteria[2]	Basis of Lowest Criteria[2]
Metals					(ppm)	(ppm)	
Antimony	1	0	0	1	0.008	0.006	DW
Arsenic	20	3	6	29	0.031	0.010	GSI/DW
Barium	0	0	2	2	1.5	1.2	GSI
Boron	1	0	1	2	0.9	0.5	DW
Chromium	1	1	0	2	14.3	0.160	GSI
Chromium VI (hexavalent)	0	1	0	1	28	0.011	GSI
Copper	10	4	0	14	0.060	0.020	GSI
Lead	4	3	0	7	0.230	0.004	DW
Manganese	49	10	7	66	0.459	0.05/0.86[3]	DW
Nickel	3	1	2	6	0.6	0.100	DW
Vanadium	8	1	0	9	0.0242	0.0045	DW
Volatile Organic Compounds					(ppb)	(ppb)	
1,1-Dichloroethene	1	0	0	1	39	7	DW
1,4-Dioxane	8	4	0	12	92	85/7.2[4]	DW
Benzene	1	0	1	2	379	5	DW
Ethylbenzene	2	0	0	2	1040	18	GSI
Isopropyl benzene	1	0	0	1	330	28	GSI
M&P Xylene	2	0	0	2	3380	270	GSI
Tetrachloroethene	1	0	0	1	201	41	GSI
Vinyl chloride	1	0	0	1	12	2	GW

Notes:

1. Trends evaluated at 90% confidence level.
2. Michigan Department of Environmental Quality Part 201 Generic Cleanup Criteria and Screening Levels, Dated December 30, 2013.
3. Manganese drinking water criteria presented as both health-based (0.05 ppm) and aesthetically based criteria (0.86 ppm). Health-based criteria used to assess exceedances.
4. Drinking water criteria anticipated to be modified to 7.2 ppb. For purposes of identifying exceedances, lowest criteria assumed to be 8.5 ppb.

GSI = groundwater-surface water interface
GW = groundwater
DW = drinking water
ppm = parts per million
ppb = parts per billion

Table 9
Summary of Mann-Kendall Trend Test Results -
Deep Overburden and Weathered Bedrock Wells
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

Analyte	No Trend[1]	Decreasing Trend[1]	Increasing Trend[1]	Total Trends	Average Maximum	Lowest Criteria[2]	Basis of Lowest Criteria[2]
Metals					(ppm)	(ppm)	
Arsenic	10	1	2	13	0.023	0.010	GSI/DW
Boron	2	0	0	2	0.301	0.5	DW
Chromium	1	0	0	1	0.318	0.160	GSI
Copper	2	0	0	2	0.281	0.020	GSI
Lead	1	1	0	2	0.029	0.004	DW
Manganese	16	10	2	28	2.504	0.05/0.86[3]	DW
Nickel	7	0	0	7	0.314	0.100	DW
Zinc	5	0	0	5	9.618	0.260	GSI
Volatile Organic Compounds					(ppb)	(ppb)	
1,4-Dioxane	6	1	9	16	187	85/7.2[4]	DW
Vinyl chloride	2	0	0	2	13	2	GW

Notes:

1. Trends evaluated at 90% confidence level.
2. Michigan Department of Environmental Quality Part 201 Generic Cleanup Criteria and Screening Levels, Dated December 30, 2013.
3. Manganese drinking water criteria presented as both health-based (0.05 ppm) and aesthetically based criteria (0.86 ppm). Health-based criteria used to assess exceedances.
4. Drinking Water criteria anticipated to be modified to 7.2 ppb. For purposes of identifying exceedances, lowest criteria assumed to be 8.5 ppb.

GW = groundwater
GSI = groundwater surface water interface
DW = drinking water
ppm = parts per million
ppb = parts per billion

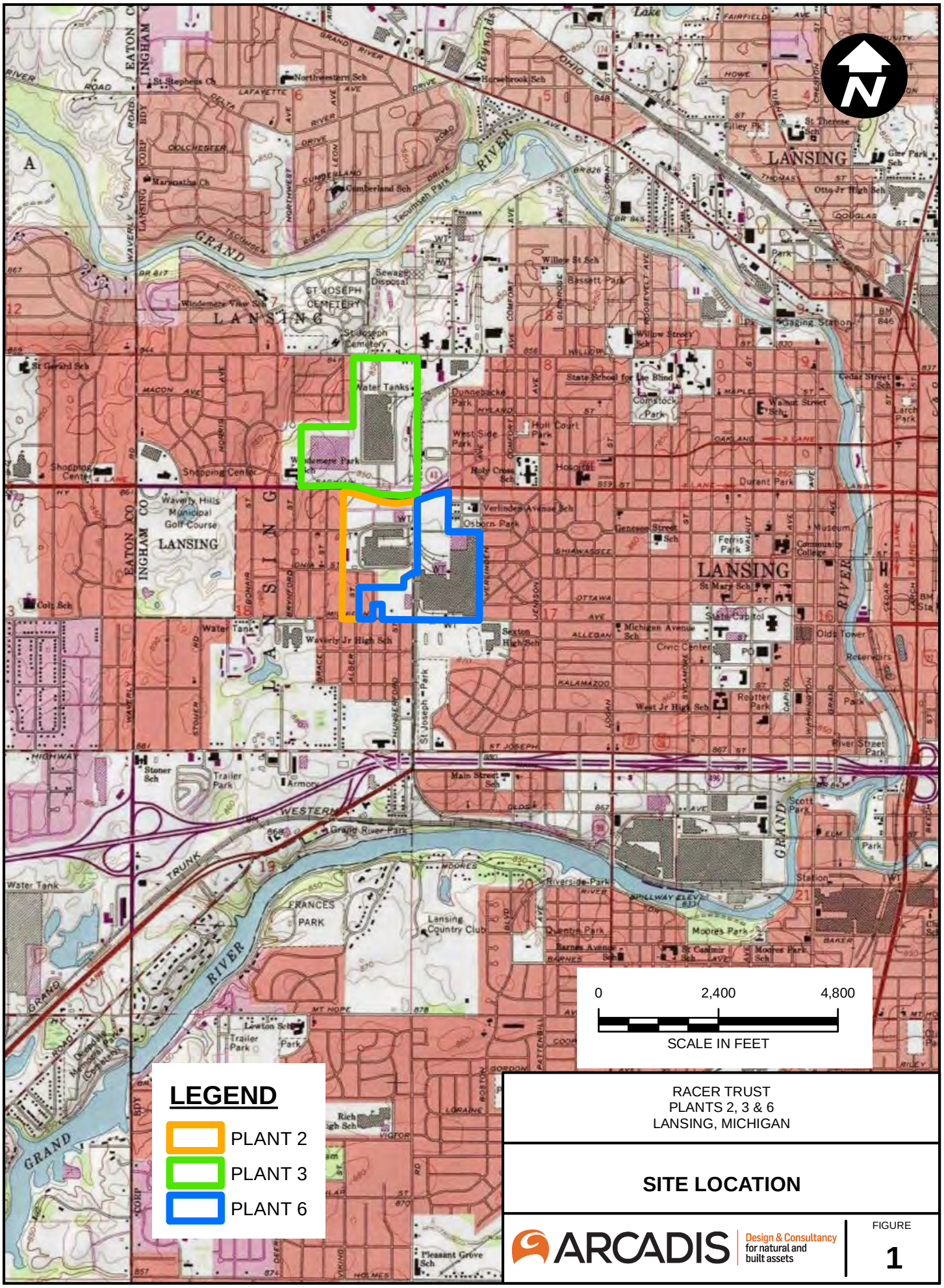
Table 10
Summary of Mann-Kendall Trend Test Results - Bedrock Wells
2015-2016 Annual Groundwater Report
RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

Analyte	No Trend[1]	Decreasing Trend[1]	Increasing Trend[1]	Total Trends	Average Maximum	Lowest Criteria[2]	Basis of Lowest Criteria[2]
Metals					(ppm)	(ppm)	
Arsenic	6	1	2	9	0.021	0.010	GSI/DW
Copper	3	0	0	3	0.050	0.020	GSI
Manganese	14	1	0	15	0.378	0.05/0.86[3]	DW
Zinc	1	0	0	1	0.471	0.260	GSI
Volatile Organic Compounds					(ppb)	(ppb)	
Vinyl chloride	1	1	0	2	16.5	2	DW

Notes:
1. Trends evaluated at 90% confidence level.
2. Michigan Department of Environmental Quality Part 201 Generic Cleanup Criteria and Screening Levels, Dated December 30, 2013.
3. Manganese drinking water criteria presented as both health-based (0.05 ppm) and aesthetically based criteria (0.86 ppm). Health-based criteria used to assess exceedances.

GW = groundwater
GSI = groundwater surface water interface
DW = drinking water
ppm = parts per million

FIGURES



RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

SITE LOCATION

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FIGURE
1

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\Phase 2 RFI Report Figs\FIG 1 - SITE LOCATION.mxd PLOTTED: 3/11/2013 12:44:25 PM BY: PCurry

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 2 P2&6 Monitoring Wells.mxd PLOTTED: 6/22/2016 1:53:53 PM BY: dolexa

MW-14-63 MW-12-02 P2-MW-01 MW-12-03 P2-MW-03 MW-12-10R MW-04-06R MW-04-05 MW-12-11 P2-SB-03 MW-13-42 MW-13-43 MW-13-44 MW-13-45 P2-SB-20 PW-14-02 MW-15-73 MW-03-02 MW-03-01 MW-12-12 MW-14-59 MW-14-58 MW-14-70 MW-03-04 MW-03-05 MW-14-60 MW-02-01(6) MW-12-13 LMW-12-02 LMW-14-14D LMW-12-08 MW-12-05 PMW-0102 LMW-12-07 MW-15-72 LMW-12-03D MW-14-61 P2-MW-04 MW-03-07 MW-14-66 P6-SB-18 MW-14-69 MW-02-03(6) LMW-12-01 LMW-14-13D LMW-14-P2SB-37 MW-04-01(6) MW-02-02(6) MW-14-57 MW-12-06 MW-03-06 MW-12-09 LMW-12-06 LMW-12-05 LMW-14-13D PMW-03 LMW-12-04 LMW-14-12D MW-14-62 P2-SB-06 SME-MW-02 P6-SB-37 MW-14-68 MW-14-56 LMW-15-16D MW-03-08 MW-04-04R MW-14-67 P6-SB-35 MW-13-36R MW-12-18 MW-14-55 MW-14-54 TW-14-01 TW-14-02 PW-14-01 MW-12-01 P6-SB-21 MW-12-07 MW-12-08 P2-MW-02 MW-13-51 MW-13-52 MW-13-50 MW-13-53 P6-SB-07 MW-12-17 MW-03(2) MW-02(2) MW-01(2) P6-SB-32 MWBP-12-UST5-6 MWBP-13A-UST1-4 MWBP-12-UST1-4 MWBP-11-UST1-4 MWBP-12A-UST1-4 MW-12-14 MWBP-10-UST5-6 B-BP-16 MWBP-10-UST1-4 MWBP-10A-UST1-4 P6-MW-01 MW-13-35 MW-12-15 MW-12-16

N

LEGEND

- LNAPL MONITORING WELL
- PERCHED ZONE MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- APPROXIMATE EXTENT OF LNAPL
- EXTENT VOCs IN PERCHED ZONE > DW CRITERIA
- PERCHED 1,4-DIOXANE IMPACTS > THAN PROPOSED DW CRITERIA (7.2 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > THAN PROPOSED DW CRITERIA (7.2 µg/L)

APPROXIMATE PLANT BOUNDARIES

- PLANT 2
- PLANT 3
- PLANT 6

NOTE:

PLUMES INCLUDED ON THIS FIGURE INCORPORATE DATA COLLECTED DURING 2011-2014 RFI ACTIVITIES, UPDATED BASED ON RECENT GROUNDWATER MONITORING DATA.

DW: DRINKING WATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
RFI: RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION
VOCs: VOLATILE ORGANIC COMPOUNDS
µg/L: MICROGRAMS PER LITER

0 250 500
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

SUMMARY OF PLANTS 2 AND 6 MONITORING WELLS AND PLUMES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

MW-04-04
MW-91-4
MW-13-39B
MW-88-1
MW-12-04
MW-02-03(3)
MW-02-04(3)
MW-13-40
MW-04-03
MW-04-02
MW-02-02(3)
P3-SB-07
MW-93-1
MW-13-38
MW-13-41
MW-91-3
MW-91-2
MW-13-37
LMW-12-09
UNK-15
MW-05
UNK-13
MW-23
UNK-11
UNK-10
UNK-09
CH-14-RO
MW-22
LMW-12-11
LMW-12-10
MW-12-19
P3-SB-28
MW-14-65
MW-15-71
MW-12-20
MW-13-26
MW-13-30
MW-02-01(3)
MW-04-01(3)
MW-91-5
MW-13-24
MW-13-22
MW-13-28
MW-13-23
MW-13-27
MW-12-21
MW-14-64
PW-14-03
MW-13-25
MW-13-29
MW-13-31
MW-13-32
MW-13-33
MW-13-46
MW-13-47
MW-13-48
MW-91-6
MW-13-34
MW-13-49

LEGEND

- LNAPL MONITORING WELL
- PERCHED ZONE MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- APPROXIMATE EXTENT OF LNAPL
- EXTENT VOCs IN PERCHED ZONE > DW CRITERIA
- LOWER 1,4-DIOXANE IMPACTS > THAN PROPOSED DW CRITERIA (7.2 µg/L)

APPROXIMATE PLANT BOUNDARIES

- PLANT 2
- PLANT 3
- PLANT 6

NOTE:

PLUMES INCLUDED ON THIS FIGURE INCORPORATE DATA COLLECTED DURING 2011-2014 RFI ACTIVITIES, UPDATED BASED ON RECENT GROUNDWATER MONITORING DATA.

DW: DRINKING WATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
RFI: RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION
VOCs: VOLATILE ORGANIC COMPOUNDS
µg/L: MICROGRAMS PER LITER

0 280 560
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

SUMMARY OF PLANT 3 MONITORING WELLS AND PLUMES

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 3 P3 Monitoring Wells.mxd PLOTTED: 6/22/2016 2:12:49 PM BY: dolexa

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 4 Perched GW Plants 2&6.mxd PLOTTED: 6/22/2016 2:26:14 PM BY: dolexa

MW-12-10 8-13 849.37
MW-12-11 13-18 851.44
P2-SB-20 8-13 854.61
P2-SB-03 14-19 845.79
MW-14-59 12-17 856.61
MW-14-60 15-20 851.05
LMW-14-14D 18-23 851.49
LMW-12-02 5-10 857.01
LMW-12-08 8-13 855.61
LMW-12-07 4-9 858.3
LMW-12-01 7-12 853.47
MW-12-09 14-19 848.84
MW-14-57 15-20 849.37
LMW-12-05 7-12 852.24
PMW-03 1.2-6.2 859.32
LMW-12-06 4-9 858.04
LMW-15-16D 19.5-24.5 850.7
MW-14-62 12-17 858.38
MW-14-55 13-18 845.85
MW-14-54 14-19 849.91
MW-12-12 13-18 867.02
MW-14-70 16-21 871.84
MW-12-13 18.5-23.5 872.26
MW-14-66 14-19 873.25
P6-SB-18 3-8 874.17
MW-14-67 13-18 871.93
P6-SB-37 5-10 872.8
MW-13-36R 5.5-10.5 871.95
P6-SB-35 3-8 873.66
P6-SB-21 3-8 871.47
MW-12-07 10-15 863.76
MW-12-08 19-24 856.45
MW-12-17 9.5-14.5 866.67
MW-03(2) 12-22 866.45
MW-02(2) 12-22 866.31
MW-01(2) 10-20 866.69
P6-SB-07 15-20 870.27
P6-SB-32 7-12 867.61
MWBP-11-UST1-4 9-19 866.35
MWBP-12-UST1-4 15-25 862.83
MW-12-15 18-23 845.4

850 855 860 865 870 845

LEGEND

MONITORING WELL / STRATIGRAPHIC UNIT

- SHALLOW SAND/FILL
- INTERBEDDED ZONE
- GLACIAL TILL
- GROUNDWATER ELEVATION CONTOUR (FT MSL)

NOTE:

1. WELL LABELING:
WELL NAME
WELL SCREEN (FT BGS)
GROUNDWATER ELEVATION 11-30-15 (FT MSL)

2. LNAPL MONITORING WELLS CORRECTED FOR PRESENCE OF LNAPL

3. GROUNDWATER CONTOURS ONLY CONSIDER MONITORING WELLS INSTALLED <= 25 FEET BELOW GRADE

BGS: BELOW GROUND SURFACE
FT: FEET
MSL: MEAN SEA LEVEL

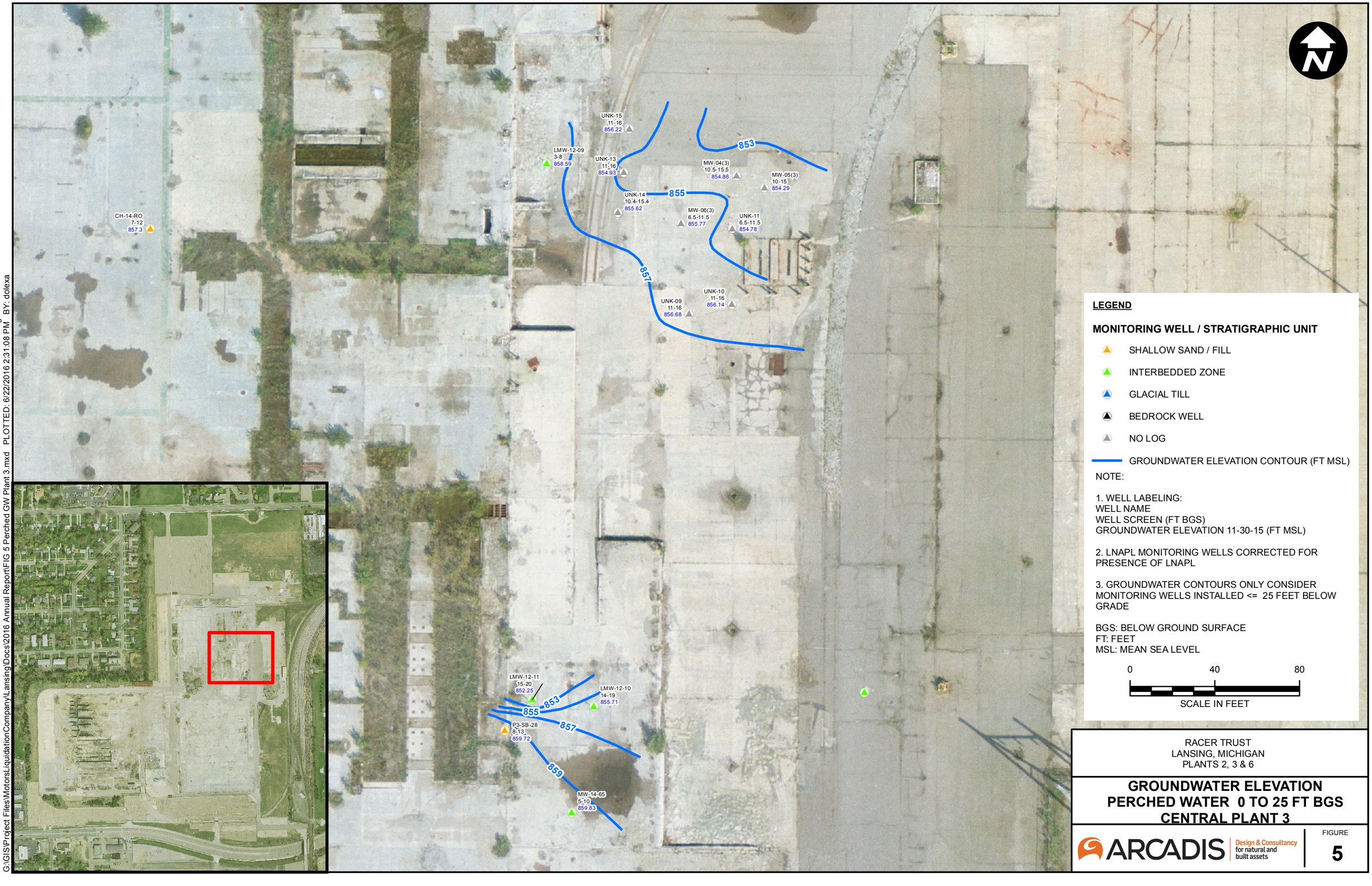
0 250 500
SCALE IN FEET

RACER TRUST
LANSING, MICHIGAN
PLANTS 2, 3 & 6

GROUNDWATER ELEVATION PERCHED WATER - 0 TO 25 FT BGS PLANTS 2 & 6

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FIGURE 4



RACER TRUST
LANSING, MICHIGAN
PLANTS 2, 3 & 6

GROUNDWATER ELEVATION PERCHED WATER 0 TO 25 FT BGS CENTRAL PLANT 3

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FIGURE
5

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 5 Perched GW Plant 3.mxd PLOTTED: 6/22/2016 2:31:08 PM BY: dolexa

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT.NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 6 Deep OB GW Plant 3.mxd PLOTTED: 6/22/2016 2:36:45 PM BY: dolexa

MW-04-04(3)
72-82
793.47

MW-02-03(3)
79-89
793.23

MW-02-04(3)
76-86
795.62

MW-13-40
72-77
795.93

MW-04-03(3)
80-90
793.13

MW-13-41
77-82
799.94

MW-02-02(3)
74-84
794.37

MW-91-2
68-78
800.87

MW-19
55-65
804.93

MW-23
52-62
806.8

MW-22
52.5-62.5
805.88

MW-13-26
72-77
794.78

MW-12-20
75-80
793.4

MW-13-30
72-77
792.61

MW-02-01(3)
59-69
811.47

MW-13-24
69-74
795.11

MW-12-21
70-75
795.18

MW-13-23
69-74
789.94

MW-13-27
67-72
793.07

MW-13-25
67-72
793.81

MW-13-29
68-73
792.92

MW-13-48
65-70
793.58

793 795 797 799 801 803 805 807 809 811

LEGEND

MONITORING WELL / STRATIGRAPHY

- DEEP OVERBURDEN
- OTHER WELL
- GROUNDWATER ELEVATION CONTOUR (FT MSL)

NOTE:

1. WELL LABELING:
WELL NAME
WELL SCREEN (FT BGS)
GROUNDWATER ELEVATION 11-30-15 (FT MSL)

BGS: BELOW GROUND SURFACE
FT: FEET
MSL: MEAN SEA LEVEL

0 260 520
SCALE IN FEET

RACER TRUST
LANSING, MICHIGAN
PLANTS 2, 3 & 6

GROUNDWATER ELEVATION DEEP OVERBURDEN PLANT 3

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FIGURE
6

MW-91-4
791.44 /
791.44 *

MW-13-39B
790.48 /
784.27

MW-88-1
785.97 /
785.97 *(B)

MW-12-04
790.40 /
790.40 *

MW-04-02(3)
792.46 /
792.46 *

MW-13-38
790.21 /
785.85

MW-91-3
787.92 /
783.50

MW-13-37
790.58 /
781.80

GRAND RIVER FORMATION

SAGINAW FORMATION

MW-04-01(3)
809.03 /
798.78 NU

MW-91-5
793.08 /
793.08 *

MW-13-28
790.13 /
790.13 *

MW-91-6
785.47 /
785.47 *

MW-13-47
783.99 /
783.99 *

MW-12-02
780.41 /
780.41 *

MW-12-03
- / - NM

MW-13-44
780.99 /
773.70

MW-04-06R
788.34 /
774.53

MW-12-05
787.34 /
772.17

MW-12-06
785.24 /
771.51

MW-04-01(6)
789.40 /
770.67

MW-04-04R
789.51 /
774.58

MW-12-01
785.54 /
773.68

MW-13-50
786.35 /
771.70

792 790 788 786 784 782 780 778 776 774 772

NOTES:

Monitoring wells located in the Saginaw Formation are corrected for an average vertical gradient of 0.4 (ft/ft, downward)

* - Monitoring wells located in Grand River Formation not corrected for vertical gradient.

(B) - Baseline well (deepest well)

NU - Groundwater elevation not used in contour map creation. Well MW-04-01(3) has historically measured high relative to other bedrock wells.

NM - Not Measured

793.41/789.50 - Uncorrected GW Elev / Corrected GW Elev

Groundwater elevation measurements collected November 30, 2015.

Elevation is given in feet above mean sea level.

ft: feet
GW: groundwater
Elev: elevation
µg/L: micrograms per liter

LEGEND

- APPROXIMATE LOCATION OF GRAND RIVER/SAGINAW FORMATION GEOLOGIC CONTACT
- BEDROCK MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR
- INFERRED
- LOWER 1,4-DIOXANE > 7.2 µg/L

0 390 780
SCALE IN FEET

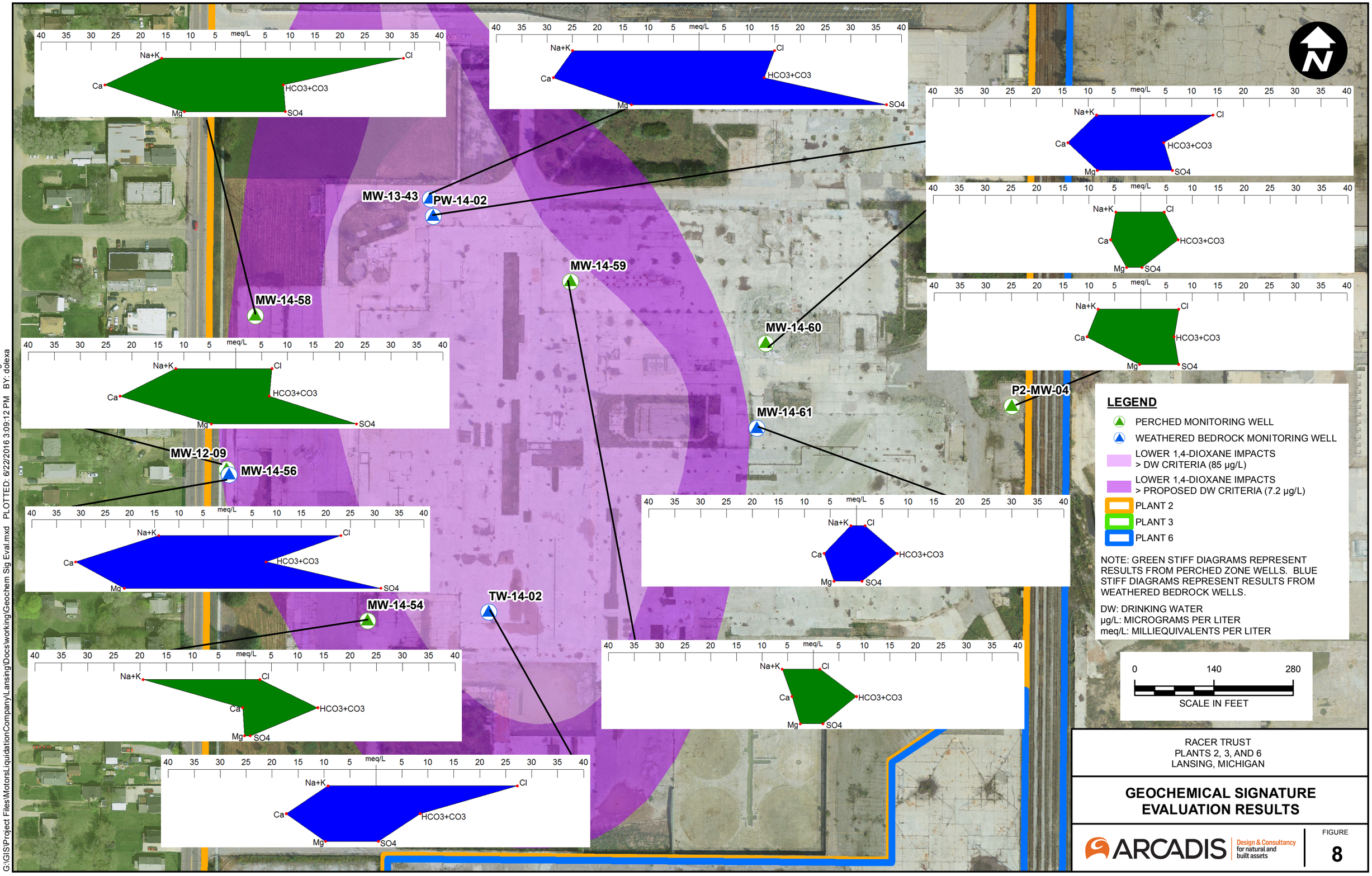
RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

BEDROCK GROUNDWATER ELEVATION SUMMARY DECEMBER 2015

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FIGURE 7

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 7 BR GW Contour 12-15.mxd PLOTTED: 6/22/2016 2:46:17 PM BY: dolexa



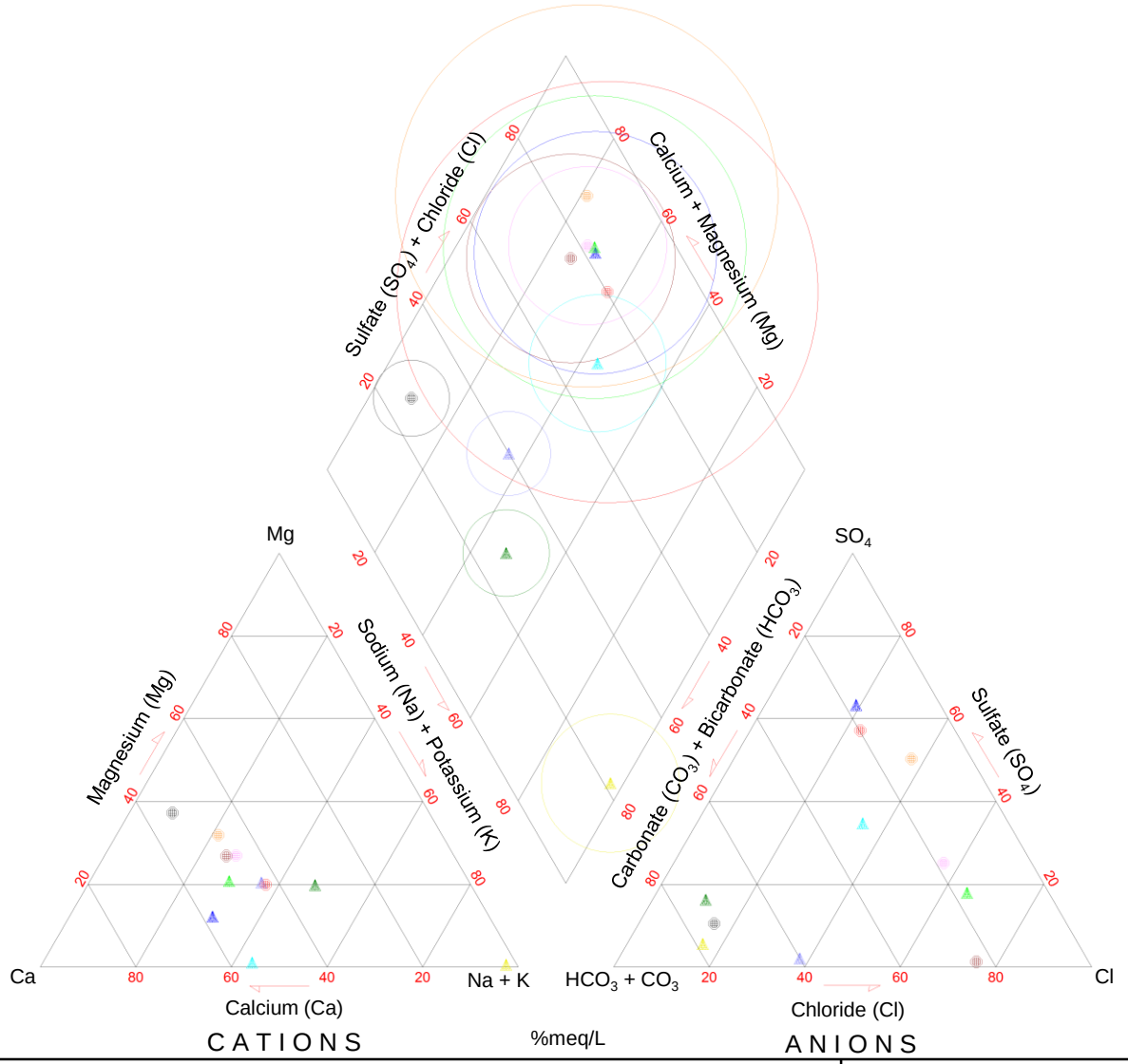
CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompanyLansing\Docsworking\Geochem Sig Eval.mxd PLOTTED: 6/22/2016 3:09:12 PM BY: dolexa

RACER TRUST
PLANTS 2, 3, AND 6
LANSING, MICHIGAN

GEOCHEMICAL SIGNATURE EVALUATION RESULTS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8



Notes:
meq/L = milliequivalents per liter
TDS = Total Dissolved Solids
Sampling dates range from 12/1/2015 to 12/9/2015



Monitoring Wells in Weathered Bedrock
- MW-13-43
- MW-14-56
- MW-14-61
- PW-14-02
- TW-14-02

Monitoring Wells in the Perched Zone
- MW-12-09
- MW-14-54
- MW-14-58
- MW-14-59
- MW-14-60
- P2-MW-04

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

PIPER DIAGRAM

ARCADIS Design & Consultancy for natural and built assets

FIGURE
9

AREA 13
AREA 12
AREA 14
AREA 18
AREA 17
AREA 20
AREA 21
AREA 11
AREA 15
AREA 16
AREA 19
AREA 8
AREA 3
AREA 5-1
AREA 5-4
AREA 5-7
AREA 4
AREA 5-5
AREA 5-8
AREA 5-2
AREA 5-6
AREA 2
AREA 5-3
AREA 10
AREA 1
AREA 9
AREA 6
AREA 7

LEGEND

GEOCHEMICAL TREND

- OXIC/MILDLY REDUCING
- REDUCING
- STRONGLY REDUCING
- GEOCHEMICAL CONDITIONS NOT EVALUATED
- APPROXIMATE EXTENT LNAPL
- APPROXIMATE EXTENT OF VOCs IN PERCHED GW > DW CRITERIA
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

DW: DRINKING WATER
COC: CONSTITUENT OF CONCERN
GW: GROUNDWATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
VOCs: VOLATILE ORGANIC COMPOUNDS
µg/L: MICROGRAMS PER LITER

0 400 800
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

GEOCHEMICAL CONDITIONS IN PERCHED GROUNDWATER

ARCADIS Design & Consultancy for natural and built assets

FIGURE
10

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 10 Perched Geochem Conditions.mxd PLOTTED: 6/22/2016 2:56:31 PM BY: dolexa

AREA 13
AREA 12
AREA 14
AREA 18
AREA 17
AREA 20
AREA 21
AREA 11
AREA 15
AREA 16
AREA 19
AREA 8
AREA 3
AREA 5-1
AREA 5-4
AREA 5-7
AREA 4
AREA 5-5
AREA 5-8
AREA 5-2
AREA 5-3
AREA 5-6
AREA 2
AREA 10
AREA 1
AREA 9
AREA 6
AREA 7

LEGEND

GEOCHEMICAL TREND

- OXIC/MILDLY REDUCING
- REDUCING
- STRONGLY REDUCING
- GEOCHEMICAL CONDITIONS NOT EVALUATED
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

DW: DRINKING WATER
COC: CONSTITUENT OF CONCERN
GW: GROUNDWATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
VOCs: VOLATILE ORGANIC COMPOUNDS
µg/L: MICROGRAMS PER LITER

0 400 800
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

GEOCHEMICAL CONDITIONS IN DEEP OVERBURDEN AND WEATHERED BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
11

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 11 Deep OB Geochem Conditions.mxd PLOTTED: 6/22/2016 3:27:24 PM BY: dolexa

AREA 13
AREA 12
AREA 14
AREA 18
AREA 17
AREA 20
AREA 21
AREA 11
AREA 15
AREA 19
AREA 16
AREA 8
AREA 3
P2-MW-03
AREA 5-1
AREA 5-4
AREA 5-7
AREA 4
MW-14-58
MW-14-59
MW-14-60
MW-14-62
AREA 5-2
AREA 5-5
P2-MW-04
MW-03-04
MW-02-01(6)
MW-03-07
MW-02-03(6)
MW-02-02(6)
MW-03-06
AREA 5-8
AREA 5-6
AREA 10
AREA 2
AREA 5-3
AREA 1
AREA 9
AREA 6
AREA 7

LEGEND

CHEMICAL TRENDS*

- STABLE OR DECREASING TREND OBSERVED
- INCREASING TREND OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS *
- APPROXIMATE EXTENT LNAPL
- APPROXIMATE EXTENT OF VOCs IN PERCHED GW > DW CRITERIA
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:
- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA

ANALYTICAL DATA AVAILABLE IN TABLE 2. TREND RESULTS SUMMARIZED IN TABLE 7.

VOCs: VOLATILE ORGANIC COMPOUNDS
GW: GROUNDWATER
DW: DRINKING WATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
COC: CONSTITUENT OF CONCERN
µg/L: MICROGRAMS PER LITER

0 400 800
SCALE IN FEET

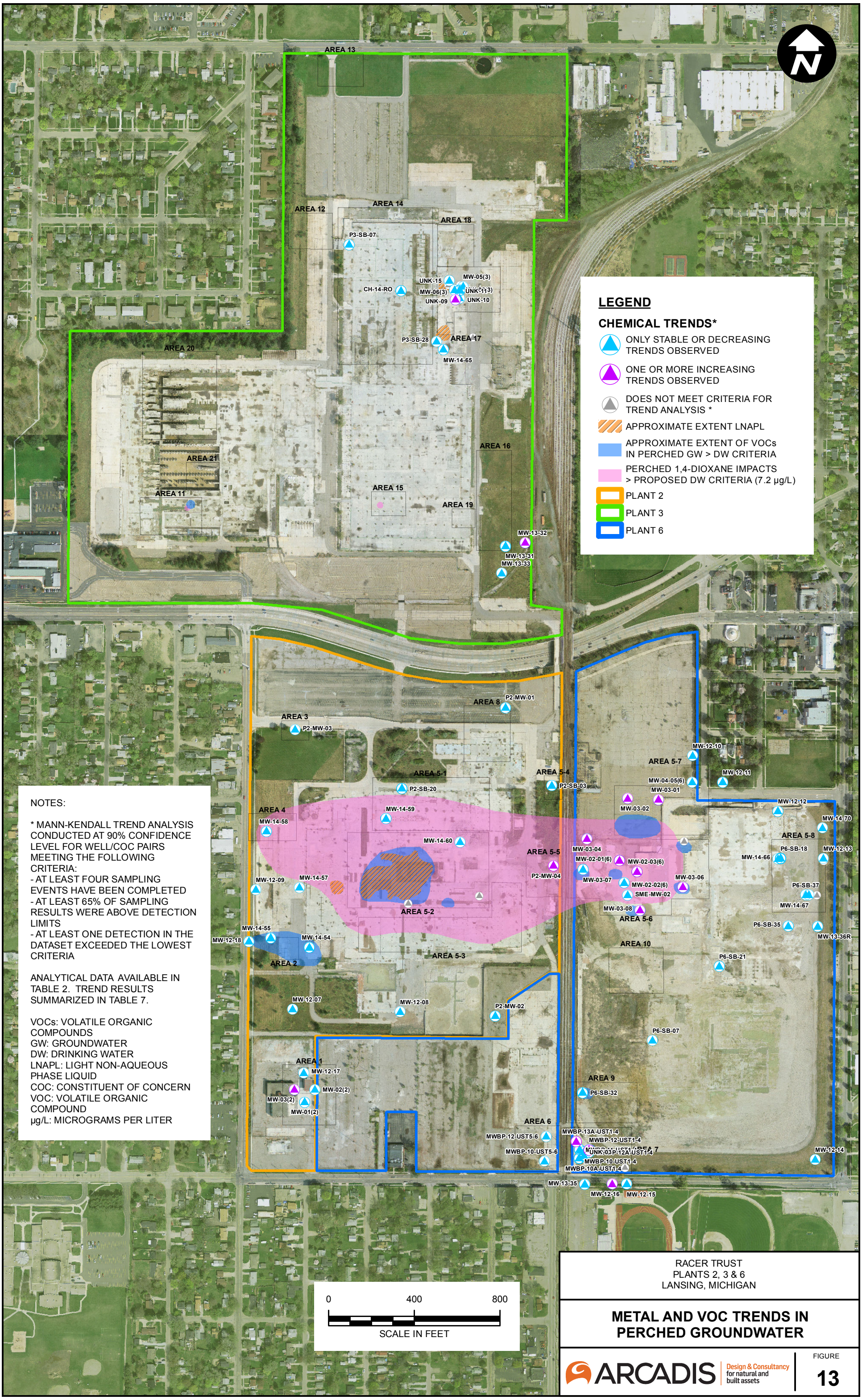
RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

1,4-DIOXANE TRENDS IN PERCHED GROUNDWATER

ARCADIS Design & Consultancy for natural and built assets

FIGURE
12

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 12 1,4-D Perched Trends.mxd PLOTTED: 6/22/2016 3:32:25 PM BY: dolexa



LEGEND

CHEMICAL TRENDS*

- ONLY STABLE OR DECREASING TRENDS OBSERVED
- ONE OR MORE INCREASING TRENDS OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS *
- APPROXIMATE EXTENT LNAPL
- APPROXIMATE EXTENT OF VOCs IN PERCHED GW > DW CRITERIA
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:
- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA

ANALYTICAL DATA AVAILABLE IN TABLE 2. TREND RESULTS SUMMARIZED IN TABLE 7.

VOCs: VOLATILE ORGANIC COMPOUNDS
GW: GROUNDWATER
DW: DRINKING WATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
COC: CONSTITUENT OF CONCERN
VOC: VOLATILE ORGANIC COMPOUND
µg/L: MICROGRAMS PER LITER

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

METAL AND VOC TRENDS IN PERCHED GROUNDWATER

ARCADIS Design & Consultancy for natural and built assets

FIGURE
13

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 13 Geochem Perched Trends.mxd PLOTTED: 6/22/2016 3:52:43 PM BY: dolexa

AREA 13
AREA 12
AREA 14
AREA 18
MW-13-41
AREA 17
AREA 20
AREA 21
AREA 16
AREA 11
MW-12-21
MW-13-22
PW-14-03
MW-13-25
MW-13-29
AREA 15
AREA 19
MW-13-48
MW-13-34
AREA 8
AREA 3
AREA 5-1
AREA 5-4
AREA 5-7
MW-13-42
MW-13-43
PW-14-02
MW-13-45
AREA 4
AREA 5-8
AREA 5-5
MW-14-61
MW-14-56
AREA 5-2
AREA 5-6
AREA 2
TW-14-02
PW-14-01
AREA 10
AREA 5-3
AREA 1
AREA 9
AREA 6
AREA 7

LEGEND

CHEMICAL TRENDS*

- STABLE OR DECREASING TREND OBSERVED
- INCREASING TREND OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS *
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:
- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA

MW-15-72 AND MW-15-73 HAVE A MAXIMUM 1 SAMPLING EVENT AND THEREFORE DO NOT MEET TREND CRITERIA.

ANALYTICAL DATA AVAILABLE IN TABLE 2. TREND RESULTS SUMMARIZED IN TABLE 7.

DW: DRINKING WATER
COC: CONSTITUENT OF CONCERN
µg/L: MICROGRAMS PER LITER

0 400 800
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

1,4-DIOXANE TRENDS IN DEEP OVERBURDEN AND WEATHERED BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
14

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 14 1,4-D Deep OB Weathered BR Trends.mxd PLOTTED: 6/22/2016 3:46:57 PM BY: dolexa

AREA 13
MW-04-04(3)
MW-02-03(3)
MW-02-04(3)
AREA 14
MW-13-40
AREA 12
AREA 18
MW-04-03(3)
MW-13-41
MW-02-02(3)
MW-91-2
MW-19
MW-23
MW-01(3)
MW-22
AREA 17
AREA 20
MW-15-71
MW-13-26
MW-12-20
AREA 21
MW-13-30
AREA 11
MW-13-24
MW-13-22
MW-12-21
MW-13-23
MW-13-27
MW-14-64
MW-13-29
MW-13-25
MW-91-6
MW-13-34
MW-14-63
AREA 3
AREA 4
MW-14-56
AREA 2
AREA 1
MW-14-61
AREA 5-1
AREA 5-2
AREA 5-3
AREA 8
AREA 5-4
AREA 5-5
AREA 5-7
AREA 5-8
AREA 5-6
AREA 10
AREA 9
AREA 6
AREA 7
MW-02-01(3)
AREA 16
AREA 15
AREA 19

LEGEND

CHEMICAL TRENDS*

- ONLY STABLE OR DECREASING TRENDS OBSERVED
- ONE OR MORE INCREASING TRENDS OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS *
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:
- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA

MW-15-72 AND MW-15-73 HAVE A MAXIMUM 1 SAMPLING EVENT AND THEREFORE DO NOT MEET TREND CRITERIA.

ANALYTICAL DATA AVAILABLE IN TABLE 2. TREND RESULTS SUMMARIZED IN TABLE 7.

DW: DRINKING WATER
COC: CONSTITUENT OF CONCERN
VOC: VOLATILE ORGANIC COMPOUND
µg/L: MICROGRAMS PER LITER

0 400 800
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

METAL AND VOC TRENDS IN DEEP OVERBURDEN AND WEATHERED BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
15

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 15 Geochem Deep OB Weathered BR Trends.mxd PLOTTED: 6/22/2016 4:00:01 PM BY: dolexa

AREA 13
MW-91-4
MW-88-1
MW-12-04
AREA 12
AREA 14
AREA 18
MW-04-02(3)
MW-91-3
AREA 17
AREA 20
AREA 21
AREA 16
MW-04-01(3)
AREA 11
AREA 15
AREA 19
MW-91-5
MW-13-28
MW-12-03
MW-12-02
AREA 8
AREA 3
AREA 5-7
AREA 5-1
AREA 5-4
MW-04-06R
AREA 4
AREA 5-8
MW-12-05
MW-12-06
AREA 5-5
MW-04-01(6)
AREA 5-2
AREA 5-3
AREA 5-6
MW-04-04R
AREA 2
AREA 10
MW-12-01
AREA 1
AREA 9
AREA 6
AREA 7

LEGEND

CHEMICAL TRENDS*

- ONLY STABLE OR DECREASING TRENDS OBSERVED
- ONE OR MORE INCREASING TRENDS OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS *
- PLANT 2
- PLANT 3
- PLANT 6

NOTES:

* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:
- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA

ANALYTICAL DATA AVAILABLE IN TABLE 2. TREND RESULTS SUMMARIZED IN TABLE 7.

COC: CONSTITUENT OF CONCERN
VOC: VOLATILE ORGANIC COMPOUND

0 400 800
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

METAL AND VOC TRENDS IN BEDROCK GROUNDWATER

ARCADIS Design & Consultancy for natural and built assets

FIGURE
16

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2016 Annual Report\FIG 16 Geochem BR Trends.mxd PLOTTED: 6/20/2016 12:09:56 PM BY: dolexa

APPENDIX A

Quarterly Figures

Location ID:	Res DW	MW-13-43
1,4-Dioxane	8.5 µg/L	**300**

Location ID:	Res DW	MW-13-42
1,4-Dioxane	8.5 µg/L	**14**

Location ID:	Res DW	MW-13-45
1,4-Dioxane	8.5 µg/L	**48**

Location ID:	Res DW	PW-14-02
1,4-Dioxane	8.5 µg/L	**220**

Location ID:	Res DW	MW-14-59
1,4-Dioxane	8.5 µg/L	**200**
1,1-Dichloroethene	7 µg/L	**21**

Location ID:	Res DW	MW-14-58
1,4-Dioxane	8.5 µg/L	**46**
Manganese	0.05 mg/L	**0.961**

Location ID:	Res DW	MW-14-60
1,4-Dioxane	8.5 µg/L	**160**
Vinyl Chloride	2 µg/L	**3**

Location ID:	Res DW	MW-14-56
bis(2-Ethylhexyl)phthalate	6 µg/L	**11**
Chromium	0.1 mg/L	**0.318**
Chromium (dissolved)	0.1 mg/L	<0.005
Lead	0.004 mg/L	**0.008**
Lead (dissolved)	0.004 mg/L	<0.003
Nickel	0.1 mg/L	**0.607**
Nickel (dissolved)	0.1 mg/L	**0.607**

Location ID:	Res DW	P2-MW-04
1,4-Dioxane	8.5 µg/L	**40**

Location ID:	Res DW	MW-14-61
Arsenic	0.01 mg/L	**0.016**

Location ID:	Res DW	MW-14-55
Tetrachloroethene	8.5 µg/L	**57**
Nickel	0.1 mg/L	**0.352**
Nickel (dissolved)	0.1 mg/L	**0.352**

Location ID:	Res DW	MW-14-62
1,4-Dioxane	8.5 µg/L	**48**

Location ID:	Res DW	PW-14-01
1,4-Dioxane	8.5 µg/L	**350**

Location ID:	Res DW	MW-14-54
Benzene	5 µg/L	**113**
Ethylbenzene	74 µg/L	**90**
Total Xylenes	280 µg/L	**299**
bis(2-Ethylhexyl)phthalate	6 µg/L	**7**

Location ID:	Res DW	MW-03(2)
Arsenic	0.01 mg/L	**0.012**

MW-14-63
MW-12-02
P2-MW-01
P2-MW-03
MW-13-42
MW-13-43
MW-13-44
PW-14-02
MW-13-45
P2-SB-20
P2-SB-03
MW-14-59
MW-14-58
MW-14-60
LMW-12-02
LMW-14-14D
LMW-12-08
MW-12-05
LMW-12-01
PMW-02
PMW-01
LMW-12-07
LMW-12-03S/D
MW-12-06
MW-14-61
P2-MW-04
LMW-12-06
LMW-14-13D
P2-SB-37
LMW-14-15D
LMW-15-17D
PMW-03
LMW-12-04
LMW-12-05
LMW-14-12D
LMW-15-16D
MW-14-62
P2-SB-06
MW-12-09
MW-14-56
MW-14-57
MW-12-18
MW-14-55
MW-14-54
PW-14-01
MW-12-01
MW-12-07
MW-12-08
P2-MW-02
MW-13-51
MW-13-52
MW-13-50
MW-13-53
MW-12-17
MW-03(2)
MW-02(2)
MW-01(2)
MWBP-12-UST5-6
MWBP-10-UST5-6

LEGEND

EXISTING MONITORING WELLS

- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL; TEST MW
- BEDROCK MONITORING WELL
- 2Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

NOT ALL WELLS SHOWN ON THIS FIGURE WERE SAMPLED DURING THIS MONITORING EVENT.

VOC EXTENTS INCLUDE SOIL AND GROUNDWATER DATA FROM THE 2012 RFI PHASE 2 ACTIVITIES.

DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

0 200 400
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

SECOND QUARTER 2015 DRINKING WATER EXCEEDANCES PLANT 2 AND W. PLANT 6

ARCADIS

FIGURE
A1-1

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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MW-04-04
MW-91-4
MW-13-39B
MW-88-1

Location ID:	Res DW	MW-13-40
Arsenic	0.01 mg/L	**0.032**
Arsenic (dissolved)	0.01 mg/L	**0.03**

MW-02-03(3)
MW-02-04(3)
MW-13-40
MW-12-04
MW-04-03
MW-04-02
MW-13-38
MW-13-41
MW-91-3
P3-SB-07
MW-93-1
MW-02-02(3)

Location ID:	Res DW	MW-13-41
1,4-Dioxane	8.5 µg/L	**19**
Arsenic	0.01 mg/L	**0.024**
Arsenic (dissolved)	0.01 mg/L	**0.022**

Location ID:	Res DW	MW-02-02(3)
Manganese	0.05 mg/L	**3.17**
Manganese (dissolved)	0.05 mg/L	**3.12**

MW-91-2
LMW-12-09
UNK-15
MW-04
MW-05
MW-13-37
MW-19
MW-23
MW-06
UNK-11
CH-14-RO
UNK-09
UNK-10
MW-22

Location ID:	Res DW	CH-14-RO
Chromium	0.1 mg/L	**15.2**
Chromium VI	0.1 mg/L	**14.6**
Vanadium	0.0045 mg/L	**0.014**

Location ID:	Res DW	MW-22
Arsenic	0.01 mg/L	**0.049**
Arsenic (dissolved)	0.01 mg/L	**0.004**
Manganese	0.05 mg/L	**2.85**
Manganese (dissolved)	0.05 mg/L	**9.81**

Location ID:	Res DW	UNK-09
Arsenic	0.01 mg/L	**0.019**

LMW-12-11
LMW-12-10
P3-SB-28
MW-14-65
MW-13-26
MW-15-71
MW-12-20
MW-02-01(3)
MW-04-01(3)
MW-13-30

Location ID:	Res DW	MW-13-21
1,4-Dioxane	8.5 µg/L	**410**

Location ID:	Res DW	MW-13-23
Manganese	0.05 mg/L	**1.5**
Manganese (dissolved)	0.05 mg/L	**1.36**

Location ID:	Res DW	MW-13-22
1,4-Dioxane	8.5 µg/L	**158**

MW-91-5
MW-13-24
MW-13-22
MW-12-21
MW-13-28
MW-13-23
MW-13-27
PW-14-03
MW-14-64

Location ID:	Res DW	PW-14-03
1,4-Dioxane	8.5 µg/L	**370**

Location ID:	Res DW	MW-13-31
Chromium	0.1 mg/L	**1.02**
Lead	0.004 mg/L	**0.068**
Nickel	0.1 mg/L	**2.16**

MW-13-31
MW-13-32
MW-13-25
MW-13-29

Location ID:	Res DW	MW-14-64
Arsenic	0.01 mg/L	**0.014**

Location ID:	Res DW	MW-13-29
1,4-Dioxane	8.5 µg/L	**18**

Location ID:	Res DW	MW-13-32
Nickel	0.1 mg/L	**1.77**

Location ID:	Res DW	MW-13-25
1,4-Dioxane	8.5 µg/L	**20**

MW-13-33

Location ID:	Res DW	MW-13-48
1,4-Dioxane	8.5 µg/L	**210**

MW-91-6
MW-13-47
MW-13-46
MW-13-48
MW-13-34
MW-13-49

Location ID:	Res DW	MW-13-34
1,4-Dioxane	8.5 µg/L	**56**

LEGEND

EXISTING MONITORING WELLS

- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL; TEST MW
- BEDROCK MONITORING WELL
- 2Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

NOT ALL WELLS SHOWN ON THIS FIGURE WERE SAMPLED DURING THIS MONITORING EVENT.

DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

0 250 500
SCALE IN FEET

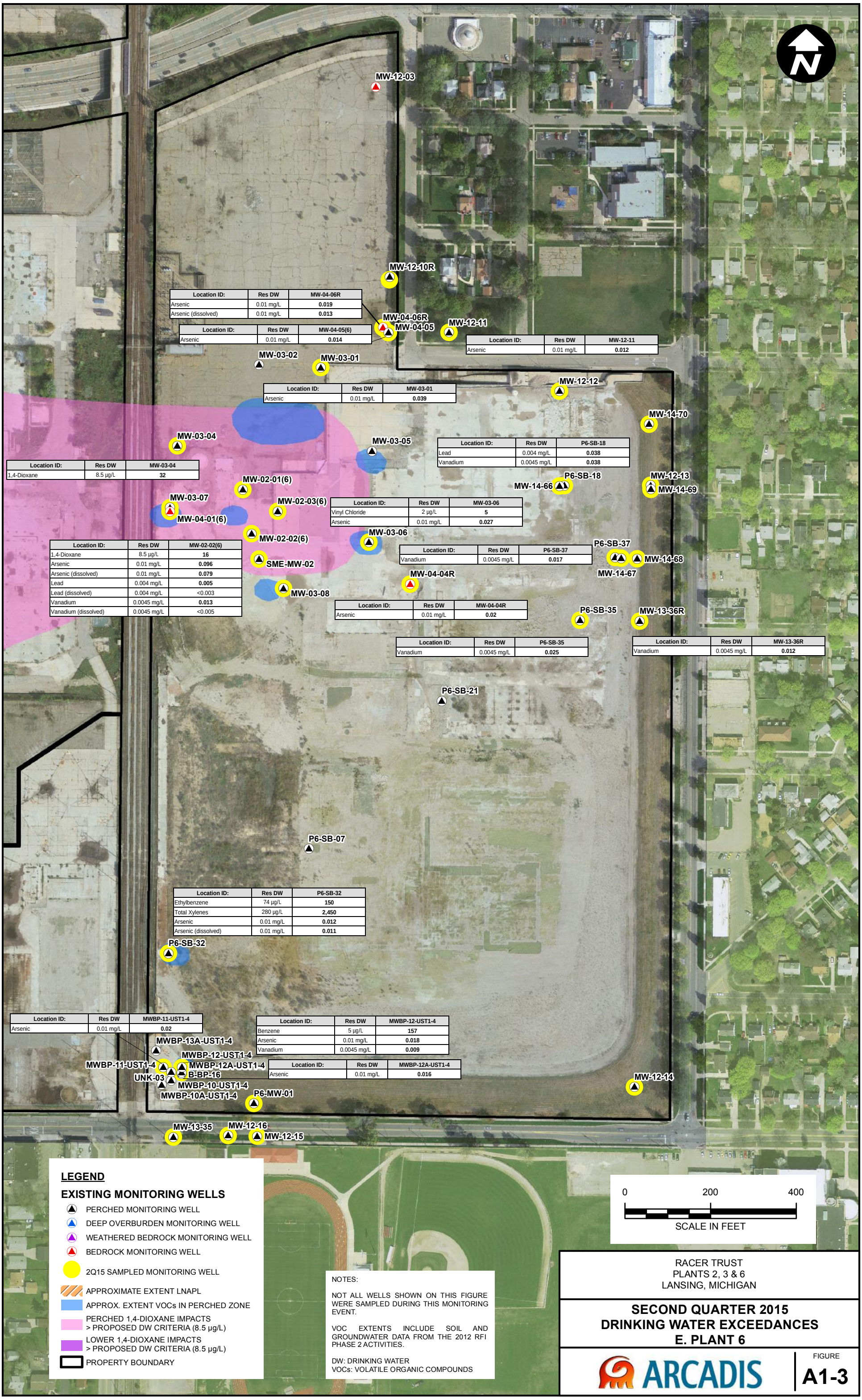
RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

SECOND QUARTER 2015 DRINKING WATER EXCEEDANCES PLANT 3

ARCADIS

FIGURE
A1-2

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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Location ID:	Res DW	MW-04-06R
Arsenic	0.01 mg/L	**0.019**
Arsenic (dissolved)	0.01 mg/L	**0.013**

Location ID:	Res DW	MW-04-05(6)
Arsenic	0.01 mg/L	**0.014**

Location ID:	Res DW	MW-12-11
Arsenic	0.01 mg/L	**0.012**

Location ID:	Res DW	MW-03-01
Arsenic	0.01 mg/L	**0.039**

Location ID:	Res DW	MW-03-04
1,4-Dioxane	8.5 µg/L	**32**

Location ID:	Res DW	P6-SB-18
Lead	0.004 mg/L	**0.038**
Vanadium	0.0045 mg/L	**0.038**

Location ID:	Res DW	MW-03-06
Vinyl Chloride	2 µg/L	**5**
Arsenic	0.01 mg/L	**0.027**

Location ID:	Res DW	MW-02-02(6)
1,4-Dioxane	8.5 µg/L	**16**
Arsenic	0.01 mg/L	**0.096**
Arsenic (dissolved)	0.01 mg/L	**0.079**
Lead	0.004 mg/L	**0.005**
Lead (dissolved)	0.004 mg/L	<0.003
Vanadium	0.0045 mg/L	**0.013**
Vanadium (dissolved)	0.0045 mg/L	<0.005

Location ID:	Res DW	P6-SB-37
Vanadium	0.0045 mg/L	**0.017**

Location ID:	Res DW	MW-04-04R
Arsenic	0.01 mg/L	**0.02**

Location ID:	Res DW	P6-SB-35
Vanadium	0.0045 mg/L	**0.025**

Location ID:	Res DW	MW-13-36R
Vanadium	0.0045 mg/L	**0.012**

Location ID:	Res DW	P6-SB-32
Ethylbenzene	74 µg/L	**150**
Total Xylenes	280 µg/L	**2,450**
Arsenic	0.01 mg/L	**0.012**
Arsenic (dissolved)	0.01 mg/L	**0.011**

Location ID:	Res DW	MWBP-11-UST1-4
Arsenic	0.01 mg/L	**0.02**

Location ID:	Res DW	MWBP-12-UST1-4
Benzene	5 µg/L	**157**
Arsenic	0.01 mg/L	**0.018**
Vanadium	0.0045 mg/L	**0.009**

Location ID:	Res DW	MWBP-12A-UST1-4
Arsenic	0.01 mg/L	**0.016**

LEGEND

EXISTING MONITORING WELLS

- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- 2Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

NOT ALL WELLS SHOWN ON THIS FIGURE WERE SAMPLED DURING THIS MONITORING EVENT.

VOC EXTENTS INCLUDE SOIL AND GROUNDWATER DATA FROM THE 2012 RFI PHASE 2 ACTIVITIES.

DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS

0 200 400
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

SECOND QUARTER 2015 DRINKING WATER EXCEEDANCES E. PLANT 6

ARCADIS

FIGURE
A1-3

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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Location ID:	Res DW	MW-13-43
1,4-Dioxane	8.5 µg/L	**360**

Location ID:	Res DW	MW-13-42
1,4-Dioxane	8.5 µg/L	**20**

Location ID:	Res DW	MW-13-45
1,4-Dioxane	8.5 µg/L	**56**

Location ID:	Res DW	MW-12-05
1,4-Dioxane	8.5 µg/L	**10**

Location ID:	Res DW	TW-14-02
1,4-Dioxane	8.5 µg/L	**3,300**

MW-12-02
MW-14-63
P2-MW-01
P2-MW-03
MW-13-44
MW-13-43
MW-13-42
PW-14-02
P2-SB-20
MW-13-45
P2-SB-03
MW-14-59
MW-14-58
MW-14-60
LMW-12-02
LMW-12-08
LMW-14-14D
P2-MW-04
MW-12-05
PMW-02
LMW-12-07
LMW-12-01
LMW-12-03S
PMW-01
MW-12-06
LMW-14-13D
LMW-14-15D
MW-14-61
MW-14-57
LMW-12-06
LMW-12-03D
P2-SB-37
MW-12-09
MW-14-56
LMW-12-05
PMW-03
LMW-15-17D
P2-SB-06
LMW-12-04
LMW-14-12D
LMW-15-16D
MW-14-62
MW-14-55
MW-12-18
TW-14-02
MW-14-54
PW-14-01
MW-12-01
MW-12-07
MW-12-08
P2-MW-02
MW-13-51
MW-13-52
MW-13-50
MW-13-53
MW-12-17
MW-03(2)
MW-02(2)
MW-01(2)
MWBP-12-UST5-6
MWBP-10-UST5-6

LEGEND

EXISTING MONITORING WELLS

- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- 3Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

NOT ALL WELLS SHOWN ON THIS FIGURE WERE SAMPLED DURING THIS MONITORING EVENT.

DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

FOR 1,4-DIOXANE 8.5 ug/L IS THE PROPOSED DRINKING WATER CRITERIA (DWC) BEING CONSIDERED BASED ON DISCUSSIONS WITH THE MDEQ. THEREFORE, 8.5 ug/L IS THE EFFECTIVE DWC STANDARD AT THE SITE. THE CURRENT PROMULGATED DWC STANDARD FOR 1,4-DIOXANE IS 85 ug/L.

0 190 380
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

THIRD QUARTER 2015 DRINKING WATER EXCEEDANCES PLANT 2

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-4

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2015 Annual Report\1Q15 Exceedances.mxd PLOTTED: 5/21/2015 2:59:23 PM BY: dolexa

MW-04-04
MW-91-4
MW-13-39B
MW-88-1
MW-02-03(3)
MW-02-04(3)
MW-13-40
MW-12-04
MW-04-03
MW-04-02
MW-13-38
MW-13-41
P3-SB-07
MW-02-02(3)
MW-93-1
MW-91-3
MW-91-2
UNK-13
UNK-15
MW-04
MW-13-37
LMW-12-09
MW-05
UNK-14
MW-06
CH-14-RO
UNK-11
UNK-09
UNK-10
LMW-12-11
MW-12-19
LMW-12-10
P3-SB-28
MW-14-65

Location ID:	Res DW	MW-15-71
bis(2-Ethylhexyl)phthalate	6 µg/L	7

MW-15-71
MW-12-20
MW-13-26
MW-13-30
MW-02-01(3)
MW-04-01(3)

Location ID:	Res DW	MW-13-22
1,4-Dioxane	8.5 µg/L	240

MW-91-5
MW-13-24
MW-12-21
MW-13-28
MW-13-23
MW-13-27
MW-13-22
MW-14-64
PW-14-03
MW-13-25
MW-13-29

Location ID:	Res DW	MW-13-32
Nickel	0.1 mg/L	0.251

MW-13-31
MW-13-32
MW-13-33
MW-91-6
MW-13-46
MW-13-48
MW-13-34
MW-13-47
MW-13-49

LEGEND

EXISTING MONITORING WELLS

- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- 3Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
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- PROPERTY BOUNDARY

NOTES:

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VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

FOR 1,4-DIOXANE 8.5 ug/L IS THE PROPOSED DRINKING WATER CRITERIA (DWC) BEING CONSIDERED BASED ON DISCUSSIONS WITH THE MDEQ. THEREFORE, 8.5 ug/L IS THE EFFECTIVE DWC STANDARD AT THE SITE. THE CURRENT PROMULGATED DWC STANDARD FOR 1,4-DIOXANE IS 85 ug/L.

0 250 500
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

THIRD QUARTER 2015 DRINKING WATER EXCEEDANCES PLANT 3

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-5

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\2015 Annual Report\1Q15 Exceedances.mxd PLOTTED: 5/21/2015 2:59:23 PM BY: dolexa

MW-13-45	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	50

MW-13-43	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	350

PW-14-02	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	470

MW-14-58	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	24

MW-14-55	Res DW	Concentration
Tetrachloroethene	5 µg/L	100
Nickel	0.1 mg/L	0.518

MW-14-59	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	200
1,1-Dichloroethene	7 µg/L	39

MW-14-60	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	150

P2-MW-04	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	49

MW-14-62	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	67

TW-14-02	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	2,500

PW-14-01	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	510

MWBP-10-UST5-6	Res DW	Concentration
Arsenic	0.01 mg/L	0.014

MW-12-02
MW-14-63
P2-MW-01
P2-MW-03
MW-13-44
MW-13-43
PW-14-02
MW-13-42
P2-SB-20
MW-13-45
P2-SB-03
MW-14-59
MW-14-58
MW-14-60
LMW-12-02
LMW-12-08
LMW-14-14D
MW-12-05
PMW-02
LMW-12-07
LMW-12-01
PMW-01
P2-SB-37
MW-12-06
MW-14-61
LMW-14-13D
LMW-12-03S/D
LMW-12-06
LMW-15-17D
LMW-14-15D
MW-12-09
MW-14-57
MW-14-56
LMW-12-04
LMW-15-16D
PMW-03
LMW-12-05
LMW-14-12D
MW-14-62
P2-SB-06
MW-14-55
MW-12-18
MW-14-54
TW-14-02
PW-14-01
MW-12-01
MW-12-07
MW-12-08
P2-MW-02
MW-13-51
MW-13-50
MW-13-52
MW-13-53
MW-12-17
MW-03(2)
MW-02(2)
MW-01(2)
MWBP-12-UST5-6
MWBP-10-UST5-6

LEGEND

EXISTING MONITORING WELLS

- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL; TEST MW
- BEDROCK MONITORING WELL
- 4Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

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DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

0 200 400
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

FOURTH QUARTER 2015
DRINKING WATER EXCEEDANCES
PLANT 2 AND W. PLANT 6

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-6

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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MW-04-04
MW-91-4
MW-13-39B
MW-88-1
MW-12-04
MW-04-03
MW-04-02
MW-02-03(3)
MW-02-04(3)
MW-13-40
MW-13-38
MW-13-41
MW-91-3
P3-SB-07
MW-02-02(3)
MW-93-1
MW-91-2
CH-14-RO
MW-13-37
UNK-15
MW-04
MW-06
MW-05
LMW-12-09
UNK-11
MW-19
MW-23
UNK-09
UNK-10
MW-22
LMW-12-11
MW-12-19
LMW-12-10
P3-SB-28
MW-14-65
MW-13-26
MW-15-71
MW-12-20
MW-02-01(3)
MW-04-01(3)
MW-13-30
MW-13-24
MW-13-23
MW-13-27
MW-91-5
MW-13-22
MW-13-28
MW-12-21
MW-14-64
PW-14-03
MW-13-29
MW-13-25
MW-13-31
MW-13-32
MW-13-33
MW-91-6
MW-13-46
MW-13-48
MW-13-47
MW-13-34
MW-13-49

CH-14-RO	Res DW	Concentration
Chromium	0.1 mg/L	**11.1**
Chromium VI	0.1 mg/L	**11.8**

MW-13-40	Res DW	Concentration
Arsenic	0.01 mg/L	**0.028**

MW-13-41	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**11**
Arsenic	0.01 mg/L	**0.014**

MW-12-21	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**400**

MW-13-22	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**166**

PW-14-03	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**420**

MW-13-25	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**21**

MW-13-29	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**21**

MW-13-48	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**380**

MW-13-34	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**70**

MW-13-31	Res DW	Concentration
Chromium	0.1 mg/L	**1.38**
Chromium (dissolved)	0.1 mg/L	**0.034**
Lead	0.004 mg/L	**0.344**
Lead (dissolved)	0.004 mg/L	<0.003
Nickel	0.1 mg/L	**20.7**
Nickel (dissolved)	0.1 mg/L	**8.24**
Vanadium	0.0045 mg/L	**0.038**
Vanadium (dissolved)	0.0045 mg/L	<0.005

MW-13-33	Res DW	Concentration
Lead	0.004 mg/L	**0.022**
Lead (dissolved)	0.004 mg/L	<0.003
Vanadium	0.0045 mg/L	**0.008**
Vanadium (dissolved)	0.0045 mg/L	<0.005

MW-13-32	Res DW	Concentration
Chromium	0.1 mg/L	**0.51**
Nickel	0.1 mg/L	**3.63**

LEGEND

EXISTING MONITORING WELLS

- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL; TEST MW
- BEDROCK MONITORING WELL
- 4Q15 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

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DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

0 250 500
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

FOURTH QUARTER 2015 DRINKING WATER EXCEEDANCES PLANT 3

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-7

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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MW-12-11	Res DW	Concentration
Nickel	0.1 mg/L	**0.137**
Nickel (dissolved)	0.1 mg/L	**0.14**

MW-03-01	Res DW	Concentration
Arsenic	0.01 mg/L	**0.035**

MW-03-06	Res DW	Concentration
Arsenic	0.01 mg/L	**0.025**

MW-03-04	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**42**

P6-SB-18	Res DW	Concentration
Lead	0.004 mg/L	**0.016**
Vanadium	0.0045 mg/L	**0.017**

MW-03-07	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**28**

P6-SB-37	Res DW	Concentration
Vanadium	0.0045 mg/L	**0.013**

MW-02-03(6)	Res DW	Concentration
1,4-Dioxane	8.5 µg/L	**14**
Arsenic	0.01 mg/L	**0.059**
Arsenic (dissolved)	0.01 mg/L	**0.055**
Lead	0.004 mg/L	**0.005**
Lead (dissolved)	0.004 mg/L	<0.003
Vanadium	0.0045 mg/L	**0.005**
Vanadium (dissolved)	0.0045 mg/L	<0.005

MW-13-36R	Res DW	Concentration
Vanadium	0.0045 mg/L	**0.009**

P6-SB-35	Res DW	Concentration
Vanadium	0.0045 mg/L	**0.02**

P6-SB-32	Res DW	Concentration
Ethylbenzene	74 µg/L	**580**
Total Xylene	280 µg/L	**6,640**

MWBP-12-UST1-4	Res DW	Concentration
Arsenic	0.01 mg/L	**0.017**
Vanadium	0.0045 mg/L	**0.008**

MWBP-11-UST1-4	Res DW	Concentration
Arsenic	0.01 mg/L	**0.022**

MW-12-16	Res DW	Concentration
Arsenic	0.01 mg/L	**0.027**

MWBP-12A-UST1-4	Res DW	Concentration
Arsenic	0.01 mg/L	**0.012**

MW-12-03
MW-12-10R
MW-04-06R
MW-04-05
MW-12-11
MW-03-02
MW-03-01
MW-12-12
MW-14-70
MW-03-04
MW-03-05
P6-SB-18
MW-14-66
MW-12-13
MW-14-69
MW-02-01(6)
MW-03-07
MW-04-01(6)
MW-02-03(6)
MW-02-02(6)
MW-03-06
P6-SB-37
MW-14-68
MW-14-67
SME-MW-02
MW-03-08
MW-04-04R
P6-SB-35
MW-13-36R
P6-SB-21
P6-SB-07
P6-SB-32
MWBP-13A-UST1-4
MWBP-12-UST1-4
MWBP-11-UST1-4
B-BP-16
MWBP-10-UST1-4
MWBP-12A-UST1-4
MWBP-10A-UST1-4
UNK-03
P6-MW-01
MW-12-14
MW-13-35
MW-12-16
MW-12-15

0 200 400
SCALE IN FEET

LEGEND

EXISTING MONITORING WELLS

- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL
- BEDROCK MONITORING WELL
- 4Q15 SAMPLED MONITORING WELL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

NOTES:

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VOCs: VOLATILE ORGANIC COMPOUNDS

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

FOURTH QUARTER 2015
DRINKING WATER EXCEEDANCES
E. PLANT 6

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-8

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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MW-13-43	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**280**

MW-13-42	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**20**

MW-15-73	Res DW	Concentration
Vanadium	0.0045 mg/L	**0.005**
Vanadium (dissolved)	0.0045 mg/L	<0.005

MW-12-05	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**11**

MW-15-72	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**135**

MW-14-56	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**9**

MW-13-45	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**51**

TW-14-02	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**2,780**

MW-14-63 MW-12-02 P2-MW-01 P2-MW-03 MW-13-44 MW-13-43 MW-13-42 MW-15-73 PW-14-02 MW-13-45 P2-SB-20 P2-SB-03 MW-14-59 MW-14-58 MW-14-60 LMW-12-02 LMW-14-14D MW-12-05 LMW-12-08 LMW-12-07 MW-15-72 LMW-12-03S/D MW-14-61 LMW-12-01 PMW-017 MW-12-06 MW-14-57 LMW-15-17D PMW-03 MW-12-09 MW-14-56 LMW-12-06 LMW-12-05 LMW-12-04 P2-SB-06 LMW-15-16D MW-14-62 MW-12-18 MW-14-55 MW-14-54 TW-14-02 PW-14-01 MW-12-01 MW-12-07 MW-12-08 P2-MW-02 MW-13-51 MW-13-52 MW-13-50 MW-13-53 MW-12-17 MW-03(2) MW-02(2) MW-01(2) P2-MW-04 MWBP-12-UST5-6 MWBP-10-UST5-6

LEGEND

EXISTING MONITORING WELLS

- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL; TEST MW
- BEDROCK MONITORING WELL
- 1Q16 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PROPERTY BOUNDARY

NOTES:

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VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

0 200 400
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

FIRST QUARTER 2016 DRINKING WATER EXCEEDANCES PLANT 2 AND W. PLANT 6

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-9

CITY: Novi DIV: ENV DB: D. OLEXA PIC: D. KAIDING PM: C. KIKER TM: K. PADRON TR: P. CURRY PROJECT NUMBER: B0064479.2016 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
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MW-04-04
MW-91-4
MW-13-39B
MW-88-1
MW-02-03(3)
MW-13-40
MW-02-04(3)
MW-12-04
MW-04-03
MW-04-02
MW-13-38
MW-91-3
P3-SB-07
MW-13-41
MW-02-02(3)
MW-93-1
MW-91-2
UNK-15
MW-05
MW-13-37
MW-23
LMW-12-09
UNK-11
CH-14-RO
UNK-09
UNK-10
MW-22
LMW-12-11
MW-12-19
LMW-12-10
P3-SB-28
MW-14-65
MW-13-26
MW-15-71
MW-12-20
MW-02-01(3)
MW-04-01(3)
MW-13-30
MW-13-24
MW-12-21
MW-13-28
MW-13-27
MW-91-5
MW-13-23
MW-13-22
MW-14-64
PW-14-03
MW-13-25
MW-13-29
MW-13-31
MW-13-32
MW-13-33
MW-13-48
MW-91-6
MW-13-47
MW-13-34
MW-13-49
MW-13-46

MW-13-22	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**145**

MW-13-32	Res DW	Concentration
Chromium	0.1 mg/L	**0.203**
Nickel	0.1 mg/L	**1.99**

MW-13-48	Res DW	Concentration
1,4-Dioxane	7.2 µg/L	**280**

LEGEND

EXISTING MONITORING WELLS

- NAPL MONITORING WELL
- PERCHED MONITORING WELL
- DEEP OVERBURDEN MONITORING WELL
- WEATHERED BEDROCK MONITORING WELL; TEST MW
- BEDROCK MONITORING WELL
- 1Q16 SAMPLED MONITORING WELL
- APPROXIMATE EXTENT LNAPL
- APPROX. EXTENT VOCs IN PERCHED ZONE
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (7.2 µg/L)
- PROPERTY BOUNDARY

NOTES:

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DW: DRINKING WATER
VOCs: VOLATILE ORGANIC COMPOUNDS
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID

0 250 500
SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

FIRST QUARTER 2016 DRINKING WATER EXCEEDANCES PLANT 3

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-10

CITY: Novi DIV: ENV DB: D. OLEXA PIC: D. KAIDING PM: C. KIKER TM: K. PADRON TR: P. CURRY PROJECT NUMBER: B0064480.2016 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\working\Quarterly GW Monitoring Report DRAFT.mxd PLOTTED: 4/12/2016 10:58:00 AM BY: dolexa

APPENDIX B

Laboratory Analytical Reports

Analytical Laboratory Report

Report ID: S66081.01(01)
Generated on 06/15/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66081.01-S66081.02
Project: RACER Plant 2
Collected Date: 06/02/2015
Submitted Date/Time: 06/03/2015 14:45
Sampled by: Robert Hikade
P.O. #: B0064479

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66081.01	MW-12-02_060215	Groundwater	06/02/2015 12:45
S66081.02	Trip Blank	Groundwater	06/02/2015 00:01

Analytical Laboratory Report

Lab Sample ID: S66081.01
Sample Tag: MW-12-02_060215
Collected Date/Time: 06/02/2015 12:45
Matrix: Groundwater
COC Reference: 84090

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	7.1	IR
6	40ml Glass	HCL	Yes	7.1	IR
1	125ml Plastic	None	Yes	7.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/09/15 11:00	JRH		
Metal Digestion	Completed			SW3015A	06/09/15 11:00	JRH		
pH check for VOCs	<2	STD Units		N/A	06/06/15 02:45	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/04/15 12:28	JDP	14797-55-8	
Sulfate	138	mg/L	10	E300.0	06/04/15 13:57	JDP	14808-79-8	
Metals								
Iron, Dissolved	6.57	mg/L	0.02	SW6020A	06/09/15 15:40	JRH	7439-89-6	
Iron	8.19	mg/L	0.02	SW6020A	06/09/15 15:38	JRH	7439-89-6	
Manganese, Dissolved	0.312	mg/L	0.005	SW6020A	06/09/15 15:40	JRH	7439-96-5	
Manganese	0.320	mg/L	0.005	SW6020A	06/09/15 15:38	JRH	7439-96-5	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/06/15 02:00	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/10/15 16:01	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/06/15 02:00	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/06/15 02:00	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/06/15 02:00	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/06/15 02:00	WAT	108-10-1	

Lab Sample ID: S66081.01 (continued)
Sample Tag: MW-12-02_060215

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
2-Hexanone	Not detected	ug/L	10	SW8260C	06/06/15 02:00	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/06/15 02:00	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:00	WAT	120-82-1	
Organics								
Methane in Water	14	ug/L	0.50	RSK-175	06/11/15 12:00	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66081.02
Sample Tag: Trip Blank
Collected Date/Time: 06/02/2015 00:01
Matrix: Groundwater
COC Reference: 84090

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	7.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/06/15 02:50	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/06/15 02:22	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/06/15 02:22	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/06/15 02:22	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/06/15 02:22	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/06/15 02:22	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/06/15 02:22	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	108-90-7	

Lab Sample ID: S66081.02 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/06/15 02:22	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 02:22	WAT	120-82-1	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84090

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME [redacted] RANDY CHRISTENSEN
COMPANY ARCADIS
ADDRESS 10559 CITATION DR. STE 100
CITY Brighton STATE MI ZIP CODE 48116
PHONE NO. (616) 780 3277 FAX NO. P.O. NO. B#16479/80/81
E-MAIL ADDRESS RANDY.CHRISTENSEN@ARCADIS-US.COM QUOTE NO. 2015

INVOICE TO

CONTACT NAME ☒ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME RACER PLANT 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME ROBERT HILLARD

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs 8260	1-4 Dioxane	Select Metals	[redacted]	Sulfate/Nitrate	Methane	Total Iron/Manganese	Diss Iron/Manganese
660081.01	6/2	1245	MW-12-02_060215	GW	9	1	6	2					X	X			X	X	X	X
.02	6/2		TRIP BLANK	GW	1	1							X							

* Dissolved

RELINQUISHED BY: SIGNATURE/ORGANIZATION		☑ Sampler	DATE	TIME
	RMH		6/2/15	[redacted]
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE		6/2/15	[redacted]
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage		6/3/15	1400
RECEIVED BY: SIGNATURE/ORGANIZATION			6/3/15	1400

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	Michael Dunkman	06/03/15	1445

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 7.1

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 15, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506113	06/05/2015	S66081

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

This report shall not be reproduced, except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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Individual sample results relate only to the sample tested.
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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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Individual sample results relate only to the sample tested.
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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506113**
Project:	Subcontract Lab Services	Description:	S66081
Client Sample ID:	**66081.01**	Sampled:	06/02/15 12:45
Lab Sample ID:	**1506113-01**	Sampled By:	Client
Matrix:	Water	Received:	06/05/15 10:00

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**14**	0.50	ug/L	1	RSK-175	06/11/15 12:00	JMF	1505988

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1505988 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/11/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12004	
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:		06/11/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12004	
Methane		34.1	**25.6**	75	70-116	--		0.50

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17.9

E-1506113

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

#14033

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66081
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01	6/2/15	1245	66081.01	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/4/15 TIME: 1000
RECEIVED BY: SIGNATURE/ORGANIZATION: FedEx 4778 3589 1065 DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE: 6.5.15 TIME: 1000

SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS

NOTES: TEMP. ON ARRIVAL

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506113
Receipt Record Page/Line #: 17- | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): WC 6.5.15

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler # Merit | Time 1050

Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: (Dispersed) / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	1		1
Sample 1:	4.3	-	4.3
Sample 2:	3.1	-	3.1
Sample 3:	3.7	-	3.7

3 Sample Average °C: 3.7

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # ____ | Time ____

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # ____ | Time ____

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # ____ | Time ____

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By ____
☐	☐	Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☐	Other ____

COC Information

☐ TriMatrix COC ☐ Other Merit

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☐	☐	Temperature Blank OR average sample temperature, ≥6° C?
☐	☐	☐	If either is ≥6° C, was thermal preservation required?
☐	☐	☐	If "Yes", Project Chemist Approval Initials: ____
☐	☐	☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☐	☐	Completed Sample Preservation Verification Form?
☐	☐	☐	Samples chemically preserved correctly?
☐	☐	☐	If "No", added orange tag?
☐	☐	☐	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☐	☐	Sample ID matches COC?
☐	☐	Sample Date and Time matches COC?
☐	☐	Container type completed on COC?
☐	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☐	Broken containers/lids?
	☐	☐	Missing or incomplete labels?
	☐	☐	Illegible information on labels?
	☐	☐	Low volume received?
	☐	☐	Inappropriate or non-TriMatrix containers received?
☐	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6.5.15 1000	6.5.15 1058	Yes (No)

Analytical Laboratory Report

Revised Report

Report ID: S66130.01(02)
Generated on 06/23/2015
Replaces report S66130.01(01) generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66130.01-S66130.11
Project: Plant 2 / B0064479.2015.00603
Collected Date: 06/04/2015
Submitted Date/Time: 06/05/2015 08:15
Sampled by: Cliff Walls
P.O. #: B0064479.2015.00603

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

O-flags added to subcontracted results

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006
SW8270D	SW 846 Method 8270D Revision 4 February 2007

Sample Summary (11 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66130.01	MW-01(2)_060415	Groundwater	06/04/15 09:00
S66130.02	MW-03(2)_060415	Groundwater	06/04/15 10:10
S66130.03	MW-13-45_060415	Groundwater	06/04/15 12:30
S66130.04	MW-13-45_060415 MS	Groundwater	06/04/15 12:30
S66130.05	MW-13-45_060415 MSD	Groundwater	06/04/15 12:30
S66130.06	MW-14-60_060415	Groundwater	06/04/15 15:20
S66130.07	MW-14-59_060415	Groundwater	06/04/15 14:00
S66130.08	MW-13-42_060415	Groundwater	06/04/15 16:30
S66130.09	EB_0002_060415	Liquid	06/04/15 00:01
S66130.10	TB_0002_060415	Liquid	06/04/15 07:00
S66130.11	DUP_01_060415	Liquid	06/04/15 00:01

Lab Sample ID: S66130.01
Sample Tag: MW-01(2)_060415
Collected Date/Time: 06/04/2015 09:00
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.1	E300.0	06/05/15 12:38	Wat	14797-55-8	O
Sulfate	65	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O
Metals								
Arsenic	0.009	mg/L	0.002	SW6020A	06/22/15 12:56	PER	7440-38-2	
Chromium	0.006	mg/L	0.005	SW6020A	06/22/15 12:56	PER	7440-47-3	
Copper	0.012	mg/L	0.005	SW6020A	06/22/15 12:56	PER	7440-50-8	
Iron, Dissolved	2.33	mg/L	0.02	SW6020A	06/22/15 12:58	PER	7439-89-6	
Iron	2.77	mg/L	0.02	SW6020A	06/22/15 12:56	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 12:56	PER	7439-92-1	
Manganese, Dissolved	0.114	mg/L	0.005	SW6020A	06/22/15 12:58	PER	7439-96-5	
Manganese	0.122	mg/L	0.005	SW6020A	06/22/15 12:56	PER	7439-96-5	
Nickel	0.025	mg/L	0.005	SW6020A	06/22/15 12:56	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 12:56	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 17:41	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 17:41	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 17:41	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	6	ug/L	1	SW8260C	06/08/15 17:41	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 17:41	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	156-60-5	

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66130.01 (continued)
Sample Tag: MW-01(2)_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 17:41	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 17:41	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 17:41	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 17:41	WAT	120-82-1	
Organics								
Methane in Water	35	ug/L	0.50	RSK-175	06/12/15 13:23	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66130.02
Sample Tag: MW-03(2)_060415
Collected Date/Time: 06/04/2015 10:10
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Inorganics								
Nitrate-N	2.7	mg/L	0.1	E300.0	06/05/15 12:53	Wat	14797-55-8	O
Sulfate	89	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O
Metals								
Arsenic	0.012	mg/L	0.002	SW6020A	06/22/15 13:00	PER	7440-38-2	
Chromium	0.007	mg/L	0.005	SW6020A	06/22/15 13:00	PER	7440-47-3	
Copper	0.006	mg/L	0.005	SW6020A	06/22/15 13:00	PER	7440-50-8	
Iron, Dissolved	1.90	mg/L	0.02	SW6020A	06/22/15 13:01	PER	7439-89-6	
Iron	2.28	mg/L	0.02	SW6020A	06/22/15 13:00	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 13:00	PER	7439-92-1	
Manganese, Dissolved	0.740	mg/L	0.005	SW6020A	06/22/15 13:01	PER	7439-96-5	
Manganese	0.709	mg/L	0.005	SW6020A	06/22/15 13:00	PER	7439-96-5	
Nickel	0.040	mg/L	0.005	SW6020A	06/22/15 13:00	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 13:00	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 18:01	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 18:01	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 18:01	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	2	ug/L	1	SW8260C	06/08/15 18:01	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 18:01	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	156-60-5	

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66130.02 (continued)
Sample Tag: MW-03(2)_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 18:01	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 18:01	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 18:01	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:01	WAT	120-82-1	
Organics								
Methane in Water	Not detected	ug/L	0.50	RSK-175	06/12/15 13:28	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66130.03
Sample Tag: MW-13-45_060415
Collected Date/Time: 06/04/2015 12:30
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:30	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/09/15 16:34	WAT	106-93-4	
1,4-Dioxane	48	ug/L	5	SW8260B - SIM	06/10/15 17:32	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/09/15 16:34	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/09/15 16:34	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/09/15 16:34	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/09/15 16:34	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/09/15 16:34	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	124-48-1	

Lab Sample ID: S66130.03 (continued)
Sample Tag: MW-13-45_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/09/15 16:34	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:34	WAT	120-82-1	

Lab Sample ID: S66130.04
Sample Tag: MW-13-45_060415 MS
Collected Date/Time: 06/04/2015 12:30
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:30	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	45	ug/L	1	SW8260C	06/09/15 13:54	WAT	96-12-8	1
1,2-Dibromoethane	54	ug/L	1	SW8260B	06/09/15 13:54	WAT	106-93-4	1
1,4-Dioxane	100	ug/L	5	SW8260B - SIM	06/10/15 21:49	WAT	123-91-1	1
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	53	ug/L	1	SW8260C	06/09/15 13:54	WAT	76-13-1	1
Acetone	34	ug/L	10	SW8260C	06/09/15 13:54	WAT	67-64-1	1
Carbon disulfide	35	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-15-0	1
Methyl Acetate	35	ug/L	10	SW8260C	06/09/15 13:54	WAT	79-20-9	1
tert-Methyl butyl ether (MTBE)	49	ug/L	1	SW8260C	06/09/15 13:54	WAT	1634-04-4	1
2-Butanone (MEK)	32	ug/L	10	SW8260C	06/09/15 13:54	WAT	78-93-3	1
Dichlorodifluoromethane	67	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-71-8	1
Chloromethane	39	ug/L	1	SW8260C	06/09/15 13:54	WAT	74-87-3	1
Vinyl chloride	44	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-01-4	1
Bromomethane	45	ug/L	1	SW8260C	06/09/15 13:54	WAT	74-83-9	1
Chloroethane	42	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-00-3	1
Trichlorofluoromethane	52	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-69-4	1
1,1-Dichloroethene	43	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-35-4	1
Methylene chloride	48	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-09-2	1
trans-1,2-Dichloroethene	46	ug/L	1	SW8260C	06/09/15 13:54	WAT	156-60-5	1
1,1-Dichloroethane	47	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-34-3	1
cis-1,2-Dichloroethene	50	ug/L	1	SW8260C	06/09/15 13:54	WAT	156-59-2	1
Chloroform	48	ug/L	1	SW8260C	06/09/15 13:54	WAT	67-66-3	1
1,1,1-Trichloroethane	60	ug/L	1	SW8260C	06/09/15 13:54	WAT	71-55-6	1
Cyclohexane	45	ug/L	1	SW8260C	06/09/15 13:54	WAT	110-82-7	1
4-Methyl-2-pentanone (MIBK)	46	ug/L	10	SW8260C	06/09/15 13:54	WAT	108-10-1	1
2-Hexanone	45	ug/L	10	SW8260C	06/09/15 13:54	WAT	591-78-6	1
Carbon tetrachloride	59	ug/L	1	SW8260C	06/09/15 13:54	WAT	56-23-5	1
Benzene	47	ug/L	1	SW8260C	06/09/15 13:54	WAT	71-43-2	1
1,2-Dichloroethane	45	ug/L	1	SW8260C	06/09/15 13:54	WAT	107-06-2	1
Trichloroethene	51	ug/L	1	SW8260C	06/09/15 13:54	WAT	79-01-6	1
1,2-Dichloropropane	47	ug/L	1	SW8260C	06/09/15 13:54	WAT	78-87-5	1
Bromodichloromethane	49	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-27-4	1
Methyl cyclohexane	51	ug/L	1	SW8260C	06/09/15 13:54	WAT	108-87-2	1
cis-1,3-Dichloropropene	41	ug/L	1	SW8260C	06/09/15 13:54	WAT	10061-01-5	1
Toluene	47	ug/L	1	SW8260C	06/09/15 13:54	WAT	108-88-3	1
trans-1,3-Dichloropropene	40	ug/L	1	SW8260C	06/09/15 13:54	WAT	10061-02-6	1
1,1,2-Trichloroethane	46	ug/L	1	SW8260C	06/09/15 13:54	WAT	79-00-5	1
Tetrachloroethene	51	ug/L	1	SW8260C	06/09/15 13:54	WAT	127-18-4	1

1-Spiked at 50ug/l

Lab Sample ID: S66130.04 (continued)
Sample Tag: MW-13-45_060415 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	50	ug/L	1	SW8260C	06/09/15 13:54	WAT	124-48-1	1
Chlorobenzene	54	ug/L	1	SW8260C	06/09/15 13:54	WAT	108-90-7	1
1,1,2,2-Tetrachloroethane	47	ug/L	1	SW8260C	06/09/15 13:54	WAT	79-34-5	1
Ethylbenzene	50	ug/L	1	SW8260C	06/09/15 13:54	WAT	100-41-4	1
p,m-Xylene	96	ug/L	2	SW8260C	06/09/15 13:54	WAT		1
o-Xylene	47	ug/L	1	SW8260C	06/09/15 13:54	WAT	95-47-6	1
Styrene	34	ug/L	1	SW8260C	06/09/15 13:54	WAT	100-42-5	1
Isopropylbenzene	52	ug/L	1	SW8260C	06/09/15 13:54	WAT	98-82-8	1
Bromoform	41	ug/L	1	SW8260C	06/09/15 13:54	WAT	75-25-2	1
1,3-Dichlorobenzene	51	ug/L	1	SW8260C	06/09/15 13:54	WAT	541-73-1	1
1,4-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 13:54	WAT	106-46-7	1
1,2-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 13:54	WAT	95-50-1	1
1,2,4-Trichlorobenzene	53	ug/L	1	SW8260C	06/09/15 13:54	WAT	120-82-1	1

1-Spiked at 50ug/l

Lab Sample ID: S66130.05
Sample Tag: MW-13-45_060415 MSD
Collected Date/Time: 06/04/2015 12:30
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:30	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	45	ug/L	1	SW8260C	06/09/15 14:14	WAT	96-12-8	1
1,2-Dibromoethane	53	ug/L	1	SW8260B	06/09/15 14:14	WAT	106-93-4	1
1,4-Dioxane	95	ug/L	5	SW8260B - SIM	06/10/15 22:07	WAT	123-91-1	1
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	53	ug/L	1	SW8260C	06/09/15 14:14	WAT	76-13-1	1
Acetone	33	ug/L	10	SW8260C	06/09/15 14:14	WAT	67-64-1	1
Carbon disulfide	36	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-15-0	1
Methyl Acetate	35	ug/L	10	SW8260C	06/09/15 14:14	WAT	79-20-9	1
tert-Methyl butyl ether (MTBE)	49	ug/L	1	SW8260C	06/09/15 14:14	WAT	1634-04-4	1
2-Butanone (MEK)	32	ug/L	10	SW8260C	06/09/15 14:14	WAT	78-93-3	1
Dichlorodifluoromethane	65	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-71-8	1
Chloromethane	39	ug/L	1	SW8260C	06/09/15 14:14	WAT	74-87-3	1
Vinyl chloride	45	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-01-4	1
Bromomethane	45	ug/L	1	SW8260C	06/09/15 14:14	WAT	74-83-9	1
Chloroethane	43	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-00-3	1
Trichlorofluoromethane	52	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-69-4	1
1,1-Dichloroethene	44	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-35-4	1
Methylene chloride	48	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-09-2	1
trans-1,2-Dichloroethene	45	ug/L	1	SW8260C	06/09/15 14:14	WAT	156-60-5	1
1,1-Dichloroethane	47	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-34-3	1
cis-1,2-Dichloroethene	49	ug/L	1	SW8260C	06/09/15 14:14	WAT	156-59-2	1
Chloroform	47	ug/L	1	SW8260C	06/09/15 14:14	WAT	67-66-3	1
1,1,1-Trichloroethane	60	ug/L	1	SW8260C	06/09/15 14:14	WAT	71-55-6	1
Cyclohexane	45	ug/L	1	SW8260C	06/09/15 14:14	WAT	110-82-7	1
4-Methyl-2-pentanone (MIBK)	45	ug/L	10	SW8260C	06/09/15 14:14	WAT	108-10-1	1
2-Hexanone	44	ug/L	10	SW8260C	06/09/15 14:14	WAT	591-78-6	1
Carbon tetrachloride	59	ug/L	1	SW8260C	06/09/15 14:14	WAT	56-23-5	1
Benzene	46	ug/L	1	SW8260C	06/09/15 14:14	WAT	71-43-2	1
1,2-Dichloroethane	44	ug/L	1	SW8260C	06/09/15 14:14	WAT	107-06-2	1
Trichloroethene	50	ug/L	1	SW8260C	06/09/15 14:14	WAT	79-01-6	1
1,2-Dichloropropane	46	ug/L	1	SW8260C	06/09/15 14:14	WAT	78-87-5	1
Bromodichloromethane	48	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-27-4	1
Methyl cyclohexane	49	ug/L	1	SW8260C	06/09/15 14:14	WAT	108-87-2	1
cis-1,3-Dichloropropene	42	ug/L	1	SW8260C	06/09/15 14:14	WAT	10061-01-5	1
Toluene	46	ug/L	1	SW8260C	06/09/15 14:14	WAT	108-88-3	1
trans-1,3-Dichloropropene	41	ug/L	1	SW8260C	06/09/15 14:14	WAT	10061-02-6	1
1,1,2-Trichloroethane	45	ug/L	1	SW8260C	06/09/15 14:14	WAT	79-00-5	1
Tetrachloroethene	51	ug/L	1	SW8260C	06/09/15 14:14	WAT	127-18-4	1

1-Spiked at 50ug/l

Lab Sample ID: S66130.05 (continued)
Sample Tag: MW-13-45_060415 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	49	ug/L	1	SW8260C	06/09/15 14:14	WAT	124-48-1	1
Chlorobenzene	53	ug/L	1	SW8260C	06/09/15 14:14	WAT	108-90-7	1
1,1,2,2-Tetrachloroethane	46	ug/L	1	SW8260C	06/09/15 14:14	WAT	79-34-5	1
Ethylbenzene	49	ug/L	1	SW8260C	06/09/15 14:14	WAT	100-41-4	1
p,m-Xylene	94	ug/L	2	SW8260C	06/09/15 14:14	WAT		1
o-Xylene	47	ug/L	1	SW8260C	06/09/15 14:14	WAT	95-47-6	1
Styrene	35	ug/L	1	SW8260C	06/09/15 14:14	WAT	100-42-5	1
Isopropylbenzene	51	ug/L	1	SW8260C	06/09/15 14:14	WAT	98-82-8	1
Bromoform	41	ug/L	1	SW8260C	06/09/15 14:14	WAT	75-25-2	1
1,3-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 14:14	WAT	541-73-1	1
1,4-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 14:14	WAT	106-46-7	1
1,2-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 14:14	WAT	95-50-1	1
1,2,4-Trichlorobenzene	53	ug/L	1	SW8260C	06/09/15 14:14	WAT	120-82-1	1

1-Spiked at 50ug/l

Lab Sample ID: S66130.06
Sample Tag: MW-14-60_060415
Collected Date/Time: 06/04/2015 15:20
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR
2	1L Amber	None	Yes	3.4	IR
1	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
BNA Extraction	Completed			SW3510C	06/09/15 15:23	EMR		
Mercury Digestion	Completed			SW7471B	06/05/15 11:00	CCM		
Metal Digestion	Completed			SW3015A	06/18/15 12:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Metals								
Antimony	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-36-0	
Arsenic	0.002	mg/L	0.002	SW6020A	06/18/15 15:32	PER	7440-38-2	
Barium	0.394	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-39-3	
Boron	0.33	mg/L	0.04	SW6020A	06/18/15 15:32	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0005	SW6020A	06/18/15 15:32	PER	7440-43-9	
Chromium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-48-4	
Copper	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/18/15 15:32	PER	7439-92-1	
Manganese	0.399	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7439-96-5	
Mercury	Not detected	mg/L	0.0001	SW7471B	06/05/15 14:40	CCM	7439-97-6	
Nickel	0.008	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-02-0	
Selenium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	SW6020A	06/18/15 15:32	PER	7440-22-4	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-62-2	
Zinc	Not detected	mg/L	0.005	SW6020A	06/18/15 15:32	PER	7440-66-6	
Organics - Semi-Volatiles								
TCL Semi-Volatile Organics								
Acenaphthene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	83-32-9	
Acenaphthylene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	208-96-8	
Anthracene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	120-12-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	101-55-3	
di-n-Butyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	84-74-2	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	56-55-3	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	205-99-2	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	191-24-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	207-08-9	
Butyl benzyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	85-68-7	
2-Chloronaphthalene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	91-58-7	
2-Chlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	95-57-8	
4-Chloro-3-methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	59-50-7	
4-Chloroaniline	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	7005-72-3	

Lab Sample ID: S66130.06 (continued)
Sample Tag: MW-14-60_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Semi-Volatiles (continued)								
TCL Semi-Volatile Organics (continued)								
bis(2-Chloroethoxy)methane	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	108-60-1	
Chrysene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	218-01-9	
2,4-Dichlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	120-83-2	
2,4-Dimethylphenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	105-67-9	
2,4-Dinitrophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	534-52-1	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270D	06/16/15 21:51	JGH	53-70-3	
Dibenzofuran	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	132-64-9	
Diethyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	84-66-2	
Dimethyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	131-11-3	
bis(2-Ethylhexyl)phthalate	Not detected	ug/L	2	SW8270D	06/16/15 21:51	JGH	117-81-7	
Fluoranthene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	206-44-0	
Fluorene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	86-73-7	
Hexachlorobutadiene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	77-47-4	
Hexachloroethane	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	193-39-5	
Isophorone	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	91-57-6	
2-Methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	95-48-7	
3-, 4-Methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	3/4-Cresol	
2-Nitroaniline	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	88-74-4	
2-Nitrophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	88-75-5	
3-Nitroaniline	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	99-09-2	
4-Nitroaniline	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	100-01-6	
4-Nitrophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	621-64-7	
N-Nitrosodiphenylamine	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	86-30-6	
Naphthalene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	91-20-3	
Nitrobenzene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	98-95-3	
di-n-Octyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	117-84-0	
Pentachlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	87-86-5	
Phenanthrene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	85-01-8	
Phenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	108-95-2	
Pyrene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	129-00-0	
2,4,5-Trichlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	88-06-2	
Hexachlorobenzene	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	118-74-1	
3,3'-Dichlorobenzidine	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	91-94-1	
TCL Semi-Volatile Organics								
Benzaldehyde	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	100-52-7	
Acetophenone	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	98-86-2	
Caprolactam	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	105-60-2	
Carbazole	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	86-74-8	

Lab Sample ID: S66130.06 (continued)
Sample Tag: MW-14-60_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Semi-Volatiles (continued)								
TCL Semi-Volatile Organics (continued)								
1,1'-Biphenyl	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	92-52-4	
Atrazine	Not detected	ug/L	1	SW8270D	06/16/15 21:51	JGH	1912-24-9	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 18:21	WAT	106-93-4	
1,4-Dioxane	160	ug/L	5	SW8260B - SIM	06/10/15 17:51	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 18:21	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 18:21	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 18:21	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	74-87-3	
Vinyl chloride	3	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	74-83-9	
Chloroethane	18	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 18:21	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 18:21	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 18:21	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	95-47-6	

Lab Sample ID: S66130.06 (continued)
Sample Tag: MW-14-60_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:21	WAT	120-82-1	

Lab Sample ID: S66130.07
Sample Tag: MW-14-59_060415
Collected Date/Time: 06/04/2015 14:00
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR
2	1L Amber	None	Yes	3.4	IR
1	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
BNA Extraction	Completed			SW3510C	06/09/15 15:23	EMR		
Mercury Digestion	Completed			SW7471B	06/05/15 11:00	CCM		
Metal Digestion	Completed			SW3015A	06/18/15 12:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Metals								
Antimony	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-36-0	
Arsenic	0.002	mg/L	0.002	SW6020A	06/18/15 15:36	PER	7440-38-2	
Barium	0.087	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-39-3	
Boron	0.20	mg/L	0.04	SW6020A	06/18/15 15:36	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0005	SW6020A	06/18/15 15:36	PER	7440-43-9	
Chromium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-48-4	
Copper	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/18/15 15:36	PER	7439-92-1	
Manganese	0.544	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7439-96-5	
Mercury	Not detected	mg/L	0.0001	SW7471B	06/05/15 14:54	CCM	7439-97-6	
Nickel	0.013	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-02-0	
Selenium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	SW6020A	06/18/15 15:36	PER	7440-22-4	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-62-2	
Zinc	Not detected	mg/L	0.005	SW6020A	06/18/15 15:36	PER	7440-66-6	
Organics - Semi-Volatiles								
TCL Semi-Volatile Organics								
Acenaphthene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	83-32-9	
Acenaphthylene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	208-96-8	
Anthracene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	120-12-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	101-55-3	
di-n-Butyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	84-74-2	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	56-55-3	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	205-99-2	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	191-24-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	207-08-9	
Butyl benzyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	85-68-7	
2-Chloronaphthalene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	91-58-7	
2-Chlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	95-57-8	
4-Chloro-3-methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	59-50-7	
4-Chloroaniline	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	7005-72-3	

Lab Sample ID: S66130.07 (continued)
Sample Tag: MW-14-59_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Semi-Volatiles (continued)								
TCL Semi-Volatile Organics (continued)								
bis(2-Chloroethoxy)methane	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	108-60-1	
Chrysene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	218-01-9	
2,4-Dichlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	120-83-2	
2,4-Dimethylphenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	105-67-9	
2,4-Dinitrophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	534-52-1	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270D	06/16/15 22:18	JGH	53-70-3	
Dibenzofuran	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	132-64-9	
Diethyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	84-66-2	
Dimethyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	131-11-3	
bis(2-Ethylhexyl)phthalate	3	ug/L	2	SW8270D	06/16/15 22:18	JGH	117-81-7	B
Fluoranthene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	206-44-0	
Fluorene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	86-73-7	
Hexachlorobutadiene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	77-47-4	
Hexachloroethane	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	193-39-5	
Isophorone	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	91-57-6	
2-Methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	95-48-7	
3-, 4-Methylphenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	3/4-Cresol	
2-Nitroaniline	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	88-74-4	
2-Nitrophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	88-75-5	
3-Nitroaniline	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	99-09-2	
4-Nitroaniline	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	100-01-6	
4-Nitrophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	621-64-7	
N-Nitrosodiphenylamine	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	86-30-6	
Naphthalene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	91-20-3	
Nitrobenzene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	98-95-3	
di-n-Octyl phthalate	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	117-84-0	
Pentachlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	87-86-5	
Phenanthrene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	85-01-8	
Phenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	108-95-2	
Pyrene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	129-00-0	
2,4,5-Trichlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	88-06-2	
Hexachlorobenzene	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	118-74-1	
3,3'-Dichlorobenzidine	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	91-94-1	
TCL Semi-Volatile Organics								
Benzaldehyde	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	100-52-7	
Acetophenone	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	98-86-2	
Caprolactam	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	105-60-2	

B-Compound also found in associated method blank

Lab Sample ID: S66130.07 (continued)
Sample Tag: MW-14-59_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Semi-Volatiles (continued)								
TCL Semi-Volatile Organics (continued)								
Carbazole	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	86-74-8	
1,1'-Biphenyl	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	92-52-4	
Atrazine	Not detected	ug/L	1	SW8270D	06/16/15 22:18	JGH	1912-24-9	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 18:41	WAT	106-93-4	
1,4-Dioxane	200	ug/L	30	SW8260B - SIM	06/12/15 15:02	WAT	123-91-1	Y
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 18:41	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 18:41	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 18:41	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-69-4	
1,1-Dichloroethene	21	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	156-60-5	
1,1-Dichloroethane	11	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 18:41	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 18:41	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	100-41-4	

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66130.07 (continued)
Sample Tag: MW-14-59_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 18:41	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 18:41	WAT	120-82-1	

Lab Sample ID: S66130.08
Sample Tag: MW-13-42_060415
Collected Date/Time: 06/04/2015 16:30
Matrix: Groundwater
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 19:02	WAT	106-93-4	
1,4-Dioxane	14	ug/L	5	SW8260B - SIM	06/11/15 16:56	JGH	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 19:02	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 19:02	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 19:02	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 19:02	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 19:02	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	124-48-1	

Lab Sample ID: S66130.08 (continued)
Sample Tag: MW-13-42_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 19:02	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:02	WAT	120-82-1	

Lab Sample ID: S66130.09
Sample Tag: EB_0002_060415
Collected Date/Time: 06/04/2015 00:01
Matrix: Liquid
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR
1	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Mercury Digestion	Completed			SW7471B	06/05/15 11:00	CCM		
Metal Digestion	Completed			SW3015A	06/18/15 12:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Metals								
Antimony	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.002	SW6020A	06/18/15 15:34	PER	7440-38-2	
Barium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-39-3	
Boron	Not detected	mg/L	0.04	SW6020A	06/18/15 15:34	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0005	SW6020A	06/18/15 15:34	PER	7440-43-9	
Chromium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-48-4	
Copper	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/18/15 15:34	PER	7439-92-1	
Manganese	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7439-96-5	
Mercury	Not detected	mg/L	0.0001	SW7471B	06/05/15 14:52	CCM	7439-97-6	
Nickel	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-02-0	
Selenium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	SW6020A	06/18/15 15:34	PER	7440-22-4	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-62-2	
Zinc	Not detected	mg/L	0.005	SW6020A	06/18/15 15:34	PER	7440-66-6	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 19:22	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 19:22	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 19:22	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 19:22	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	156-60-5	

Lab Sample ID: S66130.09 (continued)
Sample Tag: EB_0002_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 19:22	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 19:22	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 19:22	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:22	WAT	120-82-1	

Lab Sample ID: S66130.10
Sample Tag: TB_0002_060415
Collected Date/Time: 06/04/2015 07:00
Matrix: Liquid
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 19:42	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 19:42	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 19:42	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 19:42	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 19:42	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 19:42	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	108-90-7	

Lab Sample ID: S66130.10 (continued)
Sample Tag: TB_0002_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 19:42	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 19:42	WAT	120-82-1	

Lab Sample ID: S66130.11
Sample Tag: DUP_01_060415
Collected Date/Time: 06/04/2015 00:01
Matrix: Liquid
COC Reference: 84093

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	3.4	IR
1	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Metals								
Arsenic	0.013	mg/L	0.002	SW6020A	06/22/15 13:03	PER	7440-38-2	
Chromium	0.007	mg/L	0.005	SW6020A	06/22/15 13:03	PER	7440-47-3	
Copper	0.007	mg/L	0.005	SW6020A	06/22/15 13:03	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 13:03	PER	7439-92-1	
Nickel	0.041	mg/L	0.005	SW6020A	06/22/15 13:03	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 13:03	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 20:02	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 20:02	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 20:02	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	2	ug/L	1	SW8260C	06/08/15 20:02	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 20:02	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 20:02	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 20:02	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	79-01-6	

Lab Sample ID: S66130.11 (continued)
Sample Tag: DUP_01_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 20:02	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:02	WAT	120-82-1	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84093

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810 229 8594 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Plant 2 B006447.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Wallis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1-4 Dioxane	SVOC	Metals**	Sulfate/Nitrate	Methane	Total Iron/Manganese	Ferrous Iron/Alkalinity	Suspended Solids	MS/MSD
06130.01	6-4-15	900	MW-01(2)_060415	GW	9	1	6	2					X				X	X	X	X	X	
.02	6-4-15	1010	MW-03(2)_060415	GW	9	1	6	3					X				X	X	X	X	X	
03.04.05	6-4-15	1230	MW-13-45_060415	GW	9		9							X								X
.06	6-4-15	1520	MW-14-60_060415	GW	6	2	3	1					X	X	X	X						
.07	6-4-15	1400	MW-14-59_060415	GW	6	2	3	1					X	X	X	X						
.08	6-4-15	1650	MW-13-42_060415	GW	3		3						X	X								
.09	6-4-15		EB_0002_060415	L	4		3	1					X			X						
.10	6-4-15	700	TB_0002_060415	L	1		1						X									
.11	6-4-15		Dup-01(2)_060415										X							X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
		6-4-15	1800
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6-4-15	1800
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/5/15	730
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/5/15	730

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	6/5/15	815
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	6/5/15	815

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 3.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 17, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506167	06/09/2015	S66130

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

This report shall not be reproduced, except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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Individual sample results relate only to the sample tested.
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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506167**
Project:	Subcontract Lab Services	Description:	S66130
Client Sample ID:	**66130.01**	Sampled:	06/04/15 09:00
Lab Sample ID:	**1506167-01**	Sampled By:	Client
Matrix:	Water	Received:	06/09/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**35**	0.50	ug/L	1	RSK-175	06/12/15 13:23	JMF	1506055

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506167**
Project:	Subcontract Lab Services	Description:	S66130
Client Sample ID:	**66130.02**	Sampled:	06/04/15 10:10
Lab Sample ID:	**1506167-02**	Sampled By:	Client
Matrix:	Water	Received:	06/09/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	<0.50	0.50	ug/L	1	RSK-175	06/12/15 13:28	JMF	1506055

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1506055 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/12/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12027	
Methane			<0.50				0.50	
Laboratory Control Sample					Analyzed:		06/12/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12027	
Methane		34.1	**24.2**	71	70-116	--	0.50	

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Individual sample results relate only to the sample tested.

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1506157

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com #14051

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

23-17 BOX

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66130
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
	6/4/15	900	66130.01	GW	3		3						✓
	6/4/15	1010	66130.02	GW	3		3						✓

** Subcontracted to
TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/8/15 TIME: 1800
RECEIVED BY: SIGNATURE/ORGANIZATION: FE 466 47703 5897 4283 DATE: TIME:
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: TriMatrix DATE: 6/9/15 TIME: 0945

SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS

NOTES: TEMP. ON ARRIVAL:

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506157 (New / Add To)
Receipt Record Page/Line #: 23-17 | Project Chemist | Sample #s

Recorded by (initials/date): CS 6/9/15

☒ Cooler ☐ Box ☐ Other | Qty Received: 1

Thermometer Used: ☒ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) ☐ See Additional Cooler Information Form

Cooler # | Time: 1049

Custody Seals: ☒ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☒ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: ☒ Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	5.8	-	5.8
Sample 2:	6.0	-	6.0
Sample 3:	7.0	-	7.0

3 Sample Average °C: 6.3

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☒	☐	Chain of Custody record(s)? If No, Initiated By _____
☒		Received for Lab Signed/Date/Time?
☒	☐	Shipping document?
☐	☒	Other _____

COC Information

☐ TriMatrix COC ☒ Other Merit

COC ID Numbers: 14051

Check COC for Accuracy

Yes	No	
☒	☐	Analysis Requested?
☒	☐	Sample ID matches COC?
☒	☐	Sample Date and Time matches COC?
☒		Container type completed on COC?
☒	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☒	☐	Temperature Blank OR average sample temperature, ≥6° C?
☐	☒	☐	If either is ≥6° C, was thermal preservation required?
☐	☐		If "Yes", Project Chemist Approval Initials: _____
☐	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☒	☐		Completed Sample Preservation Verification Form?
☒	☐		Samples chemically preserved correctly?
☒	☐		If "No", added orange tag?
	☒		Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☒ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☒	Broken containers/lids?
	☐	☒	Missing or incomplete labels?
	☐	☒	Illegible information on labels?
	☐	☒	Low volume received?
	☐	☒	Inappropriate or non-TriMatrix containers received?
☐	☐	☒	VOC vials / TOX containers have headspace?
☐	☐	☒	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6/9/15 0945	6/9/15 1116	Yes / No

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 9:00
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66130.01

Lab Sample Number: 79847-01

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	Not Detected	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 12:38
Sulfate	65	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 10:10
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66130.02

Lab Sample Number: 79847-02

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	2.7	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 12:53
Sulfate	89	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing | STATE: MI | ZIP CODE: 48823
PHONE NO.: 517-332-0167 | FAX NO.: 517-332-4034 | P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com | QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: | STATE: | ZIP CODE:
PHONE NO.: | E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66130
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐1 DAY ☐2 DAYS ☐3 DAYS ☒STANDARD ☐OTHER _____

DELIVERABLES REQUIRED ☐STD ☒LEVEL II ☐LEVEL III ☐LEVEL IV ☐EDD ☐OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐OHIO VAP ☐Drinking Water
☐DoD ☐NPDES

Project Locations
☐Detroit ☐New York
☐Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO3	H2SO4	NaOH	MeOH	OTHER	Nitrate	Sulfate	Special Instructions
	6/4/15	900	66130.01	GW	1		1						✓	✓	79847-01
	6/4/15	1010	66130.02	GW	1		1						✓	✓	02

** Subcontracted to ~~TriMatrix~~ WaterTech

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐Sampler	DATE: 6/5/15	TIME: 1015	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 6/5/15	TIME: 11:05	
RELINQUISHED BY: SIGNATURE/ORGANIZATION:	DATE:	TIME:	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE:	TIME:	

RELINQUISHED BY: SIGNATURE/ORGANIZATION:	DATE:	TIME:	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE:	TIME:	

SEAL NO. | SEAL INTACT YES☐ NO☐ | INITIALS
SEAL NO. | SEAL INTACT YES☐ NO☐ | INITIALS

NOTES: TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S66082.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66082.01-S66082.03
Project: RACER Plant 6
Collected Date: 06/02/2015
Submitted Date/Time: 06/03/2015 14:45
Sampled by: Robert Hikade
P.O. #: B0064481

Table of Contents

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General Report Notes (Page 2)
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Glossary of Abbreviations (Page 3)
Method Summary (Page 4)
Sample Summary (Page 5)

Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66082.01	MW-12-11_060215	Groundwater	06/02/15 15:15
S66082.02	FB0001_060215	Water	06/02/15 10:00
S66082.03	Trip Blank	Water	06/02/15 00:01

Analytical Laboratory Report

Lab Sample ID: S66082.01
Sample Tag: MW-12-11_060215
Collected Date/Time: 06/02/2015 15:15
Matrix: Groundwater
COC Reference: 84089

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	7.1	IR
1	125ml Plastic	None	Yes	7.1	IR
2	125ml Plastic	HNO3	Yes	7.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/05/15 22:25	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/04/15 13:44	JDP	14797-55-8	
Sulfate	235	mg/L	10	E300.0	06/04/15 16:05	JDP	14808-79-8	
Metals								
Arsenic	0.012	mg/L	0.002	SW6020A	06/19/15 15:27	PER	7440-38-2	
Chromium	0.009	mg/L	0.005	SW6020A	06/19/15 15:27	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/19/15 15:27	PER	7440-50-8	
Iron, Dissolved	8.40	mg/L	0.02	SW6020A	06/19/15 15:29	PER	7439-89-6	
Iron	9.74	mg/L	0.02	SW6020A	06/19/15 15:27	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/19/15 15:27	PER	7439-92-1	
Manganese, Dissolved	0.741	mg/L	0.005	SW6020A	06/19/15 15:29	PER	7439-96-5	
Manganese	0.734	mg/L	0.005	SW6020A	06/19/15 15:27	PER	7439-96-5	
Nickel	0.015	mg/L	0.005	SW6020A	06/19/15 15:27	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/19/15 15:27	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/05/15 18:36	LBR	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/05/15 18:36	LBR	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/05/15 18:36	LBR	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/05/15 18:36	LBR	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-34-3	

Lab Sample ID: S66082.01 (continued)
Sample Tag: MW-12-11_060215

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/05/15 18:36	LBR	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/05/15 18:36	LBR	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/05/15 18:36	LBR		
o-Xylene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:36	LBR	120-82-1	
Organics								
Methane in Water	10	ug/L	0.50	RSK-175	06/11/15 12:05	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66082.02
Sample Tag: FB0001_060215
Collected Date/Time: 06/02/2015 10:00
Matrix: Water
COC Reference: 84089

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	7.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/05/15 22:25	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/05/15 18:56	LBR	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/05/15 18:56	LBR	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/05/15 18:56	LBR	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/05/15 18:56	LBR	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/05/15 18:56	LBR	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/05/15 18:56	LBR	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	108-90-7	

Lab Sample ID: S66082.02 (continued)
Sample Tag: FB0001_060215

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/05/15 18:56	LBR		
o-Xylene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 18:56	LBR	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S66082.03
Sample Tag: Trip Blank
Collected Date/Time: 06/02/2015 00:01
Matrix: Water
COC Reference: 84089

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	7.1	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/05/15 22:25	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/05/15 19:16	LBR	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/05/15 19:16	LBR	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/05/15 19:16	LBR	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/05/15 19:16	LBR	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/05/15 19:16	LBR	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/05/15 19:16	LBR	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	108-90-7	

Lab Sample ID: S66082.03 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/05/15 19:16	LBR		
o-Xylene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/05/15 19:16	LBR	120-82-1	

Merit Laboratories, Inc.

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C.O.C. PAGE # 1 OF 1

84089

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: Brighton | STATE: MI | ZIP CODE: 48116
PHONE NO.: (616) 780-3277 | FAX NO.: | P.O. NO.: B00 64479/80/81
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS-US.COM | QUOTE NO.:

INVOICE TO

CONTACT NAME | ☑ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIGGS RMAA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	SELECT METALS	Sulfate/Nitrate	METHANE	Iron/manganese (Diss)	Iron/manganese (Total)			
60082.01	6/2	1515	MW-12-11_060215	GW	9	1	6	2					X	X	X	X	X	X	X			
.02	6/2	1000	FB_0001_060215	W	1		1						X									
.03			TRIP BLANK	W	1		1						X									

RELINQUISHED BY: SIGNATURE/ORGANIZATION: RMAA ☑ Sampler — DATE: 6/2/15 — TIME: 1800
RECEIVED BY: SIGNATURE/ORGANIZATION: PM STORAGE — DATE: 6/2/15 — TIME: 1800
RELINQUISHED BY: SIGNATURE/ORGANIZATION: PM Storage — DATE: 6/3/15 — TIME: 1400
RECEIVED BY: SIGNATURE/ORGANIZATION: Issak Mu — DATE: 6/3/15 — TIME: 1400

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Issak Mu — DATE: — TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: Michelle Dunkman — DATE: 060315 — TIME: 1445

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 7.1

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 15, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506114	06/05/2015	S66082

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

This report shall not be reproduced, except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506114**
Project:	Subcontract Lab Services	Description:	S66082
Client Sample ID:	**66082.01**	Sampled:	06/02/15 15:15
Lab Sample ID:	**1506114-01**	Sampled By:	Client
Matrix:	Water	Received:	06/05/15 10:00

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**10**	0.50	ug/L	1	RSK-175	06/11/15 12:05	JMF	1505988

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1505988 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/11/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12004	
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:		06/11/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12004	
Methane		34.1	**25.6**	75	70-116	--		0.50

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Individual sample results relate only to the sample tested.

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17.10

E 1506114

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66082 SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01	6/2/15	1515	66082.01	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/4/15 TIME: 1000
RECEIVED BY: SIGNATURE/ORGANIZATION: FedEx 4776 6303 5891 0065 DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION
RECEIVED BY: SIGNATURE/ORGANIZATION: 6.5.15 DATE TIME 1000

SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS

NOTES: TEMP. ON ARRIVAL

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.1

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506114
Receipt Record Page/Line #: 17- | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): WC 6.5.15

Cooler ☑ | Box ☐ | Other ☐ | Qty Received: 1

Thermometer Used: IR Gun (#202) ☑ | Digital Thermometer (#54) ☐ | Other (#_____) ☐

See Additional Cooler Information Form ☐

Cooler # Merit | Time 1050

Custody Seals: None ☑ | Present / Intact ☐ | Present / Not Intact ☐

Coolant Type: Loose Ice ☑ | Bagged Ice ☐ | Blue Ice ☐ | None ☐

Coolant Location: (Dispersed) Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	1		1
Sample 1:	4.3	-	4.3
Sample 2:	3.1	-	3.1
Sample 3:	3.7	-	3.7

3 Sample Average °C: 3.7

☐ Cooler ID on COC?

☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: None ☐ | Present / Intact ☐ | Present / Not Intact ☐

Coolant Type: Loose Ice ☐ | Bagged Ice ☐ | Blue Ice ☐ | None ☐

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC?

☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: None ☐ | Present / Intact ☐ | Present / Not Intact ☐

Coolant Type: Loose Ice ☐ | Bagged Ice ☐ | Blue Ice ☐ | None ☐

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC?

☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: None ☐ | Present / Intact ☐ | Present / Not Intact ☐

Coolant Type: Loose Ice ☐ | Bagged Ice ☐ | Blue Ice ☐ | None ☐

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC?

☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☐	☐	Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☐	Other _____

COC Information

☐ TriMatrix COC ☐ Other Merit

COC ID Numbers:

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☐	☐	Sample ID matches COC?
☐	☐	Sample Date and Time matches COC?
☐		Container type completed on COC?
☐	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☐	Temperature Blank **OR** average sample temperature, ≤6° C?
☐	☐	☐	If either is ≥6° C, was thermal preservation required?
☐	☐		If "Yes", Project Chemist Approval Initials: _____
☐	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☐		Completed Sample Preservation Verification Form?
☐	☐	☐	Samples chemically preserved correctly?
☐	☐		If "No", added orange tag?
☐	☐		Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological

☐ Air Bags

☐ EnCores / Methanol Pre-Preserved

☐ Formaldehyde/Aldehyde

☐ Green-tagged containers

☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)

☐ NONE RECEIVED

☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☐	Broken containers/lids?
	☐	☐	Missing or incomplete labels?
	☐	☐	Illegible information on labels?
	☐	☐	Low volume received?
	☐	☐	Inappropriate or non-TriMatrix containers received?
☐	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6.5.15 1000	6.5.15 1058	Yes (No)

Analytical Laboratory Report

Report ID: S66110.01(01)
Generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66110.01-S66110.05
Project: RACER Plant 6 / B0064481.2015.00603
Collected Date: 06/03/2015
Submitted Date/Time: 06/04/2015 14:15
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

Table of Contents

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Method Summary (Page 4)
Sample Summary (Page 5)

Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (5 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66110.01	MW-04-05(6)_060315	Groundwater	06/03/15 12:35
S66110.02	MW-03-01_060315	Groundwater	06/03/15 14:25
S66110.03	MW-04-06(R)_060315	Groundwater	06/03/15 17:00
S66110.04	DUP_08_060315	Groundwater	06/03/15 00:01
S66110.05	Trip Blank	Water	06/03/15 00:01

Analytical Laboratory Report

Lab Sample ID: S66110.01
Sample Tag: MW-04-05(6)_060315
Collected Date/Time: 06/03/2015 12:35
Matrix: Groundwater
COC Reference: 84091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	11.7	IR
1	250ml Plastic	None	Yes	11.7	IR
6	40ml Glass	HCL	Yes	11.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/08/15 10:35	WAT		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/05/15 08:39	JDP	14797-55-8	
Sulfate	127	mg/L	5	E300.0	06/05/15 08:39	JDP	14808-79-8	
Metals								
Arsenic	0.014	mg/L	0.002	SW6020A	06/19/15 15:48	PER	7440-38-2	
Chromium	0.009	mg/L	0.005	SW6020A	06/19/15 15:48	PER	7440-47-3	
Copper	0.007	mg/L	0.005	SW6020A	06/19/15 15:48	PER	7440-50-8	
Iron, Dissolved	4.92	mg/L	0.02	SW6020A	06/19/15 15:50	PER	7439-89-6	
Iron	5.65	mg/L	0.02	SW6020A	06/19/15 15:48	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/19/15 15:48	PER	7439-92-1	
Manganese, Dissolved	0.279	mg/L	0.005	SW6020A	06/19/15 15:50	PER	7439-96-5	
Manganese	0.280	mg/L	0.005	SW6020A	06/19/15 15:48	PER	7439-96-5	
Nickel	0.008	mg/L	0.005	SW6020A	06/19/15 15:48	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/19/15 15:48	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/06/15 14:01	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/06/15 14:01	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/06/15 14:01	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/06/15 14:01	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-34-3	

Lab Sample ID: S66110.01 (continued)
Sample Tag: MW-04-05(6)_060315

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/06/15 14:01	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/06/15 14:01	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/06/15 14:01	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:01	WAT	120-82-1	
Organics								
Methane in Water	120	ug/L	2.0	RSK-175	06/11/15 12:58	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66110.02
Sample Tag: MW-03-01_060315
Collected Date/Time: 06/03/2015 14:25
Matrix: Groundwater
COC Reference: 84091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	11.7	IR
1	250ml Plastic	None	Yes	11.7	IR
6	40ml Glass	HCL	Yes	11.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/08/15 10:35	WAT		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/05/15 08:51	JDP	14797-55-8	
Sulfate	157	mg/L	5	E300.0	06/05/15 08:51	JDP	14808-79-8	
Metals								
Arsenic	0.039	mg/L	0.002	SW6020A	06/19/15 15:51	PER	7440-38-2	
Chromium	0.009	mg/L	0.005	SW6020A	06/19/15 15:51	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/19/15 15:51	PER	7440-50-8	
Iron, Dissolved	18.7	mg/L	0.02	SW6020A	06/19/15 15:53	PER	7439-89-6	
Iron	19.4	mg/L	0.02	SW6020A	06/19/15 15:51	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/19/15 15:51	PER	7439-92-1	
Manganese, Dissolved	0.234	mg/L	0.005	SW6020A	06/19/15 15:53	PER	7439-96-5	
Manganese	0.248	mg/L	0.005	SW6020A	06/19/15 15:51	PER	7439-96-5	
Nickel	0.020	mg/L	0.005	SW6020A	06/19/15 15:51	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/19/15 15:51	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/06/15 14:21	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/09/15 05:47	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/06/15 14:21	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/06/15 14:21	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/06/15 14:21	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	156-60-5	

Lab Sample ID: S66110.02 (continued)
Sample Tag: MW-03-01_060315

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/06/15 14:21	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/06/15 14:21	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/06/15 14:21	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:21	WAT	120-82-1	
Organics								
Methane in Water	97	ug/L	1.0	RSK-175	06/11/15 13:07	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66110.03
Sample Tag: MW-04-06(R)_060315
Collected Date/Time: 06/03/2015 17:00
Matrix: Groundwater
COC Reference: 84091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	11.7	IR
1	250ml Plastic	None	Yes	11.7	IR
3	40ml Glass	HCL	Yes	11.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:00	PER		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/05/15 09:04	JDP	14797-55-8	
Sulfate	56	mg/L	5	E300.0	06/05/15 09:04	JDP	14808-79-8	
Metals								
Arsenic, Dissolved	0.013	mg/L	0.002	SW6020A	06/19/15 15:56	PER	7440-38-2	
Arsenic	0.019	mg/L	0.002	SW6020A	06/19/15 15:55	PER	7440-38-2	
Chromium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/19/15 15:56	PER	7440-47-3	
Chromium	0.008	mg/L	0.005	SW6020A	06/19/15 15:55	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	SW6020A	06/19/15 15:56	PER	7440-50-8	
Copper	Not detected	mg/L	0.005	SW6020A	06/19/15 15:55	PER	7440-50-8	
Iron, Dissolved	31.7	mg/L	1.0	SW6020A	06/19/15 16:17	PER	7439-89-6	
Iron	47.8	mg/L	0.02	SW6020A	06/19/15 15:55	PER	7439-89-6	
Lead, Dissolved	Not detected	mg/L	0.003	SW6020A	06/19/15 15:56	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	SW6020A	06/19/15 15:55	PER	7439-92-1	
Manganese, Dissolved	0.390	mg/L	0.005	SW6020A	06/19/15 15:56	PER	7439-96-5	
Manganese	0.437	mg/L	0.005	SW6020A	06/19/15 15:55	PER	7439-96-5	
Nickel, Dissolved	0.006	mg/L	0.005	SW6020A	06/19/15 15:56	PER	7440-02-0	
Nickel	0.008	mg/L	0.005	SW6020A	06/19/15 15:55	PER	7440-02-0	
Vanadium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/19/15 15:56	PER	7440-62-2	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/19/15 15:55	PER	7440-62-2	
Organics								
Methane in Water	7.0	ug/L	0.50	RSK-175	06/11/15 13:10	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66110.04
Sample Tag: DUP_08_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Groundwater
COC Reference: 84091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1L Amber	None	Yes	11.7	IR
3	40ml Glass	HCL	Yes	11.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/08/15 10:35	WAT		
Metals								
Arsenic	0.040	mg/L	0.002	SW6020A	06/22/15 12:49	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 12:49	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 12:49	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 12:49	PER	7439-92-1	
Nickel	0.019	mg/L	0.005	SW6020A	06/22/15 12:49	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 12:49	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/06/15 14:41	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/09/15 06:05	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/06/15 14:41	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/06/15 14:41	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/06/15 14:41	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/06/15 14:41	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/06/15 14:41	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	107-06-2	

Lab Sample ID: S66110.04 (continued)
Sample Tag: DUP_08_060315

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Trichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/06/15 14:41	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 14:41	WAT	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S66110.05
Sample Tag: Trip Blank
Collected Date/Time: 06/03/2015 00:01
Matrix: Water
COC Reference: 84091

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	11.7	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/08/15 10:35	WAT		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/06/15 15:01	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/06/15 15:01	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/06/15 15:01	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/06/15 15:01	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/06/15 15:01	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/06/15 15:01	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	108-90-7	

Lab Sample ID: S66110.05 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/06/15 15:01	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/06/15 15:01	WAT	120-82-1	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84091

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: BRIGTON STATE: MI ZIP CODE: 48116
PHONE NO.: (616) 780-3277 FAX NO.: P.O. NO.: B086479/30/31
E-MAIL ADDRESS: RANDY.CHRISTENSON@ARCADIS-US.COM QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: PACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIKADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	Select Metals *	Nitrate/Sulfate	Methane	Total Iron/Manganese	Diss Iron/Manganese
606110.01	6/3	1235	MW-04-05(6)_060315	GW	9	1	6	2					X	X	X	X	X	X	X
.02		1425	MW-03-01_060315		9	1	6	2					X	X	X	X	X	X	X
.03		1700	MW-04-06(R)_060315		6	1	3	2							X	X	X	X	X
.04			DUP_03-060315	↓	5		3	2					X	X	X				
.05	↓		TRIP BLANK	W			1						X						

* ARSENIC, NICKEL, LEAD, VANADIUM, CHROMIUM & COPPER

RELINQUISHED BY: SIGNATURE/ORGANIZATION	RMA ☑ Sampler	DATE 6/3/15	TIME 1800
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	DATE 6/3/15	TIME 1800
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/4/15	TIME 1315
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/4/15	TIME 1315

RELINQUISHED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/4/15	TIME 1415
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/4/15	TIME 1415

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 16.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 15, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506117	06/05/2015	S66110

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

This report shall not be reproduced, except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506117**
Project:	Subcontract Lab Services	Description:	S66110
Client Sample ID:	**66110.01**	Sampled:	06/03/15 12:35
Lab Sample ID:	**1506117-01**	Sampled By:	Client
Matrix:	Water	Received:	06/05/15 10:00

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**120**	2.0	ug/L	4	RSK-175	06/11/15 12:58	JMF	1505988

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506117**
Project:	Subcontract Lab Services	Description:	S66110
Client Sample ID:	**66110.02**	Sampled:	06/03/15 14:25
Lab Sample ID:	**1506117-02**	Sampled By:	Client
Matrix:	Water	Received:	06/05/15 10:00

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**97**	1.0	ug/L	2	RSK-175	06/11/15 13:07	JMF	1505988

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506117**
Project:	Subcontract Lab Services	Description:	S66110
Client Sample ID:	**66110.03**	Sampled:	06/03/15 17:00
Lab Sample ID:	**1506117-03**	Sampled By:	Client
Matrix:	Water	Received:	06/05/15 10:00

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**7.0**	0.50	ug/L	1	RSK-175	06/11/15 13:10	JMF	1505988

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1505988 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/11/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12004	
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:		06/11/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12004	
Methane		34.1	**25.6**	75	70-116	--		0.50

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17.13

E-150617

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD #14037

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66110
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other _____
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01	6/3/15	1235	66110.01	GW	3		3						✓
02	6/3/15	1425	66110.02	GW	3		3						✓
03	6/3/15	1700	66110.03	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/4/15 TIME: 1000
RECEIVED BY: SIGNATURE/ORGANIZATION: FedEx 7746477703 5891 0065 DATE: TIME:
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: 6.5.15 TIME: 1000

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506117
Receipt Receipt Page/Line #: 17- | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): WC 6.5.15

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler #	Merit		
Time	1050		
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		
	Observed °C	Correction Factor °C	Actual °C
Temp Blank:	1		1
Sample 1:	4.3	-	4.3
Sample 2:	3.1	-	3.1
Sample 3:	3.7	-	3.7
3 Sample Average °C:	3.7		
☐ Cooler ID on COC?			
☐ VOC Trip Blank received?			

Cooler #			
Time			
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		
	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			
☐ Cooler ID on COC?			
☐ VOC Trip Blank received?			

Cooler #			
Time			
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		
	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			
☐ Cooler ID on COC?			
☐ VOC Trip Blank received?			

Cooler #			
Time			
Custody Seals:	☐ None ☐ Present / Intact ☐ Present / Not Intact		
Coolant Type:	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		
Coolant Location:	Dispersed / Top / Middle / Bottom		
Temp Blank Present:	☐ Yes ☐ No		
If Present, Temperature Blank Location is:	☐ Representative ☐ Not Representative		
	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			
☐ Cooler ID on COC?			
☐ VOC Trip Blank received?			

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☑	Chain of Custody record(s)? If No, Initiated By ____
☐	☐	Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☑ Other Merit

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank OR average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☐	☐		If "Yes", Project Chemist Approval Initials: ____
☐	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☐		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☐	☐		If "No", added orange tag?
☐	☐		Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☐	☑	Sample ID matches COC?
☐	☑	Sample Date and Time matches COC?
☐		Container type completed on COC?
☐	☑	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6.5.15 1000	6.5.15 1058	Yes (No)

Analytical Laboratory Report

Revised Report

Report ID: S66131.01(02)
Generated on 06/23/2015
Replaces report S66131.01(01) generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66131.01-S66131.08
Project: RACER Plant 6 / B0064481.2015.00603
Collected Date: 06/04/2015
Submitted Date/Time: 06/05/2015 08:15
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

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Method Summary (Page 4)
Sample Summary (Page 5)

Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
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Report Narrative

O-flags added to subcontracted results

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66131.01	MW-03-04_060415	Groundwater	06/04/15 09:00
S66131.02	MW-03-04_060415 MS	Groundwater	06/04/15 09:00
S66131.03	MW-03-04_060415 MSD	Groundwater	06/04/15 09:00
S66131.04	MW-04-01(6)_060415	Groundwater	06/04/15 11:50
S66131.05	MW-03-08 _060415	Groundwater	06/04/15 14:05
S66131.06	MW-12-12_060415	Groundwater	06/04/15 16:40
S66131.07	EB-0001_060415	Water	06/04/15 17:00
S66131.08	Trip Blank	Water	06/04/15 00:01

Lab Sample ID: S66131.01
Sample Tag: MW-03-04_060415
Collected Date/Time: 06/04/2015 09:00
Matrix: Groundwater
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
4	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 12:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 12:00	JRH		
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:30	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.1	E300.0	06/05/15 13:50	Wat	14797-55-8	O
Sulfate	79	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O
Metals								
Iron, Dissolved	2.12	mg/L	0.02	SW6020A	06/16/15 13:35	JRH	7439-89-6	
Iron	2.38	mg/L	0.02	SW6020A	06/16/15 13:41	JRH	7439-89-6	
Manganese, Dissolved	0.151	mg/L	0.005	SW6020A	06/16/15 13:35	JRH	7439-96-5	
Manganese	0.152	mg/L	0.005	SW6020A	06/16/15 13:41	JRH	7439-96-5	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/09/15 16:54	WAT	106-93-4	
1,4-Dioxane	32	ug/L	5	SW8260B - SIM	06/12/15 14:45	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/09/15 16:54	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/09/15 16:54	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/09/15 16:54	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	110-82-7	

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.01 (continued)
Sample Tag: MW-03-04_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/09/15 16:54	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/09/15 16:54	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/09/15 16:54	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 16:54	WAT	120-82-1	
Organics								
Methane in Water	24	ug/L	0.50	RSK-175	06/12/15 13:32	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.02
Sample Tag: MW-03-04_060415 MS
Collected Date/Time: 06/04/2015 09:00
Matrix: Groundwater
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
5	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:30	LBR		
Inorganics								
Nitrate-N	2.5	mg/L	0.1	E300.0	06/05/15 14:05	Wat	14797-55-8	O1
Sulfate	100	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O2
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	45	ug/L	1	SW8260C	06/09/15 14:34	WAT	96-12-8	3
1,2-Dibromoethane	52	ug/L	1	SW8260B	06/09/15 14:34	WAT	106-93-4	3
1,4-Dioxane	79	ug/L	5	SW8260B - SIM	06/12/15 13:34	WAT	123-91-1	3
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	51	ug/L	1	SW8260C	06/09/15 14:34	WAT	76-13-1	3
Acetone	32	ug/L	10	SW8260C	06/09/15 14:34	WAT	67-64-1	3
Carbon disulfide	33	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-15-0	3
Methyl Acetate	35	ug/L	10	SW8260C	06/09/15 14:34	WAT	79-20-9	3
tert-Methyl butyl ether (MTBE)	47	ug/L	1	SW8260C	06/09/15 14:34	WAT	1634-04-4	3
2-Butanone (MEK)	31	ug/L	10	SW8260C	06/09/15 14:34	WAT	78-93-3	3
Dichlorodifluoromethane	63	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-71-8	3
Chloromethane	38	ug/L	1	SW8260C	06/09/15 14:34	WAT	74-87-3	3
Vinyl chloride	42	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-01-4	3
Bromomethane	43	ug/L	1	SW8260C	06/09/15 14:34	WAT	74-83-9	3
Chloroethane	41	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-00-3	3
Trichlorofluoromethane	51	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-69-4	3
1,1-Dichloroethene	42	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-35-4	3
Methylene chloride	47	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-09-2	3
trans-1,2-Dichloroethene	44	ug/L	1	SW8260C	06/09/15 14:34	WAT	156-60-5	3
1,1-Dichloroethane	46	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-34-3	3
cis-1,2-Dichloroethene	49	ug/L	1	SW8260C	06/09/15 14:34	WAT	156-59-2	3
Chloroform	46	ug/L	1	SW8260C	06/09/15 14:34	WAT	67-66-3	3
1,1,1-Trichloroethane	58	ug/L	1	SW8260C	06/09/15 14:34	WAT	71-55-6	3
Cyclohexane	43	ug/L	1	SW8260C	06/09/15 14:34	WAT	110-82-7	3
4-Methyl-2-pentanone (MIBK)	42	ug/L	10	SW8260C	06/09/15 14:34	WAT	108-10-1	3
2-Hexanone	42	ug/L	10	SW8260C	06/09/15 14:34	WAT	591-78-6	3
Carbon tetrachloride	57	ug/L	1	SW8260C	06/09/15 14:34	WAT	56-23-5	3
Benzene	46	ug/L	1	SW8260C	06/09/15 14:34	WAT	71-43-2	3
1,2-Dichloroethane	44	ug/L	1	SW8260C	06/09/15 14:34	WAT	107-06-2	3
Trichloroethene	50	ug/L	1	SW8260C	06/09/15 14:34	WAT	79-01-6	3

O-Analysis performed by outside laboratory. See attached report. 1-Sample spiked at 2.5 mg/L
2-Sample spiked at 25 mg/L
3-Spiked at 50ug/l

Lab Sample ID: S66131.02 (continued)
Sample Tag: MW-03-04_060415 MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,2-Dichloropropane	46	ug/L	1	SW8260C	06/09/15 14:34	WAT	78-87-5	1
Bromodichloromethane	48	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-27-4	1
Methyl cyclohexane	49	ug/L	1	SW8260C	06/09/15 14:34	WAT	108-87-2	1
cis-1,3-Dichloropropene	43	ug/L	1	SW8260C	06/09/15 14:34	WAT	10061-01-5	1
Toluene	46	ug/L	1	SW8260C	06/09/15 14:34	WAT	108-88-3	1
trans-1,3-Dichloropropene	41	ug/L	1	SW8260C	06/09/15 14:34	WAT	10061-02-6	1
1,1,2-Trichloroethane	46	ug/L	1	SW8260C	06/09/15 14:34	WAT	79-00-5	1
Tetrachloroethene	51	ug/L	1	SW8260C	06/09/15 14:34	WAT	127-18-4	1
Dibromochloromethane	48	ug/L	1	SW8260C	06/09/15 14:34	WAT	124-48-1	1
Chlorobenzene	52	ug/L	1	SW8260C	06/09/15 14:34	WAT	108-90-7	1
1,1,2,2-Tetrachloroethane	44	ug/L	1	SW8260C	06/09/15 14:34	WAT	79-34-5	1
Ethylbenzene	47	ug/L	1	SW8260C	06/09/15 14:34	WAT	100-41-4	1
p,m-Xylene	84	ug/L	2	SW8260C	06/09/15 14:34	WAT		1
o-Xylene	42	ug/L	1	SW8260C	06/09/15 14:34	WAT	95-47-6	1
Styrene	20	ug/L	1	SW8260C	06/09/15 14:34	WAT	100-42-5	1
Isopropylbenzene	48	ug/L	1	SW8260C	06/09/15 14:34	WAT	98-82-8	1
Bromoform	38	ug/L	1	SW8260C	06/09/15 14:34	WAT	75-25-2	1
1,3-Dichlorobenzene	51	ug/L	1	SW8260C	06/09/15 14:34	WAT	541-73-1	1
1,4-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 14:34	WAT	106-46-7	1
1,2-Dichlorobenzene	51	ug/L	1	SW8260C	06/09/15 14:34	WAT	95-50-1	1
1,2,4-Trichlorobenzene	53	ug/L	1	SW8260C	06/09/15 14:34	WAT	120-82-1	1

1-Spiked at 50ug/l

Lab Sample ID: S66131.03
Sample Tag: MW-03-04_060415 MSD
Collected Date/Time: 06/04/2015 09:00
Matrix: Groundwater
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
5	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:35	LBR		
Inorganics								
Nitrate-N	2.5	mg/L	0.1	E300.0	06/05/15 14:19	Wat	14797-55-8	O1
Sulfate	100	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O2
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	45	ug/L	1	SW8260C	06/09/15 14:54	WAT	96-12-8	3
1,2-Dibromoethane	52	ug/L	1	SW8260B	06/09/15 14:54	WAT	106-93-4	3
1,4-Dioxane	81	ug/L	5	SW8260B - SIM	06/12/15 13:52	WAT	123-91-1	3
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	52	ug/L	1	SW8260C	06/09/15 14:54	WAT	76-13-1	3
Acetone	33	ug/L	10	SW8260C	06/09/15 14:54	WAT	67-64-1	3
Carbon disulfide	34	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-15-0	3
Methyl Acetate	35	ug/L	10	SW8260C	06/09/15 14:54	WAT	79-20-9	3
tert-Methyl butyl ether (MTBE)	48	ug/L	1	SW8260C	06/09/15 14:54	WAT	1634-04-4	3
2-Butanone (MEK)	32	ug/L	10	SW8260C	06/09/15 14:54	WAT	78-93-3	3
Dichlorodifluoromethane	62	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-71-8	3
Chloromethane	39	ug/L	1	SW8260C	06/09/15 14:54	WAT	74-87-3	3
Vinyl chloride	43	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-01-4	3
Bromomethane	44	ug/L	1	SW8260C	06/09/15 14:54	WAT	74-83-9	3
Chloroethane	42	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-00-3	3
Trichlorofluoromethane	51	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-69-4	3
1,1-Dichloroethene	42	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-35-4	3
Methylene chloride	47	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-09-2	3
trans-1,2-Dichloroethene	44	ug/L	1	SW8260C	06/09/15 14:54	WAT	156-60-5	3
1,1-Dichloroethane	46	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-34-3	3
cis-1,2-Dichloroethene	49	ug/L	1	SW8260C	06/09/15 14:54	WAT	156-59-2	3
Chloroform	46	ug/L	1	SW8260C	06/09/15 14:54	WAT	67-66-3	3
1,1,1-Trichloroethane	59	ug/L	1	SW8260C	06/09/15 14:54	WAT	71-55-6	3
Cyclohexane	44	ug/L	1	SW8260C	06/09/15 14:54	WAT	110-82-7	3
4-Methyl-2-pentanone (MIBK)	43	ug/L	10	SW8260C	06/09/15 14:54	WAT	108-10-1	3
2-Hexanone	42	ug/L	10	SW8260C	06/09/15 14:54	WAT	591-78-6	3
Carbon tetrachloride	57	ug/L	1	SW8260C	06/09/15 14:54	WAT	56-23-5	3
Benzene	45	ug/L	1	SW8260C	06/09/15 14:54	WAT	71-43-2	3
1,2-Dichloroethane	43	ug/L	1	SW8260C	06/09/15 14:54	WAT	107-06-2	3
Trichloroethene	49	ug/L	1	SW8260C	06/09/15 14:54	WAT	79-01-6	3

O-Analysis performed by outside laboratory. See attached report. 1-Sample spiked at 2.5 mg/L
2-Sample spiked at 25 mg/L
3-Spiked at 50ug/l

Lab Sample ID: S66131.03 (continued)
Sample Tag: MW-03-04_060415 MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,2-Dichloropropane	45	ug/L	1	SW8260C	06/09/15 14:54	WAT	78-87-5	1
Bromodichloromethane	47	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-27-4	1
Methyl cyclohexane	48	ug/L	1	SW8260C	06/09/15 14:54	WAT	108-87-2	1
cis-1,3-Dichloropropene	42	ug/L	1	SW8260C	06/09/15 14:54	WAT	10061-01-5	1
Toluene	45	ug/L	1	SW8260C	06/09/15 14:54	WAT	108-88-3	1
trans-1,3-Dichloropropene	40	ug/L	1	SW8260C	06/09/15 14:54	WAT	10061-02-6	1
1,1,2-Trichloroethane	46	ug/L	1	SW8260C	06/09/15 14:54	WAT	79-00-5	1
Tetrachloroethene	50	ug/L	1	SW8260C	06/09/15 14:54	WAT	127-18-4	1
Dibromochloromethane	48	ug/L	1	SW8260C	06/09/15 14:54	WAT	124-48-1	1
Chlorobenzene	52	ug/L	1	SW8260C	06/09/15 14:54	WAT	108-90-7	1
1,1,2,2-Tetrachloroethane	45	ug/L	1	SW8260C	06/09/15 14:54	WAT	79-34-5	1
Ethylbenzene	47	ug/L	1	SW8260C	06/09/15 14:54	WAT	100-41-4	1
p,m-Xylene	85	ug/L	2	SW8260C	06/09/15 14:54	WAT		1
o-Xylene	43	ug/L	1	SW8260C	06/09/15 14:54	WAT	95-47-6	1
Styrene	21	ug/L	1	SW8260C	06/09/15 14:54	WAT	100-42-5	1
Isopropylbenzene	49	ug/L	1	SW8260C	06/09/15 14:54	WAT	98-82-8	1
Bromoform	38	ug/L	1	SW8260C	06/09/15 14:54	WAT	75-25-2	1
1,3-Dichlorobenzene	51	ug/L	1	SW8260C	06/09/15 14:54	WAT	541-73-1	1
1,4-Dichlorobenzene	51	ug/L	1	SW8260C	06/09/15 14:54	WAT	106-46-7	1
1,2-Dichlorobenzene	50	ug/L	1	SW8260C	06/09/15 14:54	WAT	95-50-1	1
1,2,4-Trichlorobenzene	53	ug/L	1	SW8260C	06/09/15 14:54	WAT	120-82-1	1

1-Spiked at 50ug/l

Lab Sample ID: S66131.04
Sample Tag: MW-04-01(6)_060415
Collected Date/Time: 06/04/2015 11:50
Matrix: Groundwater
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.1	E300.0	06/05/15 14:34	Wat	14797-55-8	O
Sulfate	150	mg/L	5	E300.0	06/08/15 00:00	Wat	14808-79-8	O
Metals								
Iron, Dissolved	1.36	mg/L	0.02	SW6020A	06/22/15 13:07	PER	7439-89-6	
Iron	2.60	mg/L	0.02	SW6020A	06/22/15 13:05	PER	7439-89-6	
Manganese, Dissolved	0.173	mg/L	0.005	SW6020A	06/22/15 13:07	PER	7439-96-5	
Manganese	0.199	mg/L	0.005	SW6020A	06/22/15 13:05	PER	7439-96-5	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 20:22	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/11/15 15:24	JGH	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 20:22	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 20:22	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 20:22	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	110-82-7	

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.04 (continued)
Sample Tag: MW-04-01(6)_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 20:22	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 20:22	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 20:22	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:22	WAT	120-82-1	
Organics								
Methane in Water	13	ug/L	0.50	RSK-175	06/12/15 13:40	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.05
Sample Tag: MW-03-08 _060415
Collected Date/Time: 06/04/2015 14:05
Matrix: Groundwater
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.1	E300.0	06/05/15 14:48	Wat	14797-55-8	O
Sulfate	27	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O
Metals								
Iron, Dissolved	0.83	mg/L	0.02	SW6020A	06/22/15 13:10	PER	7439-89-6	
Iron	1.71	mg/L	0.02	SW6020A	06/22/15 13:08	PER	7439-89-6	
Manganese, Dissolved	0.090	mg/L	0.005	SW6020A	06/22/15 13:10	PER	7439-96-5	
Manganese	0.106	mg/L	0.005	SW6020A	06/22/15 13:08	PER	7439-96-5	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 20:42	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/11/15 15:43	JGH	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 20:42	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 20:42	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 20:42	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	110-82-7	

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.05 (continued)
Sample Tag: MW-03-08 _060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 20:42	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 20:42	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 20:42	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 20:42	WAT	120-82-1	
Organics								
Methane in Water	33	ug/L	0.50	RSK-175	06/12/15 13:44	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.06
Sample Tag: MW-12-12_060415
Collected Date/Time: 06/04/2015 16:40
Matrix: Groundwater
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	3.4	IR
1	250ml Plastic	None	Yes	3.4	IR
2	125ml Plastic	HNO3	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
Metal Digestion	Completed			SW3015A	06/19/15 14:30	PER		
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Inorganics								
Nitrate-N	0.70	mg/L	0.1	E300.0	06/05/15 15:02	Wat	14797-55-8	O
Sulfate	98	mg/L	1	E300.0	06/05/15 00:00	Wat	14808-79-8	O
Metals								
Arsenic, Dissolved	0.002	mg/L	0.002	SW6020A	06/22/15 13:25	PER	7440-38-2	
Arsenic	0.003	mg/L	0.002	SW6020A	06/22/15 13:24	PER	7440-38-2	
Chromium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 13:25	PER	7440-47-3	
Chromium	0.047	mg/L	0.005	SW6020A	06/22/15 13:24	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 13:25	PER	7440-50-8	
Copper	0.010	mg/L	0.005	SW6020A	06/22/15 13:24	PER	7440-50-8	
Iron, Dissolved	0.43	mg/L	0.02	SW6020A	06/22/15 13:25	PER	7439-89-6	
Iron	2.97	mg/L	0.02	SW6020A	06/22/15 13:24	PER	7439-89-6	
Lead, Dissolved	Not detected	mg/L	0.003	SW6020A	06/22/15 13:25	PER	7439-92-1	
Lead	0.004	mg/L	0.003	SW6020A	06/22/15 13:24	PER	7439-92-1	
Manganese, Dissolved	0.076	mg/L	0.005	SW6020A	06/22/15 13:25	PER	7439-96-5	
Manganese	0.133	mg/L	0.005	SW6020A	06/22/15 13:24	PER	7439-96-5	
Nickel, Dissolved	0.040	mg/L	0.005	SW6020A	06/22/15 13:25	PER	7440-02-0	
Nickel	0.072	mg/L	0.005	SW6020A	06/22/15 13:24	PER	7440-02-0	
Vanadium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 13:25	PER	7440-62-2	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 13:24	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 21:02	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 21:02	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 21:02	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 21:02	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-01-4	

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.06 (continued)
Sample Tag: MW-12-12_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 21:02	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 21:02	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 21:02	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:02	WAT	120-82-1	
Organics								
Methane in Water	1.1	ug/L	0.50	RSK-175	06/12/15 13:49	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Lab Sample ID: S66131.07
Sample Tag: EB-0001_060415
Collected Date/Time: 06/04/2015 17:00
Matrix: Water
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 21:22	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 21:22	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 21:22	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 21:22	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 21:22	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 21:22	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	108-90-7	

Lab Sample ID: S66131.07 (continued)
Sample Tag: EB-0001_060415

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 21:22	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:22	WAT	120-82-1	

Lab Sample ID: S66131.08
Sample Tag: Trip Blank
Collected Date/Time: 06/04/2015 00:01
Matrix: Water
COC Reference: 84095

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	3.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/09/15 09:25	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/08/15 21:42	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/08/15 21:42	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/08/15 21:42	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/08/15 21:42	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/08/15 21:42	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/08/15 21:42	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	108-90-7	

Lab Sample ID: S66131.08 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/08/15 21:42	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/08/15 21:42	WAT	120-82-1	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84095

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: (616) 780-3277 FAX NO.: BOX P.O. NO.: 64481.2015.00603
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS-US.COM QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RALEIGH PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIKADE

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

MERIT SAMPLE NO. (LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	SELECT METALS*	NITRATE/SULFATE	TOTAL IRON/MANGANESE	DISS IRON/MANGANESE	METHANE	MS/MSD
66531.01/.02/.03	6/4	0900	MW-03-04_060415	GW	17	1	14	2					X	X	X	X	X	X	X	X
.04		1150	MW-04-0116)_060415	GW	9	1	6	2					X	X		X	X	X	X	
.05		1405	MW-03-08_060415	GW	9	1	6	2					X	X		X	X	X	X	
.06		1640	MW-12-12_060415	GW	9	1	6	2					X		X	X	X	X	X	
.07		1700	EB-0001_060415	W	1		1						X							
.08	↓		TRIP BLANK	W	1		1						X							

* Nickel, Lead, Arsenic, Vanadium Chromium, Copper

RELINQUISHED BY: SIGNATURE/ORGANIZATION	RANDY ☐ Sampler	DATE 6/4/15	TIME 1730
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	DATE 6/4/15	TIME 1730
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/5/15	TIME 730
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/5/15	TIME 730

RELINQUISHED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 06/05/15	TIME 815
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/5/15	TIME 815

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 3.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 9:00
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66131.01

Lab Sample Number: 79848-01

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	Not Detected	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 13:50
Sulfate	79	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 9:00
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66131.02 MS

Lab Sample Number: 79848-02

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	2.5	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 14:05
Sulfate	100	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 9:00
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66131.03 MSD

Lab Sample Number: 79848-03

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	2.5	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 14:19
Sulfate	100	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 11:50
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66131.04

Lab Sample Number: 79848-04

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	Not Detected	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 14:34
Sulfate	150	mg/L	5	EPA300.0	CTM	6/8/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 14:05
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66131.05

Lab Sample Number: 79848-05

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	Not Detected	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 14:48
Sulfate	27	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Water Tech
A Testing Laboratory
718 S. Michigan Howell, MI 48843 (517) 548-2505 Fax (517) 548-3434

ANALYSIS RESULTS

To:
Merit Laboratories, Inc.
2680 East Lansing Dr.
East Lansing, MI 48823

Date Sampled: 6/4/2015 16:40
Date Received: 6/5/2015
Collected By:
Matrix: Water

Sample ID:
66131.06

Lab Sample Number: 79848-06

Test Parameter	Result	Units	DL	Method	Analyst	Date
Nitrate-N	0.70	mg/L-N	0.1	EPA300.0	CTM	6/5/2015 15:02
Sulfate	98	mg/L	1	EPA300.0	CTM	6/5/2015 0:00

Released By: _____ **Date:** 6/11/2015

ABBREVIATIONS:
DL = Lowest reportable level of detection.
CFU/100ml = Colony Forming Units/100 milliliter sample volume. MPN = Most Probable Number.
mg/L = Milligrams per liter (= parts per million).
ug/L = Micrograms per liter (= parts per billion).

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing | STATE: MI | ZIP CODE: 48823
PHONE NO.: 517-332-0167 | FAX NO.: 517-332-4034 | P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com | QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: | STATE: | ZIP CODE:
PHONE NO.: | E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66131
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Nitrate	Sulfate	Special Instructions
	6/4/15	900	66131.01	GW	1		1						✓	✓	7984801
	6/4/15	900	66131.02 MS	GW	1		1						✓	✓	* Matrix Spike for .01 02
	6/4/15	900	66131.03 MSD	GW	1		1						✓	✓	* Matrix Spike Dup for .01 03
	6/4/15	1150	66131.04	GW	1		1						✓	✓	04
	6/4/15	1405	66131.05	GW	1		1						✓	✓	05
	6/4/15	1640	66131.06	GW	1		1						✓	✓	06
															** Subcontracted to
															~~TriMatrix~~ Montech

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/5/15 TIME: 1015
RECEIVED BY: SIGNATURE/ORGANIZATION: 6/5/15 DATE: 11:05 TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 17, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506170	06/09/2015	S66131

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

This report shall not be reproduced, except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506170**
Project:	Subcontract Lab Services	Description:	S66131
Client Sample ID:	**66131.01**	Sampled:	06/04/15 09:00
Lab Sample ID:	**1506170-01**	Sampled By:	Client
Matrix:	Water	Received:	06/09/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**24**	0.50	ug/L	1	RSK-175	06/12/15 13:32	JMF	1506055

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506170**
Project:	Subcontract Lab Services	Description:	S66131
Client Sample ID:	**66131.04**	Sampled:	06/04/15 11:50
Lab Sample ID:	**1506170-02**	Sampled By:	Client
Matrix:	Water	Received:	06/09/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**13**	0.50	ug/L	1	RSK-175	06/12/15 13:40	JMF	1506055

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506170**
Project:	Subcontract Lab Services	Description:	S66131
Client Sample ID:	**66131.05**	Sampled:	06/04/15 14:05
Lab Sample ID:	**1506170-03**	Sampled By:	Client
Matrix:	Water	Received:	06/09/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**33**	0.50	ug/L	1	RSK-175	06/12/15 13:44	JMF	1506055

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506170**
Project:	Subcontract Lab Services	Description:	S66131
Client Sample ID:	**66131.06**	Sampled:	06/04/15 16:40
Lab Sample ID:	**1506170-04**	Sampled By:	Client
Matrix:	Water	Received:	06/09/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**1.1**	0.50	ug/L	1	RSK-175	06/12/15 13:49	JMF	1506055

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1506055 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/12/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12027	
Methane			<0.50				0.50	
Laboratory Control Sample					Analyzed:		06/12/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F12027	
Methane		34.1	**24.2**	71	70-116	--	0.50	

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1506170

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

#14048

CHAIN OF CUSTODY RECORD 23-14 BOX

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66131
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

	MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175	Special Instructions
01		6/4/15	900	66131.01	GW	1		1						✓	
		6/4/15	900	~~66131.02 MS~~	GW	2		2						✓	* Matrix Spike for .01
		6/4/15	900	~~66131.03 MSD~~	GW	2		2						✓	* Matrix Spike Dup for .01
02		6/4/15	1150	66131.04	GW	3		3						✓	
03		6/4/15	1405	66131.05	GW	3		3						✓	
04		6/4/15	1640	66131.06	GW	3		3						✓	
															** Subcontracted to TriMatrix

6-4-15

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/8/15 TIME: 1600
RECEIVED BY: SIGNATURE/ORGANIZATION: FE 466477 05 5897 4283 DATE: TIME:
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: TriMatrix DATE: 6/9/15 TIME: 0945

SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
NOTES: TEMP. ON ARRIVAL:

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.19.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506170
Receipt Record Page/Line #: 23-14 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): CS 6/9/15

Cooler ☐ Box ☐ Other ☐ | Qty Received: 1

Thermometer Used: ☒ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) | ☐ See Additional Cooler Information Form

Cooler # ____ Time: 1049

Custody Seals: ☒ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☒ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: (Dispersed) / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	5.8	-	5.8
Sample 2:	6.0	-	6.0
Sample 3:	7.0	-	7.0

3 Sample Average °C: 6.3

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # ____ Time: ____

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # ____ Time: ____

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # ____ Time: ____

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact

Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: ☐ Yes ☐ No

If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☒	☐	Chain of Custody record(s)? If No, Initiated By _____
☒	☐	Received for Lab Signed/Date/Time?
☒	☐	Shipping document?
☐	☒	Other _____

COC Information

☐ TriMatrix COC ☒ Other: Merit

COC ID Numbers: 14048

Check COC for Accuracy

Yes	No	
☒	☐	Analysis Requested?
☒	☐	Sample ID matches COC?
☒	☐	Sample Date and Time matches COC?
☒	☐	Container type completed on COC?
☒	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☒	☐	Temperature Blank OR average sample temperature, ≥6° C?
☐	☒	☐	If either is ≥6° C, was thermal preservation required?
☐	☐	☐	If "Yes", Project Chemist Approval Initials: _____
☐	☐	☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☒	☐	☐	Completed Sample Preservation Verification Form?
☒	☐	☐	Samples chemically preserved correctly?
☒	☐	☐	If "No", added orange tag?
	☐	☒	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☒ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☒	Broken containers/lids?
	☐	☒	Missing or incomplete labels?
	☐	☒	Illegible information on labels?
	☐	☒	Low volume received?
	☐	☒	Inappropriate or non-TriMatrix containers received?
☐	☐	☒	VOC vials / TOX containers have headspace?
☐	☐	☒	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6/9/15 0945	6/9/15 1116	Yes / (No)

Analytical Laboratory Report

Report ID: S66186.01(01)
Generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66186.01-S66186.07
Project: RACER Plant 6 / B0064481.2015.00603
Collected Date: 06/08/2015
Submitted Date/Time: 06/09/2015 10:30
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

Table of Contents

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Sample Summary (Page 5)



Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66186.01	MW-04-04R_060815	Groundwater	06/08/15 09:40
S66186.02	MW-02-03(6)_060815	Groundwater	06/08/15 12:30
S66186.03	P6-SB-35_060815	Groundwater	06/08/15 14:10
S66186.04	MW-13-36R_060815	Groundwater	06/08/15 15:30
S66186.05	DUP_10_060815	Groundwater	06/08/15 00:01
S66186.06	FB0001_060815	Water	06/08/15 08:15
S66186.07	Trip Blank	Water	06/08/15 00:01

Analytical Laboratory Report

Lab Sample ID: S66186.01
Sample Tag: MW-04-04R_060815
Collected Date/Time: 06/08/2015 09:40
Matrix: Groundwater
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	6.8	IR
2	125ml Plastic	HNO3	Yes	6.8	IR
1	250ml Plastic	None	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/10/15 07:50	JDP	14797-55-8	
Sulfate	36	mg/L	10	E300.0	06/10/15 07:50	JDP	14808-79-8	
Metals								
Arsenic	0.020	mg/L	0.002	SW6020A	06/22/15 15:11	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:11	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 15:11	PER	7440-50-8	
Iron, Dissolved	4.18	mg/L	0.02	SW6020A	06/22/15 15:13	PER	7439-89-6	
Iron	4.82	mg/L	0.02	SW6020A	06/22/15 15:11	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:11	PER	7439-92-1	
Manganese, Dissolved	0.031	mg/L	0.005	SW6020A	06/22/15 15:13	PER	7439-96-5	
Manganese	0.033	mg/L	0.005	SW6020A	06/22/15 15:11	PER	7439-96-5	
Nickel	Not detected	mg/L	0.005	SW6020A	06/22/15 15:11	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:11	PER	7440-62-2	
Organics								
Methane in Water	7.5	ug/L	0.50	RSK-175	06/17/15 09:04	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66186.02
Sample Tag: MW-02-03(6)_060815
Collected Date/Time: 06/08/2015 12:30
Matrix: Groundwater
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	6.8	IR
2	125ml Plastic	HNO3	Yes	6.8	IR
1	250ml Plastic	None	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:35	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/10/15 08:03	JDP	14797-55-8	
Sulfate	44	mg/L	10	E300.0	06/10/15 08:03	JDP	14808-79-8	
Metals								
Arsenic, Dissolved	0.079	mg/L	0.002	SW6020A	06/22/15 15:18	PER	7440-38-2	
Arsenic	0.096	mg/L	0.002	SW6020A	06/22/15 15:15	PER	7440-38-2	
Chromium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 15:18	PER	7440-47-3	
Chromium	0.012	mg/L	0.005	SW6020A	06/22/15 15:15	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 15:18	PER	7440-50-8	
Copper	0.012	mg/L	0.005	SW6020A	06/22/15 15:15	PER	7440-50-8	
Iron, Dissolved	14.1	mg/L	0.02	SW6020A	06/22/15 15:18	PER	7439-89-6	
Iron	22.2	mg/L	0.02	SW6020A	06/22/15 15:15	PER	7439-89-6	
Lead, Dissolved	Not detected	mg/L	0.003	SW6020A	06/22/15 15:18	PER	7439-92-1	
Lead	0.005	mg/L	0.003	SW6020A	06/22/15 15:15	PER	7439-92-1	
Manganese, Dissolved	0.222	mg/L	0.005	SW6020A	06/22/15 15:18	PER	7439-96-5	
Manganese	0.321	mg/L	0.005	SW6020A	06/22/15 15:15	PER	7439-96-5	
Nickel, Dissolved	0.036	mg/L	0.005	SW6020A	06/22/15 15:18	PER	7440-02-0	
Nickel	0.041	mg/L	0.005	SW6020A	06/22/15 15:15	PER	7440-02-0	
Vanadium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 15:18	PER	7440-62-2	
Vanadium	0.013	mg/L	0.005	SW6020A	06/22/15 15:15	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/09/15 18:24	WAT	106-93-4	
1,4-Dioxane	16	ug/L	5	SW8260B - SIM	06/11/15 17:51	JGH	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/09/15 18:24	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/09/15 18:24	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/09/15 18:24	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	74-87-3	
Vinyl chloride	1	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-01-4	

Lab Sample ID: S66186.02 (continued)
Sample Tag: MW-02-03(6)_060815

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Bromomethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/09/15 18:24	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/09/15 18:24	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/09/15 18:24	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:24	WAT	120-82-1	
Organics								
Methane in Water	460	ug/L	5.0	RSK-175	06/17/15 09:19	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66186.03
Sample Tag: P6-SB-35_060815
Collected Date/Time: 06/08/2015 14:10
Matrix: Groundwater
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	6.8	IR
2	125ml Plastic	HNO3	Yes	6.8	IR
1	250ml Plastic	None	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Inorganics								
Nitrate-N	2.0	mg/L	0.5	E300.0	06/10/15 08:15	JDP	14797-55-8	
Sulfate	57	mg/L	10	E300.0	06/10/15 08:15	JDP	14808-79-8	
Metals								
Arsenic	0.010	mg/L	0.002	SW6020A	06/22/15 15:20	PER	7440-38-2	
Chromium	0.015	mg/L	0.005	SW6020A	06/22/15 15:20	PER	7440-47-3	
Copper	0.006	mg/L	0.005	SW6020A	06/22/15 15:20	PER	7440-50-8	
Iron, Dissolved	0.07	mg/L	0.02	SW6020A	06/22/15 15:21	PER	7439-89-6	
Iron	0.13	mg/L	0.02	SW6020A	06/22/15 15:20	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:20	PER	7439-92-1	
Manganese, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 15:21	PER	7439-96-5	
Manganese	Not detected	mg/L	0.005	SW6020A	06/22/15 15:20	PER	7439-96-5	
Nickel	Not detected	mg/L	0.005	SW6020A	06/22/15 15:20	PER	7440-02-0	
Vanadium	0.025	mg/L	0.005	SW6020A	06/22/15 15:20	PER	7440-62-2	
Organics								
Methane in Water	Not detected	ug/L	0.50	RSK-175	06/17/15 09:23	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66186.04
Sample Tag: MW-13-36R_060815
Collected Date/Time: 06/08/2015 15:30
Matrix: Groundwater
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Metals								
Arsenic	0.003	mg/L	0.002	SW6020A	06/22/15 15:23	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:23	PER	7440-47-3	
Copper	0.028	mg/L	0.005	SW6020A	06/22/15 15:23	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:23	PER	7439-92-1	
Nickel	0.007	mg/L	0.005	SW6020A	06/22/15 15:23	PER	7440-02-0	
Vanadium	0.012	mg/L	0.005	SW6020A	06/22/15 15:23	PER	7440-62-2	

Analytical Laboratory Report

Lab Sample ID: S66186.05
Sample Tag: DUP_10_060815
Collected Date/Time: 06/08/2015 00:01
Matrix: Groundwater
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Metals								
Arsenic	0.021	mg/L	0.002	SW6020A	06/22/15 15:25	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:25	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 15:25	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:25	PER	7439-92-1	
Nickel	Not detected	mg/L	0.005	SW6020A	06/22/15 15:25	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:25	PER	7440-62-2	

Lab Sample ID: S66186.06
Sample Tag: FB0001_060815
Collected Date/Time: 06/08/2015 08:15
Matrix: Water
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:35	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/09/15 18:46	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/09/15 18:46	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/09/15 18:46	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/09/15 18:46	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/09/15 18:46	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/09/15 18:46	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	108-90-7	

Lab Sample ID: S66186.06 (continued)
Sample Tag: FB0001_060815

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/09/15 18:46	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 18:46	WAT	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S66186.07
Sample Tag: Trip Blank
Collected Date/Time: 06/08/2015 00:01
Matrix: Water
COC Reference: 83931

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	6.8	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/10/15 10:35	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/09/15 19:08	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/09/15 19:08	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/09/15 19:08	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/09/15 19:08	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/09/15 19:08	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/09/15 19:08	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	108-90-7	

Lab Sample ID: S66186.07 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/09/15 19:08	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/09/15 19:08	WAT	120-82-1	

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

83931

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: BRIGHTON STATE: ZIP CODE:
PHONE NO.: (616) 780. 3277 FAX NO.: P.O. NO.: B06164481. 2015.00603
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS-US.COM QUOTE NO.:

INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: BAKER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT FAIRLADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	Select Metals (Total) *	Nitrate/Sulfate	Total Iron/Manganese	Diss. Iron/Manganese	Select Metals (Filtered)	Methane			Special Instructions
606186.01	6/8	0940	MW-04-04R-060815	GW	5	1	3	2							X	X	X	X		X			
.02		1230	MW-02-03(D)-060815	GW	9	1	6	2					X	X	X	X	X	X	X	X			GW DIDNT GO BELOW 10 NTU 7 10NTU.
.03		1410	PE-SB-35_060815	GW	6	1	3	2							X	X	X	X		X			
.04		1530	MW-13-36R_060815	GW	1			1							X								
.05			DUP_10_060815	GW	1			1							X								TOTA
.06		0815	FB-0001-060815	W	3		3						X										
.07			TRIP BLANK	W	1		1						X										
																	*	AS, Cr, Cu, Pb, Ni, V					

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	RMA ☐ Sampler	DATE 6/8/15	TIME 1645
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	DATE 6/8/15	TIME 16.45
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/9/15	TIME 1000
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 6/9/15	TIME 1000

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 6/9/15	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	Thermo Fisher	DATE 6/9/15	TIME 1030

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
NOTES: TEMP. ON ARRIVAL 6.8

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 22, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506226	06/11/2015	S66186

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506226**
Project:	Subcontract Lab Services	Description:	S66186
Client Sample ID:	**66186.01**	Sampled:	06/08/15 09:40
Lab Sample ID:	**1506226-01**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**7.5**	0.50	ug/L	1	RSK-175	06/17/15 09:04	JMF	1506091

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506226**
Project:	Subcontract Lab Services	Description:	S66186
Client Sample ID:	**66186.02**	Sampled:	06/08/15 12:30
Lab Sample ID:	**1506226-02**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**460**	5.0	ug/L	10	RSK-175	06/17/15 09:19	JMF	1506091

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506226**
Project:	Subcontract Lab Services	Description:	S66186
Client Sample ID:	**66186.03**	Sampled:	06/08/15 14:10
Lab Sample ID:	**1506226-03**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	<0.50	0.50	ug/L	1	RSK-175	06/17/15 09:23	JMF	1506091

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1506091 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:	06/16/2015	By: JMF	
Unit: ug/L					Analytical Batch:	5F17019		
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:	06/16/2015	By: JMF	
Unit: ug/L					Analytical Batch:	5F17019		
Methane		34.1	**25.9**	76	70-116	--		0.50
Matrix Spike 1506226-01 66186.01					Analyzed:	06/17/2015	By: JMF	
Unit: ug/L					Analytical Batch:	5F17020		
Methane	7.47	34.1	**27.4**	58	42-112	--		0.50
Matrix Spike Duplicate 1506226-01 66186.01					Analyzed:	06/17/2015	By: JMF	
Unit: ug/L					Analytical Batch:	5F17020		
Methane	7.47	34.1	**24.6**	50	42-112	11	20	0.50

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Individual sample results relate only to the sample tested.

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28.25

1506226

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

#14005

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66186
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

	MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01		6/8/15	940	66186.01	GW	3		3						✓
02		6/8/15	1230	66186.02	GW	3		3						✓
03		6/8/15	1410	66186.03	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/10/15 TIME: 1600
RECEIVED BY: SIGNATURE/ORGANIZATION: 12 4660 4770 3 5874 2112 DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: 6.11.15 TIME: 0945

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE TIME

SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS

NOTES: TEMP. ON ARRIVAL

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.16.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506226 (New / Add To)
Receipt Record Page/Line #: | Project Chemist: | Sample #s:

Recorded by (initials/date): WC 6.11.15

☑ Cooler ☐ Box ☐ Other ____ | Qty Received: 1

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler # Merit	Time 1300	Cooler #	Time	Cooler #	Time	Cooler #	Time
Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact		Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact		Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact		Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	
Coolant Type: ☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None		Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	
Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom	
Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No		Temp Blank Present: ☐ Yes ☐ No	
If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative		If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative		If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative		If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative	

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	2.5	-	2.5
Sample 2:	2.3	-	2.3
Sample 3:	3.0	-	3.0
3 Sample Average °C:			2.6

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			
3 Sample Average °C:			

Cooler ID on COC? / VOC Trip Blank received?	Cooler ID on COC? / VOC Trip Blank received?	Cooler ID on COC? / VOC Trip Blank received?	Cooler ID on COC? / VOC Trip Blank received?
☐ / ☐	☐ / ☐	☐ / ☐	☐ / ☐

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☐		Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☑	Other _____

COC Information

☐ TriMatrix COC ☑ Other Merit

COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☐	☐	Temperature Blank **OR** average sample temperature, ≥6° C?
☐	☐	☐	If either is ≥6° C, was thermal preservation required?
☐	☐		If "Yes", Project Chemist Approval Initials: _____
☐	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☐		Completed Sample Preservation Verification Form?
☐	☐	☐	Samples chemically preserved correctly?
☐	☐		If "No", added orange tag?
	☐	☐	Received pre-preserved VOC soils?

☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☐	☐	Sample ID matches COC?
☐	☐	Sample Date and Time matches COC?
☐		Container type completed on COC?
☐	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☐	Broken containers/lids?
	☐	☐	Missing or incomplete labels?
	☐	☐	Illegible information on labels?
	☐	☐	Low volume received?
	☐	☐	Inappropriate or non-TriMatrix containers received?
☐	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6.11.15 0945	6.11.15 1310	Yes / (No)

Analytical Laboratory Report

Report ID: S66203.01(01)
Generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

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Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66203.01-S66203.08
Project: RACER Plant 6 / B0064481.2015.00603
Collected Date: 06/09/2015
Submitted Date/Time: 06/10/2015 09:25
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (8 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66203.01	MWBP-12A-UST1-4_060915	Groundwater	06/09/15 08:50
S66203.02	MWBP-12-UST1-4_060915	Groundwater	06/09/15 10:20
S66203.03	MWBP-11-UST1-4_060915	Groundwater	06/09/15 11:25
S66203.04	P6-MW-01_060915	Groundwater	06/09/15 13:50
S66203.05	EB-0001_060915	Groundwater	06/09/15 14:15
S66203.06	P6-SB-32_060915	Groundwater	06/09/15 15:30
S66203.07	MW-12-14_060915	Groundwater	06/09/15 17:30
S66203.08	Trip Blank	Water	06/09/15 00:01

Analytical Laboratory Report

Lab Sample ID: S66203.01
Sample Tag: MWBP-12A-UST1-4_060915
Collected Date/Time: 06/09/2015 08:50
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	8.2	IR
6	40ml Glass	HCL	Yes	8.2	IR
1	250ml Plastic	None	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/11/15 10:55	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/11/15 07:13	JDP	14797-55-8	
Sulfate	328	mg/L	20	E300.0	06/11/15 11:03	JDP	14808-79-8	
Metals								
Arsenic	0.016	mg/L	0.002	SW6020A	06/22/15 15:47	PER	7440-38-2	
Chromium	0.005	mg/L	0.005	SW6020A	06/22/15 15:47	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 15:47	PER	7440-50-8	
Iron, Dissolved	14.5	mg/L	0.02	SW6020A	06/22/15 15:49	PER	7439-89-6	
Iron	15.3	mg/L	0.02	SW6020A	06/22/15 15:47	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:47	PER	7439-92-1	
Manganese, Dissolved	0.628	mg/L	0.005	SW6020A	06/22/15 15:49	PER	7439-96-5	
Manganese	0.633	mg/L	0.005	SW6020A	06/22/15 15:47	PER	7439-96-5	
Nickel	0.014	mg/L	0.005	SW6020A	06/22/15 15:47	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:47	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/10/15 19:38	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/10/15 19:38	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/10/15 19:38	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/10/15 19:38	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-34-3	

Lab Sample ID: S66203.01 (continued)
Sample Tag: MWBP-12A-UST1-4_060915

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/10/15 19:38	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/10/15 19:38	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/10/15 19:38	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 19:38	WAT	120-82-1	
Organics								
Methane in Water	94	ug/L	1.0	RSK-175	06/16/15 10:20	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66203.02
Sample Tag: MWBP-12-UST1-4_060915
Collected Date/Time: 06/09/2015 10:20
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	8.2	IR
3	40ml Glass	HCL	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/11/15 10:55	LBR		
Metals								
Arsenic	0.018	mg/L	0.002	SW6020A	06/22/15 15:51	PER	7440-38-2	
Chromium	0.006	mg/L	0.005	SW6020A	06/22/15 15:51	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 15:51	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:51	PER	7439-92-1	
Nickel	0.006	mg/L	0.005	SW6020A	06/22/15 15:51	PER	7440-02-0	
Vanadium	0.009	mg/L	0.005	SW6020A	06/22/15 15:51	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	WAT	96-12-8	Y
1,2-Dibromoethane	Not detected	ug/L	3	SW8260B	06/11/15 21:32	WAT	106-93-4	Y
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	76-13-1	Y
Acetone	Not detected	ug/L	25	SW8260C	06/11/15 21:32	JGH	67-64-1	Y
Carbon disulfide	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-15-0	Y
Methyl Acetate	Not detected	ug/L	25	SW8260C	06/11/15 21:32	JGH	79-20-9	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	1634-04-4	Y
2-Butanone (MEK)	Not detected	ug/L	25	SW8260C	06/11/15 21:32	JGH	78-93-3	Y
Dichlorodifluoromethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-71-8	Y
Chloromethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	74-87-3	Y
Vinyl chloride	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-01-4	Y
Bromomethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	74-83-9	Y
Chloroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-00-3	Y
Trichlorofluoromethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-69-4	Y
1,1-Dichloroethene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-35-4	Y
Methylene chloride	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	156-60-5	Y
1,1-Dichloroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	156-59-2	Y
Chloroform	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	67-66-3	Y
1,1,1-Trichloroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	71-55-6	Y
Cyclohexane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	110-82-7	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	25	SW8260C	06/11/15 21:32	JGH	108-10-1	Y
2-Hexanone	Not detected	ug/L	25	SW8260C	06/11/15 21:32	JGH	591-78-6	Y
Carbon tetrachloride	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	56-23-5	Y
Benzene	157	ug/L	3	SW8260C	06/11/15 21:32	JGH	71-43-2	Y
1,2-Dichloroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	107-06-2	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66203.02 (continued)
Sample Tag: MWBP-12-UST1-4_060915

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Trichloroethene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	79-01-6	Y
1,2-Dichloropropane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	78-87-5	Y
Bromodichloromethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-27-4	Y
Methyl cyclohexane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	108-87-2	Y
cis-1,3-Dichloropropene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	10061-01-5	Y
Toluene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	79-00-5	Y
Tetrachloroethene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	127-18-4	Y
Dibromochloromethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	124-48-1	Y
Chlorobenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	108-90-7	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	79-34-5	Y
Ethylbenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	100-41-4	Y
p,m-Xylene	Not detected	ug/L	5	SW8260C	06/11/15 21:32	JGH		Y
o-Xylene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	95-47-6	Y
Styrene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	100-42-5	Y
Isopropylbenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	98-82-8	Y
Bromoform	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	75-25-2	Y
1,3-Dichlorobenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	541-73-1	Y
1,4-Dichlorobenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	106-46-7	Y
1,2-Dichlorobenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	95-50-1	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	3	SW8260C	06/11/15 21:32	JGH	120-82-1	Y

Y-Elevated reporting limit due to high target concentration

Analytical Laboratory Report

Lab Sample ID: S66203.03
Sample Tag: MWBP-11-UST1-4_060915
Collected Date/Time: 06/09/2015 11:25
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	8.2	IR
3	40ml Glass	HCL	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/19/15 15:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/11/15 10:55	LBR		
Metals								
Arsenic	0.020	mg/L	0.002	SW6020A	06/22/15 15:53	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:53	PER	7440-47-3	
Copper	0.006	mg/L	0.005	SW6020A	06/22/15 15:53	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 15:53	PER	7439-92-1	
Nickel	Not detected	mg/L	0.005	SW6020A	06/22/15 15:53	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 15:53	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/10/15 20:00	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/10/15 20:00	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/10/15 20:00	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/10/15 20:00	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/10/15 20:00	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/10/15 20:00	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	79-01-6	

Lab Sample ID: S66203.03 (continued)
Sample Tag: MWBP-11-UST1-4_060915

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/10/15 20:00	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:00	WAT	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S66203.04
Sample Tag: P6-MW-01_060915
Collected Date/Time: 06/09/2015 13:50
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	8.2	IR
3	40ml Glass	HCL	Yes	8.2	IR
1	250ml Plastic	None	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 12:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 12:00	JRH		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/11/15 07:25	JDP	14797-55-8	
Sulfate	321	mg/L	20	E300.0	06/11/15 11:16	JDP	14808-79-8	
Metals								
Iron, Dissolved	1.93	mg/L	0.02	SW6020A	06/16/15 14:14	JRH	7439-89-6	
Iron	2.75	mg/L	0.02	SW6020A	06/16/15 14:12	JRH	7439-89-6	
Manganese, Dissolved	0.594	mg/L	0.005	SW6020A	06/16/15 14:14	JRH	7439-96-5	
Manganese	0.573	mg/L	0.005	SW6020A	06/16/15 14:12	JRH	7439-96-5	
Organics								
Methane in Water	39	ug/L	0.50	RSK-175	06/16/15 10:24	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66203.05
Sample Tag: EB-0001_060915
Collected Date/Time: 06/09/2015 14:15
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	125ml Plastic	HNO3	Yes	8.2	IR
3	40ml Glass	HCL	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Mercury Digestion	Completed			SW7471B	06/10/15 11:30	CCM		
Metal Digestion	Completed			SW3015A	06/18/15 12:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/11/15 10:55	LBR		
Metals								
Antimony	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-36-0	
Arsenic	Not detected	mg/L	0.002	SW6020A	06/18/15 16:10	PER	7440-38-2	
Barium	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-39-3	
Boron	Not detected	mg/L	0.04	SW6020A	06/18/15 16:10	PER	7440-42-8	
Cadmium	Not detected	mg/L	0.0005	SW6020A	06/18/15 16:10	PER	7440-43-9	
Chromium	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-47-3	
Cobalt	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-48-4	
Copper	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/18/15 16:10	PER	7439-92-1	
Manganese	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7439-96-5	
Mercury	Not detected	mg/L	0.0001	SW7471B	06/10/15 16:01	CCM	7439-97-6	
Nickel	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-02-0	
Selenium	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7782-49-2	
Silver	Not detected	mg/L	0.0005	SW6020A	06/18/15 16:10	PER	7440-22-4	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-62-2	
Zinc	Not detected	mg/L	0.005	SW6020A	06/18/15 16:10	PER	7440-66-6	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/10/15 20:44	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/10/15 20:44	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/10/15 20:44	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/10/15 20:44	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	156-60-5	

Lab Sample ID: S66203.05 (continued)
Sample Tag: EB-0001_060915

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/10/15 20:44	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/10/15 20:44	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/10/15 20:44	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 20:44	WAT	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S66203.06
Sample Tag: P6-SB-32_060915
Collected Date/Time: 06/09/2015 15:30
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	8.2	IR
6	40ml Glass	HCL	Yes	8.2	IR
1	250ml Plastic	None	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/11/15 10:55	LBR		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/11/15 07:38	JDP	14797-55-8	
Sulfate	Not detected	mg/L	10	E300.0	06/11/15 07:38	JDP	14808-79-8	
Metals								
Arsenic, Dissolved	0.011	mg/L	0.002	SW6020A	06/22/15 16:11	PER	7440-38-2	
Arsenic	0.012	mg/L	0.002	SW6020A	06/22/15 16:09	PER	7440-38-2	
Chromium, Dissolved	0.006	mg/L	0.005	SW6020A	06/22/15 16:11	PER	7440-47-3	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:09	PER	7440-47-3	
Copper, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 16:11	PER	7440-50-8	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 16:09	PER	7440-50-8	
Iron, Dissolved	8.62	mg/L	0.02	SW6020A	06/22/15 16:11	PER	7439-89-6	
Iron	11.2	mg/L	0.02	SW6020A	06/22/15 16:09	PER	7439-89-6	
Lead, Dissolved	Not detected	mg/L	0.003	SW6020A	06/22/15 16:11	PER	7439-92-1	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 16:09	PER	7439-92-1	
Manganese, Dissolved	0.210	mg/L	0.005	SW6020A	06/22/15 16:11	PER	7439-96-5	
Manganese	0.212	mg/L	0.005	SW6020A	06/22/15 16:09	PER	7439-96-5	
Nickel, Dissolved	0.008	mg/L	0.005	SW6020A	06/22/15 16:11	PER	7440-02-0	
Nickel	0.008	mg/L	0.005	SW6020A	06/22/15 16:09	PER	7440-02-0	
Vanadium, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 16:11	PER	7440-62-2	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:09	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	WAT	96-12-8	Y
1,2-Dibromoethane	Not detected	ug/L	50	SW8260B	06/11/15 21:54	WAT	106-93-4	Y
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	76-13-1	Y
Acetone	Not detected	ug/L	500	SW8260C	06/11/15 21:54	JGH	67-64-1	Y
Carbon disulfide	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-15-0	Y
Methyl Acetate	Not detected	ug/L	500	SW8260C	06/11/15 21:54	JGH	79-20-9	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	1634-04-4	Y
2-Butanone (MEK)	Not detected	ug/L	500	SW8260C	06/11/15 21:54	JGH	78-93-3	Y
Dichlorodifluoromethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-71-8	Y
Chloromethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	74-87-3	Y
Vinyl chloride	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-01-4	Y

Y-Elevated reporting limit due to high target concentration

Lab Sample ID: S66203.06 (continued)
Sample Tag: P6-SB-32_060915

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Bromomethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	74-83-9	Y
Chloroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-00-3	Y
Trichlorofluoromethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-69-4	Y
1,1-Dichloroethene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-35-4	Y
Methylene chloride	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-09-2	Y
trans-1,2-Dichloroethene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	156-60-5	Y
1,1-Dichloroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-34-3	Y
cis-1,2-Dichloroethene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	156-59-2	Y
Chloroform	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	67-66-3	Y
1,1,1-Trichloroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	71-55-6	Y
Cyclohexane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	110-82-7	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	500	SW8260C	06/11/15 21:54	JGH	108-10-1	Y
2-Hexanone	Not detected	ug/L	500	SW8260C	06/11/15 21:54	JGH	591-78-6	Y
Carbon tetrachloride	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	56-23-5	Y
Benzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	71-43-2	Y
1,2-Dichloroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	107-06-2	Y
Trichloroethene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	79-01-6	Y
1,2-Dichloropropane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	78-87-5	Y
Bromodichloromethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-27-4	Y
Methyl cyclohexane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	108-87-2	Y
cis-1,3-Dichloropropene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	10061-01-5	Y
Toluene	100	ug/L	50	SW8260C	06/11/15 21:54	JGH	108-88-3	Y
trans-1,3-Dichloropropene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	10061-02-6	Y
1,1,2-Trichloroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	79-00-5	Y
Tetrachloroethene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	127-18-4	Y
Dibromochloromethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	124-48-1	Y
Chlorobenzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	108-90-7	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	79-34-5	Y
Ethylbenzene	150	ug/L	50	SW8260C	06/11/15 21:54	JGH	100-41-4	Y
p,m-Xylene	1,600	ug/L	100	SW8260C	06/11/15 21:54	JGH		Y
o-Xylene	850	ug/L	50	SW8260C	06/11/15 21:54	JGH	95-47-6	Y
Styrene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	100-42-5	Y
Isopropylbenzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	98-82-8	Y
Bromoform	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	75-25-2	Y
1,3-Dichlorobenzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	541-73-1	Y
1,4-Dichlorobenzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	106-46-7	Y
1,2-Dichlorobenzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	95-50-1	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	50	SW8260C	06/11/15 21:54	JGH	120-82-1	Y
Organics								
Methane in Water	9,300	ug/L	100	RSK-175	06/16/15 10:36	Tri	74-82-8	O

Y-Elevated reporting limit due to high target concentration
O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66203.07
Sample Tag: MW-12-14_060915
Collected Date/Time: 06/09/2015 17:30
Matrix: Groundwater
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	125ml Plastic	HNO3	Yes	8.2	IR
3	40ml Glass	HCL	Yes	8.2	IR
1	250ml Plastic	None	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 12:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 12:00	JRH		
Inorganics								
Nitrate-N	1.9	mg/L	0.5	E300.0	06/11/15 07:51	JDP	14797-55-8	
Sulfate	162	mg/L	10	E300.0	06/11/15 07:51	JDP	14808-79-8	
Metals								
Iron, Dissolved	Not detected	mg/L	0.02	SW6020A	06/16/15 14:18	JRH	7439-89-6	
Iron	0.66	mg/L	0.02	SW6020A	06/16/15 14:16	JRH	7439-89-6	
Manganese, Dissolved	0.350	mg/L	0.005	SW6020A	06/16/15 14:18	JRH	7439-96-5	
Manganese	0.358	mg/L	0.005	SW6020A	06/16/15 14:16	JRH	7439-96-5	
Organics								
Methane in Water	2.7	ug/L	0.50	RSK-175	06/16/15 10:40	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66203.08
Sample Tag: Trip Blank
Collected Date/Time: 06/09/2015 00:01
Matrix: Water
COC Reference: 89887

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	8.2	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/11/15 10:55	LBR		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/10/15 21:06	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/10/15 21:06	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/10/15 21:06	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/10/15 21:06	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/10/15 21:06	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/10/15 21:06	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	108-90-7	

Lab Sample ID: S66203.08 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/10/15 21:06	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/10/15 21:06	WAT	120-82-1	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF ____

89887

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: RANDY.CHRISTENSEN@ARCADIS-US.COM FAX NO.: P.O. NO.: B07448 2015.00603
E-MAIL ADDRESS: 616-780-3277 QUOTE NO.:

INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIKADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER ____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER ____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other ____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	TOTAL SELECT METALS *	DISSOLVED SELECT METALS	METALS **	Nitrate/Sulfate	Methane	Total Iron/Manganese	Diss Iron/Manganese
66203.01	6/9	0850	MWBP-12A-UST1-4_060915	GW	9	1	6	2					X		X			X	X	X	X
.02		1020	MWBP-12-UST1-4_060915	GW	4		3	1					X		X						
.03		1125	MWBP-11-UST1-4-060915	GW	4		3	1					X		X						
.04		1350	P6-MW-01-060915	GW	6	1	3	2										X	X	X	X
.05		1415	EB-0001-060915	W	4		3	1					X				X				
.06		1530	PS-SB-32_060915	GW	9	1	6	2					X		X	X		X	X	X	X
.07		1730	MW-12-14_060915	GW	6	1	3	2										X	X	X	X
.08	↓		Trip BLANK	W	1		1						X								

* As, Cr, Cu, Pb, Ni, V

** SB, As, Ba, B, Cd, Cr, Co, Cu, Pb Mn, Hg, Ni, Se, Ag, V, Zn

RELINQUISHED BY: SIGNATURE/ORGANIZATION		☐ Sampler	DATE	TIME
	RMA		6/9	1900
RECEIVED BY: SIGNATURE/ORGANIZATION	PML STORAGE		6/9	1900
RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	Mer	6-10-15	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/10/15	925

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 8.2

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 22, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506221	06/11/2015	S66203

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

This report shall not be reproduced, except in full, without written authorization of TriMatrix Laboratories, Inc.
Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506221**
Project:	Subcontract Lab Services	Description:	S66203
Client Sample ID:	**66203.01**	Sampled:	06/09/15 08:50
Lab Sample ID:	**1506221-01**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**94**	1.0	ug/L	2	RSK-175	06/16/15 10:20	JMF	1506091

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506221**
Project:	Subcontract Lab Services	Description:	S66203
Client Sample ID:	**66203.04**	Sampled:	06/09/15 13:50
Lab Sample ID:	**1506221-02**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**39**	0.50	ug/L	1	RSK-175	06/16/15 10:24	JMF	1506091

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506221**
Project:	Subcontract Lab Services	Description:	S66203
Client Sample ID:	**66203.06**	Sampled:	06/09/15 15:30
Lab Sample ID:	**1506221-03**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**9300**	100	ug/L	200	RSK-175	06/16/15 10:36	JMF	1506091

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506221**
Project:	Subcontract Lab Services	Description:	S66203
Client Sample ID:	**66203.07**	Sampled:	06/09/15 17:30
Lab Sample ID:	**1506221-04**	Sampled By:	Kevin George
Matrix:	Water	Received:	06/11/15 09:45

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**2.7**	0.50	ug/L	1	RSK-175	06/16/15 10:40	JMF	1506091

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Individual sample results relate only to the sample tested.

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1506091 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/16/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F17019	
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:		06/16/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F17019	
Methane		34.1	**25.9**	76	70-116	--		0.50

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Individual sample results relate only to the sample tested.

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28.21

1506221

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD #14061

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66203 SAMPLER(S) - PLEASE PRINT/SIGN NAME

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

	MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01		6/9/15	850	66203.01	GW	3		3						✓
02		6/9/15	1350	66203.04	GW	3		3						✓
03		6/9/15	1530	66203.06	GW	3		3						✓
04		6/9/15	1730	66203.07	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/10/15 TIME: 1000
RECEIVED BY: SIGNATURE/ORGANIZATION: FE 466 47703 5874 2112 DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: 6.11.15 DATE: 0945 TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506221
Receipt Record Page/Line #: | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): WC 6.11.15 | ☑ Cooler ☐ Box ☐ Other | Qty Received: 1 | Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#_____) | ☐ See Additional Cooler Information Form

Cooler # Merit | Time 1300

Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Type: ☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None
Coolant Location: Dispersed / Top / Middle / Bottom
Temp Blank Present: ☐ Yes ☐ No
If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	2.5	-	2.5
Sample 2:	2.3	-	2.3
Sample 3:	3.0	-	3.0

3 Sample Average °C: 2.6

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None
Coolant Location: Dispersed / Top / Middle / Bottom
Temp Blank Present: ☐ Yes ☐ No
If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None
Coolant Location: Dispersed / Top / Middle / Bottom
Temp Blank Present: ☐ Yes ☐ No
If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler # | Time

Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Type: ☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None
Coolant Location: Dispersed / Top / Middle / Bottom
Temp Blank Present: ☐ Yes ☐ No
If Present, Temperature Blank Location is: ☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☐	☐	Chain of Custody record(s)? If No, Initiated By _____
☐	☐	Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☐	Other _____

COC Information

☐ TriMatrix COC ☐ Other Merit
COC ID Numbers:

Check Sample Preservation

N/A	Yes	No	
	☐	☐	Temperature Blank OR average sample temperature, ≥6° C?
☐	☐	☐	If either is ≥6° C, was thermal preservation required?
☐	☐	☐	If "Yes", Project Chemist Approval Initials: _____
☐	☐	☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☐	☐	Completed Sample Preservation Verification Form?
☐	☐	☐	Samples chemically preserved correctly?
☐	☐	☐	If "No", added orange tag?
☐	☐	☐	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☐	☐	Analysis Requested?
☐	☐	Sample ID matches COC?
☐	☐	Sample Date and Time matches COC?
☐	☐	Container type completed on COC?
☐	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☐	Broken containers/lids?
	☐	☐	Missing or incomplete labels?
	☐	☐	Illegible information on labels?
	☐	☐	Low volume received?
	☐	☐	Inappropriate or non-TriMatrix containers received?
☐	☐	☐	VOC vials / TOX containers have headspace?
☐	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6.11.15 0945	6.11.15 1310	Yes / (No)

Analytical Laboratory Report

Report ID: S66250.01(01)
Generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
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Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66250.01-S66250.03
Project: RACER Plant 6 / B0064481.2015.00603
Collected Date: 06/11/2015
Submitted Date/Time: 06/11/2015 11:52
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
N/A	Not Applicable
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66250.01	MW-12-13_061115	Groundwater	06/11/15 09:25
S66250.02	DUP_09_061115	Groundwater	06/11/15 00:01
S66250.03	Trip Blank	Liquid	06/11/15 00:01

Analytical Laboratory Report

Lab Sample ID: S66250.01
Sample Tag: MW-12-13_061115
Collected Date/Time: 06/11/2015 09:25
Matrix: Groundwater
COC Reference: 83936

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
6	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/16/15 10:20	WAT		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 08:17	JDP	14797-55-8	
Sulfate	157	mg/L	10	E300.0	06/12/15 08:17	JDP	14808-79-8	
Metals								
Arsenic	0.003	mg/L	0.002	SW6020A	06/22/15 16:49	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:49	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 16:49	PER	7440-50-8	
Iron, Dissolved	2.21	mg/L	0.02	SW6020A	06/22/15 16:51	PER	7439-89-6	
Iron	2.20	mg/L	0.02	SW6020A	06/22/15 16:49	PER	7439-89-6	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 16:49	PER	7439-92-1	
Manganese, Dissolved	0.113	mg/L	0.005	SW6020A	06/22/15 16:51	PER	7439-96-5	
Manganese	0.108	mg/L	0.005	SW6020A	06/22/15 16:49	PER	7439-96-5	
Nickel	0.014	mg/L	0.005	SW6020A	06/22/15 16:49	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:49	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/15/15 18:50	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/12/15 19:34	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/15/15 18:50	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/15/15 18:50	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/15/15 18:50	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	156-60-5	

Lab Sample ID: S66250.01 (continued)
Sample Tag: MW-12-13_061115

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/15/15 18:50	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/15/15 18:50	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/15/15 18:50	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 18:50	WAT	120-82-1	
Organics								
Methane in Water	1.7	ug/L	0.50	RSK-175	06/19/15 12:52	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66250.02
Sample Tag: DUP_09_061115
Collected Date/Time: 06/11/2015 00:01
Matrix: Groundwater
COC Reference: 83936

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
pH check for VOCs	<2	STD Units		N/A	06/16/15 10:20	WAT		
Metals								
Arsenic	0.002	mg/L	0.002	SW6020A	06/22/15 16:53	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:53	PER	7440-47-3	
Copper	Not detected	mg/L	0.005	SW6020A	06/22/15 16:53	PER	7440-50-8	
Lead	Not detected	mg/L	0.003	SW6020A	06/22/15 16:53	PER	7439-92-1	
Nickel	0.014	mg/L	0.005	SW6020A	06/22/15 16:53	PER	7440-02-0	
Vanadium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:53	PER	7440-62-2	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/15/15 19:12	WAT	106-93-4	
1,4-Dioxane	Not detected	ug/L	5	SW8260B - SIM	06/15/15 16:19	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	06/15/15 19:12	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/15/15 19:12	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/15/15 19:12	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/15/15 19:12	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/15/15 19:12	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	107-06-2	

Lab Sample ID: S66250.02 (continued)
Sample Tag: DUP_09_061115

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Trichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/15/15 19:12	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:12	WAT	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S66250.03
Sample Tag: Trip Blank
Collected Date/Time: 06/11/2015 00:01
Matrix: Liquid
COC Reference: 83936

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/16/15 10:20	WAT		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	06/15/15 19:34	WAT	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	76-13-1	
Acetone	10	ug/L	10	SW8260C	06/15/15 19:34	WAT	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	06/15/15 19:34	WAT	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	06/15/15 19:34	WAT	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	06/15/15 19:34	WAT	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	06/15/15 19:34	WAT	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	108-90-7	

Lab Sample ID: S66250.03 (continued)
Sample Tag: Trip Blank

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	06/15/15 19:34	WAT		
o-Xylene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	06/15/15 19:34	WAT	120-82-1	

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

83936

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR STE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 616 - 780-3277 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: QUOTE NO.: B#064481.2015.00603

INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO/NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIRADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 DIOXANE	SELECT METALS (TOTAL)	TOTAL IRON/MANGANESE	DISSOLVED IRON MANGANESE	NITRATE/SULFATE	METHANE
160250.01	6/11	0925	MW-12-13_061115	GW	9	1	6	2					X	X	X	X	X	X	X
.02	↓	—	DUP_09_061115	GW	4		3	1					X	X	X				
.03	↓		TRIP BLANK																

SELECT METALS
As, Cr, Cu, Pb, Ni, V

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	RMA & Sampler	6/11	1020
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	6/11	1020
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	6/11	1120
RECEIVED BY: SIGNATURE/ORGANIZATION		6/11	1120

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/11	1152
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/11/15	1152

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 10.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 22, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506250	06/12/2015	S66250

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

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Individual sample results relate only to the sample tested.
5560 Corporate Exchange Court SE ♦ Grand Rapids, MI 49512 ♦ 616.975.4500 ♦ Fax 616.942.7463 ♦ www.trimatrixlabs.com

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506250**
Project:	Subcontract Lab Services	Description:	S66250
Client Sample ID:	**66250.01**	Sampled:	06/11/15 09:25
Lab Sample ID:	**1506250-01**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**1.7**	0.50	ug/L	1	RSK-175	06/19/15 12:52	JMF	1506345

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1506345 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/19/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F19040	
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:		06/19/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F19040	
Methane		34.7	**26.5**	76	70-116	--		0.50

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Individual sample results relate only to the sample tested.

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E-1506250

29-13

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

CHAIN OF CUSTODY RECORD #14072

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66250 SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐1 DAY ☐2 DAYS ☐3 DAYS ☒STANDARD ☐OTHER

DELIVERABLES REQUIRED ☐STD ☒LEVEL II ☐LEVEL III ☐LEVEL IV ☐EDD ☐OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐OHIO VAP ☐Drinking Water
☐DoD ☐NPDES
Project Locations
☐Detroit ☐New York
☐Other
Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01	6/11/15	925	66250.01	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐Sampler DATE: 6/11/15 TIME: 1800
RECEIVED BY: SIGNATURE/ORGANIZATION: 2466 47703 5965 1745 DATE: TIME:
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: Tr. Matrix DATE: 6/12/15 TIME: 1130

SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS
SEAL NO. SEAL INTACT YES☐ NO☐ INITIALS

NOTES: TEMP. ON ARRIVAL:

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506250
Receipt Record Page/Line #: 29-13 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): CS 6/12/15

Cooler / Box / Other | Qty Received: 1

Thermometer Used: IR Gun (#202) / Digital Thermometer (#54) / Other (#_____) | See Additional Cooler Information Form

Cooler 1

Cooler # | Time: 1146

Custody Seals: None / Present / Intact / Present / Not Intact

Coolant Type: Loose Ice / Bagged Ice / Blue Ice / None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: Yes / No

If Present, Temperature Blank Location is: Representative / Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	3.8	—	3.8
Sample 2:	2.9	—	2.9
Sample 3:	3.1	—	3.1

3 Sample Average °C: 3.3

Cooler ID on COC? / VOC Trip Blank received?

Cooler 2

Cooler # | Time

Custody Seals: None / Present / Intact / Present / Not Intact

Coolant Type: Loose Ice / Bagged Ice / Blue Ice / None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: Yes / No

If Present, Temperature Blank Location is: Representative / Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

Cooler ID on COC? / VOC Trip Blank received?

Cooler 3

Cooler # | Time

Custody Seals: None / Present / Intact / Present / Not Intact

Coolant Type: Loose Ice / Bagged Ice / Blue Ice / None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: Yes / No

If Present, Temperature Blank Location is: Representative / Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

Cooler ID on COC? / VOC Trip Blank received?

Cooler 4

Cooler # | Time

Custody Seals: None / Present / Intact / Present / Not Intact

Coolant Type: Loose Ice / Bagged Ice / Blue Ice / None

Coolant Location: Dispersed / Top / Middle / Bottom

Temp Blank Present: Yes / No

If Present, Temperature Blank Location is: Representative / Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

Cooler ID on COC? / VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
	☐	Chain of Custody record(s)? If No, Initiated By _____
		Received for Lab Signed/Date/Time?
		Shipping document?
		Other _____

COC Information

TriMatrix COC / Other: Merit

COC ID Numbers: 14072

Check Sample Preservation

N/A	Yes	No	
			Temperature Blank OR average sample temperature, ≥6° C?
			If either is ≥6° C, was thermal preservation required?
			If "Yes", Project Chemist Approval Initials: _____
			If "Yes" Completed Non Con Cooler - Cont Inventory Form?
			Completed Sample Preservation Verification Form?
			Samples chemically preserved correctly?
			If "No", added orange tag?
			Received pre-preserved VOC soils?

MeOH / Na_2SO_4

Check COC for Accuracy

Yes	No	
		Analysis Requested?
		Sample ID matches COC?
		Sample Date and Time matches COC?
		Container type completed on COC?
		All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

Bacteriological / Air Bags / EnCores / Methanol Pre-Preserved / Formaldehyde/Aldehyde / Green-tagged containers / Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
NONE RECEIVED / RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
			Broken containers/lids?
			Missing or incomplete labels?
			Illegible information on labels?
			Low volume received?
			Inappropriate or non-TriMatrix containers received?
			VOC vials / TOX containers have headspace?
			Extra sample locations / containers not listed on COC?

Notes

Trip Blank received / Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6/12/15 1130	6/12/15 1216	Yes / No

Analytical Laboratory Report

Report ID: S66251.01(01)
Generated on 06/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Kristen Templin, Cordelia Swegal, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S66251.01-S66251.07
Project: RACER Plant 6 / B0064481.2015.00603
Collected Date: 06/10/2015
Submitted Date/Time: 06/11/2015 11:52
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
E300.0	EPA Method 300.0 Revision 2.1
RSK-175	RSK-175
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW6020A	SW 846 Method 6020A Revision 1 February 2007

Sample Summary (7 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S66251.01	MW-12-10_061015	Groundwater	06/10/15 09:20
S66251.02	MW-02-01(6)_061015	Groundwater	06/10/15 12:15
S66251.03	MW-03-07_061015	Groundwater	06/10/15 13:45
S66251.04	MW-02-02(6)_061015	Groundwater	06/10/15 14:55
S66251.05	SME-MW-02_061015	Groundwater	06/10/15 16:30
S66251.06	P6-SB-18_061015	Groundwater	06/10/15 18:25
S66251.07	Trip Blank	Water	06/10/15 00:01

Analytical Laboratory Report

Lab Sample ID: S66251.01
Sample Tag: MW-12-10_061015
Collected Date/Time: 06/10/2015 09:20
Matrix: Groundwater
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 07:39	JDP	14797-55-8	
Sulfate	38	mg/L	10	E300.0	06/12/15 07:39	JDP	14808-79-8	
Metals								
Iron, Dissolved	0.02	mg/L	0.02	SW6020A	06/16/15 15:14	JRH	7439-89-6	
Iron	0.48	mg/L	0.02	SW6020A	06/16/15 15:12	JRH	7439-89-6	
Manganese, Dissolved	0.497	mg/L	0.005	SW6020A	06/16/15 15:14	JRH	7439-96-5	
Manganese	0.507	mg/L	0.005	SW6020A	06/16/15 15:12	JRH	7439-96-5	
Organics								
Methane in Water	9.3	ug/L	0.50	RSK-175	06/19/15 12:57	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66251.02
Sample Tag: MW-02-01(6)_061015
Collected Date/Time: 06/10/2015 12:15
Matrix: Groundwater
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 08:30	JDP	14797-55-8	
Sulfate	24	mg/L	10	E300.0	06/12/15 08:30	JDP	14808-79-8	
Metals								
Iron, Dissolved	9.86	mg/L	0.02	SW6020A	06/16/15 15:18	JRH	7439-89-6	
Iron	11.5	mg/L	0.02	SW6020A	06/16/15 15:16	JRH	7439-89-6	
Manganese, Dissolved	0.305	mg/L	0.005	SW6020A	06/16/15 15:18	JRH	7439-96-5	
Manganese	0.308	mg/L	0.005	SW6020A	06/16/15 15:16	JRH	7439-96-5	
Organics								
Methane in Water	720	ug/L	10	RSK-175	06/19/15 13:07	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66251.03
Sample Tag: MW-03-07_061015
Collected Date/Time: 06/10/2015 13:45
Matrix: Groundwater
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 08:43	JDP	14797-55-8	
Sulfate	62	mg/L	10	E300.0	06/12/15 08:43	JDP	14808-79-8	
Metals								
Iron, Dissolved	2.24	mg/L	0.02	SW6020A	06/16/15 15:22	JRH	7439-89-6	
Iron	2.26	mg/L	0.02	SW6020A	06/16/15 15:20	JRH	7439-89-6	
Manganese, Dissolved	0.075	mg/L	0.005	SW6020A	06/16/15 15:22	JRH	7439-96-5	
Manganese	0.075	mg/L	0.005	SW6020A	06/16/15 15:20	JRH	7439-96-5	
Organics								
Methane in Water	46	ug/L	0.50	RSK-175	06/19/15 13:27	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66251.04
Sample Tag: MW-02-02(6)_061015
Collected Date/Time: 06/10/2015 14:55
Matrix: Groundwater
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 08:56	JDP	14797-55-8	
Sulfate	38	mg/L	10	E300.0	06/12/15 08:56	JDP	14808-79-8	
Metals								
Iron, Dissolved	4.79	mg/L	0.02	SW6020A	06/16/15 15:26	JRH	7439-89-6	
Iron	4.76	mg/L	0.02	SW6020A	06/16/15 15:24	JRH	7439-89-6	
Manganese, Dissolved	0.114	mg/L	0.005	SW6020A	06/16/15 15:26	JRH	7439-96-5	
Manganese	0.114	mg/L	0.005	SW6020A	06/16/15 15:24	JRH	7439-96-5	
Organics								
Methane in Water	170	ug/L	2.0	RSK-175	06/19/15 13:37	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66251.05
Sample Tag: SME-MW-02_061015
Collected Date/Time: 06/10/2015 16:30
Matrix: Groundwater
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Metal Digestion	Completed			SW3015A	06/16/15 13:00	JRH		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 09:08	JDP	14797-55-8	
Sulfate	66	mg/L	10	E300.0	06/12/15 09:08	JDP	14808-79-8	
Metals								
Iron, Dissolved	0.24	mg/L	0.02	SW6020A	06/16/15 15:30	JRH	7439-89-6	
Iron	2.52	mg/L	0.02	SW6020A	06/16/15 15:28	JRH	7439-89-6	
Manganese, Dissolved	0.197	mg/L	0.005	SW6020A	06/16/15 15:30	JRH	7439-96-5	
Manganese	0.225	mg/L	0.005	SW6020A	06/16/15 15:28	JRH	7439-96-5	
Organics								
Methane in Water	25	ug/L	0.50	RSK-175	06/19/15 13:41	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66251.06
Sample Tag: P6-SB-18_061015
Collected Date/Time: 06/10/2015 18:25
Matrix: Groundwater
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	10.4	IR
1	250ml Plastic	None	Yes	10.4	IR
2	125ml Plastic	HNO3	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
Metal Digestion	Completed			SW3015A	06/22/15 11:00	PER		
Inorganics								
Nitrate-N	Not detected	mg/L	0.5	E300.0	06/12/15 09:21	JDP	14797-55-8	
Sulfate	53	mg/L	10	E300.0	06/12/15 09:21	JDP	14808-79-8	
Metals								
Arsenic	0.005	mg/L	0.002	SW6020A	06/22/15 16:54	PER	7440-38-2	
Chromium	Not detected	mg/L	0.005	SW6020A	06/22/15 16:54	PER	7440-47-3	
Copper	0.042	mg/L	0.005	SW6020A	06/22/15 16:54	PER	7440-50-8	
Iron, Dissolved	0.03	mg/L	0.02	SW6020A	06/22/15 16:56	PER	7439-89-6	
Iron	0.16	mg/L	0.02	SW6020A	06/22/15 16:54	PER	7439-89-6	
Lead	0.038	mg/L	0.003	SW6020A	06/22/15 16:54	PER	7439-92-1	
Manganese, Dissolved	Not detected	mg/L	0.005	SW6020A	06/22/15 16:56	PER	7439-96-5	
Manganese	Not detected	mg/L	0.005	SW6020A	06/22/15 16:54	PER	7439-96-5	
Nickel	Not detected	mg/L	0.005	SW6020A	06/22/15 16:54	PER	7440-02-0	
Vanadium	0.038	mg/L	0.005	SW6020A	06/22/15 16:54	PER	7440-62-2	
Organics								
Methane in Water	20	ug/L	0.50	RSK-175	06/19/15 13:46	Tri	74-82-8	O

O-Analysis performed by outside laboratory. See attached report.

Analytical Laboratory Report

Lab Sample ID: S66251.07
Sample Tag: Trip Blank
Collected Date/Time: 06/10/2015 00:01
Matrix: Water
COC Reference: 89888

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	10.4	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Other / Misc.								
Hold until notified	Completed				06/15/15 14:30	KAG		

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89888

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR STE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 616-780-3271 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: B@64481.2015 QUOTE 82603

INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Robert Hilage Randy

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	METHANE	TOTAL IRON/MANGANESE	DISSOLVED IRON/MANGANESE	NITRATE/SULFATE	TOTAL SELECT METALS*	DISS SELECT METALS*	Special Instructions
16251.01	6/10	0920	MW-12-10R_061015	GW	6	1	3	2					X	X	X	X			
.02		1219	MW-02-01(6)_061015	GW	6	1	3	2					X	X	X	X			
.03		1345	MW-03-07_061015	GW	6	1	3	2					X	X	X	X			
.04		1455	MW-02-02(6)_061015	GW	6	1	3	2					X	X	X	X			
.05		1630	SME-MW02_061015	GW	6	1	3	2					X	X	X	X			
.06		1825	PG-SB-18_061015	GW	6	1	3	2					X	X	X	X	X		BELOW 10 NTU.*
.07			Trip BLANK	W	1		1						X						

* SELECT METALS, As, Cr, Cu, Pb, Ni, V

RELINQUISHED BY: SIGNATURE/ORGANIZATION	RMA (Sampler)	DATE 6/10	TIME 1900
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	DATE 6/10	TIME 1900
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/11	TIME 1120
RECEIVED BY: SIGNATURE/ORGANIZATION	Isl	DATE 6/11	TIME 1120

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Isl	DATE 6/11	TIME 1152
RECEIVED BY: SIGNATURE/ORGANIZATION	Robert Hilage	DATE 6/11/15	TIME 1152

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 10.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

June 23, 2015

Merit Laboratories, Inc.
Attn: Kevin George
2680 East Lansing Road
East Lansing, MI 48823

Project: Subcontract Lab Services

Dear Kevin George,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1506251	06/12/2015	S66251

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/13-049-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003329); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#103068); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Virginia DCLS (#460153/2592); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,



James D. McFadden
Project Chemist

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Individual sample results relate only to the sample tested.
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PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506251**
Project:	Subcontract Lab Services	Description:	S66251
Client Sample ID:	**66251.01**	Sampled:	06/10/15 09:20
Lab Sample ID:	**1506251-01**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**9.3**	0.50	ug/L	1	RSK-175	06/19/15 12:57	JMF	1506345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506251**
Project:	Subcontract Lab Services	Description:	S66251
Client Sample ID:	**66251.02**	Sampled:	06/10/15 12:15
Lab Sample ID:	**1506251-02**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**720**	10	ug/L	20	RSK-175	06/19/15 13:07	JMF	1506345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506251**
Project:	Subcontract Lab Services	Description:	S66251
Client Sample ID:	**66251.03**	Sampled:	06/10/15 13:45
Lab Sample ID:	**1506251-03**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**46**	0.50	ug/L	1	RSK-175	06/19/15 13:27	JMF	1506345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506251**
Project:	Subcontract Lab Services	Description:	S66251
Client Sample ID:	**66251.04**	Sampled:	06/10/15 14:55
Lab Sample ID:	**1506251-04**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**170**	2.0	ug/L	4	RSK-175	06/19/15 13:37	JMF	1506345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506251**
Project:	Subcontract Lab Services	Description:	S66251
Client Sample ID:	**66251.05**	Sampled:	06/10/15 16:30
Lab Sample ID:	**1506251-05**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**25**	0.50	ug/L	1	RSK-175	06/19/15 13:41	JMF	1506345

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Merit Laboratories, Inc.**	Work Order:	**1506251**
Project:	Subcontract Lab Services	Description:	S66251
Client Sample ID:	**66251.06**	Sampled:	06/10/15 18:25
Lab Sample ID:	**1506251-06**	Sampled By:	Client
Matrix:	Water	Received:	06/12/15 11:30

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Methane	**20**	0.50	ug/L	1	RSK-175	06/19/15 13:46	JMF	1506345

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Individual sample results relate only to the sample tested.

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Dissolved Gases in Water by RSK-175 Headspace Analysis

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1506345 Method-Specific Extraction/RSK-175								
Method Blank					Analyzed:		06/19/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F19040	
Methane			<0.50					0.50
Laboratory Control Sample					Analyzed:		06/19/2015	By: JMF
Unit: ug/L					Analytical Batch:		5F19040	
Methane		34.7	**26.5**	76	70-116	--		0.50

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E1506251

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

29-14

CHAIN OF CUSTODY RECORD # 14073

REPORT TO

CONTACT NAME: Kevin George
COMPANY: Merit Laboratories
ADDRESS: 2680 East Lansing Drive
CITY: East Lansing STATE: MI ZIP CODE: 48823
PHONE NO.: 517-332-0167 FAX NO.: 517-332-4034 P.O. NO.:
E-MAIL ADDRESS: kgeorge@meritlabs.com QUOTE NO.:

INVOICE TO

CONTACT NAME: Julie Teague ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS: juliet@meritlabs.com

PROJECT NO./NAME: S66251
SAMPLER(S) - PLEASE PRINT/SIGN NAME:

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☒ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Methane by RSK-175
01	6/10/15	920	66251.01	GW	3		3						✓
02	6/10/15	1215	66251.02	GW	3		3						✓
03	6/10/15	1345	66251.03	GW	3		3						✓
04	6/10/15	1455	66251.04	GW	3		3						✓
05	6/10/15	1630	66251.05	GW	3		3						✓
06	6/10/15	1825	66251.06	GW	3		3						✓

** Subcontracted to TriMatrix

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Kevin George ☐ Sampler DATE: 6/11/15 TIME: 1000
RECEIVED BY: SIGNATURE/ORGANIZATION: FZ466477 5965 1745 DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: TriMatrix DATE: 6/11/15 TIME: 1130

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL _____

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Merit | Work Order #: 1506251
Receipt Record Page/Line #: 29-14 | New / Add To | Project Chemist | Sample #s

Recorded by (initials/date): CS 6/12/15

☑ Cooler ☐ Box ☐ Other | Qty Received: 1 | Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____) | ☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:
	1146	☑ None ☐ Present / Intact ☐ Present / Not Intact	☑ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☑ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:	3.8	—	3.8
Sample 2:	2.9	—	2.9
Sample 3:	3.1	—	3.1

3 Sample Average °C: 3.3

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

Cooler #	Time	Custody Seals	Coolant Type	Coolant Location	Temp Blank Present	If Present, Temperature Blank Location is:
		☐ None ☐ Present / Intact ☐ Present / Not Intact	☐ Loose Ice ☐ Bagged Ice ☐ Blue Ice ☐ None	Dispersed / Top / Middle / Bottom	☐ Yes ☐ No	☐ Representative ☐ Not Representative

	Observed °C	Correction Factor °C	Actual °C
Temp Blank:			
Sample 1:			
Sample 2:			
Sample 3:			

3 Sample Average °C:

☐ Cooler ID on COC? ☐ VOC Trip Blank received?

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑	☐	Received for Lab Signed/Date/Time?
☐	☐	Shipping document?
☐	☑	Other ____

COC Information

☐ TriMatrix COC ☑ Other Merit

COC ID Numbers: 14073

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☑	☐	Sample Date and Time matches COC?
☑	☐	Container type completed on COC?
☑	☐	All container types indicated are received?

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Temperature Blank OR average sample temperature, ≥6° C?
☑	☐	☐	If either is ≥6° C, was thermal preservation required?
☑	☐	☐	If "Yes", Project Chemist Approval Initials: ____
☑	☐	☐	If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐	☐	Completed Sample Preservation Verification Form?
☑	☐	☐	Samples chemically preserved correctly?
☑	☐	☐	If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1 L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☐	☐	☑	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
6/12/15 1130	6/12/15 1216	(Yes) / No

Quality Control Report

Report ID: QC-S66079.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66079.01-S66079.05
Project: RACER Lansing Plant 3 / B0064480.2015.00603
Submitted Date/Time: 06/03/2015 14:45
Sampled by: Austin Westhuis
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Page 7)
Surrogates per Lab Sample (Page 8)
Surrogates per QC Sample (Page 9)
Batch QC Results (Pages 10-21)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S66079.01
Sample Tag: MW-13-39B_060215
Collected Date/Time: 06/02/2015 12:25
Matrix: Groundwater
COC Reference: 83066

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/19/15 15:18	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:18	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:18	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:18	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:18	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:18	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S66079.02
Sample Tag: MW-91-4_060215
Collected Date/Time: 06/02/2015 14:25
Matrix: Groundwater
COC Reference: 83066

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/04/15 12:53	NTRA150604-W1	NTRA150604-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/04/15 15:01	SFT150604-W1	SFT150604-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/09/15 15:32	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/09/15 15:30	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/09/15 15:32	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/09/15 15:30	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD

Lab Sample ID: S66079.03
Sample Tag: MW-04-04(3)_060215
Collected Date/Time: 06/02/2015 16:20
Matrix: Groundwater
COC Reference: 83066

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/04/15 13:06	NTRA150604-W1	NTRA150604-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/04/15 15:27	SFT150604-W1	SFT150604-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/09/15 15:36	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/09/15 15:34	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/09/15 15:36	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/09/15 15:34	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD

Lab Sample ID: S66079.04
Sample Tag: DUP_07_060215
Collected Date/Time: 06/02/2015 00:01
Matrix: Groundwater
COC Reference: 83066

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/19/15 15:21	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:21	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:21	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:21	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:21	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:21	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S66079.05
Sample Tag: TB0003_060215
Collected Date/Time: 06/02/2015 10:15
Matrix: Liquid
COC Reference: 83066

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 18:16	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/05/15 18:16	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/05/15 18:16	150605A3	VF150605W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66079.02	Nitrate-N	E300.0	06/04/15 12:53	NTRA150604-W1
S66079.03	Nitrate-N	E300.0	06/04/15 13:06	NTRA150604-W1

Inorganics, Prep Batch ID: SFT150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66079.02	Sulfate	E300.0	06/04/15 15:01	SFT150604-W1
S66079.03	Sulfate	E300.0	06/04/15 15:27	SFT150604-W1

Metals, Prep Batch ID: MTD-060915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66079.02	Iron, Dissolved	SW6020A	06/09/15 15:32	MT3-15-0609B
S66079.02	Iron	SW6020A	06/09/15 15:30	MT3-15-0609B
S66079.02	Manganese, Dissolved	SW6020A	06/09/15 15:32	MT3-15-0609B
S66079.02	Manganese	SW6020A	06/09/15 15:30	MT3-15-0609B
S66079.03	Iron, Dissolved	SW6020A	06/09/15 15:36	MT3-15-0609B
S66079.03	Iron	SW6020A	06/09/15 15:34	MT3-15-0609B
S66079.03	Manganese, Dissolved	SW6020A	06/09/15 15:36	MT3-15-0609B
S66079.03	Manganese	SW6020A	06/09/15 15:34	MT3-15-0609B

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66079.01	Arsenic	SW6020A	06/19/15 15:18	MT2-15-0619A
S66079.01	Chromium	SW6020A	06/19/15 15:18	MT2-15-0619A
S66079.01	Copper	SW6020A	06/19/15 15:18	MT2-15-0619A
S66079.01	Lead	SW6020A	06/19/15 15:18	MT2-15-0619A
S66079.01	Nickel	SW6020A	06/19/15 15:18	MT2-15-0619A
S66079.01	Vanadium	SW6020A	06/19/15 15:18	MT2-15-0619A
S66079.04	Arsenic	SW6020A	06/19/15 15:21	MT2-15-0619A
S66079.04	Chromium	SW6020A	06/19/15 15:21	MT2-15-0619A
S66079.04	Copper	SW6020A	06/19/15 15:21	MT2-15-0619A
S66079.04	Lead	SW6020A	06/19/15 15:21	MT2-15-0619A
S66079.04	Nickel	SW6020A	06/19/15 15:21	MT2-15-0619A
S66079.04	Vanadium	SW6020A	06/19/15 15:21	MT2-15-0619A

Organics - Volatiles, Prep Batch ID: VF150605W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66079.05	1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 18:16	150605A3
S66079.05	1,2-Dibromoethane	SW8260B	06/05/15 18:16	150605A3
S66079.05	TCL Volatile Organics 8260	SW8260C	06/05/15 18:16	150605A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66079.05
Sample Tag: TB0003_060215
Collected Date/Time: 06/02/2015 10:15
Matrix: Liquid
COC Reference: 83066

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605A3, Run Date: 06/05/2015 18:16, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.40**	83.0	119.0
1,2-Dichloroethane-D4		**105.60**	77.0	121.0
Toluene-D8		**94.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150605W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.20**	83.0	119.0
1,2-Dichloroethane-D4		**90.60**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.40**	83.0	119.0
1,2-Dichloroethane-D4		**102.20**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605a3.lcsw05b, Parent Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**91.60**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Inorganics, Prep Batch ID: NTRA150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150604-W1.LRB1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 04:38, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150604-W1.LCS1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 05:03, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**96**	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150604-W1.LCS2

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 16:31, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**98**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150604-W1.MS1, Parent Sample ID: S66059.10

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:28, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike (MS)

Lab Sample ID: NTRA150604-W1.MS2, Parent Sample ID: S66081.01

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:23, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150604-W1.MSD1, Parent Sample ID: NTRA150604-W1.MS1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:41, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150604-W1.MSD2, Parent Sample ID: NTRA150604-W1.MS2

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:35, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**102**	80	120	**2**	15

Duplicate (DUP)

Lab Sample ID: NTRA150604-W1.DP1, Parent Sample ID: S66059.10

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:15, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: NTRA150604-W1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Duplicate (DUP)

Lab Sample ID: NTRA150604-W1.DP2, Parent Sample ID: S66081.01

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:10, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150604-W1.LRB1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 04:38, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150604-W1.LCS1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 05:03, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**98**	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150604-W1.LCS2

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 16:31, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150604-W1.MS1, Parent Sample ID: S66084.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 11:53, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike (MS)

Lab Sample ID: SFT150604-W1.MS2, Parent Sample ID: S66081.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:23, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**112**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150604-W1.MSD1, Parent Sample ID: SFT150604-W1.MS1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 12:06, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150604-W1.MSD2, Parent Sample ID: SFT150604-W1.MS2

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:35, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**112**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150604-W1.DP1, Parent Sample ID: S66084.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 11:40, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Inorganics, Prep Batch ID: SFT150604-W1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Duplicate (DUP)

Lab Sample ID: SFT150604-W1.DP2, Parent Sample ID: S66081.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:10, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**2**	15

Metals, Prep Batch ID: MTD-060915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0609B.020.LCS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 14:45, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**101**	85	115
Iron		**110**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0609B.022.LRB

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 14:49, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0609B.034.MS, Parent Sample ID: S66096.05

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:14, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese, Dissolved		**97**	80	120
Iron, Dissolved		**90**	80	120

Matrix Spike (MS)

Lab Sample ID: MT3-15-0609B.049.MS, Parent Sample ID: S66109.04

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:47, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese, Dissolved		**101**	80	120
Iron, Dissolved		**100**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0609B.035.MSD, Parent Sample ID: MT3-15-0609B.034.MS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:16, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese, Dissolved		**100**	80	120	**2**	20
Iron, Dissolved		**96**	80	120	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0609B.050.MSD, Parent Sample ID: MT3-15-0609B.049.MS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:49, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese, Dissolved		**100**	80	120	**0**	20
Iron, Dissolved		**92**	80	120	**1**	20

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0619A.020.LCS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	85	115
Chromium		**102**	85	115
Manganese		**99**	85	115
Iron		**86**	85	115
Nickel		**103**	85	115
Copper		**103**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0619A.021.LRB

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.033.MS, Parent Sample ID: S66109.02

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:35, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**101**	75	125
Manganese		**102**	75	125
Iron		**100**	75	125
Nickel		**101**	75	125
Copper		**100**	75	125
Arsenic		**106**	75	125
Lead		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.047.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:58, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**105**	75	125
Nickel, Dissolved		**98**	75	125
Copper, Dissolved		**91**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**94**	75	125

Metals, Prep Batch ID: MTD-061915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.050.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:19, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**104**	75	125
Manganese, Dissolved		**103**	75	125
Iron, Dissolved		**100**	75	125
Nickel, Dissolved		**102**	75	125
Copper, Dissolved		**96**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.034.MSD, Parent Sample ID: MT2-15-0619A.033.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:37, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**105**	75	125	**0**	20
Chromium		**102**	75	125	**0**	20
Manganese		**100**	75	125	**2**	20
Iron		**100**	75	125	**0**	20
Nickel		**99**	75	125	**2**	20
Copper		**98**	75	125	**2**	20
Arsenic		**104**	75	125	**2**	20
Lead		**98**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.048.MSD, Parent Sample ID: MT2-15-0619A.047.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:00, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**104**	75	125	**0**	20
Chromium, Dissolved		**102**	75	125	**0**	20
Manganese, Dissolved		**101**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**0**	20
Copper, Dissolved		**92**	75	125	**1**	20
Arsenic, Dissolved		**99**	75	125	**0**	20
Lead, Dissolved		**96**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.051.MSD, Parent Sample ID: MT2-15-0619A.050.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:26, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**105**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**104**	75	125	**0**	20
Iron, Dissolved		**96**	75	125	**0**	20
Nickel, Dissolved		**102**	75	125	**0**	20
Copper, Dissolved		**96**	75	125	**0**	20
Arsenic, Dissolved		**100**	75	125	**0**	20
Lead, Dissolved		**98**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF150605W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.56**	75.1	135.9
Diethyl ether		**80.58**	67.4	121.2
Acetone		**105.00**	29.9	161.5
Methyl iodide		**102.38**	68.8	116.4
Carbon disulfide		**101.58**	63.8	137.4
Methyl acetate		**75.90**	64.7	125.4
tert-Methyl butyl ether		**95.56**	73.2	122.4
Acrylonitrile		**78.64**	69.9	128.9
2-Butanone		**75.94**	44.0	134.4
Dichlorodifluoromethane		**131.66**	10.0	222.8
Chloromethane		**81.74**	23.8	166.5
Vinyl Chloride		**91.42**	43.5	149.1
Bromomethane		**93.28**	56.8	151.3
Chloroethane		**87.28**	53.4	149.4
Trichlorofluoromethane		**108.08**	59.7	151.8
1,1-Dichloroethene		**90.58**	69.6	139.4
Methylene Chloride		**99.66**	73.3	121.1
trans-1,2-Dichloroethene		**96.08**	73.6	129.3
1,1-Dichloroethane		**98.00**	71.5	126.2
cis-1,2-Dichloroethene		**100.58**	76.6	122.1
Tetrahydrofuran		**74.94**	59.0	117.9
Chloroform		**98.82**	78.4	124.0
Bromochloromethane		**102.02**	78.2	120.8
1,1,1-Trichloroethane		**124.60**	79.4	130.9
Cyclohexane		**96.86**	10.0	169.1
4-Methyl-2-pentanone		**81.64**	71.6	125.2
2-Hexanone		**86.98**	55.4	136.9
Carbon Tetrachloride		**127.24**	72.6	133.0
Benzene		**95.44**	79.9	124.9
1,2-Dichloroethane		**93.50**	76.0	126.3
Trichloroethene		**101.34**	79.7	124.2
1,2-Dichloropropane		**97.32**	78.6	126.4
Bromodichloromethane		**104.80**	80.4	128.2
Methyl cyclohexane		**111.36**	76.6	131.3
Dibromomethane		**102.42**	76.9	122.1
cis-1,3-Dichloropropene		**98.72**	79.8	129.9
Toluene		**99.96**	79.8	124.5
trans-1,3-Dichloropropene		**97.82**	74.0	131.3
1,1,2-Trichloroethane		**96.66**	78.7	123.1
Tetrachloroethene		**104.86**	74.5	124.5
trans-1,4-Dichloro-2-butene		**81.48**	68.6	135.4
Dibromochloromethane		**105.58**	74.6	127.2
1,2-Dibromoethane		**103.80**	70.3	133.7
Chlorobenzene		**105.14**	79.2	122.7
1,1,1,2-Tetrachloroethane		**104.46**	80.3	128.2
Ethylbenzene		**100.90**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**102.37**	79.4	132.2
o-Xylene		**99.18**	80.2	131.0
Styrene		**103.68**	69.5	126.7
Isopropylbenzene		**102.86**	74.4	121.5
Bromoform		**93.00**	69.4	128.0
1,1,2,2-Tetrachloroethane		**87.92**	79.8	126.3
1,2,3-Trichloropropane		**94.54**	78.3	138.8
n-Propylbenzene		**104.08**	82.0	130.7
Bromobenzene		**104.34**	78.7	124.6
1,3,5-Trimethylbenzene		**105.10**	81.3	128.9
tert-Butylbenzene		**101.20**	80.7	128.9
1,2,4-Trimethylbenzene		**102.70**	81.4	130.8
sec-Butylbenzene		**105.32**	77.4	129.8
p-Isopropyltoluene		**109.04**	79.8	137.5
1,3-Dichlorobenzene		**102.66**	77.0	131.3
1,4-Dichlorobenzene		**100.60**	20.7	137.7
1,2-Dichlorobenzene		**99.34**	10.0	166.2
1,2,3-Trimethylbenzene		**99.92**	76.3	124.2
n-Butylbenzene		**106.66**	80.0	133.3
Hexachloroethane		**97.86**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**81.72**	21.2	189.4
1,2,4-Trichlorobenzene		**101.56**	27.4	143.4
1,2,3-Trichlorobenzene		**98.88**	75.4	131.4
Naphthalene		**92.82**	32.9	135.8
2-Methylnaphthalene		**101.64**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.3**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	10	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605a3.lcsw05b, Parent Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**114.22**	75.1	135.9	**1.5**	30.0
Diethyl ether		**83.32**	67.4	121.2	**3.3**	30.0
Acetone		**88.50**	29.9	161.5	**17.1**	30.0
Methyl iodide		**103.38**	68.8	116.4	**1.0**	30.0
Carbon disulfide		**100.86**	63.8	137.4	**0.7**	30.0
Methyl acetate		**79.60**	64.7	125.4	**4.8**	30.0
tert-Methyl butyl ether		**99.56**	73.2	122.4	**4.1**	30.0
Acrylonitrile		**81.70**	69.9	128.9	**3.8**	30.0
2-Butanone		**75.12**	44.0	134.4	**1.1**	30.0
Dichlorodifluoromethane		**128.34**	10.0	222.8	**2.6**	30.0
Chloromethane		**82.66**	23.8	166.5	**1.1**	30.0
Vinyl Chloride		**92.20**	43.5	149.1	**0.8**	30.0
Bromomethane		**94.24**	56.8	151.3	**1.0**	30.0
Chloroethane		**87.68**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**108.50**	59.7	151.8	**0.4**	30.0
1,1-Dichloroethene		**89.62**	69.6	139.4	**1.1**	30.0
Methylene Chloride		**100.04**	73.3	121.1	**0.4**	30.0
trans-1,2-Dichloroethene		**97.46**	73.6	129.3	**1.4**	30.0
1,1-Dichloroethane		**99.22**	71.5	126.2	**1.2**	30.0
cis-1,2-Dichloroethene		**101.66**	76.6	122.1	**1.1**	30.0
Tetrahydrofuran		**77.60**	59.0	117.9	**3.5**	30.0
Chloroform		**99.72**	78.4	124.0	**0.9**	30.0
Bromochloromethane		**103.72**	78.2	120.8	**1.7**	30.0
1,1,1-Trichloroethane		**125.40**	79.4	130.9	**0.6**	30.0
Cyclohexane		**96.96**	10.0	169.1	**0.1**	30.0
4-Methyl-2-pentanone		**85.86**	71.6	125.2	**5.0**	30.0
2-Hexanone		**85.22**	55.4	136.9	**2.0**	30.0
Carbon Tetrachloride		**125.88**	72.6	133.0	**1.1**	30.0

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605a3.lcsw05b, Parent Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**96.36**	79.9	124.9	**1.0**	30.0
1,2-Dichloroethane		**94.40**	76.0	126.3	**1.0**	30.0
Trichloroethene		**102.96**	79.7	124.2	**1.6**	30.0
1,2-Dichloropropane		**97.88**	78.6	126.4	**0.6**	30.0
Bromodichloromethane		**105.60**	80.4	128.2	**0.8**	30.0
Methyl cyclohexane		**107.86**	76.6	131.3	**3.2**	30.0
Dibromomethane		**104.22**	76.9	122.1	**1.7**	30.0
cis-1,3-Dichloropropene		**98.66**	79.8	129.9	**0.1**	30.0
Toluene		**99.68**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**98.24**	74.0	131.3	**0.4**	30.0
1,1,2-Trichloroethane		**97.36**	78.7	123.1	**0.7**	30.0
Tetrachloroethene		**104.14**	74.5	124.5	**0.7**	30.0
trans-1,4-Dichloro-2-butene		**83.00**	68.6	135.4	**1.8**	30.0
Dibromochloromethane		**107.82**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**105.74**	70.3	133.7	**1.9**	30.0
Chlorobenzene		**106.18**	79.2	122.7	**1.0**	30.0
1,1,1,2-Tetrachloroethane		**106.06**	80.3	128.2	**1.5**	30.0
Ethylbenzene		**101.74**	79.5	129.1	**0.8**	30.0
p,m-Xylene		**102.25**	79.4	132.2	**0.1**	30.0
o-Xylene		**100.52**	80.2	131.0	**1.3**	30.0
Styrene		**103.98**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**102.76**	74.4	121.5	**0.1**	30.0
Bromoform		**95.66**	69.4	128.0	**2.8**	30.0
1,1,2,2-Tetrachloroethane		**90.94**	79.8	126.3	**3.4**	30.0
1,2,3-Trichloropropane		**96.78**	78.3	138.8	**2.3**	30.0
n-Propylbenzene		**102.74**	82.0	130.7	**1.3**	30.0
Bromobenzene		**106.04**	78.7	124.6	**1.6**	30.0
1,3,5-Trimethylbenzene		**105.18**	81.3	128.9	**0.1**	30.0
tert-Butylbenzene		**101.16**	80.7	128.9	**0.0**	30.0
1,2,4-Trimethylbenzene		**103.04**	81.4	130.8	**0.3**	30.0
sec-Butylbenzene		**101.92**	77.4	129.8	**3.3**	30.0
p-Isopropyltoluene		**105.16**	79.8	137.5	**3.6**	30.0
1,3-Dichlorobenzene		**100.84**	77.0	131.3	**1.8**	30.0
1,4-Dichlorobenzene		**99.62**	20.7	137.7	**1.0**	30.0
1,2-Dichlorobenzene		**98.78**	10.0	166.2	**0.6**	30.0
1,2,3-Trimethylbenzene		**97.30**	76.3	124.2	**2.7**	30.0
n-Butylbenzene		**102.94**	80.0	133.3	**3.5**	30.0
Hexachloroethane		**96.00**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**83.98**	21.2	189.4	**2.7**	30.0
1,2,4-Trichlorobenzene		**100.78**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**99.04**	75.4	131.4	**0.2**	30.0
Naphthalene		**94.28**	32.9	135.8	**1.6**	30.0
2-Methylnaphthalene		**106.02**	25.5	165.5	**4.2**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

83066

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: ARCADIS
ADDRESS: 10559 Citation Dr. Ste. 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-225-1940 FAX NO.:
P.O. NO.: B0064480.2015.00603
E-MAIL ADDRESS: randy.christensen@arcadis-us.com
QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Lansing Plant 3 / B0064480.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Austin Westhuis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ~~☒ STD~~ ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC 8260	1,4-Dioxane Sims 8260	SVOC 8270	select Metals TAL 6020	Nitrate & Sulfate	Tot. Mn & Fe	Diss. Mn & Fe	Methane			Special Instructions
060079.01	6/2/15	1225	MW-13-39B_060215	GW	1			1								X							Select Metals include: As, Ni, Pb, V, Cr, and Cu
.02	6/2/15	1425	MW-91-4_060215	GW	6	1	3	2									X	X	X	X			
.03	6/2/15	1620	MW-04-04(3)_060215	GW	6	1	3	2									X	X	X	X			
.04	6/2/15	—	Dup_07_060215	GW				1								X							
.05	6/2/15	1015	TB0003_060215	L	1		1						X										

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Sampler / ARCADIS	6/2/15	1707
RECEIVED BY: SIGNATURE/ORGANIZATION	6/2/15	1707
RELINQUISHED BY: SIGNATURE/ORGANIZATION	6/2/15	
RECEIVED BY: SIGNATURE/ORGANIZATION	6/2/15	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
PM Storage	6/3/15	1400
RECEIVED BY: SIGNATURE/ORGANIZATION	6/3/15	1400

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 7.1

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Michelle Dunkman 06/03/15

Rev 8.12

Stitt

Quality Control Report

Report ID: QC-S66081.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66081.01-S66081.02
Project: RACER Plant 2
Submitted Date/Time: 06/03/2015 14:45
Sampled by: Robert Hikade
P.O. #: B0064479

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-3)
Prep Batch Summary (Page 4)
Surrogates per Lab Sample (Pages 5-6)
Surrogates per QC Sample (Pages 7-8)
Batch QC Results (Pages 9-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66081.01
Sample Tag: MW-12-02_060215
Collected Date/Time: 06/02/2015 12:45
Matrix: Groundwater
COC Reference: 84090

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/04/15 12:28	NTRA150604-W1	NTRA150604-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/04/15 13:57	SFT150604-W1	SFT150604-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/09/15 15:40	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/09/15 15:38	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/09/15 15:40	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/09/15 15:38	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:00	150605B7	VF150605W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 02:00	150605B7	VF150605W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 16:01	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 02:00	150605B7	VF150605W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66081.02
Sample Tag: Trip Blank
Collected Date/Time: 06/02/2015 00:01
Matrix: Groundwater
COC Reference: 84090

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:22	150605B7	VF150605W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 02:22	150605B7	VF150605W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 02:22	150605B7	VF150605W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66081.01	Nitrate-N	E300.0	06/04/15 12:28	NTRA150604-W1

Inorganics, Prep Batch ID: SFT150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66081.01	Sulfate	E300.0	06/04/15 13:57	SFT150604-W1

Metals, Prep Batch ID: MTD-060915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66081.01	Iron, Dissolved	SW6020A	06/09/15 15:40	MT3-15-0609B
S66081.01	Iron	SW6020A	06/09/15 15:38	MT3-15-0609B
S66081.01	Manganese, Dissolved	SW6020A	06/09/15 15:40	MT3-15-0609B
S66081.01	Manganese	SW6020A	06/09/15 15:38	MT3-15-0609B

Organics - Volatiles, Prep Batch ID: VF150605W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66081.01	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:00	150605B7
S66081.01	1,2-Dibromoethane	SW8260B	06/06/15 02:00	150605B7
S66081.01	TCL Volatile Organics 8260	SW8260C	06/06/15 02:00	150605B7
S66081.02	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:22	150605B7
S66081.02	1,2-Dibromoethane	SW8260B	06/06/15 02:22	150605B7
S66081.02	TCL Volatile Organics 8260	SW8260C	06/06/15 02:22	150605B7

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66081.01	1,4-Dioxane	SW8260B - SIM	06/10/15 16:01	150610A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66081.01
Sample Tag: MW-12-02_060215
Collected Date/Time: 06/02/2015 12:45
Matrix: Groundwater
COC Reference: 84090

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B7, Run Date: 06/06/2015 02:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.40**	83.0	119.0
1,2-Dichloroethane-D4		**107.40**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66081.02
Sample Tag: Trip Blank
Collected Date/Time: 06/02/2015 00:01
Matrix: Groundwater
COC Reference: 84090

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B7, Run Date: 06/06/2015 02:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.00**	83.0	119.0
1,2-Dichloroethane-D4		**106.40**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150605W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 16:52, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.20**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605b7.blkw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 18:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.40**	83.0	119.0
1,2-Dichloroethane-D4		**105.00**	77.0	121.0
Toluene-D8		**95.80**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605b7.lcsw05b, Parent Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 17:14, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**94.80**	77.0	121.0
Toluene-D8		**98.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150610W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: NTRA150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150604-W1.LRB1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 04:38, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150604-W1.LCS1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 05:03, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**96**	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150604-W1.LCS2

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 16:31, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**98**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150604-W1.MS1, Parent Sample ID: S66059.10

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:28, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike (MS)

Lab Sample ID: NTRA150604-W1.MS2, Parent Sample ID: S66081.01

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:23, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150604-W1.MSD1, Parent Sample ID: NTRA150604-W1.MS1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:41, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150604-W1.MSD2, Parent Sample ID: NTRA150604-W1.MS2

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:35, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**102**	80	120	**2**	15

Duplicate (DUP)

Lab Sample ID: NTRA150604-W1.DP1, Parent Sample ID: S66059.10

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:15, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: NTRA150604-W1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Duplicate (DUP)

Lab Sample ID: NTRA150604-W1.DP2, Parent Sample ID: S66081.01

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:10, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150604-W1.LRB1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 04:38, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150604-W1.LCS1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 05:03, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**98**	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150604-W1.LCS2

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 16:31, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150604-W1.MS1, Parent Sample ID: S66084.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 11:53, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike (MS)

Lab Sample ID: SFT150604-W1.MS2, Parent Sample ID: S66081.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:23, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**112**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150604-W1.MSD1, Parent Sample ID: SFT150604-W1.MS1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 12:06, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150604-W1.MSD2, Parent Sample ID: SFT150604-W1.MS2

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:35, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**112**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150604-W1.DP1, Parent Sample ID: S66084.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 11:40, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Inorganics, Prep Batch ID: SFT150604-W1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Duplicate (DUP)

Lab Sample ID: SFT150604-W1.DP2, Parent Sample ID: S66081.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:10, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**2**	15

Metals, Prep Batch ID: MTD-060915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0609B.020.LCS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 14:45, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**101**	85	115
Iron		**110**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0609B.022.LRB

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 14:49, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0609B.034.MS, Parent Sample ID: S66096.05

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:14, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese, Dissolved		**97**	80	120
Iron, Dissolved		**90**	80	120

Matrix Spike (MS)

Lab Sample ID: MT3-15-0609B.049.MS, Parent Sample ID: S66109.04

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:47, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese, Dissolved		**101**	80	120
Iron, Dissolved		**100**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0609B.035.MSD, Parent Sample ID: MT3-15-0609B.034.MS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:16, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese, Dissolved		**100**	80	120	**2**	20
Iron, Dissolved		**96**	80	120	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0609B.050.MSD, Parent Sample ID: MT3-15-0609B.049.MS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:49, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese, Dissolved		**100**	80	120	**0**	20
Iron, Dissolved		**92**	80	120	**1**	20

Organics - Volatiles, Prep Batch ID: VF150605W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 16:52, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**94.66**	75.1	135.9
Diethyl ether		**98.14**	67.4	121.2
Acetone		**106.28**	29.9	161.5
Methyl iodide		**97.88**	68.8	116.4
Carbon disulfide		**97.64**	63.8	137.4
Methyl acetate		**110.14**	64.7	125.4
tert-Methyl butyl ether		**102.44**	73.2	122.4
Acrylonitrile		**96.34**	69.9	128.9
2-Butanone		**101.38**	44.0	134.4
Dichlorodifluoromethane		**84.66**	10.0	222.8
Chloromethane		**90.24**	23.8	166.5
Vinyl Chloride		**90.52**	43.5	149.1
Bromomethane		**98.74**	56.8	151.3
Chloroethane		**108.64**	53.4	149.4
Acrolein		**104.04**	70.0	130.0
Trichlorofluoromethane		**91.28**	59.7	151.8
1,1-Dichloroethene		**96.56**	69.6	139.4
Methylene Chloride		**96.46**	73.3	121.1
trans-1,2-Dichloroethene		**98.36**	73.6	129.3
1,1-Dichloroethane		**101.32**	71.5	126.2
cis-1,2-Dichloroethene		**100.72**	76.6	122.1
Tetrahydrofuran		**96.22**	59.0	117.9
Chloroform		**101.06**	78.4	124.0
Bromochloromethane		**99.28**	78.2	120.8
1,1,1-Trichloroethane		**104.20**	79.4	130.9
Cyclohexane		**96.56**	10.0	169.1
4-Methyl-2-pentanone		**102.08**	71.6	125.2
2-Hexanone		**106.04**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.06**	70.0	130.0
Carbon Tetrachloride		**103.24**	72.6	133.0
Benzene		**100.64**	79.9	124.9
1,2-Dichloroethane		**97.02**	76.0	126.3
Trichloroethene		**99.82**	79.7	124.2
1,2-Dichloropropane		**101.86**	78.6	126.4
Bromodichloromethane		**104.72**	80.4	128.2
Methyl cyclohexane		**98.36**	76.6	131.3
Dibromomethane		**99.82**	76.9	122.1
cis-1,3-Dichloropropene		**99.58**	79.8	129.9
Toluene		**103.54**	79.8	124.5
trans-1,3-Dichloropropene		**98.78**	74.0	131.3
1,1,2-Trichloroethane		**100.84**	78.7	123.1
Tetrachloroethene		**98.86**	74.5	124.5
trans-1,4-Dichloro-2-butene		**102.24**	68.6	135.4
Dibromochloromethane		**104.86**	74.6	127.2
1,2-Dibromoethane		**99.62**	70.3	133.7
Chlorobenzene		**101.02**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF150605W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 16:52, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**104.22**	80.3	128.2
Ethylbenzene		**109.12**	79.5	129.1
p,m-Xylene		**106.52**	79.4	132.2
o-Xylene		**107.38**	80.2	131.0
Styrene		**109.70**	69.5	126.7
Isopropylbenzene		**108.64**	74.4	121.5
Bromoform		**98.42**	69.4	128.0
1,1,2,2-Tetrachloroethane		**98.90**	79.8	126.3
1,2,3-Trichloropropane		**96.88**	78.3	138.8
n-Propylbenzene		**94.28**	82.0	130.7
Bromobenzene		**102.30**	78.7	124.6
1,3,5-Trimethylbenzene		**104.04**	81.3	128.9
tert-Butylbenzene		**106.62**	80.7	128.9
1,2,4-Trimethylbenzene		**104.48**	81.4	130.8
sec-Butylbenzene		**111.42**	77.4	129.8
p-Isopropyltoluene		**111.34**	79.8	137.5
1,3-Dichlorobenzene		**105.92**	77.0	131.3
1,4-Dichlorobenzene		**104.32**	20.7	137.7
1,2-Dichlorobenzene		**103.38**	10.0	166.2
1,2,3-Trimethylbenzene		**109.52**	76.3	124.2
n-Butylbenzene		**110.72**	80.0	133.3
Hexachloroethane		**104.48**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**105.38**	21.2	189.4
1,2,4-Trichlorobenzene		**103.96**	27.4	143.4
1,2,3-Trichlorobenzene		**102.90**	75.4	131.4
Naphthalene		**107.56**	32.9	135.8
2-Methylnaphthalene		**97.24**	25.5	165.5
Vinyl acetate	*	**67.40**	70.0	130.0
2-Chlorotoluene		**104.58**	70.0	130.0
4-Chlorotoluene		**103.08**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150605b7.blkw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 18:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605b7.blkw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 18:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
Vinyl Acetate		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
2,2-Dichloropropane		**ND**	1	ug/l
Tetrahydrofuran	*	**1.3**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	1	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
1,3-Dichloropropane		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605b7.blkw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 18:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
2-Chlorotoluene		**ND**	1	ug/l
4-Chlorotoluene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605b7.lcsw05b, Parent Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 17:14, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.02**	75.1	135.9	**0.4**	30.0
Diethyl ether		**95.48**	67.4	121.2	**2.7**	30.0
Acetone		**104.76**	29.9	161.5	**1.4**	30.0
Methyl iodide		**97.56**	68.8	116.4	**0.3**	30.0
Carbon disulfide		**97.56**	63.8	137.4	**0.1**	30.0
Methyl acetate		**107.78**	64.7	125.4	**2.2**	30.0
tert-Methyl butyl ether		**102.52**	73.2	122.4	**0.1**	30.0
Acrylonitrile		**93.64**	69.9	128.9	**2.8**	30.0
2-Butanone		**99.62**	44.0	134.4	**1.8**	30.0
Dichlorodifluoromethane		**79.46**	10.0	222.8	**6.3**	30.0
Chloromethane		**87.30**	23.8	166.5	**3.3**	30.0
Vinyl Chloride		**87.96**	43.5	149.1	**2.9**	30.0
Bromomethane		**95.06**	56.8	151.3	**3.8**	30.0
Chloroethane		**99.92**	53.4	149.4	**8.4**	30.0
Acrolein		**118.20**	70.0	130.0	**12.7**	30.0
Trichlorofluoromethane		**89.70**	59.7	151.8	**1.7**	30.0
1,1-Dichloroethene		**95.00**	69.6	139.4	**1.6**	30.0
Methylene Chloride		**95.02**	73.3	121.1	**1.5**	30.0

Organics - Volatiles, Prep Batch ID: VF150605W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605b7.lcsw05b, Parent Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 17:14, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
trans-1,2-Dichloroethene		**96.56**	73.6	129.3	**1.8**	30.0
1,1-Dichloroethane		**99.20**	71.5	126.2	**2.1**	30.0
cis-1,2-Dichloroethene		**99.32**	76.6	122.1	**1.4**	30.0
Tetrahydrofuran		**92.00**	59.0	117.9	**4.5**	30.0
Chloroform		**98.84**	78.4	124.0	**2.2**	30.0
Bromochloromethane		**99.06**	78.2	120.8	**0.2**	30.0
1,1,1-Trichloroethane		**103.82**	79.4	130.9	**0.4**	30.0
Cyclohexane		**95.10**	10.0	169.1	**1.5**	30.0
4-Methyl-2-pentanone		**101.84**	71.6	125.2	**0.2**	30.0
2-Hexanone		**102.24**	55.4	136.9	**3.6**	30.0
Carbon Tetrachloride		**100.70**	72.6	133.0	**2.5**	30.0
Benzene		**98.02**	79.9	124.9	**2.6**	30.0
1,2-Dichloroethane		**94.04**	76.0	126.3	**3.1**	30.0
Trichloroethene		**96.82**	79.7	124.2	**3.1**	30.0
1,2-Dichloropropane		**99.98**	78.6	126.4	**1.9**	30.0
Bromodichloromethane		**101.44**	80.4	128.2	**3.2**	30.0
Methyl cyclohexane		**97.00**	76.6	131.3	**1.4**	30.0
Dibromomethane		**97.12**	76.9	122.1	**2.7**	30.0
cis-1,3-Dichloropropene		**96.48**	79.8	129.9	**3.2**	30.0
Toluene		**100.86**	79.8	124.5	**2.6**	30.0
trans-1,3-Dichloropropene		**96.28**	74.0	131.3	**2.6**	30.0
1,1,2-Trichloroethane		**97.84**	78.7	123.1	**3.0**	30.0
Tetrachloroethene		**96.34**	74.5	124.5	**2.6**	30.0
trans-1,4-Dichloro-2-butene		**96.50**	68.6	135.4	**5.8**	30.0
Dibromochloromethane		**100.88**	74.6	127.2	**3.9**	30.0
1,2-Dibromoethane		**97.24**	70.3	133.7	**2.4**	30.0
Chlorobenzene		**98.40**	79.2	122.7	**2.6**	30.0
1,1,1,2-Tetrachloroethane		**100.46**	80.3	128.2	**3.7**	30.0
Ethylbenzene		**105.28**	79.5	129.1	**3.6**	30.0
p,m-Xylene		**102.97**	79.4	132.2	**3.4**	30.0
o-Xylene		**103.52**	80.2	131.0	**3.7**	30.0
Styrene		**104.44**	69.5	126.7	**4.9**	30.0
Isopropylbenzene		**105.44**	74.4	121.5	**3.0**	30.0
Bromoform		**94.40**	69.4	128.0	**4.2**	30.0
1,1,2,2-Tetrachloroethane		**96.22**	79.8	126.3	**2.7**	30.0
1,2,3-Trichloropropane		**94.96**	78.3	138.8	**2.0**	30.0
n-Propylbenzene		**89.18**	82.0	130.7	**5.6**	30.0
Bromobenzene		**98.22**	78.7	124.6	**4.1**	30.0
1,3,5-Trimethylbenzene		**100.04**	81.3	128.9	**3.9**	30.0
tert-Butylbenzene		**102.50**	80.7	128.9	**3.9**	30.0
1,2,4-Trimethylbenzene		**100.58**	81.4	130.8	**3.8**	30.0
sec-Butylbenzene		**109.56**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene		**108.78**	79.8	137.5	**2.3**	30.0
1,3-Dichlorobenzene		**103.18**	77.0	131.3	**2.6**	30.0
1,4-Dichlorobenzene		**102.02**	20.7	137.7	**2.2**	30.0
1,2-Dichlorobenzene		**101.52**	10.0	166.2	**1.8**	30.0

Organics - Volatiles, Prep Batch ID: VF150605W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605b7.lcsw05b, Parent Sample ID: 150605b7.lcsw05a

Run in Batch: 150605B7, Run Date: 06/05/2015 17:14, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trimethylbenzene		**107.40**	76.3	124.2	**2.0**	30.0
n-Butylbenzene		**107.94**	80.0	133.3	**2.5**	30.0
Hexachloroethane		**102.50**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**104.16**	21.2	189.4	**1.2**	30.0
1,2,4-Trichlorobenzene		**102.94**	27.4	143.4	**1.0**	30.0
1,2,3-Trichlorobenzene		**102.98**	75.4	131.4	**0.1**	30.0
Naphthalene		**107.96**	32.9	135.8	**0.4**	30.0
2-Methylnaphthalene		**97.70**	25.5	165.5	**0.5**	30.0
Vinyl acetate	*	**63.98**	70.0	130.0	**5.2**	30.0
2-Chlorotoluene		**100.20**	70.0	130.0	**4.3**	30.0
4-Chlorotoluene		**99.32**	70.0	130.0	**3.7**	30.0

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**87.80**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.62**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**86.88**	70.0	130.0	**7.8**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**93.16**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.74**	70.0	130.0	**1.1**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84090

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME [redacted] RANDY CHRISTENSEN
COMPANY ARCADIS
ADDRESS 10559 CITATION DR. STE 100
CITY Brighton STATE MI ZIP CODE 48116
PHONE NO. (616) 780 3277 FAX NO. P.O. NO. B#16479/80/81
E-MAIL ADDRESS RANDY.CHRISTENSEN@ARCADIS-US.COM QUOTE NO. 2015

INVOICE TO

CONTACT NAME ☒ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME RACER PLANT 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME ROBERT HILLARD

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs 8260	1-4 Dioxane	Select Metals	[redacted]	Sulfate/Nitrate	Methane	Total Iron/Manganese	Diss Iron/Manganese
660081.01	6/2	1245	MW-12-02_060215	GW	9	1	6	2					X	X			X	X	X	X
.02	6/2		TRIP BLANK	GW	1	1							X							

* Dissolved

RELINQUISHED BY: SIGNATURE/ORGANIZATION		☑ Sampler	DATE	TIME
	RMH		6/2/15	[redacted]
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE		6/2/15	[redacted]
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage		6/3/15	1400
RECEIVED BY: SIGNATURE/ORGANIZATION			6/3/15	1400

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	Michael Dunkman	06/03/15	1445

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 7.1

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66082.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66082.01-S66082.03
Project: RACER Plant 6
Submitted Date/Time: 06/03/2015 14:45
Sampled by: Robert Hikade
P.O. #: B0064481

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Page 5)
Surrogates per Lab Sample (Pages 6-8)
Surrogates per QC Sample (Page 9)
Batch QC Results (Pages 10-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66082.01
Sample Tag: MW-12-11_060215
Collected Date/Time: 06/02/2015 15:15
Matrix: Groundwater
COC Reference: 84089

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/04/15 13:44	NTRA150604-W1	NTRA150604-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/04/15 16:05	SFT150604-W1	SFT150604-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/19/15 15:29	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/19/15 15:29	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:27	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 18:36	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/05/15 18:36	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/05/15 18:36	150605A3	VF150605W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S66082.02
Sample Tag: FB0001_060215
Collected Date/Time: 06/02/2015 10:00
Matrix: Water
COC Reference: 84089

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 18:56	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/05/15 18:56	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/05/15 18:56	150605A3	VF150605W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S66082.03
Sample Tag: Trip Blank
Collected Date/Time: 06/02/2015 00:01
Matrix: Water
COC Reference: 84089

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 19:16	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/05/15 19:16	150605A3	VF150605W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/05/15 19:16	150605A3	VF150605W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66082.01	Nitrate-N	E300.0	06/04/15 13:44	NTRA150604-W1

Inorganics, Prep Batch ID: SFT150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66082.01	Sulfate	E300.0	06/04/15 16:05	SFT150604-W1

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66082.01	Arsenic	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Chromium	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Copper	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Iron, Dissolved	SW6020A	06/19/15 15:29	MT2-15-0619A
S66082.01	Iron	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Lead	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Manganese, Dissolved	SW6020A	06/19/15 15:29	MT2-15-0619A
S66082.01	Manganese	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Nickel	SW6020A	06/19/15 15:27	MT2-15-0619A
S66082.01	Vanadium	SW6020A	06/19/15 15:27	MT2-15-0619A

Organics - Volatiles, Prep Batch ID: VF150605W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66082.01	1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 18:36	150605A3
S66082.01	1,2-Dibromoethane	SW8260B	06/05/15 18:36	150605A3
S66082.01	TCL Volatile Organics 8260	SW8260C	06/05/15 18:36	150605A3
S66082.02	1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 18:56	150605A3
S66082.02	1,2-Dibromoethane	SW8260B	06/05/15 18:56	150605A3
S66082.02	TCL Volatile Organics 8260	SW8260C	06/05/15 18:56	150605A3
S66082.03	1,2-Dibromo-3-chloropropane	SW8260C	06/05/15 19:16	150605A3
S66082.03	1,2-Dibromoethane	SW8260B	06/05/15 19:16	150605A3
S66082.03	TCL Volatile Organics 8260	SW8260C	06/05/15 19:16	150605A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66082.01
Sample Tag: MW-12-11_060215
Collected Date/Time: 06/02/2015 15:15
Matrix: Groundwater
COC Reference: 84089

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605A3, Run Date: 06/05/2015 18:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.60**	83.0	119.0
1,2-Dichloroethane-D4		**104.20**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66082.02
Sample Tag: FB0001_060215
Collected Date/Time: 06/02/2015 10:00
Matrix: Water
COC Reference: 84089

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605A3, Run Date: 06/05/2015 18:56, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.60**	83.0	119.0
1,2-Dichloroethane-D4		**103.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66082.03
Sample Tag: Trip Blank
Collected Date/Time: 06/02/2015 00:01
Matrix: Water
COC Reference: 84089

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605A3, Run Date: 06/05/2015 19:16, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.60**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150605W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.20**	83.0	119.0
1,2-Dichloroethane-D4		**90.60**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.40**	83.0	119.0
1,2-Dichloroethane-D4		**102.20**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605a3.lcsw05b, Parent Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**91.60**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Inorganics, Prep Batch ID: NTRA150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150604-W1.LRB1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 04:38, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150604-W1.LCS1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 05:03, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**96**	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150604-W1.LCS2

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 16:31, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**98**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150604-W1.MS1, Parent Sample ID: S66059.10

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:28, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike (MS)

Lab Sample ID: NTRA150604-W1.MS2, Parent Sample ID: S66081.01

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:23, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150604-W1.MSD1, Parent Sample ID: NTRA150604-W1.MS1

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:41, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150604-W1.MSD2, Parent Sample ID: NTRA150604-W1.MS2

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:35, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**102**	80	120	**2**	15

Duplicate (DUP)

Lab Sample ID: NTRA150604-W1.DP1, Parent Sample ID: S66059.10

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 08:15, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: NTRA150604-W1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Duplicate (DUP)

Lab Sample ID: NTRA150604-W1.DP2, Parent Sample ID: S66081.01

Run in Batch: NTRA150604-W1, Run Date: 06/04/2015 14:10, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150604-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150604-W1.LRB1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 04:38, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150604-W1.LCS1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 05:03, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**98**	90	110

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150604-W1.LCS2

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 16:31, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150604-W1.MS1, Parent Sample ID: S66084.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 11:53, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike (MS)

Lab Sample ID: SFT150604-W1.MS2, Parent Sample ID: S66081.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:23, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**112**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150604-W1.MSD1, Parent Sample ID: SFT150604-W1.MS1

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 12:06, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150604-W1.MSD2, Parent Sample ID: SFT150604-W1.MS2

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:35, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**112**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150604-W1.DP1, Parent Sample ID: S66084.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 11:40, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Inorganics, Prep Batch ID: SFT150604-W1 (continued)

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Duplicate (DUP)

Lab Sample ID: SFT150604-W1.DP2, Parent Sample ID: S66081.01

Run in Batch: SFT150604-W1, Run Date: 06/04/2015 14:10, Prep Date: 06/04/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**2**	15

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0619A.020.LCS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	85	115
Chromium		**102**	85	115
Manganese		**99**	85	115
Iron		**86**	85	115
Nickel		**103**	85	115
Copper		**103**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0619A.021.LRB

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.033.MS, Parent Sample ID: S66109.02

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:35, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**101**	75	125
Manganese		**102**	75	125
Iron		**100**	75	125
Nickel		**101**	75	125
Copper		**100**	75	125
Arsenic		**106**	75	125
Lead		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.047.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:58, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**105**	75	125
Nickel, Dissolved		**98**	75	125
Copper, Dissolved		**91**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**94**	75	125

Metals, Prep Batch ID: MTD-061915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.050.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:19, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**104**	75	125
Manganese, Dissolved		**103**	75	125
Iron, Dissolved		**100**	75	125
Nickel, Dissolved		**102**	75	125
Copper, Dissolved		**96**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.034.MSD, Parent Sample ID: MT2-15-0619A.033.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:37, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**105**	75	125	**0**	20
Chromium		**102**	75	125	**0**	20
Manganese		**100**	75	125	**2**	20
Iron		**100**	75	125	**0**	20
Nickel		**99**	75	125	**2**	20
Copper		**98**	75	125	**2**	20
Arsenic		**104**	75	125	**2**	20
Lead		**98**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.048.MSD, Parent Sample ID: MT2-15-0619A.047.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:00, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**104**	75	125	**0**	20
Chromium, Dissolved		**102**	75	125	**0**	20
Manganese, Dissolved		**101**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**0**	20
Copper, Dissolved		**92**	75	125	**1**	20
Arsenic, Dissolved		**99**	75	125	**0**	20
Lead, Dissolved		**96**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.051.MSD, Parent Sample ID: MT2-15-0619A.050.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:26, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**105**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**104**	75	125	**0**	20
Iron, Dissolved		**96**	75	125	**0**	20
Nickel, Dissolved		**102**	75	125	**0**	20
Copper, Dissolved		**96**	75	125	**0**	20
Arsenic, Dissolved		**100**	75	125	**0**	20
Lead, Dissolved		**98**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF150605W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.56**	75.1	135.9
Diethyl ether		**80.58**	67.4	121.2
Acetone		**105.00**	29.9	161.5
Methyl iodide		**102.38**	68.8	116.4
Carbon disulfide		**101.58**	63.8	137.4
Methyl acetate		**75.90**	64.7	125.4
tert-Methyl butyl ether		**95.56**	73.2	122.4
Acrylonitrile		**78.64**	69.9	128.9
2-Butanone		**75.94**	44.0	134.4
Dichlorodifluoromethane		**131.66**	10.0	222.8
Chloromethane		**81.74**	23.8	166.5
Vinyl Chloride		**91.42**	43.5	149.1
Bromomethane		**93.28**	56.8	151.3
Chloroethane		**87.28**	53.4	149.4
Trichlorofluoromethane		**108.08**	59.7	151.8
1,1-Dichloroethene		**90.58**	69.6	139.4
Methylene Chloride		**99.66**	73.3	121.1
trans-1,2-Dichloroethene		**96.08**	73.6	129.3
1,1-Dichloroethane		**98.00**	71.5	126.2
cis-1,2-Dichloroethene		**100.58**	76.6	122.1
Tetrahydrofuran		**74.94**	59.0	117.9
Chloroform		**98.82**	78.4	124.0
Bromochloromethane		**102.02**	78.2	120.8
1,1,1-Trichloroethane		**124.60**	79.4	130.9
Cyclohexane		**96.86**	10.0	169.1
4-Methyl-2-pentanone		**81.64**	71.6	125.2
2-Hexanone		**86.98**	55.4	136.9
Carbon Tetrachloride		**127.24**	72.6	133.0
Benzene		**95.44**	79.9	124.9
1,2-Dichloroethane		**93.50**	76.0	126.3
Trichloroethene		**101.34**	79.7	124.2
1,2-Dichloropropane		**97.32**	78.6	126.4
Bromodichloromethane		**104.80**	80.4	128.2
Methyl cyclohexane		**111.36**	76.6	131.3
Dibromomethane		**102.42**	76.9	122.1
cis-1,3-Dichloropropene		**98.72**	79.8	129.9
Toluene		**99.96**	79.8	124.5
trans-1,3-Dichloropropene		**97.82**	74.0	131.3
1,1,2-Trichloroethane		**96.66**	78.7	123.1
Tetrachloroethene		**104.86**	74.5	124.5
trans-1,4-Dichloro-2-butene		**81.48**	68.6	135.4
Dibromochloromethane		**105.58**	74.6	127.2
1,2-Dibromoethane		**103.80**	70.3	133.7
Chlorobenzene		**105.14**	79.2	122.7
1,1,1,2-Tetrachloroethane		**104.46**	80.3	128.2
Ethylbenzene		**100.90**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**102.37**	79.4	132.2
o-Xylene		**99.18**	80.2	131.0
Styrene		**103.68**	69.5	126.7
Isopropylbenzene		**102.86**	74.4	121.5
Bromoform		**93.00**	69.4	128.0
1,1,2,2-Tetrachloroethane		**87.92**	79.8	126.3
1,2,3-Trichloropropane		**94.54**	78.3	138.8
n-Propylbenzene		**104.08**	82.0	130.7
Bromobenzene		**104.34**	78.7	124.6
1,3,5-Trimethylbenzene		**105.10**	81.3	128.9
tert-Butylbenzene		**101.20**	80.7	128.9
1,2,4-Trimethylbenzene		**102.70**	81.4	130.8
sec-Butylbenzene		**105.32**	77.4	129.8
p-Isopropyltoluene		**109.04**	79.8	137.5
1,3-Dichlorobenzene		**102.66**	77.0	131.3
1,4-Dichlorobenzene		**100.60**	20.7	137.7
1,2-Dichlorobenzene		**99.34**	10.0	166.2
1,2,3-Trimethylbenzene		**99.92**	76.3	124.2
n-Butylbenzene		**106.66**	80.0	133.3
Hexachloroethane		**97.86**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**81.72**	21.2	189.4
1,2,4-Trichlorobenzene		**101.56**	27.4	143.4
1,2,3-Trichlorobenzene		**98.88**	75.4	131.4
Naphthalene		**92.82**	32.9	135.8
2-Methylnaphthalene		**101.64**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.3**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	10	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605a3.blkw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 15:02, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605a3.lcsw05b, Parent Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**114.22**	75.1	135.9	**1.5**	30.0
Diethyl ether		**83.32**	67.4	121.2	**3.3**	30.0
Acetone		**88.50**	29.9	161.5	**17.1**	30.0
Methyl iodide		**103.38**	68.8	116.4	**1.0**	30.0
Carbon disulfide		**100.86**	63.8	137.4	**0.7**	30.0
Methyl acetate		**79.60**	64.7	125.4	**4.8**	30.0
tert-Methyl butyl ether		**99.56**	73.2	122.4	**4.1**	30.0
Acrylonitrile		**81.70**	69.9	128.9	**3.8**	30.0
2-Butanone		**75.12**	44.0	134.4	**1.1**	30.0
Dichlorodifluoromethane		**128.34**	10.0	222.8	**2.6**	30.0
Chloromethane		**82.66**	23.8	166.5	**1.1**	30.0
Vinyl Chloride		**92.20**	43.5	149.1	**0.8**	30.0
Bromomethane		**94.24**	56.8	151.3	**1.0**	30.0
Chloroethane		**87.68**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**108.50**	59.7	151.8	**0.4**	30.0
1,1-Dichloroethene		**89.62**	69.6	139.4	**1.1**	30.0
Methylene Chloride		**100.04**	73.3	121.1	**0.4**	30.0
trans-1,2-Dichloroethene		**97.46**	73.6	129.3	**1.4**	30.0
1,1-Dichloroethane		**99.22**	71.5	126.2	**1.2**	30.0
cis-1,2-Dichloroethene		**101.66**	76.6	122.1	**1.1**	30.0
Tetrahydrofuran		**77.60**	59.0	117.9	**3.5**	30.0
Chloroform		**99.72**	78.4	124.0	**0.9**	30.0
Bromochloromethane		**103.72**	78.2	120.8	**1.7**	30.0
1,1,1-Trichloroethane		**125.40**	79.4	130.9	**0.6**	30.0
Cyclohexane		**96.96**	10.0	169.1	**0.1**	30.0
4-Methyl-2-pentanone		**85.86**	71.6	125.2	**5.0**	30.0
2-Hexanone		**85.22**	55.4	136.9	**2.0**	30.0
Carbon Tetrachloride		**125.88**	72.6	133.0	**1.1**	30.0

Organics - Volatiles, Prep Batch ID: VF150605W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605a3.lcsw05b, Parent Sample ID: 150605a3.lcsw05a

Run in Batch: 150605A3, Run Date: 06/05/2015 13:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**96.36**	79.9	124.9	**1.0**	30.0
1,2-Dichloroethane		**94.40**	76.0	126.3	**1.0**	30.0
Trichloroethene		**102.96**	79.7	124.2	**1.6**	30.0
1,2-Dichloropropane		**97.88**	78.6	126.4	**0.6**	30.0
Bromodichloromethane		**105.60**	80.4	128.2	**0.8**	30.0
Methyl cyclohexane		**107.86**	76.6	131.3	**3.2**	30.0
Dibromomethane		**104.22**	76.9	122.1	**1.7**	30.0
cis-1,3-Dichloropropene		**98.66**	79.8	129.9	**0.1**	30.0
Toluene		**99.68**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**98.24**	74.0	131.3	**0.4**	30.0
1,1,2-Trichloroethane		**97.36**	78.7	123.1	**0.7**	30.0
Tetrachloroethene		**104.14**	74.5	124.5	**0.7**	30.0
trans-1,4-Dichloro-2-butene		**83.00**	68.6	135.4	**1.8**	30.0
Dibromochloromethane		**107.82**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**105.74**	70.3	133.7	**1.9**	30.0
Chlorobenzene		**106.18**	79.2	122.7	**1.0**	30.0
1,1,1,2-Tetrachloroethane		**106.06**	80.3	128.2	**1.5**	30.0
Ethylbenzene		**101.74**	79.5	129.1	**0.8**	30.0
p,m-Xylene		**102.25**	79.4	132.2	**0.1**	30.0
o-Xylene		**100.52**	80.2	131.0	**1.3**	30.0
Styrene		**103.98**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**102.76**	74.4	121.5	**0.1**	30.0
Bromoform		**95.66**	69.4	128.0	**2.8**	30.0
1,1,2,2-Tetrachloroethane		**90.94**	79.8	126.3	**3.4**	30.0
1,2,3-Trichloropropane		**96.78**	78.3	138.8	**2.3**	30.0
n-Propylbenzene		**102.74**	82.0	130.7	**1.3**	30.0
Bromobenzene		**106.04**	78.7	124.6	**1.6**	30.0
1,3,5-Trimethylbenzene		**105.18**	81.3	128.9	**0.1**	30.0
tert-Butylbenzene		**101.16**	80.7	128.9	**0.0**	30.0
1,2,4-Trimethylbenzene		**103.04**	81.4	130.8	**0.3**	30.0
sec-Butylbenzene		**101.92**	77.4	129.8	**3.3**	30.0
p-Isopropyltoluene		**105.16**	79.8	137.5	**3.6**	30.0
1,3-Dichlorobenzene		**100.84**	77.0	131.3	**1.8**	30.0
1,4-Dichlorobenzene		**99.62**	20.7	137.7	**1.0**	30.0
1,2-Dichlorobenzene		**98.78**	10.0	166.2	**0.6**	30.0
1,2,3-Trimethylbenzene		**97.30**	76.3	124.2	**2.7**	30.0
n-Butylbenzene		**102.94**	80.0	133.3	**3.5**	30.0
Hexachloroethane		**96.00**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**83.98**	21.2	189.4	**2.7**	30.0
1,2,4-Trichlorobenzene		**100.78**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**99.04**	75.4	131.4	**0.2**	30.0
Naphthalene		**94.28**	32.9	135.8	**1.6**	30.0
2-Methylnaphthalene		**106.02**	25.5	165.5	**4.2**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84089

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: Brighton | STATE: MI | ZIP CODE: 48116
PHONE NO.: (616) 780-3277 | FAX NO.: | P.O. NO.: B00 64479/80/81
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS-US.COM | QUOTE NO.:

INVOICE TO

CONTACT NAME | ☑ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIGGS RMAA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	SELECT METALS	Sulfate/Nitrate	METHANE	Iron/manganese (Diss)	Iron/manganese (Total)			
60082.01	6/2	1515	MW-12-11_060215	GW	9	1	6	2					X	X	X	X	X	X	X			
.02	6/2	1000	FB_0001_060215	W	1		1						X									
.03			TRIP BLANK	W	1		1						X									

RELINQUISHED BY: SIGNATURE/ORGANIZATION: RMAA ☑ Sampler — DATE: 6/2/15 — TIME: 1800
RECEIVED BY: SIGNATURE/ORGANIZATION: PM STORAGE — DATE: 6/2/15 — TIME: 1800
RELINQUISHED BY: SIGNATURE/ORGANIZATION: PM Storage — DATE: 6/3/15 — TIME: 1400
RECEIVED BY: SIGNATURE/ORGANIZATION: Issak Mu — DATE: 6/3/15 — TIME: 1400

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Issak Mu — DATE: — TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: Michelle Dunkman — DATE: 060315 — TIME: 1445

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 7.1

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66107.01(01)
Generated on 06/18/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66107.01-S66107.08
Project: RACER Lansing Plant-3 / B0064480.2015.00603
Submitted Date/Time: 06/04/2015 14:15
Sampled by: Billy J. Coben
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-11)
Surrogates per Lab Sample (Pages 12-19)
Surrogates per QC Sample (Pages 20-21)
Batch QC Results (Pages 22-30)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66107.01
Sample Tag: MW-13-22_060315
Collected Date/Time: 06/03/2015 08:55
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 06:56	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 09:55	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 12:01	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 11:59	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 12:01	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 11:59	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 01:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 01:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 02:07	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 01:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.02
Sample Tag: MW-12-21_060315
Collected Date/Time: 06/03/2015 10:00
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 07:22	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 10:08	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 12:05	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 12:03	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 12:05	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 12:03	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:13	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 02:13	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 02:25	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 02:13	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.03
Sample Tag: MW-13-28_060315
Collected Date/Time: 06/03/2015 11:10
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:33	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 02:33	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 02:43	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 02:33	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.04
Sample Tag: MW-13-23_060315
Collected Date/Time: 06/03/2015 12:10
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 07:35	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 10:21	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 12:11	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 12:07	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 12:11	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 12:07	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 02:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 03:01	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 02:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.05
Sample Tag: MW-13-30_060315
Collected Date/Time: 06/03/2015 13:55
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 03:13	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 03:13	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 03:20	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 03:13	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.06
Sample Tag: MW-13-26_060315
Collected Date/Time: 06/03/2015 15:20
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 03:33	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 03:33	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 03:39	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 03:33	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.07
Sample Tag: MW-13-29_060315
Collected Date/Time: 06/03/2015 16:30
Matrix: Groundwater
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 07:47	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 10:34	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 12:19	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 12:17	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 12:19	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 12:17	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 03:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 03:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 03:57	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 03:53	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S66107.08
Sample Tag: TB-0004_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Liquid
COC Reference: 89881

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 04:20	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/06/15 04:20	150605B3	VF150605W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/09/15 04:15	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 04:20	150605B3	VF150605W3	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66107.01	Nitrate-N	E300.0	06/05/15 06:56	NTRA150605-W1
S66107.02	Nitrate-N	E300.0	06/05/15 07:22	NTRA150605-W1
S66107.04	Nitrate-N	E300.0	06/05/15 07:35	NTRA150605-W1
S66107.07	Nitrate-N	E300.0	06/05/15 07:47	NTRA150605-W1

Inorganics, Prep Batch ID: SFT150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66107.01	Sulfate	E300.0	06/05/15 09:55	SFT150605-W1
S66107.02	Sulfate	E300.0	06/05/15 10:08	SFT150605-W1
S66107.04	Sulfate	E300.0	06/05/15 10:21	SFT150605-W1
S66107.07	Sulfate	E300.0	06/05/15 10:34	SFT150605-W1

Metals, Prep Batch ID: MTD-061615-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66107.01	Iron, Dissolved	SW6020A	06/16/15 12:01	MT3-15-0616B
S66107.01	Iron	SW6020A	06/16/15 11:59	MT3-15-0616B
S66107.01	Manganese, Dissolved	SW6020A	06/16/15 12:01	MT3-15-0616B
S66107.01	Manganese	SW6020A	06/16/15 11:59	MT3-15-0616B
S66107.02	Iron, Dissolved	SW6020A	06/16/15 12:05	MT3-15-0616B
S66107.02	Iron	SW6020A	06/16/15 12:03	MT3-15-0616B
S66107.02	Manganese, Dissolved	SW6020A	06/16/15 12:05	MT3-15-0616B
S66107.02	Manganese	SW6020A	06/16/15 12:03	MT3-15-0616B
S66107.04	Iron, Dissolved	SW6020A	06/16/15 12:11	MT3-15-0616B
S66107.04	Iron	SW6020A	06/16/15 12:07	MT3-15-0616B
S66107.04	Manganese, Dissolved	SW6020A	06/16/15 12:11	MT3-15-0616B
S66107.04	Manganese	SW6020A	06/16/15 12:07	MT3-15-0616B
S66107.07	Iron, Dissolved	SW6020A	06/16/15 12:19	MT3-15-0616B
S66107.07	Iron	SW6020A	06/16/15 12:17	MT3-15-0616B
S66107.07	Manganese, Dissolved	SW6020A	06/16/15 12:19	MT3-15-0616B
S66107.07	Manganese	SW6020A	06/16/15 12:17	MT3-15-0616B

Organics - Volatiles, Prep Batch ID: VF150605W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66107.01	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 01:53	150605B3
S66107.01	1,2-Dibromoethane	SW8260B	06/06/15 01:53	150605B3
S66107.01	TCL Volatile Organics 8260	SW8260C	06/06/15 01:53	150605B3
S66107.02	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:13	150605B3
S66107.02	1,2-Dibromoethane	SW8260B	06/06/15 02:13	150605B3
S66107.02	TCL Volatile Organics 8260	SW8260C	06/06/15 02:13	150605B3
S66107.03	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:33	150605B3
S66107.03	1,2-Dibromoethane	SW8260B	06/06/15 02:33	150605B3
S66107.03	TCL Volatile Organics 8260	SW8260C	06/06/15 02:33	150605B3
S66107.04	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 02:53	150605B3
S66107.04	1,2-Dibromoethane	SW8260B	06/06/15 02:53	150605B3
S66107.04	TCL Volatile Organics 8260	SW8260C	06/06/15 02:53	150605B3
S66107.05	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 03:13	150605B3
S66107.05	1,2-Dibromoethane	SW8260B	06/06/15 03:13	150605B3

Organics - Volatiles, Prep Batch ID: VF150605W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66107.05	TCL Volatile Organics 8260	SW8260C	06/06/15 03:13	150605B3
S66107.06	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 03:33	150605B3
S66107.06	1,2-Dibromoethane	SW8260B	06/06/15 03:33	150605B3
S66107.06	TCL Volatile Organics 8260	SW8260C	06/06/15 03:33	150605B3
S66107.07	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 03:53	150605B3
S66107.07	1,2-Dibromoethane	SW8260B	06/06/15 03:53	150605B3
S66107.07	TCL Volatile Organics 8260	SW8260C	06/06/15 03:53	150605B3
S66107.08	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 04:20	150605B3
S66107.08	1,2-Dibromoethane	SW8260B	06/06/15 04:20	150605B3
S66107.08	TCL Volatile Organics 8260	SW8260C	06/06/15 04:20	150605B3

Organics - Volatiles, Prep Batch ID: VS150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66107.01	1,4-Dioxane	SW8260B - SIM	06/09/15 02:07	150608B6
S66107.02	1,4-Dioxane	SW8260B - SIM	06/09/15 02:25	150608B6
S66107.03	1,4-Dioxane	SW8260B - SIM	06/09/15 02:43	150608B6
S66107.04	1,4-Dioxane	SW8260B - SIM	06/09/15 03:01	150608B6
S66107.05	1,4-Dioxane	SW8260B - SIM	06/09/15 03:20	150608B6
S66107.06	1,4-Dioxane	SW8260B - SIM	06/09/15 03:39	150608B6
S66107.07	1,4-Dioxane	SW8260B - SIM	06/09/15 03:57	150608B6
S66107.08	1,4-Dioxane	SW8260B - SIM	06/09/15 04:15	150608B6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66107.01
Sample Tag: MW-13-22_060315
Collected Date/Time: 06/03/2015 08:55
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 01:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.20**	83.0	119.0
1,2-Dichloroethane-D4		**92.40**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

Lab Sample ID: S66107.02
Sample Tag: MW-12-21_060315
Collected Date/Time: 06/03/2015 10:00
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 02:13, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.00**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**90.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66107.03
Sample Tag: MW-13-28_060315
Collected Date/Time: 06/03/2015 11:10
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 02:33, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.00**	83.0	119.0
1,2-Dichloroethane-D4		**95.20**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66107.04
Sample Tag: MW-13-23_060315
Collected Date/Time: 06/03/2015 12:10
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 02:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.00**	83.0	119.0
1,2-Dichloroethane-D4		**96.00**	77.0	121.0
Toluene-D8		**91.40**	86.0	118.0

Lab Sample ID: S66107.05
Sample Tag: MW-13-30_060315
Collected Date/Time: 06/03/2015 13:55
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 03:13, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**92.60**	83.0	119.0
1,2-Dichloroethane-D4		**95.40**	77.0	121.0
Toluene-D8		**90.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66107.06
Sample Tag: MW-13-26_060315
Collected Date/Time: 06/03/2015 15:20
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 03:33, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.80**	83.0	119.0
1,2-Dichloroethane-D4		**98.60**	77.0	121.0
Toluene-D8		**88.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66107.07
Sample Tag: MW-13-29_060315
Collected Date/Time: 06/03/2015 16:30
Matrix: Groundwater
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 03:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.60**	83.0	119.0
1,2-Dichloroethane-D4		**97.00**	77.0	121.0
Toluene-D8		**90.40**	86.0	118.0

Lab Sample ID: S66107.08
Sample Tag: TB-0004_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Liquid
COC Reference: 89881

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605B3, Run Date: 06/06/2015 04:20, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.20**	83.0	119.0
1,2-Dichloroethane-D4		**96.40**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150605W3

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605b3.lcsw05a

Run in Batch: 150605B3, Run Date: 06/05/2015 23:53, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.20**	83.0	119.0
1,2-Dichloroethane-D4		**84.00**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605b3.blkw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 01:33, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.60**	83.0	119.0
1,2-Dichloroethane-D4		**94.00**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605b3.lcsw05b, Parent Sample ID: 150605b3.lcsw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 00:13, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.80**	83.0	119.0
1,2-Dichloroethane-D4		**84.60**	77.0	121.0
Toluene-D8		**98.40**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS150608W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 00:55, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Blank (BLK)

Lab Sample ID: 150608b6.blkw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:49, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608b6.lcsw08b, Parent Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:13, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Inorganics, Prep Batch ID: NTRA150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150605-W1.LRB1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 05:14, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150605-W1.LCS1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 05:39, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150605-W1.MS1, Parent Sample ID: S66096.01

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:30, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**113**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150605-W1.MSD1, Parent Sample ID: NTRA150605-W1.MS1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:43, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**114**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: NTRA150605-W1.DP1, Parent Sample ID: S66096.01

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:17, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**2**	15

Inorganics, Prep Batch ID: SFT150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150605-W1.LRB1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 05:14, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150605-W1.LCS1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 05:39, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**99**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150605-W1.MS1, Parent Sample ID: S66096.01

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:30, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150605-W1.MSD1, Parent Sample ID: SFT150605-W1.MS1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:43, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**101**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT150605-W1.DP1, Parent Sample ID: S66096.01

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:17, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**6**	15

Metals, Prep Batch ID: MTD-061615-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.020.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 11:54, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**103**	85	115
Iron		**114**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.021.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 11:57, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.033.MS, Parent Sample ID: S66107.07

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 12:44, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**96**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.049.MS, Parent Sample ID: S66129.03

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:15, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese		**102**	75	125
Iron		**106**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.034.MSD, Parent Sample ID: MT3-15-0616B.033.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 12:35, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	75	125	**1**	20
Iron, Dissolved		**104**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.050.MSD, Parent Sample ID: MT3-15-0616B.049.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:17, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese		**102**	75	125	**0**	20
Iron		**106**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150605W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605b3.lcsw05a

Run in Batch: 150605B3, Run Date: 06/05/2015 23:53, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.28**	75.1	135.9
Diethyl ether		**76.44**	67.4	121.2
Acetone		**99.28**	29.9	161.5
Methyl iodide		**100.86**	68.8	116.4
Carbon disulfide		**93.54**	63.8	137.4
Methyl acetate		**68.82**	64.7	125.4
tert-Methyl butyl ether		**90.30**	73.2	122.4
Acrylonitrile		**72.16**	69.9	128.9
2-Butanone		**71.90**	44.0	134.4
Dichlorodifluoromethane		**118.68**	10.0	222.8
Chloromethane		**78.90**	23.8	166.5
Vinyl Chloride		**89.98**	43.5	149.1
Bromomethane		**90.90**	56.8	151.3
Chloroethane		**86.46**	53.4	149.4
Trichlorofluoromethane		**105.20**	59.7	151.8
1,1-Dichloroethene		**88.88**	69.6	139.4
Methylene Chloride		**98.52**	73.3	121.1
trans-1,2-Dichloroethene		**94.68**	73.6	129.3
1,1-Dichloroethane		**97.70**	71.5	126.2
cis-1,2-Dichloroethene		**100.36**	76.6	122.1
Tetrahydrofuran		**65.56**	59.0	117.9
Chloroform		**97.40**	78.4	124.0
Bromochloromethane		**100.76**	78.2	120.8
1,1,1-Trichloroethane		**122.68**	79.4	130.9
Cyclohexane		**97.84**	10.0	169.1
4-Methyl-2-pentanone		**74.18**	71.6	125.2
2-Hexanone		**81.06**	55.4	136.9
Carbon Tetrachloride		**122.64**	72.6	133.0
Benzene		**94.94**	79.9	124.9
1,2-Dichloroethane		**88.36**	76.0	126.3
Trichloroethene		**101.28**	79.7	124.2
1,2-Dichloropropane		**96.36**	78.6	126.4
Bromodichloromethane		**100.26**	80.4	128.2
Methyl cyclohexane		**114.02**	76.6	131.3
Dibromomethane		**98.32**	76.9	122.1
cis-1,3-Dichloropropene		**94.04**	79.8	129.9
Toluene		**98.04**	79.8	124.5
trans-1,3-Dichloropropene		**91.06**	74.0	131.3
1,1,2-Trichloroethane		**90.96**	78.7	123.1
Tetrachloroethene		**104.58**	74.5	124.5
trans-1,4-Dichloro-2-butene		**68.94**	68.6	135.4
Dibromochloromethane		**101.00**	74.6	127.2
1,2-Dibromoethane		**99.22**	70.3	133.7
Chlorobenzene		**106.10**	79.2	122.7
1,1,1,2-Tetrachloroethane		**104.50**	80.3	128.2
Ethylbenzene		**102.12**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150605W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605b3.lcsw05a

Run in Batch: 150605B3, Run Date: 06/05/2015 23:53, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**102.38**	79.4	132.2
o-Xylene		**99.32**	80.2	131.0
Styrene		**103.64**	69.5	126.7
Isopropylbenzene		**104.68**	74.4	121.5
Bromoform		**85.64**	69.4	128.0
1,1,2,2-Tetrachloroethane		**81.60**	79.8	126.3
1,2,3-Trichloropropane		**86.68**	78.3	138.8
n-Propylbenzene		**106.10**	82.0	130.7
Bromobenzene		**104.38**	78.7	124.6
1,3,5-Trimethylbenzene		**107.80**	81.3	128.9
tert-Butylbenzene		**103.72**	80.7	128.9
1,2,4-Trimethylbenzene		**106.40**	81.4	130.8
sec-Butylbenzene		**110.12**	77.4	129.8
p-Isopropyltoluene		**113.18**	79.8	137.5
1,3-Dichlorobenzene		**104.78**	77.0	131.3
1,4-Dichlorobenzene		**103.58**	20.7	137.7
1,2-Dichlorobenzene		**99.90**	10.0	166.2
1,2,3-Trimethylbenzene		**101.80**	76.3	124.2
n-Butylbenzene		**111.68**	80.0	133.3
Hexachloroethane		**99.52**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**73.66**	21.2	189.4
1,2,4-Trichlorobenzene		**103.20**	27.4	143.4
1,2,3-Trichlorobenzene		**97.94**	75.4	131.4
Naphthalene		**89.04**	32.9	135.8
2-Methylnaphthalene		**95.68**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150605b3.blkw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 01:33, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605b3.blkw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 01:33, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	10	ug/l
2-Hexanone (*)		ND	10	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l
sec-Butylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150605W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605b3.blkw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 01:33, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605b3.lcsw05b, Parent Sample ID: 150605b3.lcsw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 00:13, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**102.86**	75.1	135.9	**8.8**	30.0
Diethyl ether		**77.82**	67.4	121.2	**1.8**	30.0
Acetone		**93.78**	29.9	161.5	**5.7**	30.0
Methyl iodide		**100.52**	68.8	116.4	**0.3**	30.0
Carbon disulfide		**94.70**	63.8	137.4	**1.2**	30.0
Methyl acetate		**71.38**	64.7	125.4	**3.7**	30.0
tert-Methyl butyl ether		**92.38**	73.2	122.4	**2.3**	30.0
Acrylonitrile		**73.60**	69.9	128.9	**2.0**	30.0
2-Butanone		**71.46**	44.0	134.4	**0.6**	30.0
Dichlorodifluoromethane		**111.02**	10.0	222.8	**6.7**	30.0
Chloromethane		**77.94**	23.8	166.5	**1.2**	30.0
Vinyl Chloride		**87.42**	43.5	149.1	**2.9**	30.0
Bromomethane		**89.58**	56.8	151.3	**1.5**	30.0
Chloroethane		**84.76**	53.4	149.4	**2.0**	30.0
Trichlorofluoromethane		**98.82**	59.7	151.8	**6.3**	30.0
1,1-Dichloroethene		**86.28**	69.6	139.4	**3.0**	30.0
Methylene Chloride		**97.90**	73.3	121.1	**0.6**	30.0
trans-1,2-Dichloroethene		**93.96**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**97.00**	71.5	126.2	**0.7**	30.0
cis-1,2-Dichloroethene		**101.08**	76.6	122.1	**0.7**	30.0
Tetrahydrofuran		**67.88**	59.0	117.9	**3.5**	30.0
Chloroform		**97.84**	78.4	124.0	**0.5**	30.0
Bromochloromethane		**101.40**	78.2	120.8	**0.6**	30.0
1,1,1-Trichloroethane		**119.96**	79.4	130.9	**2.2**	30.0
Cyclohexane		**89.94**	10.0	169.1	**8.4**	30.0
4-Methyl-2-pentanone		**77.82**	71.6	125.2	**4.8**	30.0
2-Hexanone		**80.78**	55.4	136.9	**0.3**	30.0
Carbon Tetrachloride		**118.40**	72.6	133.0	**3.5**	30.0

Organics - Volatiles, Prep Batch ID: VF150605W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605b3.lcsw05b, Parent Sample ID: 150605b3.lcsw05a

Run in Batch: 150605B3, Run Date: 06/06/2015 00:13, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**94.68**	79.9	124.9	**0.3**	30.0
1,2-Dichloroethane		**88.26**	76.0	126.3	**0.1**	30.0
Trichloroethene		**99.60**	79.7	124.2	**1.7**	30.0
1,2-Dichloropropane		**95.72**	78.6	126.4	**0.7**	30.0
Bromodichloromethane		**100.40**	80.4	128.2	**0.1**	30.0
Methyl cyclohexane		**100.14**	76.6	131.3	**13.0**	30.0
Dibromomethane		**99.16**	76.9	122.1	**0.9**	30.0
cis-1,3-Dichloropropene		**94.82**	79.8	129.9	**0.8**	30.0
Toluene		**96.92**	79.8	124.5	**1.1**	30.0
trans-1,3-Dichloropropene		**92.12**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**89.98**	78.7	123.1	**1.1**	30.0
Tetrachloroethene		**102.70**	74.5	124.5	**1.8**	30.0
trans-1,4-Dichloro-2-butene		**74.46**	68.6	135.4	**7.7**	30.0
Dibromochloromethane		**103.80**	74.6	127.2	**2.7**	30.0
1,2-Dibromoethane		**101.34**	70.3	133.7	**2.1**	30.0
Chlorobenzene		**105.82**	79.2	122.7	**0.3**	30.0
1,1,1,2-Tetrachloroethane		**105.52**	80.3	128.2	**1.0**	30.0
Ethylbenzene		**100.90**	79.5	129.1	**1.2**	30.0
p,m-Xylene		**101.37**	79.4	132.2	**1.0**	30.0
o-Xylene		**99.12**	80.2	131.0	**0.2**	30.0
Styrene		**103.52**	69.5	126.7	**0.1**	30.0
Isopropylbenzene		**102.26**	74.4	121.5	**2.3**	30.0
Bromoform		**90.20**	69.4	128.0	**5.2**	30.0
1,1,2,2-Tetrachloroethane		**85.36**	79.8	126.3	**4.5**	30.0
1,2,3-Trichloropropane		**89.92**	78.3	138.8	**3.7**	30.0
n-Propylbenzene		**103.20**	82.0	130.7	**2.8**	30.0
Bromobenzene		**104.38**	78.7	124.6	**0.0**	30.0
1,3,5-Trimethylbenzene		**105.24**	81.3	128.9	**2.4**	30.0
tert-Butylbenzene		**101.32**	80.7	128.9	**2.3**	30.0
1,2,4-Trimethylbenzene		**102.90**	81.4	130.8	**3.3**	30.0
sec-Butylbenzene		**104.22**	77.4	129.8	**5.5**	30.0
p-Isopropyltoluene		**106.98**	79.8	137.5	**5.6**	30.0
1,3-Dichlorobenzene		**101.92**	77.0	131.3	**2.8**	30.0
1,4-Dichlorobenzene		**101.62**	20.7	137.7	**1.9**	30.0
1,2-Dichlorobenzene		**99.36**	10.0	166.2	**0.5**	30.0
1,2,3-Trimethylbenzene		**98.48**	76.3	124.2	**3.3**	30.0
n-Butylbenzene		**104.66**	80.0	133.3	**6.5**	30.0
Hexachloroethane		**96.36**	23.8	138.1	**3.2**	30.0
1,2-Dibromo-3-Chloropropane		**78.26**	21.2	189.4	**6.1**	30.0
1,2,4-Trichlorobenzene		**101.90**	27.4	143.4	**1.3**	30.0
1,2,3-Trichlorobenzene		**99.16**	75.4	131.4	**1.2**	30.0
Naphthalene		**90.28**	32.9	135.8	**1.4**	30.0
2-Methylnaphthalene		**101.62**	25.5	165.5	**6.0**	30.0

Organics - Volatiles, Prep Batch ID: VS150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 00:55, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-dibromoethane		**110.00**	70.0	130.0
1,2-dibromo-3-chloropropane		**110.00**	70.0	130.0
1,4-dioxane		**95.54**	70.0	130.0
Dibromomethane		**120.00**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150608b6.blkw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:49, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**0.8**	0.02	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608b6.lcsw08b, Parent Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:13, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-dibromoethane		**110.00**	70.0	130.0	**0.0**	30.0
1,2-dibromo-3-chloropropane		**120.00**	70.0	130.0	**8.7**	30.0
1,4-dioxane		**104.76**	70.0	130.0	**9.2**	30.0
Dibromomethane		**110.00**	70.0	130.0	**8.7**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89881

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Dr. Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.: 810-229-8837 P.O. NO.: B00644480.2015
E-MAIL ADDRESS: Randy.Christensen@Arcadis-US.com QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: Racen Lansing Area-3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cosgan

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260 1,4-Dioxane	Nitrate-Sulfate	Dissolved Fe	Total Fe, Mn	Methane
66107.01	6/3/15	8:55	MW-13-22_060315	GW	9	1	6	2					X	X	X	X	X
.02	6/3/15	10:00	MW-12-21_060315	GW	9	1	6	2					X	X	X	X	X
.03	6/3/15	11:10	MW-13-28_060315	GW	3		3						X				
.04	6/3/15	12:10	MW-13-23_060315	GW	9	1	6	2					X	X	X	X	X
.05	6/3/15	13:55	MW-13-30_060315	GW	3		3						X				
.06	6/3/15	15:20	MW-13-26_060315	GW	3		3						X				
.07	6/3/15	16:30	MW-13-29_060315	GW	9	1	6	2					X	X	X	X	X
.08	—	—	TB-00004_060315	L	1		1						X				

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Arcadis ☒ Sampler	DATE 6-3-15	TIME 17:15
RECEIVED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/3-15	TIME 1715
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/4/15	TIME 1315
RECEIVED BY: SIGNATURE/ORGANIZATION	Isch NWR	DATE 6/4/15	TIME 1315

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Isch NWR	DATE 6/4/15	TIME 1415
RECEIVED BY: SIGNATURE/ORGANIZATION	Karin Geese	DATE 6/4/15	TIME 1415

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 11.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66109.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66109.01-S66109.07
Project: B0064480.2015.00603 / Plant 3
Submitted Date/Time: 06/04/2015 14:15
Sampled by: Austin Westhuis
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-8)
Prep Batch Summary (Pages 9-10)
Surrogates per Lab Sample (Page 11)
Surrogates per QC Sample (Page 12)
Batch QC Results (Pages 13-22)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66109.01
Sample Tag: MW-13-31_060315
Collected Date/Time: 06/03/2015 09:40
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 07:09	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 07:09	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/19/15 15:32	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/19/15 15:32	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:30	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S66109.02
Sample Tag: MW-13-33_060315
Collected Date/Time: 06/03/2015 11:50
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 08:13	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 08:13	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/19/15 15:42	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/19/15 15:42	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:34	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S66109.03
Sample Tag: MW-13-32_060315
Collected Date/Time: 06/03/2015 13:50
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/19/15 15:44	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:44	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:44	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:44	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:44	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:44	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S66109.04
Sample Tag: MW-02-01(3)_060315
Collected Date/Time: 06/03/2015 16:20
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 08:26	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 08:26	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/09/15 15:45	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/09/15 15:43	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/09/15 15:45	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/09/15 15:43	MT3-15-0609B	MTD-060915-6	No	LCS/BLK/MS/MSD

Lab Sample ID: S66109.05
Sample Tag: DUP_04_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/19/15 15:45	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:45	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:45	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:45	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:45	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:45	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S66109.06
Sample Tag: DUP_05_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/19/15 15:47	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:47	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:47	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:47	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:47	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:47	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S66109.07
Sample Tag: TB0003_060315
Collected Date/Time: 06/03/2015 08:35
Matrix: Groundwater
COC Reference: 89878

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:01	150608A3	VF150608W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 17:01	150608A3	VF150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 17:01	150608A3	VF150608W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66109.01	Nitrate-N	E300.0	06/05/15 07:09	NTRA150605-W1
S66109.02	Nitrate-N	E300.0	06/05/15 08:13	NTRA150605-W1
S66109.04	Nitrate-N	E300.0	06/05/15 08:26	NTRA150605-W1

Inorganics, Prep Batch ID: SFT150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66109.01	Sulfate	E300.0	06/05/15 07:09	SFT150605-W1
S66109.02	Sulfate	E300.0	06/05/15 08:13	SFT150605-W1
S66109.04	Sulfate	E300.0	06/05/15 08:26	SFT150605-W1

Metals, Prep Batch ID: MTD-060915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66109.04	Iron, Dissolved	SW6020A	06/09/15 15:45	MT3-15-0609B
S66109.04	Iron	SW6020A	06/09/15 15:43	MT3-15-0609B
S66109.04	Manganese, Dissolved	SW6020A	06/09/15 15:45	MT3-15-0609B
S66109.04	Manganese	SW6020A	06/09/15 15:43	MT3-15-0609B

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66109.01	Arsenic	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Chromium	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Copper	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Iron, Dissolved	SW6020A	06/19/15 15:32	MT2-15-0619A
S66109.01	Iron	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Lead	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Manganese, Dissolved	SW6020A	06/19/15 15:32	MT2-15-0619A
S66109.01	Manganese	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Nickel	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.01	Vanadium	SW6020A	06/19/15 15:30	MT2-15-0619A
S66109.02	Arsenic	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Chromium	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Copper	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Iron, Dissolved	SW6020A	06/19/15 15:42	MT2-15-0619A
S66109.02	Iron	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Lead	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Manganese, Dissolved	SW6020A	06/19/15 15:42	MT2-15-0619A
S66109.02	Manganese	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Nickel	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.02	Vanadium	SW6020A	06/19/15 15:34	MT2-15-0619A
S66109.03	Arsenic	SW6020A	06/19/15 15:44	MT2-15-0619A
S66109.03	Chromium	SW6020A	06/19/15 15:44	MT2-15-0619A
S66109.03	Copper	SW6020A	06/19/15 15:44	MT2-15-0619A
S66109.03	Lead	SW6020A	06/19/15 15:44	MT2-15-0619A
S66109.03	Nickel	SW6020A	06/19/15 15:44	MT2-15-0619A
S66109.03	Vanadium	SW6020A	06/19/15 15:44	MT2-15-0619A
S66109.05	Arsenic	SW6020A	06/19/15 15:45	MT2-15-0619A
S66109.05	Chromium	SW6020A	06/19/15 15:45	MT2-15-0619A

Metals, Prep Batch ID: MTD-061915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66109.05	Copper	SW6020A	06/19/15 15:45	MT2-15-0619A
S66109.05	Lead	SW6020A	06/19/15 15:45	MT2-15-0619A
S66109.05	Nickel	SW6020A	06/19/15 15:45	MT2-15-0619A
S66109.05	Vanadium	SW6020A	06/19/15 15:45	MT2-15-0619A
S66109.06	Arsenic	SW6020A	06/19/15 15:47	MT2-15-0619A
S66109.06	Chromium	SW6020A	06/19/15 15:47	MT2-15-0619A
S66109.06	Copper	SW6020A	06/19/15 15:47	MT2-15-0619A
S66109.06	Lead	SW6020A	06/19/15 15:47	MT2-15-0619A
S66109.06	Nickel	SW6020A	06/19/15 15:47	MT2-15-0619A
S66109.06	Vanadium	SW6020A	06/19/15 15:47	MT2-15-0619A

Organics - Volatiles, Prep Batch ID: VF150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66109.07	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:01	150608A3
S66109.07	1,2-Dibromoethane	SW8260B	06/08/15 17:01	150608A3
S66109.07	TCL Volatile Organics 8260	SW8260C	06/08/15 17:01	150608A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66109.07
Sample Tag: TB0003_060315
Collected Date/Time: 06/03/2015 08:35
Matrix: Groundwater
COC Reference: 89878

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A3, Run Date: 06/08/2015 17:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.80**	83.0	119.0
1,2-Dichloroethane-D4		**97.00**	77.0	121.0
Toluene-D8		**93.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150608W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:08, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.60**	83.0	119.0
1,2-Dichloroethane-D4		**85.80**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.80**	83.0	119.0
1,2-Dichloroethane-D4		**98.80**	77.0	121.0
Toluene-D8		**93.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.80**	83.0	119.0
1,2-Dichloroethane-D4		**85.40**	77.0	121.0
Toluene-D8		**96.40**	86.0	118.0

Inorganics, Prep Batch ID: NTRA150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150605-W1.LRB1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 05:14, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150605-W1.LCS1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 05:39, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150605-W1.MS1, Parent Sample ID: S66096.01

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:30, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**113**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150605-W1.MSD1, Parent Sample ID: NTRA150605-W1.MS1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:43, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**114**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: NTRA150605-W1.DP1, Parent Sample ID: S66096.01

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:17, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**2**	15

Inorganics, Prep Batch ID: SFT150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150605-W1.LRB1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 05:14, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150605-W1.LCS1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 05:39, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**99**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150605-W1.MS1, Parent Sample ID: S66096.01

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:30, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150605-W1.MSD1, Parent Sample ID: SFT150605-W1.MS1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:43, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**101**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT150605-W1.DP1, Parent Sample ID: S66096.01

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:17, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**6**	15

Metals, Prep Batch ID: MTD-060915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0609B.020.LCS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 14:45, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**101**	85	115
Iron		**110**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0609B.022.LRB

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 14:49, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0609B.034.MS, Parent Sample ID: S66096.05

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:14, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**97**	80	120
Iron, Dissolved		**90**	80	120

Matrix Spike (MS)

Lab Sample ID: MT3-15-0609B.049.MS, Parent Sample ID: S66109.04

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:47, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**101**	80	120
Iron, Dissolved		**100**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0609B.035.MSD, Parent Sample ID: MT3-15-0609B.034.MS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:16, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	80	120	**2**	20
Iron, Dissolved		**96**	80	120	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0609B.050.MSD, Parent Sample ID: MT3-15-0609B.049.MS

Run in Batch: MT3-15-0609B, Run Date: 06/09/2015 15:49, Prep Date: 06/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	80	120	**0**	20
Iron, Dissolved		**92**	80	120	**1**	20

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0619A.020.LCS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	85	115
Chromium		**102**	85	115
Manganese		**99**	85	115
Iron		**86**	85	115
Nickel		**103**	85	115
Copper		**103**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0619A.021.LRB

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.033.MS, Parent Sample ID: S66109.02

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:35, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**101**	75	125
Manganese		**102**	75	125
Iron		**100**	75	125
Nickel		**101**	75	125
Copper		**100**	75	125
Arsenic		**106**	75	125
Lead		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.047.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:58, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**105**	75	125
Nickel, Dissolved		**98**	75	125
Copper, Dissolved		**91**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**94**	75	125

Metals, Prep Batch ID: MTD-061915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.050.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:19, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**104**	75	125
Manganese, Dissolved		**103**	75	125
Iron, Dissolved		**100**	75	125
Nickel, Dissolved		**102**	75	125
Copper, Dissolved		**96**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.034.MSD, Parent Sample ID: MT2-15-0619A.033.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:37, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**105**	75	125	**0**	20
Chromium		**102**	75	125	**0**	20
Manganese		**100**	75	125	**2**	20
Iron		**100**	75	125	**0**	20
Nickel		**99**	75	125	**2**	20
Copper		**98**	75	125	**2**	20
Arsenic		**104**	75	125	**2**	20
Lead		**98**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.048.MSD, Parent Sample ID: MT2-15-0619A.047.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:00, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**104**	75	125	**0**	20
Chromium, Dissolved		**102**	75	125	**0**	20
Manganese, Dissolved		**101**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**0**	20
Copper, Dissolved		**92**	75	125	**1**	20
Arsenic, Dissolved		**99**	75	125	**0**	20
Lead, Dissolved		**96**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.051.MSD, Parent Sample ID: MT2-15-0619A.050.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:26, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**105**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**104**	75	125	**0**	20
Iron, Dissolved		**96**	75	125	**0**	20
Nickel, Dissolved		**102**	75	125	**0**	20
Copper, Dissolved		**96**	75	125	**0**	20
Arsenic, Dissolved		**100**	75	125	**0**	20
Lead, Dissolved		**98**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:08, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**106.10**	75.1	135.9
Diethyl ether		**75.92**	67.4	121.2
Acetone		**66.38**	29.9	161.5
Methyl iodide		**98.22**	68.8	116.4
Carbon disulfide		**86.84**	63.8	137.4
Methyl acetate		**70.74**	64.7	125.4
tert-Methyl butyl ether		**90.48**	73.2	122.4
Acrylonitrile		**72.50**	69.9	128.9
2-Butanone		**62.56**	44.0	134.4
Dichlorodifluoromethane		**112.46**	10.0	222.8
Chloromethane		**72.58**	23.8	166.5
Vinyl Chloride		**81.42**	43.5	149.1
Bromomethane		**86.30**	56.8	151.3
Chloroethane		**77.90**	53.4	149.4
Trichlorofluoromethane		**102.18**	59.7	151.8
1,1-Dichloroethene		**86.02**	69.6	139.4
Methylene Chloride		**95.70**	73.3	121.1
trans-1,2-Dichloroethene		**91.76**	73.6	129.3
1,1-Dichloroethane		**94.30**	71.5	126.2
cis-1,2-Dichloroethene		**97.84**	76.6	122.1
Tetrahydrofuran		**68.32**	59.0	117.9
Chloroform		**96.54**	78.4	124.0
Bromochloromethane		**100.26**	78.2	120.8
1,1,1-Trichloroethane		**120.48**	79.4	130.9
Cyclohexane		**91.66**	10.0	169.1
4-Methyl-2-pentanone		**76.36**	71.6	125.2
2-Hexanone		**74.32**	55.4	136.9
Carbon Tetrachloride		**123.24**	72.6	133.0
Benzene		**91.98**	79.9	124.9
1,2-Dichloroethane		**90.40**	76.0	126.3
Trichloroethene		**98.14**	79.7	124.2
1,2-Dichloropropane		**92.90**	78.6	126.4
Bromodichloromethane		**102.66**	80.4	128.2
Methyl cyclohexane		**104.04**	76.6	131.3
Dibromomethane		**99.88**	76.9	122.1
cis-1,3-Dichloropropene		**94.86**	79.8	129.9
Toluene		**95.64**	79.8	124.5
trans-1,3-Dichloropropene		**93.96**	74.0	131.3
1,1,2-Trichloroethane		**91.52**	78.7	123.1
Tetrachloroethene		**99.62**	74.5	124.5
trans-1,4-Dichloro-2-butene		**77.82**	68.6	135.4
Dibromochloromethane		**108.08**	74.6	127.2
1,2-Dibromoethane		**104.22**	70.3	133.7
Chlorobenzene		**106.30**	79.2	122.7
1,1,1,2-Tetrachloroethane		**108.00**	80.3	128.2
Ethylbenzene		**100.44**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:08, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**100.45**	79.4	132.2
o-Xylene		**98.48**	80.2	131.0
Styrene		**101.10**	69.5	126.7
Isopropylbenzene		**102.32**	74.4	121.5
Bromoform		**95.44**	69.4	128.0
1,1,2,2-Tetrachloroethane		**87.24**	79.8	126.3
1,2,3-Trichloropropane		**93.06**	78.3	138.8
n-Propylbenzene		**102.50**	82.0	130.7
Bromobenzene		**103.74**	78.7	124.6
1,3,5-Trimethylbenzene		**106.18**	81.3	128.9
tert-Butylbenzene		**101.70**	80.7	128.9
1,2,4-Trimethylbenzene		**102.82**	81.4	130.8
sec-Butylbenzene		**111.32**	77.4	129.8
p-Isopropyltoluene		**115.38**	79.8	137.5
1,3-Dichlorobenzene		**107.38**	77.0	131.3
1,4-Dichlorobenzene		**105.66**	20.7	137.7
1,2-Dichlorobenzene		**103.22**	10.0	166.2
1,2,3-Trimethylbenzene		**103.74**	76.3	124.2
n-Butylbenzene		**111.88**	80.0	133.3
Hexachloroethane		**109.74**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**87.94**	21.2	189.4
1,2,4-Trichlorobenzene		**107.16**	27.4	143.4
1,2,3-Trichlorobenzene		**103.84**	75.4	131.4
Naphthalene		**92.84**	32.9	135.8
2-Methylnaphthalene		**103.04**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.3**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	10	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**105.90**	75.1	135.9	**0.2**	30.0
Diethyl ether		**78.50**	67.4	121.2	**3.3**	30.0
Acetone		**68.80**	29.9	161.5	**3.6**	30.0
Methyl iodide		**100.38**	68.8	116.4	**2.2**	30.0
Carbon disulfide		**66.66**	63.8	137.4	**26.3**	30.0
Methyl acetate		**72.98**	64.7	125.4	**3.1**	30.0
tert-Methyl butyl ether		**95.52**	73.2	122.4	**5.4**	30.0
Acrylonitrile		**76.56**	69.9	128.9	**5.4**	30.0
2-Butanone		**65.32**	44.0	134.4	**4.3**	30.0
Dichlorodifluoromethane		**107.30**	10.0	222.8	**4.7**	30.0
Chloromethane		**69.80**	23.8	166.5	**3.9**	30.0
Vinyl Chloride		**80.92**	43.5	149.1	**0.6**	30.0
Bromomethane		**85.38**	56.8	151.3	**1.1**	30.0
Chloroethane		**78.76**	53.4	149.4	**1.1**	30.0
Trichlorofluoromethane		**99.94**	59.7	151.8	**2.2**	30.0
1,1-Dichloroethene		**87.68**	69.6	139.4	**1.9**	30.0
Methylene Chloride		**97.64**	73.3	121.1	**2.0**	30.0
trans-1,2-Dichloroethene		**91.98**	73.6	129.3	**0.2**	30.0
1,1-Dichloroethane		**95.26**	71.5	126.2	**1.0**	30.0
cis-1,2-Dichloroethene		**99.00**	76.6	122.1	**1.2**	30.0
Tetrahydrofuran		**74.94**	59.0	117.9	**9.2**	30.0
Chloroform		**96.84**	78.4	124.0	**0.3**	30.0
Bromochloromethane		**102.36**	78.2	120.8	**2.1**	30.0
1,1,1-Trichloroethane		**120.34**	79.4	130.9	**0.1**	30.0
Cyclohexane		**89.78**	10.0	169.1	**2.1**	30.0
4-Methyl-2-pentanone		**79.98**	71.6	125.2	**4.6**	30.0
2-Hexanone		**77.68**	55.4	136.9	**4.4**	30.0
Carbon Tetrachloride		**115.56**	72.6	133.0	**6.4**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**92.12**	79.9	124.9	**0.2**	30.0
1,2-Dichloroethane		**90.24**	76.0	126.3	**0.2**	30.0
Trichloroethene		**100.56**	79.7	124.2	**2.4**	30.0
1,2-Dichloropropane		**94.14**	78.6	126.4	**1.3**	30.0
Bromodichloromethane		**98.52**	80.4	128.2	**4.1**	30.0
Methyl cyclohexane		**100.48**	76.6	131.3	**3.5**	30.0
Dibromomethane		**102.08**	76.9	122.1	**2.2**	30.0
cis-1,3-Dichloropropene		**81.28**	79.8	129.9	**15.4**	30.0
Toluene		**95.44**	79.8	124.5	**0.2**	30.0
trans-1,3-Dichloropropene		**81.18**	74.0	131.3	**14.6**	30.0
1,1,2-Trichloroethane		**92.14**	78.7	123.1	**0.7**	30.0
Tetrachloroethene		**102.06**	74.5	124.5	**2.4**	30.0
trans-1,4-Dichloro-2-butene	*	**55.38**	68.6	135.4	**33.7**	30.0
Dibromochloromethane		**100.92**	74.6	127.2	**6.9**	30.0
1,2-Dibromoethane		**107.02**	70.3	133.7	**2.7**	30.0
Chlorobenzene		**107.10**	79.2	122.7	**0.7**	30.0
1,1,1,2-Tetrachloroethane		**108.94**	80.3	128.2	**0.9**	30.0
Ethylbenzene		**101.26**	79.5	129.1	**0.8**	30.0
p,m-Xylene		**101.68**	79.4	132.2	**1.2**	30.0
o-Xylene		**99.58**	80.2	131.0	**1.1**	30.0
Styrene		**104.32**	69.5	126.7	**3.1**	30.0
Isopropylbenzene		**103.02**	74.4	121.5	**0.7**	30.0
Bromoform		**86.38**	69.4	128.0	**10.0**	30.0
1,1,2,2-Tetrachloroethane		**92.08**	79.8	126.3	**5.4**	30.0
1,2,3-Trichloropropane		**99.42**	78.3	138.8	**6.6**	30.0
n-Propylbenzene		**103.32**	82.0	130.7	**0.8**	30.0
Bromobenzene		**107.22**	78.7	124.6	**3.3**	30.0
1,3,5-Trimethylbenzene		**106.76**	81.3	128.9	**0.5**	30.0
tert-Butylbenzene		**101.66**	80.7	128.9	**0.0**	30.0
1,2,4-Trimethylbenzene		**104.26**	81.4	130.8	**1.4**	30.0
sec-Butylbenzene		**103.16**	77.4	129.8	**7.6**	30.0
p-Isopropyltoluene		**107.50**	79.8	137.5	**7.1**	30.0
1,3-Dichlorobenzene		**104.68**	77.0	131.3	**2.5**	30.0
1,4-Dichlorobenzene		**102.78**	20.7	137.7	**2.8**	30.0
1,2-Dichlorobenzene		**100.86**	10.0	166.2	**2.3**	30.0
1,2,3-Trimethylbenzene		**99.16**	76.3	124.2	**4.5**	30.0
n-Butylbenzene		**104.92**	80.0	133.3	**6.4**	30.0
Hexachloroethane		**98.52**	23.8	138.1	**10.8**	30.0
1,2-Dibromo-3-Chloropropane		**87.78**	21.2	189.4	**0.2**	30.0
1,2,4-Trichlorobenzene		**104.42**	27.4	143.4	**2.6**	30.0
1,2,3-Trichlorobenzene		**102.78**	75.4	131.4	**1.0**	30.0
Naphthalene		**95.94**	32.9	135.8	**3.3**	30.0
2-Methylnaphthalene		**106.84**	25.5	165.5	**3.6**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89878

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: ARCADIS
ADDRESS: 10559 Citation Dr. Ste. 100
CITY: Brighton | STATE: MI | ZIP CODE: 48116
PHONE NO.: 810-225-1940 | FAX NO.: | P.O. NO.: B0064480.2015.001603
E-MAIL ADDRESS: randy.christensen@arcadis-us.com | QUOTE NO.:

INVOICE TO

CONTACT NAME | X SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: B0064480.2015.001603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Austin Westhuis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	Select Metals TAL 6020	Nitrate & Sulfate	Total Fe & Mn	Dissolved Fe & Mn	Methane	VOC 8260					Special Instructions
66109.01	6/3/15	0940	MW-13-31_060315	GW	8	1	3	4					2	1	1	1	3						Select Metals Include: As, Ni, Pb, V, Cr, and Cu
.02	6/3/15	1150	MW-13-33_060315	GW	8	1	3	4					2	1	1	1	3						
.03	6/3/15	1350	MW-13-32_060315	GW	1			1					1										
.04	6/3/15	1620	MW-02-01(3)_060315	GW	6	1	3	2						1	1	1	3						
.05	6/3/15	—	Dup_04_060315	GW	2			2					2										
.06	6/3/15	—	Dup_05_060315	GW	2			2					2										
.07	6/3/15	0835	TB0003_060315	GW	1		1											1					

RELINQUISHED BY: SIGNATURE/ORGANIZATION: ARCADIS ☒ Sampler — DATE: 6/3/15 — TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: — DATE: 6/4/15 — TIME: 1315

RELINQUISHED BY: SIGNATURE/ORGANIZATION: — DATE: — TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: — DATE: — TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: — DATE: 6/4/15 — TIME: 1415
RECEIVED BY: SIGNATURE/ORGANIZATION: — DATE: 6/4/15 — TIME: 1415

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 11.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66110.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66110.01-S66110.05
Project: RACER Plant 6 / B0064481.2015.00603
Submitted Date/Time: 06/04/2015 14:15
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-12)
Surrogates per QC Sample (Pages 13-15)
Batch QC Results (Pages 16-34)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66110.01
Sample Tag: MW-04-05(6)_060315
Collected Date/Time: 06/03/2015 12:35
Matrix: Groundwater
COC Reference: 84091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 08:39	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 08:39	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/19/15 15:50	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/19/15 15:50	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:48	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 14:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 14:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 14:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Analysis Summary

Lab Sample ID: S66110.02
Sample Tag: MW-03-01_060315
Collected Date/Time: 06/03/2015 14:25
Matrix: Groundwater
COC Reference: 84091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 08:51	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 08:51	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/19/15 15:53	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/19/15 15:53	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:51	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 14:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 14:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 05:47	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 14:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66110.03
Sample Tag: MW-04-06(R)_060315
Collected Date/Time: 06/03/2015 17:00
Matrix: Groundwater
COC Reference: 84091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/05/15 09:04	NTRA150605-W1	NTRA150605-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/05/15 09:04	SFT150605-W1	SFT150605-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/19/15 16:17	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/19/15 15:55	MT2-15-0619A	MTD-061915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S66110.04
Sample Tag: DUP_08_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Groundwater
COC Reference: 84091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 12:49	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 12:49	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 12:49	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 12:49	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 12:49	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 12:49	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 14:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 14:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 06:05	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 14:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66110.05
Sample Tag: Trip Blank
Collected Date/Time: 06/03/2015 00:01
Matrix: Water
COC Reference: 84091

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 15:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 15:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 15:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66110.01	Nitrate-N	E300.0	06/05/15 08:39	NTRA150605-W1
S66110.02	Nitrate-N	E300.0	06/05/15 08:51	NTRA150605-W1
S66110.03	Nitrate-N	E300.0	06/05/15 09:04	NTRA150605-W1

Inorganics, Prep Batch ID: SFT150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66110.01	Sulfate	E300.0	06/05/15 08:39	SFT150605-W1
S66110.02	Sulfate	E300.0	06/05/15 08:51	SFT150605-W1
S66110.03	Sulfate	E300.0	06/05/15 09:04	SFT150605-W1

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66110.01	Arsenic	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Chromium	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Copper	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Iron, Dissolved	SW6020A	06/19/15 15:50	MT2-15-0619A
S66110.01	Iron	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Lead	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Manganese, Dissolved	SW6020A	06/19/15 15:50	MT2-15-0619A
S66110.01	Manganese	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Nickel	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.01	Vanadium	SW6020A	06/19/15 15:48	MT2-15-0619A
S66110.02	Arsenic	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Chromium	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Copper	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Iron, Dissolved	SW6020A	06/19/15 15:53	MT2-15-0619A
S66110.02	Iron	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Lead	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Manganese, Dissolved	SW6020A	06/19/15 15:53	MT2-15-0619A
S66110.02	Manganese	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Nickel	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.02	Vanadium	SW6020A	06/19/15 15:51	MT2-15-0619A
S66110.03	Arsenic, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Arsenic	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Chromium, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Chromium	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Copper, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Copper	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Iron, Dissolved	SW6020A	06/19/15 16:17	MT2-15-0619A
S66110.03	Iron	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Lead, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Lead	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Manganese, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Manganese	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Nickel, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Nickel	SW6020A	06/19/15 15:55	MT2-15-0619A
S66110.03	Vanadium, Dissolved	SW6020A	06/19/15 15:56	MT2-15-0619A
S66110.03	Vanadium	SW6020A	06/19/15 15:55	MT2-15-0619A

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66110.04	Arsenic	SW6020A	06/22/15 12:49	MT2-15-0622A
S66110.04	Chromium	SW6020A	06/22/15 12:49	MT2-15-0622A
S66110.04	Copper	SW6020A	06/22/15 12:49	MT2-15-0622A
S66110.04	Lead	SW6020A	06/22/15 12:49	MT2-15-0622A
S66110.04	Nickel	SW6020A	06/22/15 12:49	MT2-15-0622A
S66110.04	Vanadium	SW6020A	06/22/15 12:49	MT2-15-0622A

Organics - Volatiles, Prep Batch ID: VF150606W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66110.01	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 14:01	150605C3
S66110.01	1,2-Dibromoethane	SW8260B	06/06/15 14:01	150605C3
S66110.01	TCL Volatile Organics 8260	SW8260C	06/06/15 14:01	150605C3
S66110.02	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 14:21	150605C3
S66110.02	1,2-Dibromoethane	SW8260B	06/06/15 14:21	150605C3
S66110.02	TCL Volatile Organics 8260	SW8260C	06/06/15 14:21	150605C3
S66110.04	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 14:41	150605C3
S66110.04	1,2-Dibromoethane	SW8260B	06/06/15 14:41	150605C3
S66110.04	TCL Volatile Organics 8260	SW8260C	06/06/15 14:41	150605C3
S66110.05	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 15:01	150605C3
S66110.05	1,2-Dibromoethane	SW8260B	06/06/15 15:01	150605C3
S66110.05	TCL Volatile Organics 8260	SW8260C	06/06/15 15:01	150605C3

Organics - Volatiles, Prep Batch ID: VS150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66110.02	1,4-Dioxane	SW8260B - SIM	06/09/15 05:47	150608B6
S66110.04	1,4-Dioxane	SW8260B - SIM	06/09/15 06:05	150608B6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66110.01
Sample Tag: MW-04-05(6)_060315
Collected Date/Time: 06/03/2015 12:35
Matrix: Groundwater
COC Reference: 84091

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 14:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.60**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

Lab Sample ID: S66110.02
Sample Tag: MW-03-01_060315
Collected Date/Time: 06/03/2015 14:25
Matrix: Groundwater
COC Reference: 84091

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 14:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

Lab Sample ID: S66110.04
Sample Tag: DUP_08_060315
Collected Date/Time: 06/03/2015 00:01
Matrix: Groundwater
COC Reference: 84091

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 14:41, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.40**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66110.05
Sample Tag: Trip Blank
Collected Date/Time: 06/03/2015 00:01
Matrix: Water
COC Reference: 84091

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 15:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.80**	83.0	119.0
1,2-Dichloroethane-D4		**98.00**	77.0	121.0
Toluene-D8		**94.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150606W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.80**	83.0	119.0
1,2-Dichloroethane-D4		**89.20**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.20**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.00**	83.0	119.0
1,2-Dichloroethane-D4		**86.80**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**86.00**	77.0	121.0
Toluene-D8		**96.80**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**85.80**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.20**	83.0	119.0
1,2-Dichloroethane-D4		**89.00**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS150608W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 00:55, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Blank (BLK)

Lab Sample ID: 150608b6.blkw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:49, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608b6.lcsw08b, Parent Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:13, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Inorganics, Prep Batch ID: NTRA150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150605-W1.LRB1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 05:14, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150605-W1.LCS1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 05:39, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150605-W1.MS1, Parent Sample ID: S66096.01

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:30, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**113**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150605-W1.MSD1, Parent Sample ID: NTRA150605-W1.MS1

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:43, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**114**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: NTRA150605-W1.DP1, Parent Sample ID: S66096.01

Run in Batch: NTRA150605-W1, Run Date: 06/05/2015 09:17, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**2**	15

Inorganics, Prep Batch ID: SFT150605-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150605-W1.LRB1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 05:14, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150605-W1.LCS1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 05:39, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**99**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150605-W1.MS1, Parent Sample ID: S66096.01

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:30, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150605-W1.MSD1, Parent Sample ID: SFT150605-W1.MS1

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:43, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**101**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT150605-W1.DP1, Parent Sample ID: S66096.01

Run in Batch: SFT150605-W1, Run Date: 06/05/2015 09:17, Prep Date: 06/05/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**6**	15

Metals, Prep Batch ID: MTD-061915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0619A.020.LCS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	85	115
Chromium		**102**	85	115
Manganese		**99**	85	115
Iron		**86**	85	115
Nickel		**103**	85	115
Copper		**103**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0619A.021.LRB

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.033.MS, Parent Sample ID: S66109.02

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:35, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**101**	75	125
Manganese		**102**	75	125
Iron		**100**	75	125
Nickel		**101**	75	125
Copper		**100**	75	125
Arsenic		**106**	75	125
Lead		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.047.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:58, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**105**	75	125
Nickel, Dissolved		**98**	75	125
Copper, Dissolved		**91**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**94**	75	125

Metals, Prep Batch ID: MTD-061915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS)

Lab Sample ID: MT2-15-0619A.050.MS, Parent Sample ID: S66110.03

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:19, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**104**	75	125
Manganese, Dissolved		**103**	75	125
Iron, Dissolved		**100**	75	125
Nickel, Dissolved		**102**	75	125
Copper, Dissolved		**96**	75	125
Arsenic, Dissolved		**100**	75	125
Lead, Dissolved		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.034.MSD, Parent Sample ID: MT2-15-0619A.033.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 15:37, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**105**	75	125	**0**	20
Chromium		**102**	75	125	**0**	20
Manganese		**100**	75	125	**2**	20
Iron		**100**	75	125	**0**	20
Nickel		**99**	75	125	**2**	20
Copper		**98**	75	125	**2**	20
Arsenic		**104**	75	125	**2**	20
Lead		**98**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.048.MSD, Parent Sample ID: MT2-15-0619A.047.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:00, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**104**	75	125	**0**	20
Chromium, Dissolved		**102**	75	125	**0**	20
Manganese, Dissolved		**101**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**0**	20
Copper, Dissolved		**92**	75	125	**1**	20
Arsenic, Dissolved		**99**	75	125	**0**	20
Lead, Dissolved		**96**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0619A.051.MSD, Parent Sample ID: MT2-15-0619A.050.MS

Run in Batch: MT2-15-0619A, Run Date: 06/19/2015 16:26, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**105**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**104**	75	125	**0**	20
Iron, Dissolved		**96**	75	125	**0**	20
Nickel, Dissolved		**102**	75	125	**0**	20
Copper, Dissolved		**96**	75	125	**0**	20
Arsenic, Dissolved		**100**	75	125	**0**	20
Lead, Dissolved		**98**	75	125	**1**	20

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.020.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:42, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**102**	85	115
Manganese		**100**	85	115
Iron		**91**	85	115
Nickel		**103**	85	115
Copper		**107**	85	115
Arsenic		**105**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.021.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:44, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.033.MS, Parent Sample ID: S66131.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**101**	75	125
Iron, Dissolved		**96**	75	125
Nickel, Dissolved		**101**	75	125
Copper, Dissolved		**98**	75	125
Arsenic, Dissolved		**101**	75	125
Lead, Dissolved		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**100**	75	125
Chromium		**98**	75	125
Manganese		**100**	75	125
Iron		**116**	75	125
Nickel		**99**	75	125
Copper		**97**	75	125
Arsenic		**98**	75	125

Metals, Prep Batch ID: MTD-061915-6 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Lead		**93**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.034.MSD, Parent Sample ID: MT2-15-0622A.033.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Vanadium, Dissolved		**100**	75	125	**3**	20
Chromium, Dissolved		**99**	75	125	**2**	20
Manganese, Dissolved		**99**	75	125	**1**	20
Iron, Dissolved		**88**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**3**	20
Copper, Dissolved		**94**	75	125	**4**	20
Arsenic, Dissolved		**99**	75	125	**2**	20
Lead, Dissolved		**94**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.048.MSD, Parent Sample ID: MT2-15-0622A.047.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:52, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Vanadium		**99**	75	125	**1**	20
Chromium		**99**	75	125	**1**	20
Manganese		**99**	75	125	**0**	20
Iron		**108**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Copper		**96**	75	125	**1**	20
Arsenic		**100**	75	125	**2**	20
Lead		**94**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150606W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.16**	75.1	135.9
Diethyl ether		**79.22**	67.4	121.2
Acetone		**110.68**	29.9	161.5
Methyl iodide		**107.58**	68.8	116.4
Carbon disulfide		**102.30**	63.8	137.4
Methyl acetate		**72.64**	64.7	125.4
tert-Methyl butyl ether		**94.68**	73.2	122.4
Acrylonitrile		**76.00**	69.9	128.9
2-Butanone		**77.14**	44.0	134.4
Dichlorodifluoromethane		**125.96**	10.0	222.8
Chloromethane		**83.20**	23.8	166.5
Vinyl Chloride		**93.32**	43.5	149.1
Bromomethane		**96.28**	56.8	151.3
Chloroethane		**90.92**	53.4	149.4
Trichlorofluoromethane		**111.76**	59.7	151.8
1,1-Dichloroethene		**97.44**	69.6	139.4
Methylene Chloride		**104.00**	73.3	121.1
trans-1,2-Dichloroethene		**100.04**	73.6	129.3
1,1-Dichloroethane		**102.58**	71.5	126.2
cis-1,2-Dichloroethene		**104.68**	76.6	122.1
Tetrahydrofuran		**72.30**	59.0	117.9
Chloroform		**104.44**	78.4	124.0
Bromochloromethane		**106.82**	78.2	120.8
1,1,1-Trichloroethane		**130.84**	79.4	130.9
Cyclohexane		**96.82**	10.0	169.1
4-Methyl-2-pentanone		**76.12**	71.6	125.2
2-Hexanone		**84.26**	55.4	136.9
Carbon Tetrachloride		**126.52**	72.6	133.0
Benzene		**96.74**	79.9	124.9
1,2-Dichloroethane		**92.64**	76.0	126.3
Trichloroethene		**104.32**	79.7	124.2
1,2-Dichloropropane		**97.12**	78.6	126.4
Bromodichloromethane		**105.54**	80.4	128.2
Methyl cyclohexane		**102.24**	76.6	131.3
Dibromomethane		**102.48**	76.9	122.1
cis-1,3-Dichloropropene		**97.90**	79.8	129.9
Toluene		**101.14**	79.8	124.5
trans-1,3-Dichloropropene		**95.76**	74.0	131.3
1,1,2-Trichloroethane		**94.48**	78.7	123.1
Tetrachloroethene	*	**142.90**	74.5	124.5
trans-1,4-Dichloro-2-butene		**73.32**	68.6	135.4
Dibromochloromethane		**105.04**	74.6	127.2
1,2-Dibromoethane		**102.00**	70.3	133.7
Chlorobenzene		**107.62**	79.2	122.7
1,1,1,2-Tetrachloroethane		**106.32**	80.3	128.2
Ethylbenzene		**102.90**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**102.24**	79.4	132.2
o-Xylene		**100.58**	80.2	131.0
Styrene		**104.28**	69.5	126.7
Isopropylbenzene		**103.00**	74.4	121.5
Bromoform		**89.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**84.66**	79.8	126.3
1,2,3-Trichloropropane		**90.06**	78.3	138.8
n-Propylbenzene		**102.78**	82.0	130.7
Bromobenzene		**104.44**	78.7	124.6
1,3,5-Trimethylbenzene		**105.32**	81.3	128.9
tert-Butylbenzene		**101.16**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.90**	77.4	129.8
p-Isopropyltoluene		**107.14**	79.8	137.5
1,3-Dichlorobenzene		**103.24**	77.0	131.3
1,4-Dichlorobenzene		**101.04**	20.7	137.7
1,2-Dichlorobenzene		**99.40**	10.0	166.2
1,2,3-Trimethylbenzene		**98.00**	76.3	124.2
n-Butylbenzene		**102.90**	80.0	133.3
Hexachloroethane		**95.64**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**77.82**	21.2	189.4
1,2,4-Trichlorobenzene		**100.76**	27.4	143.4
1,2,3-Trichlorobenzene		**97.98**	75.4	131.4
Naphthalene		**89.42**	32.9	135.8
2-Methylnaphthalene		**96.26**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	10	ug/l
2-Hexanone (*)		ND	10	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l
sec-Butylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene	*	**1.1**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**114.46**	75.1	135.9
Diethyl ether		**82.90**	67.4	121.2
Acetone		**73.56**	29.9	161.5
Methyl iodide		**109.34**	68.8	116.4
Carbon disulfide		**91.84**	63.8	137.4
Methyl acetate		**71.44**	64.7	125.4
tert-Methyl butyl ether		**99.20**	73.2	122.4
Acrylonitrile		**76.74**	69.9	128.9
2-Butanone		**63.90**	44.0	134.4
Dichlorodifluoromethane		**129.46**	10.0	222.8
Chloromethane		**85.40**	23.8	166.5
Vinyl Chloride		**92.88**	43.5	149.1
Bromomethane		**96.04**	56.8	151.3
Chloroethane		**93.10**	53.4	149.4
Trichlorofluoromethane		**112.62**	59.7	151.8
1,1-Dichloroethene		**94.08**	69.6	139.4
Methylene Chloride		**105.66**	73.3	121.1
trans-1,2-Dichloroethene		**100.18**	73.6	129.3
1,1-Dichloroethane		**104.48**	71.5	126.2
cis-1,2-Dichloroethene		**108.36**	76.6	122.1
Tetrahydrofuran		**71.60**	59.0	117.9
Chloroform		**105.36**	78.4	124.0
Bromochloromethane		**108.52**	78.2	120.8
1,1,1-Trichloroethane	*	**131.66**	79.4	130.9
Cyclohexane		**99.12**	10.0	169.1
4-Methyl-2-pentanone		**84.10**	71.6	125.2
2-Hexanone		**79.92**	55.4	136.9
Carbon Tetrachloride		**128.52**	72.6	133.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzene		**99.42**	79.9	124.9
1,2-Dichloroethane		**94.98**	76.0	126.3
Trichloroethene		**106.70**	79.7	124.2
1,2-Dichloropropane		**100.56**	78.6	126.4
Bromodichloromethane		**106.42**	80.4	128.2
Methyl cyclohexane		**105.84**	76.6	131.3
Dibromomethane		**105.16**	76.9	122.1
cis-1,3-Dichloropropene		**99.72**	79.8	129.9
Toluene		**99.60**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**97.58**	78.7	123.1
Tetrachloroethene		**105.64**	74.5	124.5
trans-1,4-Dichloro-2-butene		**72.56**	68.6	135.4
Dibromochloromethane		**104.16**	74.6	127.2
1,2-Dibromoethane		**104.02**	70.3	133.7
Chlorobenzene		**107.42**	79.2	122.7
1,1,1,2-Tetrachloroethane		**108.14**	80.3	128.2
Ethylbenzene		**98.00**	79.5	129.1
p,m-Xylene		**88.85**	79.4	132.2
o-Xylene		**88.70**	80.2	131.0
Styrene	*	**51.14**	69.5	126.7
Isopropylbenzene		**99.48**	74.4	121.5
Bromoform		**86.74**	69.4	128.0
1,1,2,2-Tetrachloroethane		**86.00**	79.8	126.3
1,2,3-Trichloropropane		**93.34**	78.3	138.8
n-Propylbenzene		**98.72**	82.0	130.7
Bromobenzene		**102.82**	78.7	124.6
1,3,5-Trimethylbenzene	*	**73.90**	81.3	128.9
tert-Butylbenzene		**96.08**	80.7	128.9
1,2,4-Trimethylbenzene	*	**79.44**	81.4	130.8
sec-Butylbenzene		**107.82**	77.4	129.8
p-Isopropyltoluene		**103.16**	79.8	137.5
1,3-Dichlorobenzene		**105.50**	77.0	131.3
1,4-Dichlorobenzene		**103.96**	20.7	137.7
1,2-Dichlorobenzene		**102.18**	10.0	166.2
1,2,3-Trimethylbenzene	*	**73.90**	76.3	124.2
n-Butylbenzene		**105.30**	80.0	133.3
Hexachloroethane		**102.66**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.18**	21.2	189.4
1,2,4-Trichlorobenzene		**105.16**	27.4	143.4
1,2,3-Trichlorobenzene		**104.30**	75.4	131.4
Naphthalene		**93.68**	32.9	135.8
2-Methylnaphthalene		**106.30**	25.5	165.5

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**108.66**	75.1	135.9
Diethyl ether		**80.54**	67.4	121.2
Acetone		**69.02**	29.9	161.5
Methyl iodide		**105.76**	68.8	116.4
Carbon disulfide		**84.34**	63.8	137.4
Methyl acetate		**67.06**	64.7	125.4
tert-Methyl butyl ether		**94.96**	73.2	122.4
Acrylonitrile		**71.84**	69.9	128.9
2-Butanone		**60.66**	44.0	134.4
Dichlorodifluoromethane		**118.20**	10.0	222.8
Chloromethane		**80.86**	23.8	166.5
Vinyl Chloride		**89.18**	43.5	149.1
Bromomethane		**91.68**	56.8	151.3
Chloroethane		**90.98**	53.4	149.4
Trichlorofluoromethane		**106.96**	59.7	151.8
1,1-Dichloroethene		**90.98**	69.6	139.4
Methylene Chloride		**102.34**	73.3	121.1
trans-1,2-Dichloroethene		**97.40**	73.6	129.3
1,1-Dichloroethane		**101.34**	71.5	126.2
cis-1,2-Dichloroethene		**105.86**	76.6	122.1
Tetrahydrofuran		**69.34**	59.0	117.9
Chloroform		**101.66**	78.4	124.0
Bromochloromethane		**105.76**	78.2	120.8
1,1,1-Trichloroethane		**127.50**	79.4	130.9
Cyclohexane		**94.46**	10.0	169.1
4-Methyl-2-pentanone		**76.94**	71.6	125.2
2-Hexanone		**75.44**	55.4	136.9
Carbon Tetrachloride		**120.16**	72.6	133.0
Benzene		**95.34**	79.9	124.9
1,2-Dichloroethane		**89.04**	76.0	126.3
Trichloroethene		**101.00**	79.7	124.2
1,2-Dichloropropane		**96.58**	78.6	126.4
Bromodichloromethane		**99.52**	80.4	128.2
Methyl cyclohexane		**100.32**	76.6	131.3
Dibromomethane		**101.14**	76.9	122.1
cis-1,3-Dichloropropene		**92.98**	79.8	129.9
Toluene		**92.80**	79.8	124.5
trans-1,3-Dichloropropene		**87.76**	74.0	131.3
1,1,2-Trichloroethane		**91.30**	78.7	123.1
Tetrachloroethene		**102.28**	74.5	124.5
trans-1,4-Dichloro-2-butene	*	**54.72**	68.6	135.4
Dibromochloromethane		**96.76**	74.6	127.2
1,2-Dibromoethane		**101.34**	70.3	133.7
Chlorobenzene		**105.70**	79.2	122.7
1,1,1,2-Tetrachloroethane		**104.76**	80.3	128.2
Ethylbenzene		**94.00**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**80.26**	79.4	132.2
o-Xylene		**80.60**	80.2	131.0
Styrene	*	**32.80**	69.5	126.7
Isopropylbenzene		**96.14**	74.4	121.5
Bromoform		**78.12**	69.4	128.0
1,1,2,2-Tetrachloroethane		**83.00**	79.8	126.3
1,2,3-Trichloropropane		**88.64**	78.3	138.8
n-Propylbenzene		**94.48**	82.0	130.7
Bromobenzene		**101.36**	78.7	124.6
1,3,5-Trimethylbenzene	*	**57.62**	81.3	128.9
tert-Butylbenzene		**91.08**	80.7	128.9
1,2,4-Trimethylbenzene	*	**64.52**	81.4	130.8
sec-Butylbenzene		**101.42**	77.4	129.8
p-Isopropyltoluene		**94.98**	79.8	137.5
1,3-Dichlorobenzene		**100.74**	77.0	131.3
1,4-Dichlorobenzene		**99.78**	20.7	137.7
1,2-Dichlorobenzene		**96.46**	10.0	166.2
1,2,3-Trimethylbenzene	*	**56.80**	76.3	124.2
n-Butylbenzene		**98.60**	80.0	133.3
Hexachloroethane		**94.78**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**77.98**	21.2	189.4
1,2,4-Trichlorobenzene		**102.92**	27.4	143.4
1,2,3-Trichlorobenzene		**100.54**	75.4	131.4
Naphthalene		**91.56**	32.9	135.8
2-Methylnaphthalene		**102.48**	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**113.92**	75.1	135.9	**0.5**	30.0
Diethyl ether		**79.96**	67.4	121.2	**3.6**	30.0
Acetone		**71.56**	29.9	161.5	**2.8**	30.0
Methyl iodide		**109.18**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**86.16**	63.8	137.4	**6.4**	30.0
Methyl acetate		**67.76**	64.7	125.4	**5.3**	30.0
tert-Methyl butyl ether		**96.86**	73.2	122.4	**2.4**	30.0
Acrylonitrile		**73.94**	69.9	128.9	**3.7**	30.0
2-Butanone		**60.54**	44.0	134.4	**5.2**	30.0
Dichlorodifluoromethane		**128.28**	10.0	222.8	**0.9**	30.0
Chloromethane		**83.92**	23.8	166.5	**1.7**	30.0
Vinyl Chloride		**92.80**	43.5	149.1	**0.1**	30.0
Bromomethane		**97.14**	56.8	151.3	**1.1**	30.0
Chloroethane		**93.50**	53.4	149.4	**0.4**	30.0
Trichlorofluoromethane		**111.74**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**94.44**	69.6	139.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methylene Chloride		**104.32**	73.3	121.1	**1.3**	30.0
trans-1,2-Dichloroethene		**98.74**	73.6	129.3	**1.4**	30.0
1,1-Dichloroethane		**103.06**	71.5	126.2	**1.4**	30.0
cis-1,2-Dichloroethene		**107.56**	76.6	122.1	**0.7**	30.0
Tetrahydrofuran		**70.22**	59.0	117.9	**1.9**	30.0
Chloroform		**103.72**	78.4	124.0	**1.6**	30.0
Bromochloromethane		**105.80**	78.2	120.8	**2.5**	30.0
1,1,1-Trichloroethane		**130.90**	79.4	130.9	**0.6**	30.0
Cyclohexane		**99.24**	10.0	169.1	**0.1**	30.0
4-Methyl-2-pentanone		**79.08**	71.6	125.2	**6.2**	30.0
2-Hexanone		**76.80**	55.4	136.9	**4.0**	30.0
Carbon Tetrachloride		**125.38**	72.6	133.0	**2.5**	30.0
Benzene		**97.84**	79.9	124.9	**1.6**	30.0
1,2-Dichloroethane		**91.68**	76.0	126.3	**3.5**	30.0
Trichloroethene		**104.12**	79.7	124.2	**2.4**	30.0
1,2-Dichloropropane		**98.30**	78.6	126.4	**2.3**	30.0
Bromodichloromethane		**102.54**	80.4	128.2	**3.7**	30.0
Methyl cyclohexane		**105.70**	76.6	131.3	**0.1**	30.0
Dibromomethane		**100.96**	76.9	122.1	**4.1**	30.0
cis-1,3-Dichloropropene		**95.04**	79.8	129.9	**4.8**	30.0
Toluene		**96.42**	79.8	124.5	**3.2**	30.0
trans-1,3-Dichloropropene		**91.22**	74.0	131.3	**5.5**	30.0
1,1,2-Trichloroethane		**94.06**	78.7	123.1	**3.7**	30.0
Tetrachloroethene		**105.84**	74.5	124.5	**0.2**	30.0
trans-1,4-Dichloro-2-butene	*	**58.10**	68.6	135.4	**22.1**	30.0
Dibromochloromethane		**98.68**	74.6	127.2	**5.4**	30.0
1,2-Dibromoethane		**100.82**	70.3	133.7	**3.1**	30.0
Chlorobenzene		**106.34**	79.2	122.7	**1.0**	30.0
1,1,1,2-Tetrachloroethane		**105.72**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**95.56**	79.5	129.1	**2.5**	30.0
p,m-Xylene		**84.17**	79.4	132.2	**5.4**	30.0
o-Xylene		**84.28**	80.2	131.0	**5.1**	30.0
Styrene	*	**40.88**	69.5	126.7	**22.3**	30.0
Isopropylbenzene		**98.22**	74.4	121.5	**1.3**	30.0
Bromoform		**80.56**	69.4	128.0	**7.4**	30.0
1,1,2,2-Tetrachloroethane		**83.62**	79.8	126.3	**2.8**	30.0
1,2,3-Trichloropropane		**89.46**	78.3	138.8	**4.2**	30.0
n-Propylbenzene		**96.84**	82.0	130.7	**1.9**	30.0
Bromobenzene		**102.30**	78.7	124.6	**0.5**	30.0
1,3,5-Trimethylbenzene	*	**65.66**	81.3	128.9	**11.8**	30.0
tert-Butylbenzene		**94.06**	80.7	128.9	**2.1**	30.0
1,2,4-Trimethylbenzene	*	**72.68**	81.4	130.8	**8.9**	30.0
sec-Butylbenzene		**102.64**	77.4	129.8	**4.9**	30.0
p-Isopropyltoluene		**97.92**	79.8	137.5	**5.2**	30.0
1,3-Dichlorobenzene		**101.80**	77.0	131.3	**3.6**	30.0
1,4-Dichlorobenzene		**100.90**	20.7	137.7	**3.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichlorobenzene		**98.78**	10.0	166.2	**3.4**	30.0
1,2,3-Trimethylbenzene	*	**63.94**	76.3	124.2	**14.5**	30.0
n-Butylbenzene		**101.06**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**96.34**	23.8	138.1	**6.4**	30.0
1,2-Dibromo-3-Chloropropane		**78.76**	21.2	189.4	**7.8**	30.0
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4	**1.1**	30.0
1,2,3-Trichlorobenzene		**101.02**	75.4	131.4	**3.2**	30.0
Naphthalene		**90.82**	32.9	135.8	**3.1**	30.0
2-Methylnaphthalene		**102.12**	25.5	165.5	**4.0**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**105.70**	75.1	135.9	**2.8**	30.0
Diethyl ether		**77.76**	67.4	121.2	**3.5**	30.0
Acetone		**66.16**	29.9	161.5	**4.2**	30.0
Methyl iodide		**106.18**	68.8	116.4	**0.4**	30.0
Carbon disulfide		**83.98**	63.8	137.4	**0.4**	30.0
Methyl acetate	*	**64.60**	64.7	125.4	**3.7**	30.0
tert-Methyl butyl ether		**93.56**	73.2	122.4	**1.5**	30.0
Acrylonitrile	*	**69.12**	69.9	128.9	**3.9**	30.0
2-Butanone		**59.20**	44.0	134.4	**2.3**	30.0
Dichlorodifluoromethane		**113.12**	10.0	222.8	**4.4**	30.0
Chloromethane		**78.90**	23.8	166.5	**2.5**	30.0
Vinyl Chloride		**86.70**	43.5	149.1	**2.8**	30.0
Bromomethane		**91.20**	56.8	151.3	**0.5**	30.0
Chloroethane		**89.52**	53.4	149.4	**1.6**	30.0
Trichlorofluoromethane		**104.40**	59.7	151.8	**2.4**	30.0
1,1-Dichloroethene		**87.84**	69.6	139.4	**3.5**	30.0
Methylene Chloride		**101.08**	73.3	121.1	**1.2**	30.0
trans-1,2-Dichloroethene		**94.30**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**99.58**	71.5	126.2	**1.8**	30.0
cis-1,2-Dichloroethene		**103.16**	76.6	122.1	**2.6**	30.0
Tetrahydrofuran		**65.32**	59.0	117.9	**6.0**	30.0
Chloroform		**100.38**	78.4	124.0	**1.3**	30.0
Bromochloromethane		**102.80**	78.2	120.8	**2.8**	30.0
1,1,1-Trichloroethane		**124.56**	79.4	130.9	**2.3**	30.0
Cyclohexane		**92.42**	10.0	169.1	**2.2**	30.0
4-Methyl-2-pentanone		**76.02**	71.6	125.2	**1.2**	30.0
2-Hexanone		**73.70**	55.4	136.9	**2.3**	30.0
Carbon Tetrachloride		**118.76**	72.6	133.0	**1.2**	30.0
Benzene		**95.28**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**89.36**	76.0	126.3	**0.4**	30.0
Trichloroethene		**102.18**	79.7	124.2	**1.2**	30.0
1,2-Dichloropropane		**95.66**	78.6	126.4	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromodichloromethane		**99.10**	80.4	128.2	**0.4**	30.0
Methyl cyclohexane		**98.88**	76.6	131.3	**1.4**	30.0
Dibromomethane		**99.84**	76.9	122.1	**1.3**	30.0
cis-1,3-Dichloropropene		**91.38**	79.8	129.9	**1.7**	30.0
Toluene		**91.34**	79.8	124.5	**1.6**	30.0
trans-1,3-Dichloropropene		**85.02**	74.0	131.3	**3.2**	30.0
1,1,2-Trichloroethane		**90.46**	78.7	123.1	**0.9**	30.0
Tetrachloroethene		**101.42**	74.5	124.5	**0.8**	30.0
trans-1,4-Dichloro-2-butene	*	**50.98**	68.6	135.4	**7.1**	30.0
Dibromochloromethane		**96.98**	74.6	127.2	**0.2**	30.0
1,2-Dibromoethane		**100.50**	70.3	133.7	**0.8**	30.0
Chlorobenzene		**105.84**	79.2	122.7	**0.1**	30.0
1,1,1,2-Tetrachloroethane		**106.10**	80.3	128.2	**1.3**	30.0
Ethylbenzene		**92.82**	79.5	129.1	**1.3**	30.0
p,m-Xylene	*	**77.09**	79.4	132.2	**4.0**	30.0
o-Xylene	*	**77.94**	80.2	131.0	**3.4**	30.0
Styrene	*	**27.26**	69.5	126.7	**18.4**	30.0
Isopropylbenzene		**95.18**	74.4	121.5	**1.0**	30.0
Bromoform		**77.88**	69.4	128.0	**0.3**	30.0
1,1,2,2-Tetrachloroethane		**82.90**	79.8	126.3	**0.1**	30.0
1,2,3-Trichloropropane		**86.54**	78.3	138.8	**2.4**	30.0
n-Propylbenzene		**93.98**	82.0	130.7	**0.5**	30.0
Bromobenzene		**101.00**	78.7	124.6	**0.4**	30.0
1,3,5-Trimethylbenzene	*	**51.34**	81.3	128.9	**11.5**	30.0
tert-Butylbenzene		**90.60**	80.7	128.9	**0.5**	30.0
1,2,4-Trimethylbenzene	*	**60.30**	81.4	130.8	**6.8**	30.0
sec-Butylbenzene		**99.74**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene		**92.36**	79.8	137.5	**2.8**	30.0
1,3-Dichlorobenzene		**101.36**	77.0	131.3	**0.6**	30.0
1,4-Dichlorobenzene		**99.94**	20.7	137.7	**0.2**	30.0
1,2-Dichlorobenzene		**96.72**	10.0	166.2	**0.3**	30.0
1,2,3-Trimethylbenzene	*	**51.38**	76.3	124.2	**10.0**	30.0
n-Butylbenzene		**95.98**	80.0	133.3	**2.7**	30.0
Hexachloroethane		**94.20**	23.8	138.1	**0.6**	30.0
1,2-Dibromo-3-Chloropropane		**79.36**	21.2	189.4	**1.8**	30.0
1,2,4-Trichlorobenzene		**102.60**	27.4	143.4	**0.3**	30.0
1,2,3-Trichlorobenzene		**100.02**	75.4	131.4	**0.5**	30.0
Naphthalene		**89.56**	32.9	135.8	**2.2**	30.0
2-Methylnaphthalene		**101.26**	25.5	165.5	**1.2**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**109.46**	75.1	135.9	**2.4**	30.0
Diethyl ether		**81.58**	67.4	121.2	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		**93.50**	29.9	161.5	**16.8**	30.0
Methyl iodide		**107.86**	68.8	116.4	**0.3**	30.0
Carbon disulfide		**102.16**	63.8	137.4	**0.1**	30.0
Methyl acetate		**73.68**	64.7	125.4	**1.4**	30.0
tert-Methyl butyl ether		**96.20**	73.2	122.4	**1.6**	30.0
Acrylonitrile		**76.52**	69.9	128.9	**0.7**	30.0
2-Butanone		**72.28**	44.0	134.4	**6.5**	30.0
Dichlorodifluoromethane		**122.14**	10.0	222.8	**3.1**	30.0
Chloromethane		**83.66**	23.8	166.5	**0.6**	30.0
Vinyl Chloride		**92.48**	43.5	149.1	**0.9**	30.0
Bromomethane		**96.54**	56.8	151.3	**0.3**	30.0
Chloroethane		**90.48**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**108.02**	59.7	151.8	**3.4**	30.0
1,1-Dichloroethene		**95.70**	69.6	139.4	**1.8**	30.0
Methylene Chloride		**103.92**	73.3	121.1	**0.1**	30.0
trans-1,2-Dichloroethene		**99.48**	73.6	129.3	**0.6**	30.0
1,1-Dichloroethane		**102.62**	71.5	126.2	**0.0**	30.0
cis-1,2-Dichloroethene		**106.24**	76.6	122.1	**1.5**	30.0
Tetrahydrofuran		**73.34**	59.0	117.9	**1.4**	30.0
Chloroform		**104.40**	78.4	124.0	**0.0**	30.0
Bromochloromethane		**108.02**	78.2	120.8	**1.1**	30.0
1,1,1-Trichloroethane		**130.06**	79.4	130.9	**0.6**	30.0
Cyclohexane		**95.32**	10.0	169.1	**1.6**	30.0
4-Methyl-2-pentanone		**78.56**	71.6	125.2	**3.2**	30.0
2-Hexanone		**81.00**	55.4	136.9	**3.9**	30.0
Carbon Tetrachloride		**126.44**	72.6	133.0	**0.1**	30.0
Benzene		**96.60**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**92.78**	76.0	126.3	**0.2**	30.0
Trichloroethene		**103.38**	79.7	124.2	**0.9**	30.0
1,2-Dichloropropane		**98.00**	78.6	126.4	**0.9**	30.0
Bromodichloromethane		**105.38**	80.4	128.2	**0.2**	30.0
Methyl cyclohexane		**101.54**	76.6	131.3	**0.7**	30.0
Dibromomethane		**102.70**	76.9	122.1	**0.2**	30.0
cis-1,3-Dichloropropene		**98.48**	79.8	129.9	**0.6**	30.0
Toluene		**101.88**	79.8	124.5	**0.7**	30.0
trans-1,3-Dichloropropene		**96.96**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**94.68**	78.7	123.1	**0.2**	30.0
Tetrachloroethene		**118.90**	74.5	124.5	**18.3**	30.0
trans-1,4-Dichloro-2-butene		**72.10**	68.6	135.4	**1.7**	30.0
Dibromochloromethane		**103.16**	74.6	127.2	**1.8**	30.0
1,2-Dibromoethane		**100.92**	70.3	133.7	**1.1**	30.0
Chlorobenzene		**105.14**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**103.86**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**99.70**	79.5	129.1	**3.2**	30.0
p,m-Xylene		**100.31**	79.4	132.2	**1.9**	30.0
o-Xylene		**97.96**	80.2	131.0	**2.6**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Styrene		**102.08**	69.5	126.7	**2.1**	30.0
Isopropylbenzene		**100.04**	74.4	121.5	**2.9**	30.0
Bromoform		**88.56**	69.4	128.0	**0.6**	30.0
1,1,2,2-Tetrachloroethane		**82.58**	79.8	126.3	**2.5**	30.0
1,2,3-Trichloropropane		**89.06**	78.3	138.8	**1.1**	30.0
n-Propylbenzene		**100.38**	82.0	130.7	**2.4**	30.0
Bromobenzene		**104.06**	78.7	124.6	**0.4**	30.0
1,3,5-Trimethylbenzene		**102.72**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**97.16**	80.7	128.9	**4.0**	30.0
1,2,4-Trimethylbenzene		**98.38**	81.4	130.8	**2.8**	30.0
sec-Butylbenzene		**101.40**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**104.60**	79.8	137.5	**2.4**	30.0
1,3-Dichlorobenzene		**100.16**	77.0	131.3	**3.0**	30.0
1,4-Dichlorobenzene		**98.98**	20.7	137.7	**2.1**	30.0
1,2-Dichlorobenzene		**96.50**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**94.54**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**98.74**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**94.64**	23.8	138.1	**1.1**	30.0
1,2-Dibromo-3-Chloropropane		**76.20**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**98.96**	27.4	143.4	**1.8**	30.0
1,2,3-Trichlorobenzene		**96.24**	75.4	131.4	**1.8**	30.0
Naphthalene		**88.60**	32.9	135.8	**0.9**	30.0
2-Methylnaphthalene		**95.30**	25.5	165.5	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VS150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 00:55, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-dibromoethane		**110.00**	70.0	130.0
1,2-dibromo-3-chloropropane		**110.00**	70.0	130.0
1,4-dioxane		**95.54**	70.0	130.0
Dibromomethane		**120.00**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150608b6.blkw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:49, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**0.8**	0.02	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608b6.lcsw08b, Parent Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:13, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-dibromoethane		**110.00**	70.0	130.0	**0.0**	30.0
1,2-dibromo-3-chloropropane		**120.00**	70.0	130.0	**8.7**	30.0
1,4-dioxane		**104.76**	70.0	130.0	**9.2**	30.0
Dibromomethane		**110.00**	70.0	130.0	**8.7**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

84091

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: BRIGTON STATE: MI ZIP CODE: 48116
PHONE NO.: (616) 780-3277 FAX NO.: P.O. NO.: B086479/30/31
E-MAIL ADDRESS: RANDY.CHRISTENSON@ARCADIS-US.COM QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: PACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIKADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	Select Metals *	Nitrate/Sulfate	Methane	Total Iron/Manganese	Diss Iron/Manganese
606110.01	6/3	1235	MW-04-05(6)_060315	GW	9	1	6	2					X	X	X	X	X	X	X
.02		1425	MW-03-01_060315		9	1	6	2					X	X	X	X	X	X	X
.03		1700	MW-04-06(R)_060315		6	1	3	2							X	X	X	X	X
.04			DUP_03-060315	↓	5		3	2					X	X	X				
.05	↓		TRIP BLANK	W			1						X						

* ARSENIC, NICKEL, LEAD, VANADIUM, CHROMIUM & COPPER

RELINQUISHED BY: SIGNATURE/ORGANIZATION	RMA ☑ Sampler	DATE 6/3/15	TIME 1800
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	DATE 6/3/15	TIME 1800
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/4/15	TIME 1315
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/4/15	TIME 1315

RELINQUISHED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/4/15	TIME 1415
RECEIVED BY: SIGNATURE/ORGANIZATION	[signature]	DATE 6/4/15	TIME 1415

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 16.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66128.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66128.01-S66128.12
Project: Lansing RACER Plant-3 / B0064480.2015
Submitted Date/Time: 06/05/2015 08:15
Sampled by: Billy J. Cobern
P.O. #: B0064480.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-13)
Prep Batch Summary (Pages 14-15)
Surrogates per Lab Sample (Pages 16-23)
Surrogates per QC Sample (Pages 24-28)
Batch QC Results (Pages 29-44)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66128.01
Sample Tag: MW-13-25_060415
Collected Date/Time: 06/04/2015 08:50
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Iron, Dissolved	SW6020A	06/16/15 12:15	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 12:13	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 12:15	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 12:13	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 15:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 15:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 06:23	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 15:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.02
Sample Tag: MW-13-46_060415
Collected Date/Time: 06/04/2015 10:10
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 13:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 13:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/10/15 16:19	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 13:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.03
Sample Tag: MW-13-46_060415 MS
Collected Date/Time: 06/04/2015 10:10
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 10:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 10:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/10/15 21:12	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 10:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.04
Sample Tag: MW-13-46_060415 MSD
Collected Date/Time: 06/04/2015 10:10
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 11:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 11:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/10/15 21:31	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 11:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.05
Sample Tag: MW-91-6_060415
Collected Date/Time: 06/04/2015 11:20
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 15:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 15:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 07:00	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 15:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.06
Sample Tag: MW-13-47_060415
Collected Date/Time: 06/04/2015 12:40
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 13:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 13:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/12/15 14:27	150612A6	VS150612W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 13:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.07
Sample Tag: MW-13-47_060415 MS
Collected Date/Time: 06/04/2015 12:40
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 11:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 11:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/12/15 12:59	150612A6	VS150612W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 11:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.08
Sample Tag: MW-13-47_060415 MSD
Collected Date/Time: 06/04/2015 12:40
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 11:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 11:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/12/15 13:16	150612A6	VS150612W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 11:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.09
Sample Tag: MW-13-34_060415
Collected Date/Time: 06/04/2015 13:55
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Iron, Dissolved	SW6020A	06/16/15 12:57	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 12:54	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 12:57	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 12:54	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 16:02	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 16:02	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 07:36	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 16:02	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.10
Sample Tag: MW-13-48_060415
Collected Date/Time: 06/04/2015 14:55
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Iron, Dissolved	SW6020A	06/16/15 13:01	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 12:59	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 13:01	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 12:59	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 16:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 16:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/10/15 20:54	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 16:22	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.11
Sample Tag: MW-13-49_060415
Collected Date/Time: 06/04/2015 16:10
Matrix: Groundwater
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 16:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 16:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 09:55	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 16:42	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66128.12
Sample Tag: TB0004_040615
Collected Date/Time: 06/04/2015 00:01
Matrix: Liquid
COC Reference: 89876

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 17:02	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 17:02	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/09/15 10:13	150608B6	VS150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/06/15 17:02	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Metals, Prep Batch ID: MTD-061615-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66128.01	Iron, Dissolved	SW6020A	06/16/15 12:15	MT3-15-0616B
S66128.01	Iron	SW6020A	06/16/15 12:13	MT3-15-0616B
S66128.01	Manganese, Dissolved	SW6020A	06/16/15 12:15	MT3-15-0616B
S66128.01	Manganese	SW6020A	06/16/15 12:13	MT3-15-0616B
S66128.09	Iron, Dissolved	SW6020A	06/16/15 12:57	MT3-15-0616B
S66128.09	Iron	SW6020A	06/16/15 12:54	MT3-15-0616B
S66128.09	Manganese, Dissolved	SW6020A	06/16/15 12:57	MT3-15-0616B
S66128.09	Manganese	SW6020A	06/16/15 12:54	MT3-15-0616B
S66128.10	Iron, Dissolved	SW6020A	06/16/15 13:01	MT3-15-0616B
S66128.10	Iron	SW6020A	06/16/15 12:59	MT3-15-0616B
S66128.10	Manganese, Dissolved	SW6020A	06/16/15 13:01	MT3-15-0616B
S66128.10	Manganese	SW6020A	06/16/15 12:59	MT3-15-0616B

Organics - Volatiles, Prep Batch ID: VF150606W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66128.01	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 15:21	150605C3
S66128.01	1,2-Dibromoethane	SW8260B	06/06/15 15:21	150605C3
S66128.01	TCL Volatile Organics 8260	SW8260C	06/06/15 15:21	150605C3
S66128.02	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 13:22	150605C3
S66128.02	1,2-Dibromoethane	SW8260B	06/06/15 13:22	150605C3
S66128.02	TCL Volatile Organics 8260	SW8260C	06/06/15 13:22	150605C3
S66128.03	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 10:41	150605C3
S66128.03	1,2-Dibromoethane	SW8260B	06/06/15 10:41	150605C3
S66128.03	TCL Volatile Organics 8260	SW8260C	06/06/15 10:41	150605C3
S66128.04	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 11:01	150605C3
S66128.04	1,2-Dibromoethane	SW8260B	06/06/15 11:01	150605C3
S66128.04	TCL Volatile Organics 8260	SW8260C	06/06/15 11:01	150605C3
S66128.05	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 15:42	150605C3
S66128.05	1,2-Dibromoethane	SW8260B	06/06/15 15:42	150605C3
S66128.05	TCL Volatile Organics 8260	SW8260C	06/06/15 15:42	150605C3
S66128.06	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 13:42	150605C3
S66128.06	1,2-Dibromoethane	SW8260B	06/06/15 13:42	150605C3
S66128.06	TCL Volatile Organics 8260	SW8260C	06/06/15 13:42	150605C3
S66128.07	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 11:22	150605C3
S66128.07	1,2-Dibromoethane	SW8260B	06/06/15 11:22	150605C3
S66128.07	TCL Volatile Organics 8260	SW8260C	06/06/15 11:22	150605C3
S66128.08	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 11:42	150605C3
S66128.08	1,2-Dibromoethane	SW8260B	06/06/15 11:42	150605C3
S66128.08	TCL Volatile Organics 8260	SW8260C	06/06/15 11:42	150605C3
S66128.09	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 16:02	150605C3
S66128.09	1,2-Dibromoethane	SW8260B	06/06/15 16:02	150605C3
S66128.09	TCL Volatile Organics 8260	SW8260C	06/06/15 16:02	150605C3
S66128.10	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 16:22	150605C3
S66128.10	1,2-Dibromoethane	SW8260B	06/06/15 16:22	150605C3
S66128.10	TCL Volatile Organics 8260	SW8260C	06/06/15 16:22	150605C3
S66128.11	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 16:42	150605C3
S66128.11	1,2-Dibromoethane	SW8260B	06/06/15 16:42	150605C3
S66128.11	TCL Volatile Organics 8260	SW8260C	06/06/15 16:42	150605C3
S66128.12	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 17:02	150605C3

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66128.12	1,2-Dibromoethane	SW8260B	06/06/15 17:02	150605C3
S66128.12	TCL Volatile Organics 8260	SW8260C	06/06/15 17:02	150605C3

Organics - Volatiles, Prep Batch ID: VS150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66128.01	1,4-Dioxane	SW8260B - SIM	06/09/15 06:23	150608B6
S66128.05	1,4-Dioxane	SW8260B - SIM	06/09/15 07:00	150608B6
S66128.09	1,4-Dioxane	SW8260B - SIM	06/09/15 07:36	150608B6
S66128.11	1,4-Dioxane	SW8260B - SIM	06/09/15 09:55	150608B6
S66128.12	1,4-Dioxane	SW8260B - SIM	06/09/15 10:13	150608B6

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66128.02	1,4-Dioxane	SW8260B - SIM	06/10/15 16:19	150610A6
S66128.03	1,4-Dioxane	SW8260B - SIM	06/10/15 21:12	150610A6
S66128.04	1,4-Dioxane	SW8260B - SIM	06/10/15 21:31	150610A6
S66128.10	1,4-Dioxane	SW8260B - SIM	06/10/15 20:54	150610A6

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66128.06	1,4-Dioxane	SW8260B - SIM	06/12/15 14:27	150612A6
S66128.07	1,4-Dioxane	SW8260B - SIM	06/12/15 12:59	150612A6
S66128.08	1,4-Dioxane	SW8260B - SIM	06/12/15 13:16	150612A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66128.01
Sample Tag: MW-13-25_060415
Collected Date/Time: 06/04/2015 08:50
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 15:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.40**	83.0	119.0
1,2-Dichloroethane-D4		**102.60**	77.0	121.0
Toluene-D8		**90.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66128.02
Sample Tag: MW-13-46_060415
Collected Date/Time: 06/04/2015 10:10
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 13:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.20**	83.0	119.0
1,2-Dichloroethane-D4		**96.80**	77.0	121.0
Toluene-D8		**92.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66128.05
Sample Tag: MW-91-6_060415
Collected Date/Time: 06/04/2015 11:20
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 15:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.60**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**92.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66128.06
Sample Tag: MW-13-47_060415
Collected Date/Time: 06/04/2015 12:40
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 13:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.80**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**94.60**	86.0	118.0

Lab Sample ID: S66128.09
Sample Tag: MW-13-34_060415
Collected Date/Time: 06/04/2015 13:55
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 16:02, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.80**	83.0	119.0
1,2-Dichloroethane-D4		**101.60**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Lab Sample ID: S66128.10
Sample Tag: MW-13-48_060415
Collected Date/Time: 06/04/2015 14:55
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 16:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.00**	83.0	119.0
1,2-Dichloroethane-D4		**101.20**	77.0	121.0
Toluene-D8		**94.60**	86.0	118.0

Lab Sample ID: S66128.11
Sample Tag: MW-13-49_060415
Collected Date/Time: 06/04/2015 16:10
Matrix: Groundwater
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 16:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.40**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Lab Sample ID: S66128.12
Sample Tag: TB0004_040615
Collected Date/Time: 06/04/2015 00:01
Matrix: Liquid
COC Reference: 89876

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 17:02, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.80**	83.0	119.0
1,2-Dichloroethane-D4		**103.20**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF150606W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.80**	83.0	119.0
1,2-Dichloroethane-D4		**89.20**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.20**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.00**	83.0	119.0
1,2-Dichloroethane-D4		**86.80**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**86.00**	77.0	121.0
Toluene-D8		**96.80**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**85.80**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.20**	83.0	119.0
1,2-Dichloroethane-D4		**89.00**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS150608W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 00:55, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Blank (BLK)

Lab Sample ID: 150608b6.blkw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:49, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608b6.lcsw08b, Parent Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:13, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Organics - Volatiles, Prep Batch ID: VS150610W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VS150612W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-061615-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.020.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 11:54, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**103**	85	115
Iron		**114**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.021.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 11:57, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.033.MS, Parent Sample ID: S66107.07

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 12:44, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**96**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.049.MS, Parent Sample ID: S66129.03

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:15, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese		**102**	75	125
Iron		**106**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.034.MSD, Parent Sample ID: MT3-15-0616B.033.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 12:35, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	75	125	**1**	20
Iron, Dissolved		**104**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.050.MSD, Parent Sample ID: MT3-15-0616B.049.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:17, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese		**102**	75	125	**0**	20
Iron		**106**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150606W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.16**	75.1	135.9
Diethyl ether		**79.22**	67.4	121.2
Acetone		**110.68**	29.9	161.5
Methyl iodide		**107.58**	68.8	116.4
Carbon disulfide		**102.30**	63.8	137.4
Methyl acetate		**72.64**	64.7	125.4
tert-Methyl butyl ether		**94.68**	73.2	122.4
Acrylonitrile		**76.00**	69.9	128.9
2-Butanone		**77.14**	44.0	134.4
Dichlorodifluoromethane		**125.96**	10.0	222.8
Chloromethane		**83.20**	23.8	166.5
Vinyl Chloride		**93.32**	43.5	149.1
Bromomethane		**96.28**	56.8	151.3
Chloroethane		**90.92**	53.4	149.4
Trichlorofluoromethane		**111.76**	59.7	151.8
1,1-Dichloroethene		**97.44**	69.6	139.4
Methylene Chloride		**104.00**	73.3	121.1
trans-1,2-Dichloroethene		**100.04**	73.6	129.3
1,1-Dichloroethane		**102.58**	71.5	126.2
cis-1,2-Dichloroethene		**104.68**	76.6	122.1
Tetrahydrofuran		**72.30**	59.0	117.9
Chloroform		**104.44**	78.4	124.0
Bromochloromethane		**106.82**	78.2	120.8
1,1,1-Trichloroethane		**130.84**	79.4	130.9
Cyclohexane		**96.82**	10.0	169.1
4-Methyl-2-pentanone		**76.12**	71.6	125.2
2-Hexanone		**84.26**	55.4	136.9
Carbon Tetrachloride		**126.52**	72.6	133.0
Benzene		**96.74**	79.9	124.9
1,2-Dichloroethane		**92.64**	76.0	126.3
Trichloroethene		**104.32**	79.7	124.2
1,2-Dichloropropane		**97.12**	78.6	126.4
Bromodichloromethane		**105.54**	80.4	128.2
Methyl cyclohexane		**102.24**	76.6	131.3
Dibromomethane		**102.48**	76.9	122.1
cis-1,3-Dichloropropene		**97.90**	79.8	129.9
Toluene		**101.14**	79.8	124.5
trans-1,3-Dichloropropene		**95.76**	74.0	131.3
1,1,2-Trichloroethane		**94.48**	78.7	123.1
Tetrachloroethene	*	**142.90**	74.5	124.5
trans-1,4-Dichloro-2-butene		**73.32**	68.6	135.4
Dibromochloromethane		**105.04**	74.6	127.2
1,2-Dibromoethane		**102.00**	70.3	133.7
Chlorobenzene		**107.62**	79.2	122.7
1,1,1,2-Tetrachloroethane		**106.32**	80.3	128.2
Ethylbenzene		**102.90**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**102.24**	79.4	132.2
o-Xylene		**100.58**	80.2	131.0
Styrene		**104.28**	69.5	126.7
Isopropylbenzene		**103.00**	74.4	121.5
Bromoform		**89.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**84.66**	79.8	126.3
1,2,3-Trichloropropane		**90.06**	78.3	138.8
n-Propylbenzene		**102.78**	82.0	130.7
Bromobenzene		**104.44**	78.7	124.6
1,3,5-Trimethylbenzene		**105.32**	81.3	128.9
tert-Butylbenzene		**101.16**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.90**	77.4	129.8
p-Isopropyltoluene		**107.14**	79.8	137.5
1,3-Dichlorobenzene		**103.24**	77.0	131.3
1,4-Dichlorobenzene		**101.04**	20.7	137.7
1,2-Dichlorobenzene		**99.40**	10.0	166.2
1,2,3-Trimethylbenzene		**98.00**	76.3	124.2
n-Butylbenzene		**102.90**	80.0	133.3
Hexachloroethane		**95.64**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**77.82**	21.2	189.4
1,2,4-Trichlorobenzene		**100.76**	27.4	143.4
1,2,3-Trichlorobenzene		**97.98**	75.4	131.4
Naphthalene		**89.42**	32.9	135.8
2-Methylnaphthalene		**96.26**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	10	ug/l
2-Hexanone (*)		ND	10	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l
sec-Butylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene	*	**1.1**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**114.46**	75.1	135.9
Diethyl ether		**82.90**	67.4	121.2
Acetone		**73.56**	29.9	161.5
Methyl iodide		**109.34**	68.8	116.4
Carbon disulfide		**91.84**	63.8	137.4
Methyl acetate		**71.44**	64.7	125.4
tert-Methyl butyl ether		**99.20**	73.2	122.4
Acrylonitrile		**76.74**	69.9	128.9
2-Butanone		**63.90**	44.0	134.4
Dichlorodifluoromethane		**129.46**	10.0	222.8
Chloromethane		**85.40**	23.8	166.5
Vinyl Chloride		**92.88**	43.5	149.1
Bromomethane		**96.04**	56.8	151.3
Chloroethane		**93.10**	53.4	149.4
Trichlorofluoromethane		**112.62**	59.7	151.8
1,1-Dichloroethene		**94.08**	69.6	139.4
Methylene Chloride		**105.66**	73.3	121.1
trans-1,2-Dichloroethene		**100.18**	73.6	129.3
1,1-Dichloroethane		**104.48**	71.5	126.2
cis-1,2-Dichloroethene		**108.36**	76.6	122.1
Tetrahydrofuran		**71.60**	59.0	117.9
Chloroform		**105.36**	78.4	124.0
Bromochloromethane		**108.52**	78.2	120.8
1,1,1-Trichloroethane	*	**131.66**	79.4	130.9
Cyclohexane		**99.12**	10.0	169.1
4-Methyl-2-pentanone		**84.10**	71.6	125.2
2-Hexanone		**79.92**	55.4	136.9
Carbon Tetrachloride		**128.52**	72.6	133.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzene		**99.42**	79.9	124.9
1,2-Dichloroethane		**94.98**	76.0	126.3
Trichloroethene		**106.70**	79.7	124.2
1,2-Dichloropropane		**100.56**	78.6	126.4
Bromodichloromethane		**106.42**	80.4	128.2
Methyl cyclohexane		**105.84**	76.6	131.3
Dibromomethane		**105.16**	76.9	122.1
cis-1,3-Dichloropropene		**99.72**	79.8	129.9
Toluene		**99.60**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**97.58**	78.7	123.1
Tetrachloroethene		**105.64**	74.5	124.5
trans-1,4-Dichloro-2-butene		**72.56**	68.6	135.4
Dibromochloromethane		**104.16**	74.6	127.2
1,2-Dibromoethane		**104.02**	70.3	133.7
Chlorobenzene		**107.42**	79.2	122.7
1,1,1,2-Tetrachloroethane		**108.14**	80.3	128.2
Ethylbenzene		**98.00**	79.5	129.1
p,m-Xylene		**88.85**	79.4	132.2
o-Xylene		**88.70**	80.2	131.0
Styrene	*	**51.14**	69.5	126.7
Isopropylbenzene		**99.48**	74.4	121.5
Bromoform		**86.74**	69.4	128.0
1,1,2,2-Tetrachloroethane		**86.00**	79.8	126.3
1,2,3-Trichloropropane		**93.34**	78.3	138.8
n-Propylbenzene		**98.72**	82.0	130.7
Bromobenzene		**102.82**	78.7	124.6
1,3,5-Trimethylbenzene	*	**73.90**	81.3	128.9
tert-Butylbenzene		**96.08**	80.7	128.9
1,2,4-Trimethylbenzene	*	**79.44**	81.4	130.8
sec-Butylbenzene		**107.82**	77.4	129.8
p-Isopropyltoluene		**103.16**	79.8	137.5
1,3-Dichlorobenzene		**105.50**	77.0	131.3
1,4-Dichlorobenzene		**103.96**	20.7	137.7
1,2-Dichlorobenzene		**102.18**	10.0	166.2
1,2,3-Trimethylbenzene	*	**73.90**	76.3	124.2
n-Butylbenzene		**105.30**	80.0	133.3
Hexachloroethane		**102.66**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.18**	21.2	189.4
1,2,4-Trichlorobenzene		**105.16**	27.4	143.4
1,2,3-Trichlorobenzene		**104.30**	75.4	131.4
Naphthalene		**93.68**	32.9	135.8
2-Methylnaphthalene		**106.30**	25.5	165.5

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**108.66**	75.1	135.9
Diethyl ether		**80.54**	67.4	121.2
Acetone		**69.02**	29.9	161.5
Methyl iodide		**105.76**	68.8	116.4
Carbon disulfide		**84.34**	63.8	137.4
Methyl acetate		**67.06**	64.7	125.4
tert-Methyl butyl ether		**94.96**	73.2	122.4
Acrylonitrile		**71.84**	69.9	128.9
2-Butanone		**60.66**	44.0	134.4
Dichlorodifluoromethane		**118.20**	10.0	222.8
Chloromethane		**80.86**	23.8	166.5
Vinyl Chloride		**89.18**	43.5	149.1
Bromomethane		**91.68**	56.8	151.3
Chloroethane		**90.98**	53.4	149.4
Trichlorofluoromethane		**106.96**	59.7	151.8
1,1-Dichloroethene		**90.98**	69.6	139.4
Methylene Chloride		**102.34**	73.3	121.1
trans-1,2-Dichloroethene		**97.40**	73.6	129.3
1,1-Dichloroethane		**101.34**	71.5	126.2
cis-1,2-Dichloroethene		**105.86**	76.6	122.1
Tetrahydrofuran		**69.34**	59.0	117.9
Chloroform		**101.66**	78.4	124.0
Bromochloromethane		**105.76**	78.2	120.8
1,1,1-Trichloroethane		**127.50**	79.4	130.9
Cyclohexane		**94.46**	10.0	169.1
4-Methyl-2-pentanone		**76.94**	71.6	125.2
2-Hexanone		**75.44**	55.4	136.9
Carbon Tetrachloride		**120.16**	72.6	133.0
Benzene		**95.34**	79.9	124.9
1,2-Dichloroethane		**89.04**	76.0	126.3
Trichloroethene		**101.00**	79.7	124.2
1,2-Dichloropropane		**96.58**	78.6	126.4
Bromodichloromethane		**99.52**	80.4	128.2
Methyl cyclohexane		**100.32**	76.6	131.3
Dibromomethane		**101.14**	76.9	122.1
cis-1,3-Dichloropropene		**92.98**	79.8	129.9
Toluene		**92.80**	79.8	124.5
trans-1,3-Dichloropropene		**87.76**	74.0	131.3
1,1,2-Trichloroethane		**91.30**	78.7	123.1
Tetrachloroethene		**102.28**	74.5	124.5
trans-1,4-Dichloro-2-butene	*	**54.72**	68.6	135.4
Dibromochloromethane		**96.76**	74.6	127.2
1,2-Dibromoethane		**101.34**	70.3	133.7
Chlorobenzene		**105.70**	79.2	122.7
1,1,1,2-Tetrachloroethane		**104.76**	80.3	128.2
Ethylbenzene		**94.00**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**80.26**	79.4	132.2
o-Xylene		**80.60**	80.2	131.0
Styrene	*	**32.80**	69.5	126.7
Isopropylbenzene		**96.14**	74.4	121.5
Bromoform		**78.12**	69.4	128.0
1,1,2,2-Tetrachloroethane		**83.00**	79.8	126.3
1,2,3-Trichloropropane		**88.64**	78.3	138.8
n-Propylbenzene		**94.48**	82.0	130.7
Bromobenzene		**101.36**	78.7	124.6
1,3,5-Trimethylbenzene	*	**57.62**	81.3	128.9
tert-Butylbenzene		**91.08**	80.7	128.9
1,2,4-Trimethylbenzene	*	**64.52**	81.4	130.8
sec-Butylbenzene		**101.42**	77.4	129.8
p-Isopropyltoluene		**94.98**	79.8	137.5
1,3-Dichlorobenzene		**100.74**	77.0	131.3
1,4-Dichlorobenzene		**99.78**	20.7	137.7
1,2-Dichlorobenzene		**96.46**	10.0	166.2
1,2,3-Trimethylbenzene	*	**56.80**	76.3	124.2
n-Butylbenzene		**98.60**	80.0	133.3
Hexachloroethane		**94.78**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**77.98**	21.2	189.4
1,2,4-Trichlorobenzene		**102.92**	27.4	143.4
1,2,3-Trichlorobenzene		**100.54**	75.4	131.4
Naphthalene		**91.56**	32.9	135.8
2-Methylnaphthalene		**102.48**	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**113.92**	75.1	135.9	**0.5**	30.0
Diethyl ether		**79.96**	67.4	121.2	**3.6**	30.0
Acetone		**71.56**	29.9	161.5	**2.8**	30.0
Methyl iodide		**109.18**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**86.16**	63.8	137.4	**6.4**	30.0
Methyl acetate		**67.76**	64.7	125.4	**5.3**	30.0
tert-Methyl butyl ether		**96.86**	73.2	122.4	**2.4**	30.0
Acrylonitrile		**73.94**	69.9	128.9	**3.7**	30.0
2-Butanone		**60.54**	44.0	134.4	**5.2**	30.0
Dichlorodifluoromethane		**128.28**	10.0	222.8	**0.9**	30.0
Chloromethane		**83.92**	23.8	166.5	**1.7**	30.0
Vinyl Chloride		**92.80**	43.5	149.1	**0.1**	30.0
Bromomethane		**97.14**	56.8	151.3	**1.1**	30.0
Chloroethane		**93.50**	53.4	149.4	**0.4**	30.0
Trichlorofluoromethane		**111.74**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**94.44**	69.6	139.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methylene Chloride		**104.32**	73.3	121.1	**1.3**	30.0
trans-1,2-Dichloroethene		**98.74**	73.6	129.3	**1.4**	30.0
1,1-Dichloroethane		**103.06**	71.5	126.2	**1.4**	30.0
cis-1,2-Dichloroethene		**107.56**	76.6	122.1	**0.7**	30.0
Tetrahydrofuran		**70.22**	59.0	117.9	**1.9**	30.0
Chloroform		**103.72**	78.4	124.0	**1.6**	30.0
Bromochloromethane		**105.80**	78.2	120.8	**2.5**	30.0
1,1,1-Trichloroethane		**130.90**	79.4	130.9	**0.6**	30.0
Cyclohexane		**99.24**	10.0	169.1	**0.1**	30.0
4-Methyl-2-pentanone		**79.08**	71.6	125.2	**6.2**	30.0
2-Hexanone		**76.80**	55.4	136.9	**4.0**	30.0
Carbon Tetrachloride		**125.38**	72.6	133.0	**2.5**	30.0
Benzene		**97.84**	79.9	124.9	**1.6**	30.0
1,2-Dichloroethane		**91.68**	76.0	126.3	**3.5**	30.0
Trichloroethene		**104.12**	79.7	124.2	**2.4**	30.0
1,2-Dichloropropane		**98.30**	78.6	126.4	**2.3**	30.0
Bromodichloromethane		**102.54**	80.4	128.2	**3.7**	30.0
Methyl cyclohexane		**105.70**	76.6	131.3	**0.1**	30.0
Dibromomethane		**100.96**	76.9	122.1	**4.1**	30.0
cis-1,3-Dichloropropene		**95.04**	79.8	129.9	**4.8**	30.0
Toluene		**96.42**	79.8	124.5	**3.2**	30.0
trans-1,3-Dichloropropene		**91.22**	74.0	131.3	**5.5**	30.0
1,1,2-Trichloroethane		**94.06**	78.7	123.1	**3.7**	30.0
Tetrachloroethene		**105.84**	74.5	124.5	**0.2**	30.0
trans-1,4-Dichloro-2-butene	*	**58.10**	68.6	135.4	**22.1**	30.0
Dibromochloromethane		**98.68**	74.6	127.2	**5.4**	30.0
1,2-Dibromoethane		**100.82**	70.3	133.7	**3.1**	30.0
Chlorobenzene		**106.34**	79.2	122.7	**1.0**	30.0
1,1,1,2-Tetrachloroethane		**105.72**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**95.56**	79.5	129.1	**2.5**	30.0
p,m-Xylene		**84.17**	79.4	132.2	**5.4**	30.0
o-Xylene		**84.28**	80.2	131.0	**5.1**	30.0
Styrene	*	**40.88**	69.5	126.7	**22.3**	30.0
Isopropylbenzene		**98.22**	74.4	121.5	**1.3**	30.0
Bromoform		**80.56**	69.4	128.0	**7.4**	30.0
1,1,2,2-Tetrachloroethane		**83.62**	79.8	126.3	**2.8**	30.0
1,2,3-Trichloropropane		**89.46**	78.3	138.8	**4.2**	30.0
n-Propylbenzene		**96.84**	82.0	130.7	**1.9**	30.0
Bromobenzene		**102.30**	78.7	124.6	**0.5**	30.0
1,3,5-Trimethylbenzene	*	**65.66**	81.3	128.9	**11.8**	30.0
tert-Butylbenzene		**94.06**	80.7	128.9	**2.1**	30.0
1,2,4-Trimethylbenzene	*	**72.68**	81.4	130.8	**8.9**	30.0
sec-Butylbenzene		**102.64**	77.4	129.8	**4.9**	30.0
p-Isopropyltoluene		**97.92**	79.8	137.5	**5.2**	30.0
1,3-Dichlorobenzene		**101.80**	77.0	131.3	**3.6**	30.0
1,4-Dichlorobenzene		**100.90**	20.7	137.7	**3.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichlorobenzene		**98.78**	10.0	166.2	**3.4**	30.0
1,2,3-Trimethylbenzene	*	**63.94**	76.3	124.2	**14.5**	30.0
n-Butylbenzene		**101.06**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**96.34**	23.8	138.1	**6.4**	30.0
1,2-Dibromo-3-Chloropropane		**78.76**	21.2	189.4	**7.8**	30.0
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4	**1.1**	30.0
1,2,3-Trichlorobenzene		**101.02**	75.4	131.4	**3.2**	30.0
Naphthalene		**90.82**	32.9	135.8	**3.1**	30.0
2-Methylnaphthalene		**102.12**	25.5	165.5	**4.0**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**105.70**	75.1	135.9	**2.8**	30.0
Diethyl ether		**77.76**	67.4	121.2	**3.5**	30.0
Acetone		**66.16**	29.9	161.5	**4.2**	30.0
Methyl iodide		**106.18**	68.8	116.4	**0.4**	30.0
Carbon disulfide		**83.98**	63.8	137.4	**0.4**	30.0
Methyl acetate	*	**64.60**	64.7	125.4	**3.7**	30.0
tert-Methyl butyl ether		**93.56**	73.2	122.4	**1.5**	30.0
Acrylonitrile	*	**69.12**	69.9	128.9	**3.9**	30.0
2-Butanone		**59.20**	44.0	134.4	**2.3**	30.0
Dichlorodifluoromethane		**113.12**	10.0	222.8	**4.4**	30.0
Chloromethane		**78.90**	23.8	166.5	**2.5**	30.0
Vinyl Chloride		**86.70**	43.5	149.1	**2.8**	30.0
Bromomethane		**91.20**	56.8	151.3	**0.5**	30.0
Chloroethane		**89.52**	53.4	149.4	**1.6**	30.0
Trichlorofluoromethane		**104.40**	59.7	151.8	**2.4**	30.0
1,1-Dichloroethene		**87.84**	69.6	139.4	**3.5**	30.0
Methylene Chloride		**101.08**	73.3	121.1	**1.2**	30.0
trans-1,2-Dichloroethene		**94.30**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**99.58**	71.5	126.2	**1.8**	30.0
cis-1,2-Dichloroethene		**103.16**	76.6	122.1	**2.6**	30.0
Tetrahydrofuran		**65.32**	59.0	117.9	**6.0**	30.0
Chloroform		**100.38**	78.4	124.0	**1.3**	30.0
Bromochloromethane		**102.80**	78.2	120.8	**2.8**	30.0
1,1,1-Trichloroethane		**124.56**	79.4	130.9	**2.3**	30.0
Cyclohexane		**92.42**	10.0	169.1	**2.2**	30.0
4-Methyl-2-pentanone		**76.02**	71.6	125.2	**1.2**	30.0
2-Hexanone		**73.70**	55.4	136.9	**2.3**	30.0
Carbon Tetrachloride		**118.76**	72.6	133.0	**1.2**	30.0
Benzene		**95.28**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**89.36**	76.0	126.3	**0.4**	30.0
Trichloroethene		**102.18**	79.7	124.2	**1.2**	30.0
1,2-Dichloropropane		**95.66**	78.6	126.4	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromodichloromethane		**99.10**	80.4	128.2	**0.4**	30.0
Methyl cyclohexane		**98.88**	76.6	131.3	**1.4**	30.0
Dibromomethane		**99.84**	76.9	122.1	**1.3**	30.0
cis-1,3-Dichloropropene		**91.38**	79.8	129.9	**1.7**	30.0
Toluene		**91.34**	79.8	124.5	**1.6**	30.0
trans-1,3-Dichloropropene		**85.02**	74.0	131.3	**3.2**	30.0
1,1,2-Trichloroethane		**90.46**	78.7	123.1	**0.9**	30.0
Tetrachloroethene		**101.42**	74.5	124.5	**0.8**	30.0
trans-1,4-Dichloro-2-butene	*	**50.98**	68.6	135.4	**7.1**	30.0
Dibromochloromethane		**96.98**	74.6	127.2	**0.2**	30.0
1,2-Dibromoethane		**100.50**	70.3	133.7	**0.8**	30.0
Chlorobenzene		**105.84**	79.2	122.7	**0.1**	30.0
1,1,1,2-Tetrachloroethane		**106.10**	80.3	128.2	**1.3**	30.0
Ethylbenzene		**92.82**	79.5	129.1	**1.3**	30.0
p,m-Xylene	*	**77.09**	79.4	132.2	**4.0**	30.0
o-Xylene	*	**77.94**	80.2	131.0	**3.4**	30.0
Styrene	*	**27.26**	69.5	126.7	**18.4**	30.0
Isopropylbenzene		**95.18**	74.4	121.5	**1.0**	30.0
Bromoform		**77.88**	69.4	128.0	**0.3**	30.0
1,1,2,2-Tetrachloroethane		**82.90**	79.8	126.3	**0.1**	30.0
1,2,3-Trichloropropane		**86.54**	78.3	138.8	**2.4**	30.0
n-Propylbenzene		**93.98**	82.0	130.7	**0.5**	30.0
Bromobenzene		**101.00**	78.7	124.6	**0.4**	30.0
1,3,5-Trimethylbenzene	*	**51.34**	81.3	128.9	**11.5**	30.0
tert-Butylbenzene		**90.60**	80.7	128.9	**0.5**	30.0
1,2,4-Trimethylbenzene	*	**60.30**	81.4	130.8	**6.8**	30.0
sec-Butylbenzene		**99.74**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene		**92.36**	79.8	137.5	**2.8**	30.0
1,3-Dichlorobenzene		**101.36**	77.0	131.3	**0.6**	30.0
1,4-Dichlorobenzene		**99.94**	20.7	137.7	**0.2**	30.0
1,2-Dichlorobenzene		**96.72**	10.0	166.2	**0.3**	30.0
1,2,3-Trimethylbenzene	*	**51.38**	76.3	124.2	**10.0**	30.0
n-Butylbenzene		**95.98**	80.0	133.3	**2.7**	30.0
Hexachloroethane		**94.20**	23.8	138.1	**0.6**	30.0
1,2-Dibromo-3-Chloropropane		**79.36**	21.2	189.4	**1.8**	30.0
1,2,4-Trichlorobenzene		**102.60**	27.4	143.4	**0.3**	30.0
1,2,3-Trichlorobenzene		**100.02**	75.4	131.4	**0.5**	30.0
Naphthalene		**89.56**	32.9	135.8	**2.2**	30.0
2-Methylnaphthalene		**101.26**	25.5	165.5	**1.2**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**109.46**	75.1	135.9	**2.4**	30.0
Diethyl ether		**81.58**	67.4	121.2	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		**93.50**	29.9	161.5	**16.8**	30.0
Methyl iodide		**107.86**	68.8	116.4	**0.3**	30.0
Carbon disulfide		**102.16**	63.8	137.4	**0.1**	30.0
Methyl acetate		**73.68**	64.7	125.4	**1.4**	30.0
tert-Methyl butyl ether		**96.20**	73.2	122.4	**1.6**	30.0
Acrylonitrile		**76.52**	69.9	128.9	**0.7**	30.0
2-Butanone		**72.28**	44.0	134.4	**6.5**	30.0
Dichlorodifluoromethane		**122.14**	10.0	222.8	**3.1**	30.0
Chloromethane		**83.66**	23.8	166.5	**0.6**	30.0
Vinyl Chloride		**92.48**	43.5	149.1	**0.9**	30.0
Bromomethane		**96.54**	56.8	151.3	**0.3**	30.0
Chloroethane		**90.48**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**108.02**	59.7	151.8	**3.4**	30.0
1,1-Dichloroethene		**95.70**	69.6	139.4	**1.8**	30.0
Methylene Chloride		**103.92**	73.3	121.1	**0.1**	30.0
trans-1,2-Dichloroethene		**99.48**	73.6	129.3	**0.6**	30.0
1,1-Dichloroethane		**102.62**	71.5	126.2	**0.0**	30.0
cis-1,2-Dichloroethene		**106.24**	76.6	122.1	**1.5**	30.0
Tetrahydrofuran		**73.34**	59.0	117.9	**1.4**	30.0
Chloroform		**104.40**	78.4	124.0	**0.0**	30.0
Bromochloromethane		**108.02**	78.2	120.8	**1.1**	30.0
1,1,1-Trichloroethane		**130.06**	79.4	130.9	**0.6**	30.0
Cyclohexane		**95.32**	10.0	169.1	**1.6**	30.0
4-Methyl-2-pentanone		**78.56**	71.6	125.2	**3.2**	30.0
2-Hexanone		**81.00**	55.4	136.9	**3.9**	30.0
Carbon Tetrachloride		**126.44**	72.6	133.0	**0.1**	30.0
Benzene		**96.60**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**92.78**	76.0	126.3	**0.2**	30.0
Trichloroethene		**103.38**	79.7	124.2	**0.9**	30.0
1,2-Dichloropropane		**98.00**	78.6	126.4	**0.9**	30.0
Bromodichloromethane		**105.38**	80.4	128.2	**0.2**	30.0
Methyl cyclohexane		**101.54**	76.6	131.3	**0.7**	30.0
Dibromomethane		**102.70**	76.9	122.1	**0.2**	30.0
cis-1,3-Dichloropropene		**98.48**	79.8	129.9	**0.6**	30.0
Toluene		**101.88**	79.8	124.5	**0.7**	30.0
trans-1,3-Dichloropropene		**96.96**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**94.68**	78.7	123.1	**0.2**	30.0
Tetrachloroethene		**118.90**	74.5	124.5	**18.3**	30.0
trans-1,4-Dichloro-2-butene		**72.10**	68.6	135.4	**1.7**	30.0
Dibromochloromethane		**103.16**	74.6	127.2	**1.8**	30.0
1,2-Dibromoethane		**100.92**	70.3	133.7	**1.1**	30.0
Chlorobenzene		**105.14**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**103.86**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**99.70**	79.5	129.1	**3.2**	30.0
p,m-Xylene		**100.31**	79.4	132.2	**1.9**	30.0
o-Xylene		**97.96**	80.2	131.0	**2.6**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Styrene		**102.08**	69.5	126.7	**2.1**	30.0
Isopropylbenzene		**100.04**	74.4	121.5	**2.9**	30.0
Bromoform		**88.56**	69.4	128.0	**0.6**	30.0
1,1,2,2-Tetrachloroethane		**82.58**	79.8	126.3	**2.5**	30.0
1,2,3-Trichloropropane		**89.06**	78.3	138.8	**1.1**	30.0
n-Propylbenzene		**100.38**	82.0	130.7	**2.4**	30.0
Bromobenzene		**104.06**	78.7	124.6	**0.4**	30.0
1,3,5-Trimethylbenzene		**102.72**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**97.16**	80.7	128.9	**4.0**	30.0
1,2,4-Trimethylbenzene		**98.38**	81.4	130.8	**2.8**	30.0
sec-Butylbenzene		**101.40**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**104.60**	79.8	137.5	**2.4**	30.0
1,3-Dichlorobenzene		**100.16**	77.0	131.3	**3.0**	30.0
1,4-Dichlorobenzene		**98.98**	20.7	137.7	**2.1**	30.0
1,2-Dichlorobenzene		**96.50**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**94.54**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**98.74**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**94.64**	23.8	138.1	**1.1**	30.0
1,2-Dibromo-3-Chloropropane		**76.20**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**98.96**	27.4	143.4	**1.8**	30.0
1,2,3-Trichlorobenzene		**96.24**	75.4	131.4	**1.8**	30.0
Naphthalene		**88.60**	32.9	135.8	**0.9**	30.0
2-Methylnaphthalene		**95.30**	25.5	165.5	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VS150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 00:55, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,2-dibromoethane		**110.00**	70.0	130.0
1,2-dibromo-3-chloropropane		**110.00**	70.0	130.0
1,4-dioxane		**95.54**	70.0	130.0
Dibromomethane		**120.00**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150608b6.blkw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:49, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**0.8**	0.02	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608b6.lcsw08b, Parent Sample ID: 150608b6.lcsw08a

Run in Batch: 150608B6, Run Date: 06/09/2015 01:13, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-dibromoethane		**110.00**	70.0	130.0	**0.0**	30.0
1,2-dibromo-3-chloropropane		**120.00**	70.0	130.0	**8.7**	30.0
1,4-dioxane		**104.76**	70.0	130.0	**9.2**	30.0
Dibromomethane		**110.00**	70.0	130.0	**8.7**	30.0

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**87.80**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.62**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**86.88**	70.0	130.0	**7.8**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**93.16**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.74**	70.0	130.0	**1.1**	30.0

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**79.66**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.1**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**80.50**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.56**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**91.80**	70.0	130.0	**12.7**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**98.34**	70.0	130.0	**3.0**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**80.66**	70.0	130.0	**1.2**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF _____

89876

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.: 810-229-8837 P.O. NO.: B00644480.2015
E-MAIL ADDRESS: Randy.Christensen@Arcadis-US.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Lansing Raben RCAM-3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cosens

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260 1,4-Dioxane	METHANE	NITRATE/SULFATE	Dissolved Fe	Total Fe, Mn	Special Instructions
06/28.01	6/4/15	9:50	MW-13-25_060415	GW	9	1	6	2					X	X	X	X	X	
02/03/04	6/4/15	10:10	MW-13-46_060415	GW	11		11						X					MS MSD
.05	6/4/15	11:20	MW-91-6_060415	GW	3		3						X					
06/07.08	6/4/15	12:40	MW-13-47_060415	GW	11		11						X					MS MSD
.09	6/4/15	13:55	MW-13-34_060415	GW	9	1	6	2					X	X	X	X	X	
.10	6/4/15	14:55	MW-13-48_060415	GW	9	1	6	2					X	X	X	X	X	
.11	6/4/15	16:10	MW-13-49_060415	GW	3		3						X					
.12	—	—	TB-0004_060415	~~GW~~	1		1						X					

30 6-4-15

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] / Arcadis ☒ Sampler DATE: 6.4.15 TIME: 16:45
RECEIVED BY: SIGNATURE/ORGANIZATION: [signature] DATE: 6/5/15 TIME: 730

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] DATE: 06/5/15 TIME: 815
RECEIVED BY: SIGNATURE/ORGANIZATION: [signature] DATE: 6/5/15 TIME: 815

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS:
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS:

NOTES: TEMP. ON ARRIVAL 3.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66129.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66129.01-S66129.07
Project: RACER Lansing Plant 3 / B0064480.2015.00603
Submitted Date/Time: 06/05/2015 08:15
Sampled by: Austin Westhuis
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-8)
Prep Batch Summary (Page 9)
Surrogates per Lab Sample (Pages 10-14)
Surrogates per QC Sample (Pages 15-18)
Batch QC Results (Pages 19-37)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S66129.01
Sample Tag: MW-04-01(3)_060415
Collected Date/Time: 06/04/2015 09:20
Matrix: Groundwater
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Iron, Dissolved	SW6020A	06/16/15 13:05	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 13:03	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 13:05	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 13:03	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD

Lab Sample ID: S66129.02
Sample Tag: MW-02-02(3)_060415
Collected Date/Time: 06/04/2015 11:05
Matrix: Groundwater
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Iron, Dissolved	SW6020A	06/16/15 13:09	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 13:07	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 13:09	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 13:07	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 17:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 17:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/10/15 16:37	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 17:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66129.03
Sample Tag: P3-SB-07_060415
Collected Date/Time: 06/04/2015 13:20
Matrix: Groundwater
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Iron, Dissolved	SW6020A	06/16/15 13:13	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 13:11	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 13:13	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 13:11	MT3-15-0616B	MTD-061615-1	No	LCS/BLK/MS/MSD

Lab Sample ID: S66129.04
Sample Tag: MW-02-04(3)_060415
Collected Date/Time: 06/04/2015 15:30
Matrix: Groundwater
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 16:21	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 16:21	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 16:56	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 16:21	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66129.05
Sample Tag: DUP_06_060415
Collected Date/Time: 06/04/2015 00:01
Matrix: Groundwater
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 18:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 18:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/10/15 17:14	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 18:01	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66129.06
Sample Tag: FB0003_060415
Collected Date/Time: 06/04/2015 08:15
Matrix: Liquid
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 18:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 18:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 18:21	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66129.07
Sample Tag: TB0003_060415
Collected Date/Time: 06/04/2015 08:10
Matrix: Liquid
COC Reference: 89879

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 18:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/06/15 18:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/06/15 18:41	150605C3	VF150606W1	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-061615-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66129.01	Iron, Dissolved	SW6020A	06/16/15 13:05	MT3-15-0616B
S66129.01	Iron	SW6020A	06/16/15 13:03	MT3-15-0616B
S66129.01	Manganese, Dissolved	SW6020A	06/16/15 13:05	MT3-15-0616B
S66129.01	Manganese	SW6020A	06/16/15 13:03	MT3-15-0616B
S66129.02	Iron, Dissolved	SW6020A	06/16/15 13:09	MT3-15-0616B
S66129.02	Iron	SW6020A	06/16/15 13:07	MT3-15-0616B
S66129.02	Manganese, Dissolved	SW6020A	06/16/15 13:09	MT3-15-0616B
S66129.02	Manganese	SW6020A	06/16/15 13:07	MT3-15-0616B
S66129.03	Iron, Dissolved	SW6020A	06/16/15 13:13	MT3-15-0616B
S66129.03	Iron	SW6020A	06/16/15 13:11	MT3-15-0616B
S66129.03	Manganese, Dissolved	SW6020A	06/16/15 13:13	MT3-15-0616B
S66129.03	Manganese	SW6020A	06/16/15 13:11	MT3-15-0616B

Organics - Volatiles, Prep Batch ID: VF150606W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66129.02	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 17:21	150605C3
S66129.02	1,2-Dibromoethane	SW8260B	06/06/15 17:21	150605C3
S66129.02	TCL Volatile Organics 8260	SW8260C	06/06/15 17:21	150605C3
S66129.05	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 18:01	150605C3
S66129.05	1,2-Dibromoethane	SW8260B	06/06/15 18:01	150605C3
S66129.05	TCL Volatile Organics 8260	SW8260C	06/06/15 18:01	150605C3
S66129.06	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 18:21	150605C3
S66129.06	1,2-Dibromoethane	SW8260B	06/06/15 18:21	150605C3
S66129.06	TCL Volatile Organics 8260	SW8260C	06/06/15 18:21	150605C3
S66129.07	1,2-Dibromo-3-chloropropane	SW8260C	06/06/15 18:41	150605C3
S66129.07	1,2-Dibromoethane	SW8260B	06/06/15 18:41	150605C3
S66129.07	TCL Volatile Organics 8260	SW8260C	06/06/15 18:41	150605C3

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66129.04	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 16:21	150608A7
S66129.04	1,2-Dibromoethane	SW8260B	06/08/15 16:21	150608A7
S66129.04	TCL Volatile Organics 8260	SW8260C	06/08/15 16:21	150608A7

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66129.02	1,4-Dioxane	SW8260B - SIM	06/10/15 16:37	150610A6
S66129.04	1,4-Dioxane	SW8260B - SIM	06/10/15 16:56	150610A6
S66129.05	1,4-Dioxane	SW8260B - SIM	06/10/15 17:14	150610A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66129.02
Sample Tag: MW-02-02(3)_060415
Collected Date/Time: 06/04/2015 11:05
Matrix: Groundwater
COC Reference: 89879

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 17:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.40**	83.0	119.0
1,2-Dichloroethane-D4		**100.00**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66129.04
Sample Tag: MW-02-04(3)_060415
Collected Date/Time: 06/04/2015 15:30
Matrix: Groundwater
COC Reference: 89879

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 16:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.40**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

Lab Sample ID: S66129.05
Sample Tag: DUP_06_060415
Collected Date/Time: 06/04/2015 00:01
Matrix: Groundwater
COC Reference: 89879

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 18:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.40**	83.0	119.0
1,2-Dichloroethane-D4		**104.80**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66129.06
Sample Tag: FB0003_060415
Collected Date/Time: 06/04/2015 08:15
Matrix: Liquid
COC Reference: 89879

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 18:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.40**	83.0	119.0
1,2-Dichloroethane-D4		**104.60**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66129.07
Sample Tag: TB0003_060415
Collected Date/Time: 06/04/2015 08:10
Matrix: Liquid
COC Reference: 89879

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150605C3, Run Date: 06/06/2015 18:41, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.20**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150606W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.80**	83.0	119.0
1,2-Dichloroethane-D4		**89.20**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.20**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.00**	83.0	119.0
1,2-Dichloroethane-D4		**86.80**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**86.00**	77.0	121.0
Toluene-D8		**96.80**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**85.80**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.20**	83.0	119.0
1,2-Dichloroethane-D4		**89.00**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150608W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**88.40**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.40**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS150610W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-061615-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.020.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 11:54, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**103**	85	115
Iron		**114**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.021.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 11:57, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.033.MS, Parent Sample ID: S66107.07

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 12:44, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**96**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.049.MS, Parent Sample ID: S66129.03

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:15, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese		**102**	75	125
Iron		**106**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.034.MSD, Parent Sample ID: MT3-15-0616B.033.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 12:35, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	75	125	**1**	20
Iron, Dissolved		**104**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.050.MSD, Parent Sample ID: MT3-15-0616B.049.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:17, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese		**102**	75	125	**0**	20
Iron		**106**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150606W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.16**	75.1	135.9
Diethyl ether		**79.22**	67.4	121.2
Acetone		**110.68**	29.9	161.5
Methyl iodide		**107.58**	68.8	116.4
Carbon disulfide		**102.30**	63.8	137.4
Methyl acetate		**72.64**	64.7	125.4
tert-Methyl butyl ether		**94.68**	73.2	122.4
Acrylonitrile		**76.00**	69.9	128.9
2-Butanone		**77.14**	44.0	134.4
Dichlorodifluoromethane		**125.96**	10.0	222.8
Chloromethane		**83.20**	23.8	166.5
Vinyl Chloride		**93.32**	43.5	149.1
Bromomethane		**96.28**	56.8	151.3
Chloroethane		**90.92**	53.4	149.4
Trichlorofluoromethane		**111.76**	59.7	151.8
1,1-Dichloroethene		**97.44**	69.6	139.4
Methylene Chloride		**104.00**	73.3	121.1
trans-1,2-Dichloroethene		**100.04**	73.6	129.3
1,1-Dichloroethane		**102.58**	71.5	126.2
cis-1,2-Dichloroethene		**104.68**	76.6	122.1
Tetrahydrofuran		**72.30**	59.0	117.9
Chloroform		**104.44**	78.4	124.0
Bromochloromethane		**106.82**	78.2	120.8
1,1,1-Trichloroethane		**130.84**	79.4	130.9
Cyclohexane		**96.82**	10.0	169.1
4-Methyl-2-pentanone		**76.12**	71.6	125.2
2-Hexanone		**84.26**	55.4	136.9
Carbon Tetrachloride		**126.52**	72.6	133.0
Benzene		**96.74**	79.9	124.9
1,2-Dichloroethane		**92.64**	76.0	126.3
Trichloroethene		**104.32**	79.7	124.2
1,2-Dichloropropane		**97.12**	78.6	126.4
Bromodichloromethane		**105.54**	80.4	128.2
Methyl cyclohexane		**102.24**	76.6	131.3
Dibromomethane		**102.48**	76.9	122.1
cis-1,3-Dichloropropene		**97.90**	79.8	129.9
Toluene		**101.14**	79.8	124.5
trans-1,3-Dichloropropene		**95.76**	74.0	131.3
1,1,2-Trichloroethane		**94.48**	78.7	123.1
Tetrachloroethene	*	**142.90**	74.5	124.5
trans-1,4-Dichloro-2-butene		**73.32**	68.6	135.4
Dibromochloromethane		**105.04**	74.6	127.2
1,2-Dibromoethane		**102.00**	70.3	133.7
Chlorobenzene		**107.62**	79.2	122.7
1,1,1,2-Tetrachloroethane		**106.32**	80.3	128.2
Ethylbenzene		**102.90**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**102.24**	79.4	132.2
o-Xylene		**100.58**	80.2	131.0
Styrene		**104.28**	69.5	126.7
Isopropylbenzene		**103.00**	74.4	121.5
Bromoform		**89.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**84.66**	79.8	126.3
1,2,3-Trichloropropane		**90.06**	78.3	138.8
n-Propylbenzene		**102.78**	82.0	130.7
Bromobenzene		**104.44**	78.7	124.6
1,3,5-Trimethylbenzene		**105.32**	81.3	128.9
tert-Butylbenzene		**101.16**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.90**	77.4	129.8
p-Isopropyltoluene		**107.14**	79.8	137.5
1,3-Dichlorobenzene		**103.24**	77.0	131.3
1,4-Dichlorobenzene		**101.04**	20.7	137.7
1,2-Dichlorobenzene		**99.40**	10.0	166.2
1,2,3-Trimethylbenzene		**98.00**	76.3	124.2
n-Butylbenzene		**102.90**	80.0	133.3
Hexachloroethane		**95.64**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**77.82**	21.2	189.4
1,2,4-Trichlorobenzene		**100.76**	27.4	143.4
1,2,3-Trichlorobenzene		**97.98**	75.4	131.4
Naphthalene		**89.42**	32.9	135.8
2-Methylnaphthalene		**96.26**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	10	ug/l
2-Hexanone (*)		ND	10	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l
sec-Butylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150605c3.blkw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 13:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene	*	**1.1**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**114.46**	75.1	135.9
Diethyl ether		**82.90**	67.4	121.2
Acetone		**73.56**	29.9	161.5
Methyl iodide		**109.34**	68.8	116.4
Carbon disulfide		**91.84**	63.8	137.4
Methyl acetate		**71.44**	64.7	125.4
tert-Methyl butyl ether		**99.20**	73.2	122.4
Acrylonitrile		**76.74**	69.9	128.9
2-Butanone		**63.90**	44.0	134.4
Dichlorodifluoromethane		**129.46**	10.0	222.8
Chloromethane		**85.40**	23.8	166.5
Vinyl Chloride		**92.88**	43.5	149.1
Bromomethane		**96.04**	56.8	151.3
Chloroethane		**93.10**	53.4	149.4
Trichlorofluoromethane		**112.62**	59.7	151.8
1,1-Dichloroethene		**94.08**	69.6	139.4
Methylene Chloride		**105.66**	73.3	121.1
trans-1,2-Dichloroethene		**100.18**	73.6	129.3
1,1-Dichloroethane		**104.48**	71.5	126.2
cis-1,2-Dichloroethene		**108.36**	76.6	122.1
Tetrahydrofuran		**71.60**	59.0	117.9
Chloroform		**105.36**	78.4	124.0
Bromochloromethane		**108.52**	78.2	120.8
1,1,1-Trichloroethane	*	**131.66**	79.4	130.9
Cyclohexane		**99.12**	10.0	169.1
4-Methyl-2-pentanone		**84.10**	71.6	125.2
2-Hexanone		**79.92**	55.4	136.9
Carbon Tetrachloride		**128.52**	72.6	133.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150605c3.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150605C3, Run Date: 06/06/2015 10:41, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzene		**99.42**	79.9	124.9
1,2-Dichloroethane		**94.98**	76.0	126.3
Trichloroethene		**106.70**	79.7	124.2
1,2-Dichloropropane		**100.56**	78.6	126.4
Bromodichloromethane		**106.42**	80.4	128.2
Methyl cyclohexane		**105.84**	76.6	131.3
Dibromomethane		**105.16**	76.9	122.1
cis-1,3-Dichloropropene		**99.72**	79.8	129.9
Toluene		**99.60**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**97.58**	78.7	123.1
Tetrachloroethene		**105.64**	74.5	124.5
trans-1,4-Dichloro-2-butene		**72.56**	68.6	135.4
Dibromochloromethane		**104.16**	74.6	127.2
1,2-Dibromoethane		**104.02**	70.3	133.7
Chlorobenzene		**107.42**	79.2	122.7
1,1,1,2-Tetrachloroethane		**108.14**	80.3	128.2
Ethylbenzene		**98.00**	79.5	129.1
p,m-Xylene		**88.85**	79.4	132.2
o-Xylene		**88.70**	80.2	131.0
Styrene	*	**51.14**	69.5	126.7
Isopropylbenzene		**99.48**	74.4	121.5
Bromoform		**86.74**	69.4	128.0
1,1,2,2-Tetrachloroethane		**86.00**	79.8	126.3
1,2,3-Trichloropropane		**93.34**	78.3	138.8
n-Propylbenzene		**98.72**	82.0	130.7
Bromobenzene		**102.82**	78.7	124.6
1,3,5-Trimethylbenzene	*	**73.90**	81.3	128.9
tert-Butylbenzene		**96.08**	80.7	128.9
1,2,4-Trimethylbenzene	*	**79.44**	81.4	130.8
sec-Butylbenzene		**107.82**	77.4	129.8
p-Isopropyltoluene		**103.16**	79.8	137.5
1,3-Dichlorobenzene		**105.50**	77.0	131.3
1,4-Dichlorobenzene		**103.96**	20.7	137.7
1,2-Dichlorobenzene		**102.18**	10.0	166.2
1,2,3-Trimethylbenzene	*	**73.90**	76.3	124.2
n-Butylbenzene		**105.30**	80.0	133.3
Hexachloroethane		**102.66**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.18**	21.2	189.4
1,2,4-Trichlorobenzene		**105.16**	27.4	143.4
1,2,3-Trichlorobenzene		**104.30**	75.4	131.4
Naphthalene		**93.68**	32.9	135.8
2-Methylnaphthalene		**106.30**	25.5	165.5

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**108.66**	75.1	135.9
Diethyl ether		**80.54**	67.4	121.2
Acetone		**69.02**	29.9	161.5
Methyl iodide		**105.76**	68.8	116.4
Carbon disulfide		**84.34**	63.8	137.4
Methyl acetate		**67.06**	64.7	125.4
tert-Methyl butyl ether		**94.96**	73.2	122.4
Acrylonitrile		**71.84**	69.9	128.9
2-Butanone		**60.66**	44.0	134.4
Dichlorodifluoromethane		**118.20**	10.0	222.8
Chloromethane		**80.86**	23.8	166.5
Vinyl Chloride		**89.18**	43.5	149.1
Bromomethane		**91.68**	56.8	151.3
Chloroethane		**90.98**	53.4	149.4
Trichlorofluoromethane		**106.96**	59.7	151.8
1,1-Dichloroethene		**90.98**	69.6	139.4
Methylene Chloride		**102.34**	73.3	121.1
trans-1,2-Dichloroethene		**97.40**	73.6	129.3
1,1-Dichloroethane		**101.34**	71.5	126.2
cis-1,2-Dichloroethene		**105.86**	76.6	122.1
Tetrahydrofuran		**69.34**	59.0	117.9
Chloroform		**101.66**	78.4	124.0
Bromochloromethane		**105.76**	78.2	120.8
1,1,1-Trichloroethane		**127.50**	79.4	130.9
Cyclohexane		**94.46**	10.0	169.1
4-Methyl-2-pentanone		**76.94**	71.6	125.2
2-Hexanone		**75.44**	55.4	136.9
Carbon Tetrachloride		**120.16**	72.6	133.0
Benzene		**95.34**	79.9	124.9
1,2-Dichloroethane		**89.04**	76.0	126.3
Trichloroethene		**101.00**	79.7	124.2
1,2-Dichloropropane		**96.58**	78.6	126.4
Bromodichloromethane		**99.52**	80.4	128.2
Methyl cyclohexane		**100.32**	76.6	131.3
Dibromomethane		**101.14**	76.9	122.1
cis-1,3-Dichloropropene		**92.98**	79.8	129.9
Toluene		**92.80**	79.8	124.5
trans-1,3-Dichloropropene		**87.76**	74.0	131.3
1,1,2-Trichloroethane		**91.30**	78.7	123.1
Tetrachloroethene		**102.28**	74.5	124.5
trans-1,4-Dichloro-2-butene	*	**54.72**	68.6	135.4
Dibromochloromethane		**96.76**	74.6	127.2
1,2-Dibromoethane		**101.34**	70.3	133.7
Chlorobenzene		**105.70**	79.2	122.7
1,1,1,2-Tetrachloroethane		**104.76**	80.3	128.2
Ethylbenzene		**94.00**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150605c3.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150605C3, Run Date: 06/06/2015 11:22, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**80.26**	79.4	132.2
o-Xylene		**80.60**	80.2	131.0
Styrene	*	**32.80**	69.5	126.7
Isopropylbenzene		**96.14**	74.4	121.5
Bromoform		**78.12**	69.4	128.0
1,1,2,2-Tetrachloroethane		**83.00**	79.8	126.3
1,2,3-Trichloropropane		**88.64**	78.3	138.8
n-Propylbenzene		**94.48**	82.0	130.7
Bromobenzene		**101.36**	78.7	124.6
1,3,5-Trimethylbenzene	*	**57.62**	81.3	128.9
tert-Butylbenzene		**91.08**	80.7	128.9
1,2,4-Trimethylbenzene	*	**64.52**	81.4	130.8
sec-Butylbenzene		**101.42**	77.4	129.8
p-Isopropyltoluene		**94.98**	79.8	137.5
1,3-Dichlorobenzene		**100.74**	77.0	131.3
1,4-Dichlorobenzene		**99.78**	20.7	137.7
1,2-Dichlorobenzene		**96.46**	10.0	166.2
1,2,3-Trimethylbenzene	*	**56.80**	76.3	124.2
n-Butylbenzene		**98.60**	80.0	133.3
Hexachloroethane		**94.78**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**77.98**	21.2	189.4
1,2,4-Trichlorobenzene		**102.92**	27.4	143.4
1,2,3-Trichlorobenzene		**100.54**	75.4	131.4
Naphthalene		**91.56**	32.9	135.8
2-Methylnaphthalene		**102.48**	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**113.92**	75.1	135.9	**0.5**	30.0
Diethyl ether		**79.96**	67.4	121.2	**3.6**	30.0
Acetone		**71.56**	29.9	161.5	**2.8**	30.0
Methyl iodide		**109.18**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**86.16**	63.8	137.4	**6.4**	30.0
Methyl acetate		**67.76**	64.7	125.4	**5.3**	30.0
tert-Methyl butyl ether		**96.86**	73.2	122.4	**2.4**	30.0
Acrylonitrile		**73.94**	69.9	128.9	**3.7**	30.0
2-Butanone		**60.54**	44.0	134.4	**5.2**	30.0
Dichlorodifluoromethane		**128.28**	10.0	222.8	**0.9**	30.0
Chloromethane		**83.92**	23.8	166.5	**1.7**	30.0
Vinyl Chloride		**92.80**	43.5	149.1	**0.1**	30.0
Bromomethane		**97.14**	56.8	151.3	**1.1**	30.0
Chloroethane		**93.50**	53.4	149.4	**0.4**	30.0
Trichlorofluoromethane		**111.74**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**94.44**	69.6	139.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methylene Chloride		**104.32**	73.3	121.1	**1.3**	30.0
trans-1,2-Dichloroethene		**98.74**	73.6	129.3	**1.4**	30.0
1,1-Dichloroethane		**103.06**	71.5	126.2	**1.4**	30.0
cis-1,2-Dichloroethene		**107.56**	76.6	122.1	**0.7**	30.0
Tetrahydrofuran		**70.22**	59.0	117.9	**1.9**	30.0
Chloroform		**103.72**	78.4	124.0	**1.6**	30.0
Bromochloromethane		**105.80**	78.2	120.8	**2.5**	30.0
1,1,1-Trichloroethane		**130.90**	79.4	130.9	**0.6**	30.0
Cyclohexane		**99.24**	10.0	169.1	**0.1**	30.0
4-Methyl-2-pentanone		**79.08**	71.6	125.2	**6.2**	30.0
2-Hexanone		**76.80**	55.4	136.9	**4.0**	30.0
Carbon Tetrachloride		**125.38**	72.6	133.0	**2.5**	30.0
Benzene		**97.84**	79.9	124.9	**1.6**	30.0
1,2-Dichloroethane		**91.68**	76.0	126.3	**3.5**	30.0
Trichloroethene		**104.12**	79.7	124.2	**2.4**	30.0
1,2-Dichloropropane		**98.30**	78.6	126.4	**2.3**	30.0
Bromodichloromethane		**102.54**	80.4	128.2	**3.7**	30.0
Methyl cyclohexane		**105.70**	76.6	131.3	**0.1**	30.0
Dibromomethane		**100.96**	76.9	122.1	**4.1**	30.0
cis-1,3-Dichloropropene		**95.04**	79.8	129.9	**4.8**	30.0
Toluene		**96.42**	79.8	124.5	**3.2**	30.0
trans-1,3-Dichloropropene		**91.22**	74.0	131.3	**5.5**	30.0
1,1,2-Trichloroethane		**94.06**	78.7	123.1	**3.7**	30.0
Tetrachloroethene		**105.84**	74.5	124.5	**0.2**	30.0
trans-1,4-Dichloro-2-butene	*	**58.10**	68.6	135.4	**22.1**	30.0
Dibromochloromethane		**98.68**	74.6	127.2	**5.4**	30.0
1,2-Dibromoethane		**100.82**	70.3	133.7	**3.1**	30.0
Chlorobenzene		**106.34**	79.2	122.7	**1.0**	30.0
1,1,1,2-Tetrachloroethane		**105.72**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**95.56**	79.5	129.1	**2.5**	30.0
p,m-Xylene		**84.17**	79.4	132.2	**5.4**	30.0
o-Xylene		**84.28**	80.2	131.0	**5.1**	30.0
Styrene	*	**40.88**	69.5	126.7	**22.3**	30.0
Isopropylbenzene		**98.22**	74.4	121.5	**1.3**	30.0
Bromoform		**80.56**	69.4	128.0	**7.4**	30.0
1,1,2,2-Tetrachloroethane		**83.62**	79.8	126.3	**2.8**	30.0
1,2,3-Trichloropropane		**89.46**	78.3	138.8	**4.2**	30.0
n-Propylbenzene		**96.84**	82.0	130.7	**1.9**	30.0
Bromobenzene		**102.30**	78.7	124.6	**0.5**	30.0
1,3,5-Trimethylbenzene	*	**65.66**	81.3	128.9	**11.8**	30.0
tert-Butylbenzene		**94.06**	80.7	128.9	**2.1**	30.0
1,2,4-Trimethylbenzene	*	**72.68**	81.4	130.8	**8.9**	30.0
sec-Butylbenzene		**102.64**	77.4	129.8	**4.9**	30.0
p-Isopropyltoluene		**97.92**	79.8	137.5	**5.2**	30.0
1,3-Dichlorobenzene		**101.80**	77.0	131.3	**3.6**	30.0
1,4-Dichlorobenzene		**100.90**	20.7	137.7	**3.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612804n, Parent Sample ID: 150605c3.6612803m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:01, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichlorobenzene		**98.78**	10.0	166.2	**3.4**	30.0
1,2,3-Trimethylbenzene	*	**63.94**	76.3	124.2	**14.5**	30.0
n-Butylbenzene		**101.06**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**96.34**	23.8	138.1	**6.4**	30.0
1,2-Dibromo-3-Chloropropane		**78.76**	21.2	189.4	**7.8**	30.0
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4	**1.1**	30.0
1,2,3-Trichlorobenzene		**101.02**	75.4	131.4	**3.2**	30.0
Naphthalene		**90.82**	32.9	135.8	**3.1**	30.0
2-Methylnaphthalene		**102.12**	25.5	165.5	**4.0**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**105.70**	75.1	135.9	**2.8**	30.0
Diethyl ether		**77.76**	67.4	121.2	**3.5**	30.0
Acetone		**66.16**	29.9	161.5	**4.2**	30.0
Methyl iodide		**106.18**	68.8	116.4	**0.4**	30.0
Carbon disulfide		**83.98**	63.8	137.4	**0.4**	30.0
Methyl acetate	*	**64.60**	64.7	125.4	**3.7**	30.0
tert-Methyl butyl ether		**93.56**	73.2	122.4	**1.5**	30.0
Acrylonitrile	*	**69.12**	69.9	128.9	**3.9**	30.0
2-Butanone		**59.20**	44.0	134.4	**2.3**	30.0
Dichlorodifluoromethane		**113.12**	10.0	222.8	**4.4**	30.0
Chloromethane		**78.90**	23.8	166.5	**2.5**	30.0
Vinyl Chloride		**86.70**	43.5	149.1	**2.8**	30.0
Bromomethane		**91.20**	56.8	151.3	**0.5**	30.0
Chloroethane		**89.52**	53.4	149.4	**1.6**	30.0
Trichlorofluoromethane		**104.40**	59.7	151.8	**2.4**	30.0
1,1-Dichloroethene		**87.84**	69.6	139.4	**3.5**	30.0
Methylene Chloride		**101.08**	73.3	121.1	**1.2**	30.0
trans-1,2-Dichloroethene		**94.30**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**99.58**	71.5	126.2	**1.8**	30.0
cis-1,2-Dichloroethene		**103.16**	76.6	122.1	**2.6**	30.0
Tetrahydrofuran		**65.32**	59.0	117.9	**6.0**	30.0
Chloroform		**100.38**	78.4	124.0	**1.3**	30.0
Bromochloromethane		**102.80**	78.2	120.8	**2.8**	30.0
1,1,1-Trichloroethane		**124.56**	79.4	130.9	**2.3**	30.0
Cyclohexane		**92.42**	10.0	169.1	**2.2**	30.0
4-Methyl-2-pentanone		**76.02**	71.6	125.2	**1.2**	30.0
2-Hexanone		**73.70**	55.4	136.9	**2.3**	30.0
Carbon Tetrachloride		**118.76**	72.6	133.0	**1.2**	30.0
Benzene		**95.28**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**89.36**	76.0	126.3	**0.4**	30.0
Trichloroethene		**102.18**	79.7	124.2	**1.2**	30.0
1,2-Dichloropropane		**95.66**	78.6	126.4	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150605c3.6612808n, Parent Sample ID: 150605c3.6612807m

Run in Batch: 150605C3, Run Date: 06/06/2015 11:42, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromodichloromethane		**99.10**	80.4	128.2	**0.4**	30.0
Methyl cyclohexane		**98.88**	76.6	131.3	**1.4**	30.0
Dibromomethane		**99.84**	76.9	122.1	**1.3**	30.0
cis-1,3-Dichloropropene		**91.38**	79.8	129.9	**1.7**	30.0
Toluene		**91.34**	79.8	124.5	**1.6**	30.0
trans-1,3-Dichloropropene		**85.02**	74.0	131.3	**3.2**	30.0
1,1,2-Trichloroethane		**90.46**	78.7	123.1	**0.9**	30.0
Tetrachloroethene		**101.42**	74.5	124.5	**0.8**	30.0
trans-1,4-Dichloro-2-butene	*	**50.98**	68.6	135.4	**7.1**	30.0
Dibromochloromethane		**96.98**	74.6	127.2	**0.2**	30.0
1,2-Dibromoethane		**100.50**	70.3	133.7	**0.8**	30.0
Chlorobenzene		**105.84**	79.2	122.7	**0.1**	30.0
1,1,1,2-Tetrachloroethane		**106.10**	80.3	128.2	**1.3**	30.0
Ethylbenzene		**92.82**	79.5	129.1	**1.3**	30.0
p,m-Xylene	*	**77.09**	79.4	132.2	**4.0**	30.0
o-Xylene	*	**77.94**	80.2	131.0	**3.4**	30.0
Styrene	*	**27.26**	69.5	126.7	**18.4**	30.0
Isopropylbenzene		**95.18**	74.4	121.5	**1.0**	30.0
Bromoform		**77.88**	69.4	128.0	**0.3**	30.0
1,1,2,2-Tetrachloroethane		**82.90**	79.8	126.3	**0.1**	30.0
1,2,3-Trichloropropane		**86.54**	78.3	138.8	**2.4**	30.0
n-Propylbenzene		**93.98**	82.0	130.7	**0.5**	30.0
Bromobenzene		**101.00**	78.7	124.6	**0.4**	30.0
1,3,5-Trimethylbenzene	*	**51.34**	81.3	128.9	**11.5**	30.0
tert-Butylbenzene		**90.60**	80.7	128.9	**0.5**	30.0
1,2,4-Trimethylbenzene	*	**60.30**	81.4	130.8	**6.8**	30.0
sec-Butylbenzene		**99.74**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene		**92.36**	79.8	137.5	**2.8**	30.0
1,3-Dichlorobenzene		**101.36**	77.0	131.3	**0.6**	30.0
1,4-Dichlorobenzene		**99.94**	20.7	137.7	**0.2**	30.0
1,2-Dichlorobenzene		**96.72**	10.0	166.2	**0.3**	30.0
1,2,3-Trimethylbenzene	*	**51.38**	76.3	124.2	**10.0**	30.0
n-Butylbenzene		**95.98**	80.0	133.3	**2.7**	30.0
Hexachloroethane		**94.20**	23.8	138.1	**0.6**	30.0
1,2-Dibromo-3-Chloropropane		**79.36**	21.2	189.4	**1.8**	30.0
1,2,4-Trichlorobenzene		**102.60**	27.4	143.4	**0.3**	30.0
1,2,3-Trichlorobenzene		**100.02**	75.4	131.4	**0.5**	30.0
Naphthalene		**89.56**	32.9	135.8	**2.2**	30.0
2-Methylnaphthalene		**101.26**	25.5	165.5	**1.2**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**109.46**	75.1	135.9	**2.4**	30.0
Diethyl ether		**81.58**	67.4	121.2	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acetone		**93.50**	29.9	161.5	**16.8**	30.0
Methyl iodide		**107.86**	68.8	116.4	**0.3**	30.0
Carbon disulfide		**102.16**	63.8	137.4	**0.1**	30.0
Methyl acetate		**73.68**	64.7	125.4	**1.4**	30.0
tert-Methyl butyl ether		**96.20**	73.2	122.4	**1.6**	30.0
Acrylonitrile		**76.52**	69.9	128.9	**0.7**	30.0
2-Butanone		**72.28**	44.0	134.4	**6.5**	30.0
Dichlorodifluoromethane		**122.14**	10.0	222.8	**3.1**	30.0
Chloromethane		**83.66**	23.8	166.5	**0.6**	30.0
Vinyl Chloride		**92.48**	43.5	149.1	**0.9**	30.0
Bromomethane		**96.54**	56.8	151.3	**0.3**	30.0
Chloroethane		**90.48**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**108.02**	59.7	151.8	**3.4**	30.0
1,1-Dichloroethene		**95.70**	69.6	139.4	**1.8**	30.0
Methylene Chloride		**103.92**	73.3	121.1	**0.1**	30.0
trans-1,2-Dichloroethene		**99.48**	73.6	129.3	**0.6**	30.0
1,1-Dichloroethane		**102.62**	71.5	126.2	**0.0**	30.0
cis-1,2-Dichloroethene		**106.24**	76.6	122.1	**1.5**	30.0
Tetrahydrofuran		**73.34**	59.0	117.9	**1.4**	30.0
Chloroform		**104.40**	78.4	124.0	**0.0**	30.0
Bromochloromethane		**108.02**	78.2	120.8	**1.1**	30.0
1,1,1-Trichloroethane		**130.06**	79.4	130.9	**0.6**	30.0
Cyclohexane		**95.32**	10.0	169.1	**1.6**	30.0
4-Methyl-2-pentanone		**78.56**	71.6	125.2	**3.2**	30.0
2-Hexanone		**81.00**	55.4	136.9	**3.9**	30.0
Carbon Tetrachloride		**126.44**	72.6	133.0	**0.1**	30.0
Benzene		**96.60**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**92.78**	76.0	126.3	**0.2**	30.0
Trichloroethene		**103.38**	79.7	124.2	**0.9**	30.0
1,2-Dichloropropane		**98.00**	78.6	126.4	**0.9**	30.0
Bromodichloromethane		**105.38**	80.4	128.2	**0.2**	30.0
Methyl cyclohexane		**101.54**	76.6	131.3	**0.7**	30.0
Dibromomethane		**102.70**	76.9	122.1	**0.2**	30.0
cis-1,3-Dichloropropene		**98.48**	79.8	129.9	**0.6**	30.0
Toluene		**101.88**	79.8	124.5	**0.7**	30.0
trans-1,3-Dichloropropene		**96.96**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**94.68**	78.7	123.1	**0.2**	30.0
Tetrachloroethene		**118.90**	74.5	124.5	**18.3**	30.0
trans-1,4-Dichloro-2-butene		**72.10**	68.6	135.4	**1.7**	30.0
Dibromochloromethane		**103.16**	74.6	127.2	**1.8**	30.0
1,2-Dibromoethane		**100.92**	70.3	133.7	**1.1**	30.0
Chlorobenzene		**105.14**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**103.86**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**99.70**	79.5	129.1	**3.2**	30.0
p,m-Xylene		**100.31**	79.4	132.2	**1.9**	30.0
o-Xylene		**97.96**	80.2	131.0	**2.6**	30.0

Organics - Volatiles, Prep Batch ID: VF150606W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150605c3.lcsw06b, Parent Sample ID: 150605c3.lcsw06a

Run in Batch: 150605C3, Run Date: 06/06/2015 10:21, Prep Date: 06/05/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Styrene		**102.08**	69.5	126.7	**2.1**	30.0
Isopropylbenzene		**100.04**	74.4	121.5	**2.9**	30.0
Bromoform		**88.56**	69.4	128.0	**0.6**	30.0
1,1,2,2-Tetrachloroethane		**82.58**	79.8	126.3	**2.5**	30.0
1,2,3-Trichloropropane		**89.06**	78.3	138.8	**1.1**	30.0
n-Propylbenzene		**100.38**	82.0	130.7	**2.4**	30.0
Bromobenzene		**104.06**	78.7	124.6	**0.4**	30.0
1,3,5-Trimethylbenzene		**102.72**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**97.16**	80.7	128.9	**4.0**	30.0
1,2,4-Trimethylbenzene		**98.38**	81.4	130.8	**2.8**	30.0
sec-Butylbenzene		**101.40**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**104.60**	79.8	137.5	**2.4**	30.0
1,3-Dichlorobenzene		**100.16**	77.0	131.3	**3.0**	30.0
1,4-Dichlorobenzene		**98.98**	20.7	137.7	**2.1**	30.0
1,2-Dichlorobenzene		**96.50**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**94.54**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**98.74**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**94.64**	23.8	138.1	**1.1**	30.0
1,2-Dibromo-3-Chloropropane		**76.20**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**98.96**	27.4	143.4	**1.8**	30.0
1,2,3-Trichlorobenzene		**96.24**	75.4	131.4	**1.8**	30.0
Naphthalene		**88.60**	32.9	135.8	**0.9**	30.0
2-Methylnaphthalene		**95.30**	25.5	165.5	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**90.06**	75.1	135.9
Diethyl ether		**90.94**	67.4	121.2
Acetone		**91.10**	29.9	161.5
Methyl iodide		**96.36**	68.8	116.4
Carbon disulfide		**98.22**	63.8	137.4
Methyl acetate		**82.06**	64.7	125.4
tert-Methyl butyl ether		**102.58**	73.2	122.4
Acrylonitrile		**85.20**	69.9	128.9
2-Butanone		**83.50**	44.0	134.4
Dichlorodifluoromethane		**73.98**	10.0	222.8
Chloromethane		**77.54**	23.8	166.5
Vinyl Chloride		**79.42**	43.5	149.1
Bromomethane		**87.76**	56.8	151.3
Chloroethane		**93.02**	53.4	149.4
Trichlorofluoromethane		**79.14**	59.7	151.8
1,1-Dichloroethene		**89.78**	69.6	139.4
Methylene Chloride		**92.82**	73.3	121.1
trans-1,2-Dichloroethene		**93.50**	73.6	129.3
1,1-Dichloroethane		**97.08**	71.5	126.2
cis-1,2-Dichloroethene		**97.04**	76.6	122.1
Tetrahydrofuran		**84.62**	59.0	117.9
Chloroform		**95.58**	78.4	124.0
Bromochloromethane		**97.66**	78.2	120.8
1,1,1-Trichloroethane		**100.92**	79.4	130.9
Cyclohexane		**84.74**	10.0	169.1
4-Methyl-2-pentanone		**95.22**	71.6	125.2
2-Hexanone		**93.16**	55.4	136.9
Carbon Tetrachloride		**98.86**	72.6	133.0
Benzene		**96.90**	79.9	124.9
1,2-Dichloroethane		**90.72**	76.0	126.3
Trichloroethene		**95.34**	79.7	124.2
1,2-Dichloropropane		**97.58**	78.6	126.4
Bromodichloromethane		**101.94**	80.4	128.2
Methyl cyclohexane		**93.62**	76.6	131.3
Dibromomethane		**100.34**	76.9	122.1
cis-1,3-Dichloropropene		**96.18**	79.8	129.9
Toluene		**98.52**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**96.10**	78.7	123.1
Tetrachloroethene		**96.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**90.00**	68.6	135.4
Dibromochloromethane		**105.64**	74.6	127.2
1,2-Dibromoethane		**99.66**	70.3	133.7
Chlorobenzene		**99.66**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.64**	80.3	128.2
Ethylbenzene		**104.68**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**103.35**	79.4	132.2
o-Xylene		**101.72**	80.2	131.0
Styrene		**106.30**	69.5	126.7
Isopropylbenzene		**103.76**	74.4	121.5
Bromoform		**101.52**	69.4	128.0
1,1,2,2-Tetrachloroethane		**95.00**	79.8	126.3
1,2,3-Trichloropropane		**95.10**	78.3	138.8
n-Propylbenzene		**89.66**	82.0	130.7
Bromobenzene		**103.24**	78.7	124.6
1,3,5-Trimethylbenzene		**100.98**	81.3	128.9
tert-Butylbenzene		**101.06**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.72**	77.4	129.8
p-Isopropyltoluene		**103.74**	79.8	137.5
1,3-Dichlorobenzene		**101.66**	77.0	131.3
1,4-Dichlorobenzene		**101.86**	20.7	137.7
1,2-Dichlorobenzene		**100.20**	10.0	166.2
1,2,3-Trimethylbenzene		**103.62**	76.3	124.2
n-Butylbenzene		**103.32**	80.0	133.3
Hexachloroethane		**105.10**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**105.02**	21.2	189.4
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4
1,2,3-Trichlorobenzene		**101.92**	75.4	131.4
Naphthalene		**106.38**	32.9	135.8
2-Methylnaphthalene		**95.90**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.7**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.76**	75.1	135.9	**4.0**	30.0
Diethyl ether		**97.12**	67.4	121.2	**6.6**	30.0
Acetone	*	**126.68**	29.9	161.5	**32.7**	30.0
Methyl iodide		**100.44**	68.8	116.4	**4.1**	30.0
Carbon disulfide		**102.46**	63.8	137.4	**4.2**	30.0
Methyl acetate		**91.94**	64.7	125.4	**11.4**	30.0
tert-Methyl butyl ether		**109.84**	73.2	122.4	**6.8**	30.0
Acrylonitrile		**95.10**	69.9	128.9	**11.0**	30.0
2-Butanone		**110.00**	44.0	134.4	**27.4**	30.0
Dichlorodifluoromethane		**75.06**	10.0	222.8	**1.4**	30.0
Chloromethane		**79.76**	23.8	166.5	**2.8**	30.0
Vinyl Chloride		**82.44**	43.5	149.1	**3.7**	30.0
Bromomethane		**92.08**	56.8	151.3	**4.8**	30.0
Chloroethane		**97.50**	53.4	149.4	**4.7**	30.0
Trichlorofluoromethane		**82.22**	59.7	151.8	**3.8**	30.0
1,1-Dichloroethene		**94.22**	69.6	139.4	**4.8**	30.0
Methylene Chloride		**95.94**	73.3	121.1	**3.3**	30.0
trans-1,2-Dichloroethene		**98.42**	73.6	129.3	**5.1**	30.0
1,1-Dichloroethane		**100.64**	71.5	126.2	**3.6**	30.0
cis-1,2-Dichloroethene		**100.66**	76.6	122.1	**3.7**	30.0
Tetrahydrofuran		**95.42**	59.0	117.9	**12.0**	30.0
Chloroform		**99.64**	78.4	124.0	**4.2**	30.0
Bromochloromethane		**103.48**	78.2	120.8	**5.8**	30.0
1,1,1-Trichloroethane		**105.50**	79.4	130.9	**4.4**	30.0
Cyclohexane		**88.18**	10.0	169.1	**4.0**	30.0
4-Methyl-2-pentanone		**105.86**	71.6	125.2	**10.6**	30.0
2-Hexanone		**109.94**	55.4	136.9	**16.5**	30.0
Carbon Tetrachloride		**100.80**	72.6	133.0	**1.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**98.12**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**92.80**	76.0	126.3	**2.3**	30.0
Trichloroethene		**98.56**	79.7	124.2	**3.3**	30.0
1,2-Dichloropropane		**98.98**	78.6	126.4	**1.4**	30.0
Bromodichloromethane		**102.26**	80.4	128.2	**0.3**	30.0
Methyl cyclohexane		**94.96**	76.6	131.3	**1.4**	30.0
Dibromomethane		**103.58**	76.9	122.1	**3.2**	30.0
cis-1,3-Dichloropropene		**97.20**	79.8	129.9	**1.1**	30.0
Toluene		**100.28**	79.8	124.5	**1.8**	30.0
trans-1,3-Dichloropropene		**98.82**	74.0	131.3	**2.5**	30.0
1,1,2-Trichloroethane		**99.00**	78.7	123.1	**3.0**	30.0
Tetrachloroethene		**98.74**	74.5	124.5	**2.1**	30.0
trans-1,4-Dichloro-2-butene		**81.04**	68.6	135.4	**10.5**	30.0
Dibromochloromethane		**107.90**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**104.58**	70.3	133.7	**4.8**	30.0
Chlorobenzene		**101.96**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**104.14**	80.3	128.2	**2.4**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**2.3**	30.0
p,m-Xylene		**105.32**	79.4	132.2	**1.9**	30.0
o-Xylene		**103.24**	80.2	131.0	**1.5**	30.0
Styrene		**106.62**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**107.26**	74.4	121.5	**3.3**	30.0
Bromoform		**105.50**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane		**102.30**	79.8	126.3	**7.4**	30.0
1,2,3-Trichloropropane		**100.60**	78.3	138.8	**5.6**	30.0
n-Propylbenzene		**91.28**	82.0	130.7	**1.8**	30.0
Bromobenzene		**104.54**	78.7	124.6	**1.3**	30.0
1,3,5-Trimethylbenzene		**103.52**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**102.88**	80.7	128.9	**1.8**	30.0
1,2,4-Trimethylbenzene		**102.78**	81.4	130.8	**1.5**	30.0
sec-Butylbenzene		**108.84**	77.4	129.8	**3.9**	30.0
p-Isopropyltoluene		**106.98**	79.8	137.5	**3.1**	30.0
1,3-Dichlorobenzene		**104.00**	77.0	131.3	**2.3**	30.0
1,4-Dichlorobenzene		**103.38**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**103.12**	10.0	166.2	**2.9**	30.0
1,2,3-Trimethylbenzene		**106.18**	76.3	124.2	**2.4**	30.0
n-Butylbenzene		**105.72**	80.0	133.3	**2.3**	30.0
Hexachloroethane		**107.12**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**115.46**	21.2	189.4	**9.5**	30.0
1,2,4-Trichlorobenzene		**106.28**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**105.24**	75.4	131.4	**3.2**	30.0
Naphthalene		**113.50**	32.9	135.8	**6.5**	30.0
2-Methylnaphthalene		**103.98**	25.5	165.5	**8.1**	30.0

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**87.80**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.62**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**86.88**	70.0	130.0	**7.8**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**93.16**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.74**	70.0	130.0	**1.1**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89879

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 Citation Dr. Ste. 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-225-1940 FAX NO.: P.O. NO.: B0064480.2015.00603
E-MAIL ADDRESS: randy.christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: X SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Lansing Plant 3 / B0064480.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Austin Westhuis / [signature]

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC 8260	1,4-Dioxane Sims 8260	SVOC 8270	Select Metals TAL 6020	Nitrate & Sulfate	Tot. Mn and Fe	Diss. Mn and Fe	Methane			
160129.01	6/4/15	0920	MW-04-01(3)_060415	GW	6	1	3	2									1	1	1	3			Select Metals Include: As, Ni, Pb, V, Cr, and Cu.
.02	6/4/15	1105	MW-02-02(3)_060415	GW	9	1	6	2					X	X			1	1	1	3			
.03	6/4/15	1320	P3-SB-07_060415	GW	6	1	3	2									1	1	1	3			
.04	6/4/15	1530	MW-02-04(3)_060415	GW	3		3						X	X									
.05	6/4/15	—	Dup_06_060415	GW	3		3						X	X									
.06	6/4/15	0815	FB0003_060415	L	3		3						X										
.07	6/4/15	0810	TB0003_060415	L	3		3						X										

RELINQUISHED BY: SIGNATURE/ORGANIZATION [signature] / ARCADIS (Sampler)	DATE 6/4/15	TIME 1630	
RECEIVED BY: SIGNATURE/ORGANIZATION [signature]	DATE 6/4/15	TIME 1630	
RELINQUISHED BY: SIGNATURE/ORGANIZATION [signature]	DATE 6/4/15	TIME 1700	
RECEIVED BY: SIGNATURE/ORGANIZATION PM Storage	DATE 6/4/15	TIME 1700	

RELINQUISHED BY: SIGNATURE/ORGANIZATION PM Storage	DATE 6/5/15	TIME 730	
RECEIVED BY: SIGNATURE/ORGANIZATION [signature]	DATE 6/5/15	TIME 730	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL 3.4
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

[signature] 6/5/15 815 [signature] 6/5/15 815

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66141.01(01)
Generated on 06/22/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66141.01-S66141.02
Project: B0064479.2015.00603 / Plant 2
Submitted Date/Time: 06/05/2015 15:10
Sampled by: Cliff Walls
P.O. #: B0064479.2015.00603

QC Report Sections

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Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66141.01
Sample Tag: MW-13-51_060515
Collected Date/Time: 06/05/2015 09:30
Matrix: Groundwater
COC Reference: 89882

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:02	150608A3	VF150608W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 22:02	150608A3	VF150608W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 18:46	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 22:02	150608A3	VF150608W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S66141.02
Sample Tag: TB-0002_060515
Collected Date/Time: 06/05/2015 07:00
Matrix: Liquid
COC Reference: 89882

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:22	150608A3	VF150608W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 22:22	150608A3	VF150608W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 22:22	150608A3	VF150608W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66141.01	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:02	150608A3
S66141.01	1,2-Dibromoethane	SW8260B	06/08/15 22:02	150608A3
S66141.01	TCL Volatile Organics 8260	SW8260C	06/08/15 22:02	150608A3
S66141.02	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:22	150608A3
S66141.02	1,2-Dibromoethane	SW8260B	06/08/15 22:22	150608A3
S66141.02	TCL Volatile Organics 8260	SW8260C	06/08/15 22:22	150608A3

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66141.01	1,4-Dioxane	SW8260B - SIM	06/10/15 18:46	150610A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66141.01
Sample Tag: MW-13-51_060515
Collected Date/Time: 06/05/2015 09:30
Matrix: Groundwater
COC Reference: 89882

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A3, Run Date: 06/08/2015 22:02, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.00**	83.0	119.0
1,2-Dichloroethane-D4		**103.60**	77.0	121.0
Toluene-D8		**93.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66141.02
Sample Tag: TB-0002_060515
Collected Date/Time: 06/05/2015 07:00
Matrix: Liquid
COC Reference: 89882

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A3, Run Date: 06/08/2015 22:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.20**	83.0	119.0
1,2-Dichloroethane-D4		**104.80**	77.0	121.0
Toluene-D8		**95.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150608W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:08, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.60**	83.0	119.0
1,2-Dichloroethane-D4		**85.80**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.80**	83.0	119.0
1,2-Dichloroethane-D4		**98.80**	77.0	121.0
Toluene-D8		**93.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.80**	83.0	119.0
1,2-Dichloroethane-D4		**85.40**	77.0	121.0
Toluene-D8		**96.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150610W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF150608W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:08, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**106.10**	75.1	135.9
Diethyl ether		**75.92**	67.4	121.2
Acetone		**66.38**	29.9	161.5
Methyl iodide		**98.22**	68.8	116.4
Carbon disulfide		**86.84**	63.8	137.4
Methyl acetate		**70.74**	64.7	125.4
tert-Methyl butyl ether		**90.48**	73.2	122.4
Acrylonitrile		**72.50**	69.9	128.9
2-Butanone		**62.56**	44.0	134.4
Dichlorodifluoromethane		**112.46**	10.0	222.8
Chloromethane		**72.58**	23.8	166.5
Vinyl Chloride		**81.42**	43.5	149.1
Bromomethane		**86.30**	56.8	151.3
Chloroethane		**77.90**	53.4	149.4
Trichlorofluoromethane		**102.18**	59.7	151.8
1,1-Dichloroethene		**86.02**	69.6	139.4
Methylene Chloride		**95.70**	73.3	121.1
trans-1,2-Dichloroethene		**91.76**	73.6	129.3
1,1-Dichloroethane		**94.30**	71.5	126.2
cis-1,2-Dichloroethene		**97.84**	76.6	122.1
Tetrahydrofuran		**68.32**	59.0	117.9
Chloroform		**96.54**	78.4	124.0
Bromochloromethane		**100.26**	78.2	120.8
1,1,1-Trichloroethane		**120.48**	79.4	130.9
Cyclohexane		**91.66**	10.0	169.1
4-Methyl-2-pentanone		**76.36**	71.6	125.2
2-Hexanone		**74.32**	55.4	136.9
Carbon Tetrachloride		**123.24**	72.6	133.0
Benzene		**91.98**	79.9	124.9
1,2-Dichloroethane		**90.40**	76.0	126.3
Trichloroethene		**98.14**	79.7	124.2
1,2-Dichloropropane		**92.90**	78.6	126.4
Bromodichloromethane		**102.66**	80.4	128.2
Methyl cyclohexane		**104.04**	76.6	131.3
Dibromomethane		**99.88**	76.9	122.1
cis-1,3-Dichloropropene		**94.86**	79.8	129.9
Toluene		**95.64**	79.8	124.5
trans-1,3-Dichloropropene		**93.96**	74.0	131.3
1,1,2-Trichloroethane		**91.52**	78.7	123.1
Tetrachloroethene		**99.62**	74.5	124.5
trans-1,4-Dichloro-2-butene		**77.82**	68.6	135.4
Dibromochloromethane		**108.08**	74.6	127.2
1,2-Dibromoethane		**104.22**	70.3	133.7
Chlorobenzene		**106.30**	79.2	122.7
1,1,1,2-Tetrachloroethane		**108.00**	80.3	128.2
Ethylbenzene		**100.44**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:08, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**100.45**	79.4	132.2
o-Xylene		**98.48**	80.2	131.0
Styrene		**101.10**	69.5	126.7
Isopropylbenzene		**102.32**	74.4	121.5
Bromoform		**95.44**	69.4	128.0
1,1,2,2-Tetrachloroethane		**87.24**	79.8	126.3
1,2,3-Trichloropropane		**93.06**	78.3	138.8
n-Propylbenzene		**102.50**	82.0	130.7
Bromobenzene		**103.74**	78.7	124.6
1,3,5-Trimethylbenzene		**106.18**	81.3	128.9
tert-Butylbenzene		**101.70**	80.7	128.9
1,2,4-Trimethylbenzene		**102.82**	81.4	130.8
sec-Butylbenzene		**111.32**	77.4	129.8
p-Isopropyltoluene		**115.38**	79.8	137.5
1,3-Dichlorobenzene		**107.38**	77.0	131.3
1,4-Dichlorobenzene		**105.66**	20.7	137.7
1,2-Dichlorobenzene		**103.22**	10.0	166.2
1,2,3-Trimethylbenzene		**103.74**	76.3	124.2
n-Butylbenzene		**111.88**	80.0	133.3
Hexachloroethane		**109.74**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**87.94**	21.2	189.4
1,2,4-Trichlorobenzene		**107.16**	27.4	143.4
1,2,3-Trichlorobenzene		**103.84**	75.4	131.4
Naphthalene		**92.84**	32.9	135.8
2-Methylnaphthalene		**103.04**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a3.blkw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 14:48, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	10	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**105.90**	75.1	135.9	**0.2**	30.0
Diethyl ether		**78.50**	67.4	121.2	**3.3**	30.0
Acetone		**68.80**	29.9	161.5	**3.6**	30.0
Methyl iodide		**100.38**	68.8	116.4	**2.2**	30.0
Carbon disulfide		**66.66**	63.8	137.4	**26.3**	30.0
Methyl acetate		**72.98**	64.7	125.4	**3.1**	30.0
tert-Methyl butyl ether		**95.52**	73.2	122.4	**5.4**	30.0
Acrylonitrile		**76.56**	69.9	128.9	**5.4**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Butanone		**65.32**	44.0	134.4	**4.3**	30.0
Dichlorodifluoromethane		**107.30**	10.0	222.8	**4.7**	30.0
Chloromethane		**69.80**	23.8	166.5	**3.9**	30.0
Vinyl Chloride		**80.92**	43.5	149.1	**0.6**	30.0
Bromomethane		**85.38**	56.8	151.3	**1.1**	30.0
Chloroethane		**78.76**	53.4	149.4	**1.1**	30.0
Trichlorofluoromethane		**99.94**	59.7	151.8	**2.2**	30.0
1,1-Dichloroethene		**87.68**	69.6	139.4	**1.9**	30.0
Methylene Chloride		**97.64**	73.3	121.1	**2.0**	30.0
trans-1,2-Dichloroethene		**91.98**	73.6	129.3	**0.2**	30.0
1,1-Dichloroethane		**95.26**	71.5	126.2	**1.0**	30.0
cis-1,2-Dichloroethene		**99.00**	76.6	122.1	**1.2**	30.0
Tetrahydrofuran		**74.94**	59.0	117.9	**9.2**	30.0
Chloroform		**96.84**	78.4	124.0	**0.3**	30.0
Bromochloromethane		**102.36**	78.2	120.8	**2.1**	30.0
1,1,1-Trichloroethane		**120.34**	79.4	130.9	**0.1**	30.0
Cyclohexane		**89.78**	10.0	169.1	**2.1**	30.0
4-Methyl-2-pentanone		**79.98**	71.6	125.2	**4.6**	30.0
2-Hexanone		**77.68**	55.4	136.9	**4.4**	30.0
Carbon Tetrachloride		**115.56**	72.6	133.0	**6.4**	30.0
Benzene		**92.12**	79.9	124.9	**0.2**	30.0
1,2-Dichloroethane		**90.24**	76.0	126.3	**0.2**	30.0
Trichloroethene		**100.56**	79.7	124.2	**2.4**	30.0
1,2-Dichloropropane		**94.14**	78.6	126.4	**1.3**	30.0
Bromodichloromethane		**98.52**	80.4	128.2	**4.1**	30.0
Methyl cyclohexane		**100.48**	76.6	131.3	**3.5**	30.0
Dibromomethane		**102.08**	76.9	122.1	**2.2**	30.0
cis-1,3-Dichloropropene		**81.28**	79.8	129.9	**15.4**	30.0
Toluene		**95.44**	79.8	124.5	**0.2**	30.0
trans-1,3-Dichloropropene		**81.18**	74.0	131.3	**14.6**	30.0
1,1,2-Trichloroethane		**92.14**	78.7	123.1	**0.7**	30.0
Tetrachloroethene		**102.06**	74.5	124.5	**2.4**	30.0
trans-1,4-Dichloro-2-butene	*	**55.38**	68.6	135.4	**33.7**	30.0
Dibromochloromethane		**100.92**	74.6	127.2	**6.9**	30.0
1,2-Dibromoethane		**107.02**	70.3	133.7	**2.7**	30.0
Chlorobenzene		**107.10**	79.2	122.7	**0.7**	30.0
1,1,1,2-Tetrachloroethane		**108.94**	80.3	128.2	**0.9**	30.0
Ethylbenzene		**101.26**	79.5	129.1	**0.8**	30.0
p,m-Xylene		**101.68**	79.4	132.2	**1.2**	30.0
o-Xylene		**99.58**	80.2	131.0	**1.1**	30.0
Styrene		**104.32**	69.5	126.7	**3.1**	30.0
Isopropylbenzene		**103.02**	74.4	121.5	**0.7**	30.0
Bromoform		**86.38**	69.4	128.0	**10.0**	30.0
1,1,2,2-Tetrachloroethane		**92.08**	79.8	126.3	**5.4**	30.0
1,2,3-Trichloropropane		**99.42**	78.3	138.8	**6.6**	30.0
n-Propylbenzene		**103.32**	82.0	130.7	**0.8**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a3.lcsw08b, Parent Sample ID: 150608a3.lcsw08a

Run in Batch: 150608A3, Run Date: 06/08/2015 13:28, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromobenzene		**107.22**	78.7	124.6	**3.3**	30.0
1,3,5-Trimethylbenzene		**106.76**	81.3	128.9	**0.5**	30.0
tert-Butylbenzene		**101.66**	80.7	128.9	**0.0**	30.0
1,2,4-Trimethylbenzene		**104.26**	81.4	130.8	**1.4**	30.0
sec-Butylbenzene		**103.16**	77.4	129.8	**7.6**	30.0
p-Isopropyltoluene		**107.50**	79.8	137.5	**7.1**	30.0
1,3-Dichlorobenzene		**104.68**	77.0	131.3	**2.5**	30.0
1,4-Dichlorobenzene		**102.78**	20.7	137.7	**2.8**	30.0
1,2-Dichlorobenzene		**100.86**	10.0	166.2	**2.3**	30.0
1,2,3-Trimethylbenzene		**99.16**	76.3	124.2	**4.5**	30.0
n-Butylbenzene		**104.92**	80.0	133.3	**6.4**	30.0
Hexachloroethane		**98.52**	23.8	138.1	**10.8**	30.0
1,2-Dibromo-3-Chloropropane		**87.78**	21.2	189.4	**0.2**	30.0
1,2,4-Trichlorobenzene		**104.42**	27.4	143.4	**2.6**	30.0
1,2,3-Trichlorobenzene		**102.78**	75.4	131.4	**1.0**	30.0
Naphthalene		**95.94**	32.9	135.8	**3.3**	30.0
2-Methylnaphthalene		**106.84**	25.5	165.5	**3.6**	30.0

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**87.80**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		**ND**	5	ug/l

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.62**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**86.88**	70.0	130.0	**7.8**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**93.16**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.74**	70.0	130.0	**1.1**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89882

CHAIN OF CUSTODY RECORD

REPORT TO		INVOICE TO	
CONTACT NAME	Randy Christensen	CONTACT NAME	☑ SAME
COMPANY	Arcadis	COMPANY	
ADDRESS	10559 Citation Dr Suite 100	ADDRESS	
CITY / STATE / ZIP CODE	Brighton / MI / 48116	CITY / STATE / ZIP CODE	
PHONE NO.	810 229 8579	PHONE NO. / E-MAIL ADDRESS	
FAX NO.			
P.O. NO.			
E-MAIL ADDRESS	Randy.Christensen@arcadis-us.com	QUOTE NO.	

PROJECT NO./NAME: B0064979.2015.00603

SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Walls

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	ANALYSIS: VOC 1-4 DI	VOC
60141.01	6-5-15	930	MW-13-5L_060515	GW	3		3						X	
.02	6515	700	TB-0002-060515	L	1		1							X

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
Cliff Walls / Merit		6-5-15	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	Michelle Dunkman	DATE 06/05/15	TIME 1510
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL 14.6
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66142.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66142.01-S66142.04
Project: B0064481.2015.00603 / Plant 6
Submitted Date/Time: 06/05/2015 15:10
Sampled by: Cliff Walls
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Page 6)
Surrogates per Lab Sample (Pages 7-10)
Surrogates per QC Sample (Pages 11-12)
Batch QC Results (Pages 13-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.



Barbara Ball
Quality Assurance Manager

Lab Sample ID: S66142.01
Sample Tag: MW-13-50_060515
Collected Date/Time: 06/05/2015 11:10
Matrix: Groundwater
COC Reference: 89884

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:04	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 17:04	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 19:04	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 17:04	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66142.02
Sample Tag: MW-13-53_060515
Collected Date/Time: 06/05/2015 12:40
Matrix: Groundwater
COC Reference: 89884

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:26	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 17:26	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 19:22	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 17:26	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66142.03
Sample Tag: MWBP-10-UST5-6_060515
Collected Date/Time: 06/05/2015 14:20
Matrix: Groundwater
COC Reference: 89884

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 13:27	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 13:27	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 13:27	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 13:27	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 13:27	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 13:27	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:48	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 17:48	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 17:48	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66142.04
Sample Tag: TB-0002_060515
Collected Date/Time: 06/05/2015 07:00
Matrix: Liquid
COC Reference: 89884

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 18:10	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 18:10	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 18:10	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66142.03	Arsenic	SW6020A	06/22/15 13:27	MT2-15-0622A
S66142.03	Chromium	SW6020A	06/22/15 13:27	MT2-15-0622A
S66142.03	Copper	SW6020A	06/22/15 13:27	MT2-15-0622A
S66142.03	Lead	SW6020A	06/22/15 13:27	MT2-15-0622A
S66142.03	Nickel	SW6020A	06/22/15 13:27	MT2-15-0622A
S66142.03	Vanadium	SW6020A	06/22/15 13:27	MT2-15-0622A

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66142.01	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:04	150608A7
S66142.01	1,2-Dibromoethane	SW8260B	06/08/15 17:04	150608A7
S66142.01	TCL Volatile Organics 8260	SW8260C	06/08/15 17:04	150608A7
S66142.02	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:26	150608A7
S66142.02	1,2-Dibromoethane	SW8260B	06/08/15 17:26	150608A7
S66142.02	TCL Volatile Organics 8260	SW8260C	06/08/15 17:26	150608A7
S66142.03	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 17:48	150608A7
S66142.03	1,2-Dibromoethane	SW8260B	06/08/15 17:48	150608A7
S66142.03	TCL Volatile Organics 8260	SW8260C	06/08/15 17:48	150608A7
S66142.04	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 18:10	150608A7
S66142.04	1,2-Dibromoethane	SW8260B	06/08/15 18:10	150608A7
S66142.04	TCL Volatile Organics 8260	SW8260C	06/08/15 18:10	150608A7

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66142.01	1,4-Dioxane	SW8260B - SIM	06/10/15 19:04	150610A6
S66142.02	1,4-Dioxane	SW8260B - SIM	06/10/15 19:22	150610A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66142.01
Sample Tag: MW-13-50_060515
Collected Date/Time: 06/05/2015 11:10
Matrix: Groundwater
COC Reference: 89884

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 17:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.00**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66142.02
Sample Tag: MW-13-53_060515
Collected Date/Time: 06/05/2015 12:40
Matrix: Groundwater
COC Reference: 89884

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 17:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.60**	83.0	119.0
1,2-Dichloroethane-D4		**96.80**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66142.03
Sample Tag: MWBP-10-UST5-6_060515
Collected Date/Time: 06/05/2015 14:20
Matrix: Groundwater
COC Reference: 89884

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 17:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.40**	83.0	119.0
1,2-Dichloroethane-D4		**97.00**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66142.04
Sample Tag: TB-0002_060515
Collected Date/Time: 06/05/2015 07:00
Matrix: Liquid
COC Reference: 89884

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 18:10, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.60**	83.0	119.0
1,2-Dichloroethane-D4		**99.40**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150608W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**88.40**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.40**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150610W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.020.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:42, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**102**	85	115
Manganese		**100**	85	115
Iron		**91**	85	115
Nickel		**103**	85	115
Copper		**107**	85	115
Arsenic		**105**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.021.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:44, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.033.MS, Parent Sample ID: S66131.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**101**	75	125
Iron, Dissolved		**96**	75	125
Nickel, Dissolved		**101**	75	125
Copper, Dissolved		**98**	75	125
Arsenic, Dissolved		**101**	75	125
Lead, Dissolved		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**100**	75	125
Chromium		**98**	75	125
Manganese		**100**	75	125
Iron		**116**	75	125
Nickel		**99**	75	125
Copper		**97**	75	125
Arsenic		**98**	75	125

Metals, Prep Batch ID: MTD-061915-6 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead		**93**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.034.MSD, Parent Sample ID: MT2-15-0622A.033.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**100**	75	125	**3**	20
Chromium, Dissolved		**99**	75	125	**2**	20
Manganese, Dissolved		**99**	75	125	**1**	20
Iron, Dissolved		**88**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**3**	20
Copper, Dissolved		**94**	75	125	**4**	20
Arsenic, Dissolved		**99**	75	125	**2**	20
Lead, Dissolved		**94**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.048.MSD, Parent Sample ID: MT2-15-0622A.047.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:52, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**99**	75	125	**1**	20
Chromium		**99**	75	125	**1**	20
Manganese		**99**	75	125	**0**	20
Iron		**108**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Copper		**96**	75	125	**1**	20
Arsenic		**100**	75	125	**2**	20
Lead		**94**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**90.06**	75.1	135.9
Diethyl ether		**90.94**	67.4	121.2
Acetone		**91.10**	29.9	161.5
Methyl iodide		**96.36**	68.8	116.4
Carbon disulfide		**98.22**	63.8	137.4
Methyl acetate		**82.06**	64.7	125.4
tert-Methyl butyl ether		**102.58**	73.2	122.4
Acrylonitrile		**85.20**	69.9	128.9
2-Butanone		**83.50**	44.0	134.4
Dichlorodifluoromethane		**73.98**	10.0	222.8
Chloromethane		**77.54**	23.8	166.5
Vinyl Chloride		**79.42**	43.5	149.1
Bromomethane		**87.76**	56.8	151.3
Chloroethane		**93.02**	53.4	149.4
Trichlorofluoromethane		**79.14**	59.7	151.8
1,1-Dichloroethene		**89.78**	69.6	139.4
Methylene Chloride		**92.82**	73.3	121.1
trans-1,2-Dichloroethene		**93.50**	73.6	129.3
1,1-Dichloroethane		**97.08**	71.5	126.2
cis-1,2-Dichloroethene		**97.04**	76.6	122.1
Tetrahydrofuran		**84.62**	59.0	117.9
Chloroform		**95.58**	78.4	124.0
Bromochloromethane		**97.66**	78.2	120.8
1,1,1-Trichloroethane		**100.92**	79.4	130.9
Cyclohexane		**84.74**	10.0	169.1
4-Methyl-2-pentanone		**95.22**	71.6	125.2
2-Hexanone		**93.16**	55.4	136.9
Carbon Tetrachloride		**98.86**	72.6	133.0
Benzene		**96.90**	79.9	124.9
1,2-Dichloroethane		**90.72**	76.0	126.3
Trichloroethene		**95.34**	79.7	124.2
1,2-Dichloropropane		**97.58**	78.6	126.4
Bromodichloromethane		**101.94**	80.4	128.2
Methyl cyclohexane		**93.62**	76.6	131.3
Dibromomethane		**100.34**	76.9	122.1
cis-1,3-Dichloropropene		**96.18**	79.8	129.9
Toluene		**98.52**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**96.10**	78.7	123.1
Tetrachloroethene		**96.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**90.00**	68.6	135.4
Dibromochloromethane		**105.64**	74.6	127.2
1,2-Dibromoethane		**99.66**	70.3	133.7
Chlorobenzene		**99.66**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.64**	80.3	128.2
Ethylbenzene		**104.68**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**103.35**	79.4	132.2
o-Xylene		**101.72**	80.2	131.0
Styrene		**106.30**	69.5	126.7
Isopropylbenzene		**103.76**	74.4	121.5
Bromoform		**101.52**	69.4	128.0
1,1,2,2-Tetrachloroethane		**95.00**	79.8	126.3
1,2,3-Trichloropropane		**95.10**	78.3	138.8
n-Propylbenzene		**89.66**	82.0	130.7
Bromobenzene		**103.24**	78.7	124.6
1,3,5-Trimethylbenzene		**100.98**	81.3	128.9
tert-Butylbenzene		**101.06**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.72**	77.4	129.8
p-Isopropyltoluene		**103.74**	79.8	137.5
1,3-Dichlorobenzene		**101.66**	77.0	131.3
1,4-Dichlorobenzene		**101.86**	20.7	137.7
1,2-Dichlorobenzene		**100.20**	10.0	166.2
1,2,3-Trimethylbenzene		**103.62**	76.3	124.2
n-Butylbenzene		**103.32**	80.0	133.3
Hexachloroethane		**105.10**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**105.02**	21.2	189.4
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4
1,2,3-Trichlorobenzene		**101.92**	75.4	131.4
Naphthalene		**106.38**	32.9	135.8
2-Methylnaphthalene		**95.90**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.7**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.76**	75.1	135.9	**4.0**	30.0
Diethyl ether		**97.12**	67.4	121.2	**6.6**	30.0
Acetone	*	**126.68**	29.9	161.5	**32.7**	30.0
Methyl iodide		**100.44**	68.8	116.4	**4.1**	30.0
Carbon disulfide		**102.46**	63.8	137.4	**4.2**	30.0
Methyl acetate		**91.94**	64.7	125.4	**11.4**	30.0
tert-Methyl butyl ether		**109.84**	73.2	122.4	**6.8**	30.0
Acrylonitrile		**95.10**	69.9	128.9	**11.0**	30.0
2-Butanone		**110.00**	44.0	134.4	**27.4**	30.0
Dichlorodifluoromethane		**75.06**	10.0	222.8	**1.4**	30.0
Chloromethane		**79.76**	23.8	166.5	**2.8**	30.0
Vinyl Chloride		**82.44**	43.5	149.1	**3.7**	30.0
Bromomethane		**92.08**	56.8	151.3	**4.8**	30.0
Chloroethane		**97.50**	53.4	149.4	**4.7**	30.0
Trichlorofluoromethane		**82.22**	59.7	151.8	**3.8**	30.0
1,1-Dichloroethene		**94.22**	69.6	139.4	**4.8**	30.0
Methylene Chloride		**95.94**	73.3	121.1	**3.3**	30.0
trans-1,2-Dichloroethene		**98.42**	73.6	129.3	**5.1**	30.0
1,1-Dichloroethane		**100.64**	71.5	126.2	**3.6**	30.0
cis-1,2-Dichloroethene		**100.66**	76.6	122.1	**3.7**	30.0
Tetrahydrofuran		**95.42**	59.0	117.9	**12.0**	30.0
Chloroform		**99.64**	78.4	124.0	**4.2**	30.0
Bromochloromethane		**103.48**	78.2	120.8	**5.8**	30.0
1,1,1-Trichloroethane		**105.50**	79.4	130.9	**4.4**	30.0
Cyclohexane		**88.18**	10.0	169.1	**4.0**	30.0
4-Methyl-2-pentanone		**105.86**	71.6	125.2	**10.6**	30.0
2-Hexanone		**109.94**	55.4	136.9	**16.5**	30.0
Carbon Tetrachloride		**100.80**	72.6	133.0	**1.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**98.12**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**92.80**	76.0	126.3	**2.3**	30.0
Trichloroethene		**98.56**	79.7	124.2	**3.3**	30.0
1,2-Dichloropropane		**98.98**	78.6	126.4	**1.4**	30.0
Bromodichloromethane		**102.26**	80.4	128.2	**0.3**	30.0
Methyl cyclohexane		**94.96**	76.6	131.3	**1.4**	30.0
Dibromomethane		**103.58**	76.9	122.1	**3.2**	30.0
cis-1,3-Dichloropropene		**97.20**	79.8	129.9	**1.1**	30.0
Toluene		**100.28**	79.8	124.5	**1.8**	30.0
trans-1,3-Dichloropropene		**98.82**	74.0	131.3	**2.5**	30.0
1,1,2-Trichloroethane		**99.00**	78.7	123.1	**3.0**	30.0
Tetrachloroethene		**98.74**	74.5	124.5	**2.1**	30.0
trans-1,4-Dichloro-2-butene		**81.04**	68.6	135.4	**10.5**	30.0
Dibromochloromethane		**107.90**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**104.58**	70.3	133.7	**4.8**	30.0
Chlorobenzene		**101.96**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**104.14**	80.3	128.2	**2.4**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**2.3**	30.0
p,m-Xylene		**105.32**	79.4	132.2	**1.9**	30.0
o-Xylene		**103.24**	80.2	131.0	**1.5**	30.0
Styrene		**106.62**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**107.26**	74.4	121.5	**3.3**	30.0
Bromoform		**105.50**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane		**102.30**	79.8	126.3	**7.4**	30.0
1,2,3-Trichloropropane		**100.60**	78.3	138.8	**5.6**	30.0
n-Propylbenzene		**91.28**	82.0	130.7	**1.8**	30.0
Bromobenzene		**104.54**	78.7	124.6	**1.3**	30.0
1,3,5-Trimethylbenzene		**103.52**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**102.88**	80.7	128.9	**1.8**	30.0
1,2,4-Trimethylbenzene		**102.78**	81.4	130.8	**1.5**	30.0
sec-Butylbenzene		**108.84**	77.4	129.8	**3.9**	30.0
p-Isopropyltoluene		**106.98**	79.8	137.5	**3.1**	30.0
1,3-Dichlorobenzene		**104.00**	77.0	131.3	**2.3**	30.0
1,4-Dichlorobenzene		**103.38**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**103.12**	10.0	166.2	**2.9**	30.0
1,2,3-Trimethylbenzene		**106.18**	76.3	124.2	**2.4**	30.0
n-Butylbenzene		**105.72**	80.0	133.3	**2.3**	30.0
Hexachloroethane		**107.12**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**115.46**	21.2	189.4	**9.5**	30.0
1,2,4-Trichlorobenzene		**106.28**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**105.24**	75.4	131.4	**3.2**	30.0
Naphthalene		**113.50**	32.9	135.8	**6.5**	30.0
2-Methylnaphthalene		**103.98**	25.5	165.5	**8.1**	30.0

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**87.80**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.62**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**86.88**	70.0	130.0	**7.8**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**93.16**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.74**	70.0	130.0	**1.1**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89884

CHAIN OF CUSTODY RECORD

REPORT TO		INVOICE TO	
CONTACT NAME	Randy Christensen	CONTACT NAME	SAME
COMPANY	Arcadis	COMPANY	
ADDRESS	10559 Citation Dr Suite 100	ADDRESS	
CITY	Brighton	CITY	
STATE	MI	STATE	
ZIP CODE	48116	ZIP CODE	
PHONE NO.	810 227 8574	PHONE NO.	
FAX NO.		E-MAIL ADDRESS	
P.O. NO.			
E-MAIL ADDRESS	Randy.Christensen@arcadis-us.com	QUOTE NO.	

PROJECT NO./NAME: B006481.2015.00603

SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Wells

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1-4 m	Select Means
006142.01	6-5-15	1110	MW-13-50_060515	GW	3		3						X	X	
.02	6-5-15	1240	MW-13-53_060515	GW	3		3						X	X	
.03	6-5-15	1420	MWBP-10-UST5-6-060515	GW	4		3	1					X		X
.04	6-5-15	700	TB-0002_060515	L	1		1						X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Sampler	6-5-15	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	Michael Dunkman	06/05/15 1510

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 14.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66147.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66147.01-S66147.05
Project: RACER Lansing Plant 3 / B0064480.2015.00603
Submitted Date/Time: 06/05/2015 15:10
Sampled by: Austin Westhuis
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-13)
Surrogates per QC Sample (Pages 14-15)
Batch QC Results (Pages 16-23)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66147.01
Sample Tag: MW-13-40_060515
Collected Date/Time: 06/05/2015 09:35
Matrix: Groundwater
COC Reference: 89880

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	06/22/15 13:31	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 13:31	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 13:31	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 13:31	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 13:31	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 13:31	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 19:38	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 19:38	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 19:41	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 19:38	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66147.02
Sample Tag: MW-13-41_060515
Collected Date/Time: 06/05/2015 11:30
Matrix: Groundwater
COC Reference: 89880

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	06/22/15 13:34	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 13:34	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 13:34	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 13:34	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 13:34	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 13:34	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 20:00	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 20:00	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 19:59	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 20:00	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66147.03
Sample Tag: MW-13-38_060515
Collected Date/Time: 06/05/2015 12:45
Matrix: Groundwater
COC Reference: 89880

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 20:22	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 20:22	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 20:17	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 20:22	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66147.04
Sample Tag: MW-19_060515
Collected Date/Time: 06/05/2015 14:00
Matrix: Groundwater
COC Reference: 89880

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 20:44	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 20:44	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/10/15 20:35	150610A6	VS150610W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/08/15 20:44	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66147.05
Sample Tag: TB0003_060515
Collected Date/Time: 06/05/2015 08:00
Matrix: Liquid
COC Reference: 89880

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 21:06	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 21:06	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 21:06	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66147.01	Arsenic, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A
S66147.01	Arsenic	SW6020A	06/22/15 13:31	MT2-15-0622A
S66147.01	Chromium, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A
S66147.01	Chromium	SW6020A	06/22/15 13:31	MT2-15-0622A
S66147.01	Copper, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A
S66147.01	Copper	SW6020A	06/22/15 13:31	MT2-15-0622A
S66147.01	Lead, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A
S66147.01	Lead	SW6020A	06/22/15 13:31	MT2-15-0622A
S66147.01	Nickel, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A
S66147.01	Nickel	SW6020A	06/22/15 13:31	MT2-15-0622A
S66147.01	Vanadium, Dissolved	SW6020A	06/22/15 13:32	MT2-15-0622A
S66147.01	Vanadium	SW6020A	06/22/15 13:31	MT2-15-0622A
S66147.02	Arsenic, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A
S66147.02	Arsenic	SW6020A	06/22/15 13:34	MT2-15-0622A
S66147.02	Chromium, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A
S66147.02	Chromium	SW6020A	06/22/15 13:34	MT2-15-0622A
S66147.02	Copper, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A
S66147.02	Copper	SW6020A	06/22/15 13:34	MT2-15-0622A
S66147.02	Lead, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A
S66147.02	Lead	SW6020A	06/22/15 13:34	MT2-15-0622A
S66147.02	Nickel, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A
S66147.02	Nickel	SW6020A	06/22/15 13:34	MT2-15-0622A
S66147.02	Vanadium, Dissolved	SW6020A	06/22/15 13:36	MT2-15-0622A
S66147.02	Vanadium	SW6020A	06/22/15 13:34	MT2-15-0622A

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66147.01	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 19:38	150608A7
S66147.01	1,2-Dibromoethane	SW8260B	06/08/15 19:38	150608A7
S66147.01	TCL Volatile Organics 8260	SW8260C	06/08/15 19:38	150608A7
S66147.02	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 20:00	150608A7
S66147.02	1,2-Dibromoethane	SW8260B	06/08/15 20:00	150608A7
S66147.02	TCL Volatile Organics 8260	SW8260C	06/08/15 20:00	150608A7
S66147.03	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 20:22	150608A7
S66147.03	1,2-Dibromoethane	SW8260B	06/08/15 20:22	150608A7
S66147.03	TCL Volatile Organics 8260	SW8260C	06/08/15 20:22	150608A7
S66147.04	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 20:44	150608A7
S66147.04	1,2-Dibromoethane	SW8260B	06/08/15 20:44	150608A7
S66147.04	TCL Volatile Organics 8260	SW8260C	06/08/15 20:44	150608A7
S66147.05	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 21:06	150608A7
S66147.05	1,2-Dibromoethane	SW8260B	06/08/15 21:06	150608A7
S66147.05	TCL Volatile Organics 8260	SW8260C	06/08/15 21:06	150608A7

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66147.01	1,4-Dioxane	SW8260B - SIM	06/10/15 19:41	150610A6
S66147.02	1,4-Dioxane	SW8260B - SIM	06/10/15 19:59	150610A6
S66147.03	1,4-Dioxane	SW8260B - SIM	06/10/15 20:17	150610A6

Organics - Volatiles, Prep Batch ID: VS150610W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66147.04	1,4-Dioxane	SW8260B - SIM	06/10/15 20:35	150610A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66147.01
Sample Tag: MW-13-40_060515
Collected Date/Time: 06/05/2015 09:35
Matrix: Groundwater
COC Reference: 89880

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 19:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.20**	83.0	119.0
1,2-Dichloroethane-D4		**102.40**	77.0	121.0
Toluene-D8		**94.00**	86.0	118.0

Lab Sample ID: S66147.02
Sample Tag: MW-13-41_060515
Collected Date/Time: 06/05/2015 11:30
Matrix: Groundwater
COC Reference: 89880

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 20:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.40**	83.0	119.0
1,2-Dichloroethane-D4		**102.20**	77.0	121.0
Toluene-D8		**95.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66147.03
Sample Tag: MW-13-38_060515
Collected Date/Time: 06/05/2015 12:45
Matrix: Groundwater
COC Reference: 89880

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 20:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.80**	83.0	119.0
1,2-Dichloroethane-D4		**100.40**	77.0	121.0
Toluene-D8		**94.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66147.04
Sample Tag: MW-19_060515
Collected Date/Time: 06/05/2015 14:00
Matrix: Groundwater
COC Reference: 89880

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 20:44, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.00**	83.0	119.0
1,2-Dichloroethane-D4		**101.60**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66147.05
Sample Tag: TB0003_060515
Collected Date/Time: 06/05/2015 08:00
Matrix: Liquid
COC Reference: 89880

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 21:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.60**	83.0	119.0
1,2-Dichloroethane-D4		**99.80**	77.0	121.0
Toluene-D8		**95.20**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF150608W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**88.40**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.40**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150610W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.020.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:42, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**102**	85	115
Manganese		**100**	85	115
Iron		**91**	85	115
Nickel		**103**	85	115
Copper		**107**	85	115
Arsenic		**105**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.021.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:44, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.033.MS, Parent Sample ID: S66131.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**101**	75	125
Iron, Dissolved		**96**	75	125
Nickel, Dissolved		**101**	75	125
Copper, Dissolved		**98**	75	125
Arsenic, Dissolved		**101**	75	125
Lead, Dissolved		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**100**	75	125
Chromium		**98**	75	125
Manganese		**100**	75	125
Iron		**116**	75	125
Nickel		**99**	75	125
Copper		**97**	75	125
Arsenic		**98**	75	125

Metals, Prep Batch ID: MTD-061915-6 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Lead		**93**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.034.MSD, Parent Sample ID: MT2-15-0622A.033.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Vanadium, Dissolved		**100**	75	125	**3**	20
Chromium, Dissolved		**99**	75	125	**2**	20
Manganese, Dissolved		**99**	75	125	**1**	20
Iron, Dissolved		**88**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**3**	20
Copper, Dissolved		**94**	75	125	**4**	20
Arsenic, Dissolved		**99**	75	125	**2**	20
Lead, Dissolved		**94**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.048.MSD, Parent Sample ID: MT2-15-0622A.047.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:52, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Vanadium		**99**	75	125	**1**	20
Chromium		**99**	75	125	**1**	20
Manganese		**99**	75	125	**0**	20
Iron		**108**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Copper		**96**	75	125	**1**	20
Arsenic		**100**	75	125	**2**	20
Lead		**94**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**90.06**	75.1	135.9
Diethyl ether		**90.94**	67.4	121.2
Acetone		**91.10**	29.9	161.5
Methyl iodide		**96.36**	68.8	116.4
Carbon disulfide		**98.22**	63.8	137.4
Methyl acetate		**82.06**	64.7	125.4
tert-Methyl butyl ether		**102.58**	73.2	122.4
Acrylonitrile		**85.20**	69.9	128.9
2-Butanone		**83.50**	44.0	134.4
Dichlorodifluoromethane		**73.98**	10.0	222.8
Chloromethane		**77.54**	23.8	166.5
Vinyl Chloride		**79.42**	43.5	149.1
Bromomethane		**87.76**	56.8	151.3
Chloroethane		**93.02**	53.4	149.4
Trichlorofluoromethane		**79.14**	59.7	151.8
1,1-Dichloroethene		**89.78**	69.6	139.4
Methylene Chloride		**92.82**	73.3	121.1
trans-1,2-Dichloroethene		**93.50**	73.6	129.3
1,1-Dichloroethane		**97.08**	71.5	126.2
cis-1,2-Dichloroethene		**97.04**	76.6	122.1
Tetrahydrofuran		**84.62**	59.0	117.9
Chloroform		**95.58**	78.4	124.0
Bromochloromethane		**97.66**	78.2	120.8
1,1,1-Trichloroethane		**100.92**	79.4	130.9
Cyclohexane		**84.74**	10.0	169.1
4-Methyl-2-pentanone		**95.22**	71.6	125.2
2-Hexanone		**93.16**	55.4	136.9
Carbon Tetrachloride		**98.86**	72.6	133.0
Benzene		**96.90**	79.9	124.9
1,2-Dichloroethane		**90.72**	76.0	126.3
Trichloroethene		**95.34**	79.7	124.2
1,2-Dichloropropane		**97.58**	78.6	126.4
Bromodichloromethane		**101.94**	80.4	128.2
Methyl cyclohexane		**93.62**	76.6	131.3
Dibromomethane		**100.34**	76.9	122.1
cis-1,3-Dichloropropene		**96.18**	79.8	129.9
Toluene		**98.52**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**96.10**	78.7	123.1
Tetrachloroethene		**96.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**90.00**	68.6	135.4
Dibromochloromethane		**105.64**	74.6	127.2
1,2-Dibromoethane		**99.66**	70.3	133.7
Chlorobenzene		**99.66**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.64**	80.3	128.2
Ethylbenzene		**104.68**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**103.35**	79.4	132.2
o-Xylene		**101.72**	80.2	131.0
Styrene		**106.30**	69.5	126.7
Isopropylbenzene		**103.76**	74.4	121.5
Bromoform		**101.52**	69.4	128.0
1,1,2,2-Tetrachloroethane		**95.00**	79.8	126.3
1,2,3-Trichloropropane		**95.10**	78.3	138.8
n-Propylbenzene		**89.66**	82.0	130.7
Bromobenzene		**103.24**	78.7	124.6
1,3,5-Trimethylbenzene		**100.98**	81.3	128.9
tert-Butylbenzene		**101.06**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.72**	77.4	129.8
p-Isopropyltoluene		**103.74**	79.8	137.5
1,3-Dichlorobenzene		**101.66**	77.0	131.3
1,4-Dichlorobenzene		**101.86**	20.7	137.7
1,2-Dichlorobenzene		**100.20**	10.0	166.2
1,2,3-Trimethylbenzene		**103.62**	76.3	124.2
n-Butylbenzene		**103.32**	80.0	133.3
Hexachloroethane		**105.10**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**105.02**	21.2	189.4
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4
1,2,3-Trichlorobenzene		**101.92**	75.4	131.4
Naphthalene		**106.38**	32.9	135.8
2-Methylnaphthalene		**95.90**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.7**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.76**	75.1	135.9	**4.0**	30.0
Diethyl ether		**97.12**	67.4	121.2	**6.6**	30.0
Acetone	*	**126.68**	29.9	161.5	**32.7**	30.0
Methyl iodide		**100.44**	68.8	116.4	**4.1**	30.0
Carbon disulfide		**102.46**	63.8	137.4	**4.2**	30.0
Methyl acetate		**91.94**	64.7	125.4	**11.4**	30.0
tert-Methyl butyl ether		**109.84**	73.2	122.4	**6.8**	30.0
Acrylonitrile		**95.10**	69.9	128.9	**11.0**	30.0
2-Butanone		**110.00**	44.0	134.4	**27.4**	30.0
Dichlorodifluoromethane		**75.06**	10.0	222.8	**1.4**	30.0
Chloromethane		**79.76**	23.8	166.5	**2.8**	30.0
Vinyl Chloride		**82.44**	43.5	149.1	**3.7**	30.0
Bromomethane		**92.08**	56.8	151.3	**4.8**	30.0
Chloroethane		**97.50**	53.4	149.4	**4.7**	30.0
Trichlorofluoromethane		**82.22**	59.7	151.8	**3.8**	30.0
1,1-Dichloroethene		**94.22**	69.6	139.4	**4.8**	30.0
Methylene Chloride		**95.94**	73.3	121.1	**3.3**	30.0
trans-1,2-Dichloroethene		**98.42**	73.6	129.3	**5.1**	30.0
1,1-Dichloroethane		**100.64**	71.5	126.2	**3.6**	30.0
cis-1,2-Dichloroethene		**100.66**	76.6	122.1	**3.7**	30.0
Tetrahydrofuran		**95.42**	59.0	117.9	**12.0**	30.0
Chloroform		**99.64**	78.4	124.0	**4.2**	30.0
Bromochloromethane		**103.48**	78.2	120.8	**5.8**	30.0
1,1,1-Trichloroethane		**105.50**	79.4	130.9	**4.4**	30.0
Cyclohexane		**88.18**	10.0	169.1	**4.0**	30.0
4-Methyl-2-pentanone		**105.86**	71.6	125.2	**10.6**	30.0
2-Hexanone		**109.94**	55.4	136.9	**16.5**	30.0
Carbon Tetrachloride		**100.80**	72.6	133.0	**1.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**98.12**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**92.80**	76.0	126.3	**2.3**	30.0
Trichloroethene		**98.56**	79.7	124.2	**3.3**	30.0
1,2-Dichloropropane		**98.98**	78.6	126.4	**1.4**	30.0
Bromodichloromethane		**102.26**	80.4	128.2	**0.3**	30.0
Methyl cyclohexane		**94.96**	76.6	131.3	**1.4**	30.0
Dibromomethane		**103.58**	76.9	122.1	**3.2**	30.0
cis-1,3-Dichloropropene		**97.20**	79.8	129.9	**1.1**	30.0
Toluene		**100.28**	79.8	124.5	**1.8**	30.0
trans-1,3-Dichloropropene		**98.82**	74.0	131.3	**2.5**	30.0
1,1,2-Trichloroethane		**99.00**	78.7	123.1	**3.0**	30.0
Tetrachloroethene		**98.74**	74.5	124.5	**2.1**	30.0
trans-1,4-Dichloro-2-butene		**81.04**	68.6	135.4	**10.5**	30.0
Dibromochloromethane		**107.90**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**104.58**	70.3	133.7	**4.8**	30.0
Chlorobenzene		**101.96**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**104.14**	80.3	128.2	**2.4**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**2.3**	30.0
p,m-Xylene		**105.32**	79.4	132.2	**1.9**	30.0
o-Xylene		**103.24**	80.2	131.0	**1.5**	30.0
Styrene		**106.62**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**107.26**	74.4	121.5	**3.3**	30.0
Bromoform		**105.50**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane		**102.30**	79.8	126.3	**7.4**	30.0
1,2,3-Trichloropropane		**100.60**	78.3	138.8	**5.6**	30.0
n-Propylbenzene		**91.28**	82.0	130.7	**1.8**	30.0
Bromobenzene		**104.54**	78.7	124.6	**1.3**	30.0
1,3,5-Trimethylbenzene		**103.52**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**102.88**	80.7	128.9	**1.8**	30.0
1,2,4-Trimethylbenzene		**102.78**	81.4	130.8	**1.5**	30.0
sec-Butylbenzene		**108.84**	77.4	129.8	**3.9**	30.0
p-Isopropyltoluene		**106.98**	79.8	137.5	**3.1**	30.0
1,3-Dichlorobenzene		**104.00**	77.0	131.3	**2.3**	30.0
1,4-Dichlorobenzene		**103.38**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**103.12**	10.0	166.2	**2.9**	30.0
1,2,3-Trimethylbenzene		**106.18**	76.3	124.2	**2.4**	30.0
n-Butylbenzene		**105.72**	80.0	133.3	**2.3**	30.0
Hexachloroethane		**107.12**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**115.46**	21.2	189.4	**9.5**	30.0
1,2,4-Trichlorobenzene		**106.28**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**105.24**	75.4	131.4	**3.2**	30.0
Naphthalene		**113.50**	32.9	135.8	**6.5**	30.0
2-Methylnaphthalene		**103.98**	25.5	165.5	**8.1**	30.0

Organics - Volatiles, Prep Batch ID: VS150610W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**87.80**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150610a6.blkw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 14:20, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150610a6.6612803m, Parent Sample ID: S66128.02

Run in Batch: 150610A6, Run Date: 06/10/2015 21:12, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150610a6.6613004m, Parent Sample ID: S66130.03

Run in Batch: 150610A6, Run Date: 06/10/2015 21:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.62**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6612804n, Parent Sample ID: 150610a6.6612803m

Run in Batch: 150610A6, Run Date: 06/10/2015 21:31, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**86.88**	70.0	130.0	**7.8**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150610a6.6613005n, Parent Sample ID: 150610a6.6613004m

Run in Batch: 150610A6, Run Date: 06/10/2015 22:07, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**93.16**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a6.lcsw10b, Parent Sample ID: 150610a6.lcsw10a

Run in Batch: 150610A6, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.74**	70.0	130.0	**1.1**	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89880

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: ARCADIS
ADDRESS: 10559 Citation Dr. Ste. 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-225-1940 FAX NO.: P.O. NO.: B0064480.2015.00603
E-MAIL ADDRESS: randy.christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: B0064480.2015.00603 / RACER Lansing Plant 3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Austin Westhuis / [signature]

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC 8260	1,4-Dioxane Sims 8260	Select Metals 6020 (Total)	Select Metals 6020 (Dissolved)	Special Instructions
060147.01	6/5/15	0935	MW-13-40_060515	GW	5		3	2					X	X	X	X	Select Metals Include: As, Ni, Pb, V, Cr, and Cu
.02	6/5/15	1130	MW-13-41_060515	GW	5		3	2					X	X	X	X	
.03	6/5/15	1245	MW-13-38_060515	GW	3		3						X	X			
.04	6/5/15	1400	MW-19_060515	GW	3		3						X	X			
.05	6/5/15	0800	TB0003_060515	L	1		1						X				

RELINQUISHED BY: SIGNATURE/ORGANIZATION [signature] / ARCADIS ☐ Sampler	6/5/15	1430	RELINQUISHED BY: SIGNATURE/ORGANIZATION [signature] / ARCADIS	6-5-15 14:45
RECEIVED BY: SIGNATURE/ORGANIZATION [signature] / ARCADIS	6/5/15	1430	RECEIVED BY: SIGNATURE/ORGANIZATION [signature]	06/05/15 1510
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS	NOTES: TEMP. ON ARRIVAL 14.6
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66149.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66149.01-S66149.09
Project: RACER Lansing Plant-3 / B0064480.2015
Submitted Date/Time: 06/05/2015 15:10
Sampled by: Billy J. Cobern
P.O. #: B0064480.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-10)
Prep Batch Summary (Pages 11-12)
Surrogates per Lab Sample (Pages 13-18)
Surrogates per QC Sample (Page 19)
Batch QC Results (Pages 20-28)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.



Barbara Ball
Quality Assurance Manager

Lab Sample ID: S66149.01
Sample Tag: FB-0004_060515
Collected Date/Time: 06/05/2015 08:30
Matrix: Liquid
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 21:27	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 21:27	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 21:27	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

QC Report - Analysis Summary

Lab Sample ID: S66149.02
Sample Tag: MW-05(3)_060515
Collected Date/Time: 06/05/2015 09:10
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 13:38	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 13:38	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 13:38	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 13:38	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 13:38	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 13:38	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 21:49	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 21:49	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 21:49	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66149.03
Sample Tag: MW-06(3)_060515
Collected Date/Time: 06/05/2015 10:25
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:11	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 22:11	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 22:11	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66149.04
Sample Tag: UNK-11_060515
Collected Date/Time: 06/05/2015 11:35
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:33	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 22:33	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 22:33	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66149.05
Sample Tag: UNK-10_060515
Collected Date/Time: 06/05/2015 12:30
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 13:39	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 13:39	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 13:39	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 13:39	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 13:39	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 13:39	MT2-15-0622A	MTD-061915-6	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:55	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 22:55	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 22:55	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66149.06
Sample Tag: UNK-09_060515
Collected Date/Time: 06/05/2015 13:45
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 14:59	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 14:59	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 14:59	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 14:59	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 14:59	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 14:59	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD

Lab Sample ID: S66149.07
Sample Tag: UNK-09_060515 MS
Collected Date/Time: 06/05/2015 13:45
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 15:05	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 15:05	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 15:05	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 15:05	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 15:05	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 15:05	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD

Lab Sample ID: S66149.08
Sample Tag: UNK-09_060515 MSD
Collected Date/Time: 06/05/2015 13:45
Matrix: Groundwater
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 15:09	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 15:09	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 15:09	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 15:09	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 15:09	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 15:09	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD

Lab Sample ID: S66149.09
Sample Tag: TB-0004_060515
Collected Date/Time: 06/05/2015 00:01
Matrix: Liquid
COC Reference: 89877

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 23:17	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/08/15 23:17	150608A7	VF150608W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/08/15 23:17	150608A7	VF150608W2	Yes	LCS/BLK/LCSD

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66149.02	Arsenic	SW6020A	06/22/15 13:38	MT2-15-0622A
S66149.02	Chromium	SW6020A	06/22/15 13:38	MT2-15-0622A
S66149.02	Copper	SW6020A	06/22/15 13:38	MT2-15-0622A
S66149.02	Lead	SW6020A	06/22/15 13:38	MT2-15-0622A
S66149.02	Nickel	SW6020A	06/22/15 13:38	MT2-15-0622A
S66149.02	Vanadium	SW6020A	06/22/15 13:38	MT2-15-0622A
S66149.05	Arsenic	SW6020A	06/22/15 13:39	MT2-15-0622A
S66149.05	Chromium	SW6020A	06/22/15 13:39	MT2-15-0622A
S66149.05	Copper	SW6020A	06/22/15 13:39	MT2-15-0622A
S66149.05	Lead	SW6020A	06/22/15 13:39	MT2-15-0622A
S66149.05	Nickel	SW6020A	06/22/15 13:39	MT2-15-0622A
S66149.05	Vanadium	SW6020A	06/22/15 13:39	MT2-15-0622A

Metals, Prep Batch ID: MTD-061915-7

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66149.06	Arsenic	SW6020A	06/22/15 14:59	MT2-15-0622A
S66149.06	Chromium	SW6020A	06/22/15 14:59	MT2-15-0622A
S66149.06	Copper	SW6020A	06/22/15 14:59	MT2-15-0622A
S66149.06	Lead	SW6020A	06/22/15 14:59	MT2-15-0622A
S66149.06	Nickel	SW6020A	06/22/15 14:59	MT2-15-0622A
S66149.06	Vanadium	SW6020A	06/22/15 14:59	MT2-15-0622A
S66149.07	Arsenic	SW6020A	06/22/15 15:05	MT2-15-0622A
S66149.07	Chromium	SW6020A	06/22/15 15:05	MT2-15-0622A
S66149.07	Copper	SW6020A	06/22/15 15:05	MT2-15-0622A
S66149.07	Lead	SW6020A	06/22/15 15:05	MT2-15-0622A
S66149.07	Nickel	SW6020A	06/22/15 15:05	MT2-15-0622A
S66149.07	Vanadium	SW6020A	06/22/15 15:05	MT2-15-0622A
S66149.08	Arsenic	SW6020A	06/22/15 15:09	MT2-15-0622A
S66149.08	Chromium	SW6020A	06/22/15 15:09	MT2-15-0622A
S66149.08	Copper	SW6020A	06/22/15 15:09	MT2-15-0622A
S66149.08	Lead	SW6020A	06/22/15 15:09	MT2-15-0622A
S66149.08	Nickel	SW6020A	06/22/15 15:09	MT2-15-0622A
S66149.08	Vanadium	SW6020A	06/22/15 15:09	MT2-15-0622A

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66149.01	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 21:27	150608A7
S66149.01	1,2-Dibromoethane	SW8260B	06/08/15 21:27	150608A7
S66149.01	TCL Volatile Organics 8260	SW8260C	06/08/15 21:27	150608A7
S66149.02	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 21:49	150608A7
S66149.02	1,2-Dibromoethane	SW8260B	06/08/15 21:49	150608A7
S66149.02	TCL Volatile Organics 8260	SW8260C	06/08/15 21:49	150608A7
S66149.03	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:11	150608A7
S66149.03	1,2-Dibromoethane	SW8260B	06/08/15 22:11	150608A7
S66149.03	TCL Volatile Organics 8260	SW8260C	06/08/15 22:11	150608A7
S66149.04	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:33	150608A7
S66149.04	1,2-Dibromoethane	SW8260B	06/08/15 22:33	150608A7
S66149.04	TCL Volatile Organics 8260	SW8260C	06/08/15 22:33	150608A7

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66149.05	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 22:55	150608A7
S66149.05	1,2-Dibromoethane	SW8260B	06/08/15 22:55	150608A7
S66149.05	TCL Volatile Organics 8260	SW8260C	06/08/15 22:55	150608A7
S66149.09	1,2-Dibromo-3-chloropropane	SW8260C	06/08/15 23:17	150608A7
S66149.09	1,2-Dibromoethane	SW8260B	06/08/15 23:17	150608A7
S66149.09	TCL Volatile Organics 8260	SW8260C	06/08/15 23:17	150608A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66149.01
Sample Tag: FB-0004_060515
Collected Date/Time: 06/05/2015 08:30
Matrix: Liquid
COC Reference: 89877

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 21:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.40**	83.0	119.0
1,2-Dichloroethane-D4		**100.00**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66149.02
Sample Tag: MW-05(3)_060515
Collected Date/Time: 06/05/2015 09:10
Matrix: Groundwater
COC Reference: 89877

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 21:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**95.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66149.03
Sample Tag: MW-06(3)_060515
Collected Date/Time: 06/05/2015 10:25
Matrix: Groundwater
COC Reference: 89877

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 22:11, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.00**	83.0	119.0
1,2-Dichloroethane-D4		**98.00**	77.0	121.0
Toluene-D8		**93.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66149.04
Sample Tag: UNK-11_060515
Collected Date/Time: 06/05/2015 11:35
Matrix: Groundwater
COC Reference: 89877

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 22:33, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.40**	83.0	119.0
1,2-Dichloroethane-D4		**101.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66149.05
Sample Tag: UNK-10_060515
Collected Date/Time: 06/05/2015 12:30
Matrix: Groundwater
COC Reference: 89877

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 22:55, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.60**	83.0	119.0
1,2-Dichloroethane-D4		**101.00**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66149.09
Sample Tag: TB-0004_060515
Collected Date/Time: 06/05/2015 00:01
Matrix: Liquid
COC Reference: 89877

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150608A7, Run Date: 06/08/2015 23:17, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.20**	83.0	119.0
1,2-Dichloroethane-D4		**101.00**	77.0	121.0
Toluene-D8		**95.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150608W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**88.40**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.40**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

Metals, Prep Batch ID: MTD-061915-6

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.020.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:42, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**102**	85	115
Manganese		**100**	85	115
Iron		**91**	85	115
Nickel		**103**	85	115
Copper		**107**	85	115
Arsenic		**105**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.021.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 12:44, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.033.MS, Parent Sample ID: S66131.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:12, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**104**	75	125
Chromium, Dissolved		**101**	75	125
Manganese, Dissolved		**101**	75	125
Iron, Dissolved		**96**	75	125
Nickel, Dissolved		**101**	75	125
Copper, Dissolved		**98**	75	125
Arsenic, Dissolved		**101**	75	125
Lead, Dissolved		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**100**	75	125
Chromium		**98**	75	125
Manganese		**100**	75	125
Iron		**116**	75	125
Nickel		**99**	75	125
Copper		**97**	75	125
Arsenic		**98**	75	125

Metals, Prep Batch ID: MTD-061915-6 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.047.MS, Parent Sample ID: S66149.05

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:51, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead		**93**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.034.MSD, Parent Sample ID: MT2-15-0622A.033.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:14, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**100**	75	125	**3**	20
Chromium, Dissolved		**99**	75	125	**2**	20
Manganese, Dissolved		**99**	75	125	**1**	20
Iron, Dissolved		**88**	75	125	**2**	20
Nickel, Dissolved		**98**	75	125	**3**	20
Copper, Dissolved		**94**	75	125	**4**	20
Arsenic, Dissolved		**99**	75	125	**2**	20
Lead, Dissolved		**94**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.048.MSD, Parent Sample ID: MT2-15-0622A.047.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 13:52, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**99**	75	125	**1**	20
Chromium		**99**	75	125	**1**	20
Manganese		**99**	75	125	**0**	20
Iron		**108**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Copper		**96**	75	125	**1**	20
Arsenic		**100**	75	125	**2**	20
Lead		**94**	75	125	**0**	20

Metals, Prep Batch ID: MTD-061915-7

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.061.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 14:43, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**104**	85	115
Chromium		**105**	85	115
Manganese		**103**	85	115
Iron		**94**	85	115
Nickel		**102**	85	115
Copper		**102**	85	115
Arsenic		**101**	85	115
Lead		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.062.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 14:44, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.065.MS, Parent Sample ID: S66149.06

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:05, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**106**	75	125
Chromium		**104**	75	125
Manganese		**100**	75	125
Iron		**120**	75	125
Nickel		**103**	75	125
Copper		**104**	75	125
Arsenic		**107**	75	125
Lead		**100**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.089.MS, Parent Sample ID: S66203.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:55, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**106**	75	125
Chromium		**104**	75	125
Manganese		**104**	75	125
Iron		**112**	75	125
Nickel		**103**	75	125
Copper		**101**	75	125
Arsenic		**106**	75	125

Metals, Prep Batch ID: MTD-061915-7 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.089.MS, Parent Sample ID: S66203.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:55, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.066.MSD, Parent Sample ID: MT2-15-0622A.065.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:09, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**106**	75	125	**0**	20
Chromium		**104**	75	125	**0**	20
Manganese		**102**	75	125	**2**	20
Iron	*	**128**	75	125	**1**	20
Nickel		**106**	75	125	**3**	20
Copper		**105**	75	125	**1**	20
Arsenic		**106**	75	125	**1**	20
Lead		**99**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.090.MSD, Parent Sample ID: MT2-15-0622A.089.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:58, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**104**	75	125	**1**	20
Chromium		**100**	75	125	**4**	20
Manganese		**99**	75	125	**4**	20
Iron		**100**	75	125	**5**	20
Nickel		**100**	75	125	**3**	20
Copper		**98**	75	125	**3**	20
Arsenic		**104**	75	125	**2**	20
Lead		**98**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150608W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**90.06**	75.1	135.9
Diethyl ether		**90.94**	67.4	121.2
Acetone		**91.10**	29.9	161.5
Methyl iodide		**96.36**	68.8	116.4
Carbon disulfide		**98.22**	63.8	137.4
Methyl acetate		**82.06**	64.7	125.4
tert-Methyl butyl ether		**102.58**	73.2	122.4
Acrylonitrile		**85.20**	69.9	128.9
2-Butanone		**83.50**	44.0	134.4
Dichlorodifluoromethane		**73.98**	10.0	222.8
Chloromethane		**77.54**	23.8	166.5
Vinyl Chloride		**79.42**	43.5	149.1
Bromomethane		**87.76**	56.8	151.3
Chloroethane		**93.02**	53.4	149.4
Trichlorofluoromethane		**79.14**	59.7	151.8
1,1-Dichloroethene		**89.78**	69.6	139.4
Methylene Chloride		**92.82**	73.3	121.1
trans-1,2-Dichloroethene		**93.50**	73.6	129.3
1,1-Dichloroethane		**97.08**	71.5	126.2
cis-1,2-Dichloroethene		**97.04**	76.6	122.1
Tetrahydrofuran		**84.62**	59.0	117.9
Chloroform		**95.58**	78.4	124.0
Bromochloromethane		**97.66**	78.2	120.8
1,1,1-Trichloroethane		**100.92**	79.4	130.9
Cyclohexane		**84.74**	10.0	169.1
4-Methyl-2-pentanone		**95.22**	71.6	125.2
2-Hexanone		**93.16**	55.4	136.9
Carbon Tetrachloride		**98.86**	72.6	133.0
Benzene		**96.90**	79.9	124.9
1,2-Dichloroethane		**90.72**	76.0	126.3
Trichloroethene		**95.34**	79.7	124.2
1,2-Dichloropropane		**97.58**	78.6	126.4
Bromodichloromethane		**101.94**	80.4	128.2
Methyl cyclohexane		**93.62**	76.6	131.3
Dibromomethane		**100.34**	76.9	122.1
cis-1,3-Dichloropropene		**96.18**	79.8	129.9
Toluene		**98.52**	79.8	124.5
trans-1,3-Dichloropropene		**96.34**	74.0	131.3
1,1,2-Trichloroethane		**96.10**	78.7	123.1
Tetrachloroethene		**96.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**90.00**	68.6	135.4
Dibromochloromethane		**105.64**	74.6	127.2
1,2-Dibromoethane		**99.66**	70.3	133.7
Chlorobenzene		**99.66**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.64**	80.3	128.2
Ethylbenzene		**104.68**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:09, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**103.35**	79.4	132.2
o-Xylene		**101.72**	80.2	131.0
Styrene		**106.30**	69.5	126.7
Isopropylbenzene		**103.76**	74.4	121.5
Bromoform		**101.52**	69.4	128.0
1,1,2,2-Tetrachloroethane		**95.00**	79.8	126.3
1,2,3-Trichloropropane		**95.10**	78.3	138.8
n-Propylbenzene		**89.66**	82.0	130.7
Bromobenzene		**103.24**	78.7	124.6
1,3,5-Trimethylbenzene		**100.98**	81.3	128.9
tert-Butylbenzene		**101.06**	80.7	128.9
1,2,4-Trimethylbenzene		**101.22**	81.4	130.8
sec-Butylbenzene		**104.72**	77.4	129.8
p-Isopropyltoluene		**103.74**	79.8	137.5
1,3-Dichlorobenzene		**101.66**	77.0	131.3
1,4-Dichlorobenzene		**101.86**	20.7	137.7
1,2-Dichlorobenzene		**100.20**	10.0	166.2
1,2,3-Trimethylbenzene		**103.62**	76.3	124.2
n-Butylbenzene		**103.32**	80.0	133.3
Hexachloroethane		**105.10**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**105.02**	21.2	189.4
1,2,4-Trichlorobenzene		**104.02**	27.4	143.4
1,2,3-Trichlorobenzene		**101.92**	75.4	131.4
Naphthalene		**106.38**	32.9	135.8
2-Methylnaphthalene		**95.90**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.7**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150608a7.blkw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 15:00, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.76**	75.1	135.9	**4.0**	30.0
Diethyl ether		**97.12**	67.4	121.2	**6.6**	30.0
Acetone	*	**126.68**	29.9	161.5	**32.7**	30.0
Methyl iodide		**100.44**	68.8	116.4	**4.1**	30.0
Carbon disulfide		**102.46**	63.8	137.4	**4.2**	30.0
Methyl acetate		**91.94**	64.7	125.4	**11.4**	30.0
tert-Methyl butyl ether		**109.84**	73.2	122.4	**6.8**	30.0
Acrylonitrile		**95.10**	69.9	128.9	**11.0**	30.0
2-Butanone		**110.00**	44.0	134.4	**27.4**	30.0
Dichlorodifluoromethane		**75.06**	10.0	222.8	**1.4**	30.0
Chloromethane		**79.76**	23.8	166.5	**2.8**	30.0
Vinyl Chloride		**82.44**	43.5	149.1	**3.7**	30.0
Bromomethane		**92.08**	56.8	151.3	**4.8**	30.0
Chloroethane		**97.50**	53.4	149.4	**4.7**	30.0
Trichlorofluoromethane		**82.22**	59.7	151.8	**3.8**	30.0
1,1-Dichloroethene		**94.22**	69.6	139.4	**4.8**	30.0
Methylene Chloride		**95.94**	73.3	121.1	**3.3**	30.0
trans-1,2-Dichloroethene		**98.42**	73.6	129.3	**5.1**	30.0
1,1-Dichloroethane		**100.64**	71.5	126.2	**3.6**	30.0
cis-1,2-Dichloroethene		**100.66**	76.6	122.1	**3.7**	30.0
Tetrahydrofuran		**95.42**	59.0	117.9	**12.0**	30.0
Chloroform		**99.64**	78.4	124.0	**4.2**	30.0
Bromochloromethane		**103.48**	78.2	120.8	**5.8**	30.0
1,1,1-Trichloroethane		**105.50**	79.4	130.9	**4.4**	30.0
Cyclohexane		**88.18**	10.0	169.1	**4.0**	30.0
4-Methyl-2-pentanone		**105.86**	71.6	125.2	**10.6**	30.0
2-Hexanone		**109.94**	55.4	136.9	**16.5**	30.0
Carbon Tetrachloride		**100.80**	72.6	133.0	**1.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150608W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150608a7.lcsw08b, Parent Sample ID: 150608a7.lcsw08a

Run in Batch: 150608A7, Run Date: 06/08/2015 13:32, Prep Date: 06/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzene		**98.12**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**92.80**	76.0	126.3	**2.3**	30.0
Trichloroethene		**98.56**	79.7	124.2	**3.3**	30.0
1,2-Dichloropropane		**98.98**	78.6	126.4	**1.4**	30.0
Bromodichloromethane		**102.26**	80.4	128.2	**0.3**	30.0
Methyl cyclohexane		**94.96**	76.6	131.3	**1.4**	30.0
Dibromomethane		**103.58**	76.9	122.1	**3.2**	30.0
cis-1,3-Dichloropropene		**97.20**	79.8	129.9	**1.1**	30.0
Toluene		**100.28**	79.8	124.5	**1.8**	30.0
trans-1,3-Dichloropropene		**98.82**	74.0	131.3	**2.5**	30.0
1,1,2-Trichloroethane		**99.00**	78.7	123.1	**3.0**	30.0
Tetrachloroethene		**98.74**	74.5	124.5	**2.1**	30.0
trans-1,4-Dichloro-2-butene		**81.04**	68.6	135.4	**10.5**	30.0
Dibromochloromethane		**107.90**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**104.58**	70.3	133.7	**4.8**	30.0
Chlorobenzene		**101.96**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**104.14**	80.3	128.2	**2.4**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**2.3**	30.0
p,m-Xylene		**105.32**	79.4	132.2	**1.9**	30.0
o-Xylene		**103.24**	80.2	131.0	**1.5**	30.0
Styrene		**106.62**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**107.26**	74.4	121.5	**3.3**	30.0
Bromoform		**105.50**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane		**102.30**	79.8	126.3	**7.4**	30.0
1,2,3-Trichloropropane		**100.60**	78.3	138.8	**5.6**	30.0
n-Propylbenzene		**91.28**	82.0	130.7	**1.8**	30.0
Bromobenzene		**104.54**	78.7	124.6	**1.3**	30.0
1,3,5-Trimethylbenzene		**103.52**	81.3	128.9	**2.5**	30.0
tert-Butylbenzene		**102.88**	80.7	128.9	**1.8**	30.0
1,2,4-Trimethylbenzene		**102.78**	81.4	130.8	**1.5**	30.0
sec-Butylbenzene		**108.84**	77.4	129.8	**3.9**	30.0
p-Isopropyltoluene		**106.98**	79.8	137.5	**3.1**	30.0
1,3-Dichlorobenzene		**104.00**	77.0	131.3	**2.3**	30.0
1,4-Dichlorobenzene		**103.38**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**103.12**	10.0	166.2	**2.9**	30.0
1,2,3-Trimethylbenzene		**106.18**	76.3	124.2	**2.4**	30.0
n-Butylbenzene		**105.72**	80.0	133.3	**2.3**	30.0
Hexachloroethane		**107.12**	23.8	138.1	**1.9**	30.0
1,2-Dibromo-3-Chloropropane		**115.46**	21.2	189.4	**9.5**	30.0
1,2,4-Trichlorobenzene		**106.28**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**105.24**	75.4	131.4	**3.2**	30.0
Naphthalene		**113.50**	32.9	135.8	**6.5**	30.0
2-Methylnaphthalene		**103.98**	25.5	165.5	**8.1**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89877

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. SUITE 100
CITY: BRIGHTON STATE: MI ZIP CODE: ~~48856~~ 48116
PHONE NO.: 810.225.1940 FAX NO.:
P.O. NO.: B00 64480.2015
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS.U-S.COM
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER LANSING PLANT-3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: BILLY J. COSBY

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260B	* SELECT METALS	Special Instructions
160149.01	6/5/15	8:30	FB-0004_060515	L	3		3						X		
.02	6/5/15	9:10	MW-06(3)_060515	GW	4		3	1					X	X	
.03	6/5/15	10:25	MW-06(3)_060515	GW	3		3						X		
.04	6/5/15	11:35	UNK-11_060515	GW	3		3						X		
.05	6/5/15	12:30	UNK-10_060515	GW	4		3	1					X	X	
.06/.07/.08	6/5/15	13:45	UNK-09_060515	GW	3			3						X	MS/MSD
.09	—	—	TB-0004_060515	L	1		1						X		
															X SELECT METALS
															As, Cr, Cu, Pb, Ni,
															V, Fe

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] / ARCADIS ☒ sampler DATE: 6/5/15 TIME: 14:45
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: Michelle Dunkman DATE: 060515 TIME: 1510

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 14.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66203.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66203.01-S66203.08
Project: RACER Plant 6 / B0064481.2015.00603
Submitted Date/Time: 06/10/2015 09:25
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-12)
Surrogates per Lab Sample (Pages 13-18)
Surrogates per QC Sample (Pages 19-20)
Batch QC Results (Pages 21-41)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66203.01
Sample Tag: MWBP-12A-UST1-4_060915
Collected Date/Time: 06/09/2015 08:50
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/11/15 07:13	NTRA150611-W1	NTRA150611-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/11/15 11:03	SFT150611-W1	SFT150611-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/22/15 15:49	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/22/15 15:49	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 15:47	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 19:38	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/10/15 19:38	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/10/15 19:38	150610A7	VF150610W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66203.02
Sample Tag: MWBP-12-UST1-4_060915
Collected Date/Time: 06/09/2015 10:20
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 15:51	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 15:51	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 15:51	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 15:51	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 15:51	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 15:51	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/11/15 21:32	150611A7	VF150611W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/11/15 21:32	150611A7	VF150611W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/11/15 21:32	150611A7	VF150611W2	Yes	LCS/BLK/LCSD

QC Report - Analysis Summary

Lab Sample ID: S66203.03
Sample Tag: MWBP-11-UST1-4_060915
Collected Date/Time: 06/09/2015 11:25
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 15:53	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 15:53	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 15:53	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 15:53	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 15:53	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 15:53	MT2-15-0622A	MTD-061915-7	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 20:00	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/10/15 20:00	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/10/15 20:00	150610A7	VF150610W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66203.04
Sample Tag: P6-MW-01_060915
Collected Date/Time: 06/09/2015 13:50
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/11/15 07:25	NTRA150611-W1	NTRA150611-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/11/15 11:16	SFT150611-W1	SFT150611-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 14:14	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 14:12	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 14:14	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 14:12	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD

Lab Sample ID: S66203.05
Sample Tag: EB-0001_060915
Collected Date/Time: 06/09/2015 14:15
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Barium	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Boron	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Mercury	SW7471B	06/10/15 16:01	HG2-15-0610A	HGD-061015-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Selenium	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Silver	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Zinc	SW6020A	06/18/15 16:10	MT2-15-0618A	MTD-061815-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 20:44	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/10/15 20:44	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/10/15 20:44	150610A7	VF150610W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66203.06
Sample Tag: P6-SB-32_060915
Collected Date/Time: 06/09/2015 15:30
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/11/15 07:38	NTRA150611-W1	NTRA150611-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/11/15 07:38	SFT150611-W1	SFT150611-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 16:09	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/11/15 21:54	150611A7	VF150611W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/11/15 21:54	150611A7	VF150611W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/11/15 21:54	150611A7	VF150611W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S66203.07
Sample Tag: MW-12-14_060915
Collected Date/Time: 06/09/2015 17:30
Matrix: Groundwater
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/11/15 07:51	NTRA150611-W1	NTRA150611-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/11/15 07:51	SFT150611-W1	SFT150611-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 14:18	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 14:16	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 14:18	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 14:16	MT3-15-0616B	MTD-061615-3	No	LCS/BLK/MS/MSD

Lab Sample ID: S66203.08
Sample Tag: Trip Blank
Collected Date/Time: 06/09/2015 00:01
Matrix: Water
COC Reference: 89887

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 21:06	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/10/15 21:06	150610A7	VF150610W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/10/15 21:06	150610A7	VF150610W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150611-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.01	Nitrate-N	E300.0	06/11/15 07:13	NTRA150611-W1
S66203.04	Nitrate-N	E300.0	06/11/15 07:25	NTRA150611-W1
S66203.06	Nitrate-N	E300.0	06/11/15 07:38	NTRA150611-W1
S66203.07	Nitrate-N	E300.0	06/11/15 07:51	NTRA150611-W1

Inorganics, Prep Batch ID: SFT150611-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.01	Sulfate	E300.0	06/11/15 11:03	SFT150611-W1
S66203.04	Sulfate	E300.0	06/11/15 11:16	SFT150611-W1
S66203.06	Sulfate	E300.0	06/11/15 07:38	SFT150611-W1
S66203.07	Sulfate	E300.0	06/11/15 07:51	SFT150611-W1

Metals, Prep Batch ID: HGD-061015-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.05	Mercury	SW7471B	06/10/15 16:01	HG2-15-0610A

Metals, Prep Batch ID: MTD-061615-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.04	Iron, Dissolved	SW6020A	06/16/15 14:14	MT3-15-0616B
S66203.04	Iron	SW6020A	06/16/15 14:12	MT3-15-0616B
S66203.04	Manganese, Dissolved	SW6020A	06/16/15 14:14	MT3-15-0616B
S66203.04	Manganese	SW6020A	06/16/15 14:12	MT3-15-0616B
S66203.07	Iron, Dissolved	SW6020A	06/16/15 14:18	MT3-15-0616B
S66203.07	Iron	SW6020A	06/16/15 14:16	MT3-15-0616B
S66203.07	Manganese, Dissolved	SW6020A	06/16/15 14:18	MT3-15-0616B
S66203.07	Manganese	SW6020A	06/16/15 14:16	MT3-15-0616B

Metals, Prep Batch ID: MTD-061815-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.05	Antimony	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Arsenic	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Barium	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Boron	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Cadmium	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Chromium	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Cobalt	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Copper	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Lead	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Manganese	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Nickel	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Selenium	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Silver	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Vanadium	SW6020A	06/18/15 16:10	MT2-15-0618A
S66203.05	Zinc	SW6020A	06/18/15 16:10	MT2-15-0618A

Metals, Prep Batch ID: MTD-061915-7

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.01	Arsenic	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Chromium	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Copper	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Iron, Dissolved	SW6020A	06/22/15 15:49	MT2-15-0622A
S66203.01	Iron	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Lead	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Manganese, Dissolved	SW6020A	06/22/15 15:49	MT2-15-0622A
S66203.01	Manganese	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Nickel	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.01	Vanadium	SW6020A	06/22/15 15:47	MT2-15-0622A
S66203.02	Arsenic	SW6020A	06/22/15 15:51	MT2-15-0622A
S66203.02	Chromium	SW6020A	06/22/15 15:51	MT2-15-0622A
S66203.02	Copper	SW6020A	06/22/15 15:51	MT2-15-0622A
S66203.02	Lead	SW6020A	06/22/15 15:51	MT2-15-0622A
S66203.02	Nickel	SW6020A	06/22/15 15:51	MT2-15-0622A
S66203.02	Vanadium	SW6020A	06/22/15 15:51	MT2-15-0622A
S66203.03	Arsenic	SW6020A	06/22/15 15:53	MT2-15-0622A
S66203.03	Chromium	SW6020A	06/22/15 15:53	MT2-15-0622A
S66203.03	Copper	SW6020A	06/22/15 15:53	MT2-15-0622A
S66203.03	Lead	SW6020A	06/22/15 15:53	MT2-15-0622A
S66203.03	Nickel	SW6020A	06/22/15 15:53	MT2-15-0622A
S66203.03	Vanadium	SW6020A	06/22/15 15:53	MT2-15-0622A

Metals, Prep Batch ID: MTD-062215-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.06	Arsenic, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Arsenic	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Chromium, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Chromium	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Copper, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Copper	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Iron, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Iron	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Lead, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Lead	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Manganese, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Manganese	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Nickel, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Nickel	SW6020A	06/22/15 16:09	MT2-15-0622A
S66203.06	Vanadium, Dissolved	SW6020A	06/22/15 16:11	MT2-15-0622A
S66203.06	Vanadium	SW6020A	06/22/15 16:09	MT2-15-0622A

Organics - Volatiles, Prep Batch ID: VF150610W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.01	1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 19:38	150610A7
S66203.01	1,2-Dibromoethane	SW8260B	06/10/15 19:38	150610A7
S66203.01	TCL Volatile Organics 8260	SW8260C	06/10/15 19:38	150610A7

Organics - Volatiles, Prep Batch ID: VF150610W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.03	1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 20:00	150610A7
S66203.03	1,2-Dibromoethane	SW8260B	06/10/15 20:00	150610A7
S66203.03	TCL Volatile Organics 8260	SW8260C	06/10/15 20:00	150610A7
S66203.05	1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 20:44	150610A7
S66203.05	1,2-Dibromoethane	SW8260B	06/10/15 20:44	150610A7
S66203.05	TCL Volatile Organics 8260	SW8260C	06/10/15 20:44	150610A7
S66203.08	1,2-Dibromo-3-chloropropane	SW8260C	06/10/15 21:06	150610A7
S66203.08	1,2-Dibromoethane	SW8260B	06/10/15 21:06	150610A7
S66203.08	TCL Volatile Organics 8260	SW8260C	06/10/15 21:06	150610A7

Organics - Volatiles, Prep Batch ID: VF150611W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66203.02	1,2-Dibromo-3-chloropropane	SW8260C	06/11/15 21:32	150611A7
S66203.02	1,2-Dibromoethane	SW8260B	06/11/15 21:32	150611A7
S66203.02	TCL Volatile Organics 8260	SW8260C	06/11/15 21:32	150611A7
S66203.06	1,2-Dibromo-3-chloropropane	SW8260C	06/11/15 21:54	150611A7
S66203.06	1,2-Dibromoethane	SW8260B	06/11/15 21:54	150611A7
S66203.06	TCL Volatile Organics 8260	SW8260C	06/11/15 21:54	150611A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66203.01
Sample Tag: MWBP-12A-UST1-4_060915
Collected Date/Time: 06/09/2015 08:50
Matrix: Groundwater
COC Reference: 89887

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150610A7, Run Date: 06/10/2015 19:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**108.00**	77.0	121.0
Toluene-D8		**94.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66203.02
Sample Tag: MWBP-12-UST1-4_060915
Collected Date/Time: 06/09/2015 10:20
Matrix: Groundwater
COC Reference: 89887

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150611A7, Run Date: 06/11/2015 21:32, Matrix: WW, Dilution: 3

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.00**	83.0	119.0
1,2-Dichloroethane-D4		**104.60**	77.0	121.0
Toluene-D8		**97.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66203.03
Sample Tag: MWBP-11-UST1-4_060915
Collected Date/Time: 06/09/2015 11:25
Matrix: Groundwater
COC Reference: 89887

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150610A7, Run Date: 06/10/2015 20:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.40**	83.0	119.0
1,2-Dichloroethane-D4		**110.40**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

Lab Sample ID: S66203.05
Sample Tag: EB-0001_060915
Collected Date/Time: 06/09/2015 14:15
Matrix: Groundwater
COC Reference: 89887

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150610A7, Run Date: 06/10/2015 20:44, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.40**	77.0	121.0
Toluene-D8		**95.00**	86.0	118.0

Lab Sample ID: S66203.06
Sample Tag: P6-SB-32_060915
Collected Date/Time: 06/09/2015 15:30
Matrix: Groundwater
COC Reference: 89887

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150611A7, Run Date: 06/11/2015 21:54, Matrix: WW, Dilution: 50

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.80**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66203.08
Sample Tag: Trip Blank
Collected Date/Time: 06/09/2015 00:01
Matrix: Water
COC Reference: 89887

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150610A7, Run Date: 06/10/2015 21:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.20**	83.0	119.0
1,2-Dichloroethane-D4		**109.60**	77.0	121.0
Toluene-D8		**95.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150610W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a7.lcsw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 12:26, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.80**	83.0	119.0
1,2-Dichloroethane-D4		**97.20**	77.0	121.0
Toluene-D8		**98.80**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150610a7.blkw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 14:17, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.40**	83.0	119.0
1,2-Dichloroethane-D4		**104.60**	77.0	121.0
Toluene-D8		**94.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a7.lcsw10b, Parent Sample ID: 150610a7.lcsw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**96.00**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150611W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150611a7.lcsw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 12:46, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.40**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150611a7.blkw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 15:03, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.60**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150611a7.lcsw11b, Parent Sample ID: 150611a7.lcsw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 13:08, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.00**	77.0	121.0
Toluene-D8		**100.20**	86.0	118.0

Inorganics, Prep Batch ID: NTRA150611-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150611-W1.LRB1

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 06:22, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150611-W1.LCS1

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 06:47, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**96**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150611-W1.MS1, Parent Sample ID: S66205.03

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 10:37, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**104**	80	120

Matrix Spike (MS)

Lab Sample ID: NTRA150611-W1.MS2, Parent Sample ID: S66214.02

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 11:54, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**114**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150611-W1.MSD1, Parent Sample ID: NTRA150611-W1.MS1

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 10:50, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**0**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150611-W1.MSD2, Parent Sample ID: NTRA150611-W1.MS2

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 12:07, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**115**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: NTRA150611-W1.DP1, Parent Sample ID: S66205.03

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 08:42, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Duplicate (DUP)

Lab Sample ID: NTRA150611-W1.DP2, Parent Sample ID: S66214.02

Run in Batch: NTRA150611-W1, Run Date: 06/11/2015 11:41, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**1**	15

Inorganics, Prep Batch ID: SFT150611-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150611-W1.LRB1

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 06:22, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150611-W1.LCS1

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 06:47, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**99**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150611-W1.MS1, Parent Sample ID: S66205.03

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 10:37, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**114**	80	120

Matrix Spike (MS)

Lab Sample ID: SFT150611-W1.MS2, Parent Sample ID: S66214.02

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 11:54, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150611-W1.MSD1, Parent Sample ID: SFT150611-W1.MS1

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 10:50, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**110**	80	120	**1**	15

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150611-W1.MSD2, Parent Sample ID: SFT150611-W1.MS2

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 12:07, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150611-W1.DP1, Parent Sample ID: S66205.03

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 08:42, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Duplicate (DUP)

Lab Sample ID: SFT150611-W1.DP2, Parent Sample ID: S66214.02

Run in Batch: SFT150611-W1, Run Date: 06/11/2015 11:41, Prep Date: 06/11/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**RPD**	RPD CL
Sulfate		**6**	15

Metals, Prep Batch ID: HGD-061015-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-15-0610A.015.LCS

Run in Batch: HG2-15-0610A, Run Date: 06/10/2015 14:56, Prep Date: 06/10/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**101**	85	115

Blank (BLK)

Lab Sample ID: HG2-15-0610A.016.LRB

Run in Batch: HG2-15-0610A, Run Date: 06/10/2015 14:58, Prep Date: 06/10/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-15-0610A.033.MS, Parent Sample ID: S66189.02

Run in Batch: HG2-15-0610A, Run Date: 06/10/2015 15:41, Prep Date: 06/10/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**95**	75	125

Matrix Spike (MS)

Lab Sample ID: HG2-15-0610A.047.MS, Parent Sample ID: S66204.02

Run in Batch: HG2-15-0610A, Run Date: 06/10/2015 16:09, Prep Date: 06/10/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-0610A.034.MSD, Parent Sample ID: HG2-15-0610A.033.MS

Run in Batch: HG2-15-0610A, Run Date: 06/10/2015 15:43, Prep Date: 06/10/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**93**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-0610A.048.MSD, Parent Sample ID: HG2-15-0610A.047.MS

Run in Batch: HG2-15-0610A, Run Date: 06/10/2015 16:11, Prep Date: 06/10/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**96**	75	125	**0**	20

Metals, Prep Batch ID: MTD-061615-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.054.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:31, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**108**	85	115
Iron		**109**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.055.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:33, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.057.MS, Parent Sample ID: S66131.01

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:37, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**101**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.060.MS, Parent Sample ID: S66131.01

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:43, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese		**100**	75	125
Iron		**108**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.058.MSD, Parent Sample ID: MT3-15-0616B.057.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:39, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**102**	75	125	**1**	20
Iron, Dissolved	*	**128**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.061.MSD, Parent Sample ID: MT3-15-0616B.060.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 13:45, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese		**103**	75	125	**2**	20
Iron		**116**	75	125	**1**	20

Metals, Prep Batch ID: MTD-061815-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0618A.021.LCS

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 14:53, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Beryllium		**98**	85	115
Boron		**101**	85	115
Vanadium		**103**	85	115
Chromium		**102**	85	115
Manganese		**103**	85	115
Cobalt		**106**	85	115
Nickel		**105**	85	115
Copper		**107**	85	115
Zinc		**105**	85	115
Arsenic		**105**	85	115
Selenium		**101**	85	115
Silver		**100**	85	115
Cadmium		**104**	85	115
Antimony		**101**	85	115
Barium		**102**	85	115
Thallium		**103**	85	115
Lead		**104**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0618A.022.LRB

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 14:58, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Beryllium		**ND**	0.001	mg/L
Boron		**ND**	0.02	mg/L
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Cobalt		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Zinc		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Selenium		**ND**	0.001	mg/L
Silver		**ND**	0.0002	mg/L
Cadmium		**ND**	0.0001	mg/L
Antimony		**ND**	0.001	mg/L
Barium		**ND**	0.001	mg/L
Thallium		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0618A.034.MS, Parent Sample ID: S66130.07

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 15:38, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Beryllium		**107**	75	125
Boron		**97**	75	125

Metals, Prep Batch ID: MTD-061815-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0618A.034.MS, Parent Sample ID: S66130.07

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 15:38, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	75	125
Chromium		**101**	75	125
Manganese		**104**	75	125
Cobalt		**104**	75	125
Nickel		**101**	75	125
Copper		**101**	75	125
Zinc		**104**	75	125
Arsenic		**104**	75	125
Selenium		**98**	75	125
Silver		**98**	75	125
Cadmium		**105**	75	125
Antimony		**107**	75	125
Barium		**104**	75	125
Thallium		**99**	75	125
Lead		**100**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0618A.048.MS, Parent Sample ID: S66189.02

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 16:14, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Beryllium		**103**	75	125
Boron		**103**	75	125
Vanadium		**106**	75	125
Chromium		**104**	75	125
Manganese		**105**	75	125
Cobalt		**104**	75	125
Nickel		**101**	75	125
Copper		**100**	75	125
Zinc		**104**	75	125
Arsenic		**106**	75	125
Selenium		**106**	75	125
Silver		**102**	75	125
Cadmium		**107**	75	125
Antimony		**110**	75	125
Barium		**107**	75	125
Thallium		**100**	75	125
Lead		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0618A.035.MSD, Parent Sample ID: MT2-15-0618A.034.MS

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 15:41, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Beryllium		**106**	75	125	**1**	20
Boron		**103**	75	125	**3**	20
Vanadium		**102**	75	125	**1**	20
Chromium		**102**	75	125	**1**	20

Metals, Prep Batch ID: MTD-061815-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-0618A.035.MSD, Parent Sample ID: MT2-15-0618A.034.MS

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 15:41, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese		**105**	75	125	**0**	20
Cobalt		**103**	75	125	**1**	20
Nickel		**100**	75	125	**1**	20
Copper		**100**	75	125	**1**	20
Zinc		**101**	75	125	**3**	20
Arsenic		**104**	75	125	**0**	20
Selenium		**104**	75	125	**6**	20
Silver		**99**	75	125	**1**	20
Cadmium		**105**	75	125	**0**	20
Antimony		**107**	75	125	**0**	20
Barium		**105**	75	125	**1**	20
Thallium		**100**	75	125	**1**	20
Lead		**100**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0618A.049.MSD, Parent Sample ID: MT2-15-0618A.048.MS

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 16:16, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Beryllium		**107**	75	125	**4**	20
Boron		**105**	75	125	**1**	20
Vanadium		**106**	75	125	**0**	20
Chromium		**103**	75	125	**0**	20
Manganese		**107**	75	125	**1**	20
Cobalt		**103**	75	125	**2**	20
Nickel		**98**	75	125	**3**	20
Copper		**100**	75	125	**0**	20
Zinc		**103**	75	125	**1**	20
Arsenic		**104**	75	125	**2**	20
Selenium		**106**	75	125	**0**	20
Silver		**101**	75	125	**1**	20
Cadmium		**108**	75	125	**1**	20
Antimony		**110**	75	125	**0**	20
Barium		**107**	75	125	**0**	20
Thallium		**99**	75	125	**2**	20
Lead		**98**	75	125	**2**	20

Metals, Prep Batch ID: MTD-061915-7

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.061.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 14:43, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**104**	85	115
Chromium		**105**	85	115
Manganese		**103**	85	115
Iron		**94**	85	115
Nickel		**102**	85	115
Copper		**102**	85	115
Arsenic		**101**	85	115
Lead		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.062.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 14:44, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.065.MS, Parent Sample ID: S66149.06

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:05, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**106**	75	125
Chromium		**104**	75	125
Manganese		**100**	75	125
Iron		**120**	75	125
Nickel		**103**	75	125
Copper		**104**	75	125
Arsenic		**107**	75	125
Lead		**100**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.089.MS, Parent Sample ID: S66203.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:55, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**106**	75	125
Chromium		**104**	75	125
Manganese		**104**	75	125
Iron		**112**	75	125
Nickel		**103**	75	125
Copper		**101**	75	125
Arsenic		**106**	75	125

Metals, Prep Batch ID: MTD-061915-7 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.089.MS, Parent Sample ID: S66203.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:55, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.066.MSD, Parent Sample ID: MT2-15-0622A.065.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:09, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**106**	75	125	**0**	20
Chromium		**104**	75	125	**0**	20
Manganese		**102**	75	125	**2**	20
Iron	*	**128**	75	125	**1**	20
Nickel		**106**	75	125	**3**	20
Copper		**105**	75	125	**1**	20
Arsenic		**106**	75	125	**1**	20
Lead		**99**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.090.MSD, Parent Sample ID: MT2-15-0622A.089.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 15:58, Prep Date: 06/19/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**104**	75	125	**1**	20
Chromium		**100**	75	125	**4**	20
Manganese		**99**	75	125	**4**	20
Iron		**100**	75	125	**5**	20
Nickel		**100**	75	125	**3**	20
Copper		**98**	75	125	**3**	20
Arsenic		**104**	75	125	**2**	20
Lead		**98**	75	125	**0**	20

Metals, Prep Batch ID: MTD-062215-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.093.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:04, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**103**	85	115
Manganese		**104**	85	115
Iron		**101**	85	115
Nickel		**104**	85	115
Copper		**102**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.094.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:06, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.100.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:16, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**102**	75	125
Manganese		**96**	75	125
Iron		**96**	75	125
Nickel		**98**	75	125
Copper		**97**	75	125
Arsenic		**109**	75	125
Lead		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.103.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:44, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**102**	75	125
Manganese, Dissolved		**99**	75	125
Iron, Dissolved		**80**	75	125
Nickel, Dissolved		**96**	75	125
Copper, Dissolved		**95**	75	125
Arsenic, Dissolved		**108**	75	125

Metals, Prep Batch ID: MTD-062215-3 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.103.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:44, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.101.MSD, Parent Sample ID: MT2-15-0622A.100.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:24, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**100**	75	125	**2**	20
Manganese		**98**	75	125	**0**	20
Iron		**92**	75	125	**0**	20
Nickel		**98**	75	125	**1**	20
Copper		**97**	75	125	**0**	20
Arsenic		**109**	75	125	**0**	20
Lead		**95**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.104.MSD, Parent Sample ID: MT2-15-0622A.103.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:46, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**106**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**105**	75	125	**2**	20
Iron, Dissolved		**116**	75	125	**1**	20
Nickel, Dissolved		**99**	75	125	**3**	20
Copper, Dissolved		**99**	75	125	**5**	20
Arsenic, Dissolved		**111**	75	125	**2**	20
Lead, Dissolved		**96**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF150610W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150610a7.lcsw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 12:26, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**90.24**	75.1	135.9
Diethyl ether		**90.02**	67.4	121.2
Acetone		**101.28**	29.9	161.5
Methyl iodide		**95.90**	68.8	116.4
Carbon disulfide		**96.06**	63.8	137.4
Methyl acetate		**86.96**	64.7	125.4
tert-Methyl butyl ether		**95.86**	73.2	122.4
Acrylonitrile		**91.06**	69.9	128.9
2-Butanone		**90.94**	44.0	134.4
Dichlorodifluoromethane		**89.72**	10.0	222.8
Chloromethane		**97.12**	23.8	166.5
Vinyl Chloride		**96.50**	43.5	149.1
Bromomethane		**105.36**	56.8	151.3
Chloroethane		**112.70**	53.4	149.4
Trichlorofluoromethane		**92.16**	59.7	151.8
1,1-Dichloroethene		**96.78**	69.6	139.4
Methylene Chloride		**94.76**	73.3	121.1
trans-1,2-Dichloroethene		**99.38**	73.6	129.3
1,1-Dichloroethane		**100.12**	71.5	126.2
cis-1,2-Dichloroethene		**99.28**	76.6	122.1
Tetrahydrofuran		**92.24**	59.0	117.9
Chloroform		**98.46**	78.4	124.0
Bromochloromethane		**99.32**	78.2	120.8
1,1,1-Trichloroethane		**101.68**	79.4	130.9
Cyclohexane		**95.32**	10.0	169.1
4-Methyl-2-pentanone		**99.04**	71.6	125.2
2-Hexanone		**97.82**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.10**	70.0	130.0
Carbon Tetrachloride		**104.10**	72.6	133.0
Benzene		**100.44**	79.9	124.9
1,2-Dichloroethane		**97.12**	76.0	126.3
Trichloroethene		**98.88**	79.7	124.2
1,2-Dichloropropane		**102.06**	78.6	126.4
Bromodichloromethane		**102.10**	80.4	128.2
Methyl cyclohexane		**100.36**	76.6	131.3
Dibromomethane		**101.20**	76.9	122.1
cis-1,3-Dichloropropene		**97.84**	79.8	129.9
Toluene		**103.22**	79.8	124.5
trans-1,3-Dichloropropene		**95.54**	74.0	131.3
1,1,2-Trichloroethane		**98.44**	78.7	123.1
Tetrachloroethene		**99.94**	74.5	124.5
trans-1,4-Dichloro-2-butene		**99.82**	68.6	135.4
Dibromochloromethane		**104.32**	74.6	127.2
1,2-Dibromoethane		**99.60**	70.3	133.7
Chlorobenzene		**103.34**	79.2	122.7
1,1,1,2-Tetrachloroethane		**105.22**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF150610W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150610a7.lcsw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 12:26, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**111.30**	79.5	129.1
p,m-Xylene		**109.89**	79.4	132.2
o-Xylene		**109.06**	80.2	131.0
Styrene		**111.20**	69.5	126.7
Isopropylbenzene		**110.08**	74.4	121.5
Bromoform		**97.96**	69.4	128.0
1,1,2,2-Tetrachloroethane		**97.62**	79.8	126.3
1,2,3-Trichloropropane		**97.18**	78.3	138.8
n-Propylbenzene		**95.18**	82.0	130.7
Bromobenzene		**104.72**	78.7	124.6
1,3,5-Trimethylbenzene		**105.08**	81.3	128.9
tert-Butylbenzene		**107.64**	80.7	128.9
1,2,4-Trimethylbenzene		**106.22**	81.4	130.8
sec-Butylbenzene		**110.14**	77.4	129.8
p-Isopropyltoluene		**111.36**	79.8	137.5
1,3-Dichlorobenzene		**106.80**	77.0	131.3
1,4-Dichlorobenzene		**103.90**	20.7	137.7
1,2-Dichlorobenzene		**102.50**	10.0	166.2
1,2,3-Trimethylbenzene		**106.60**	76.3	124.2
n-Butylbenzene		**107.82**	80.0	133.3
Hexachloroethane		**104.36**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**99.52**	21.2	189.4
1,2,4-Trichlorobenzene		**105.46**	27.4	143.4
1,2,3-Trichlorobenzene		**103.72**	75.4	131.4
Naphthalene		**104.78**	32.9	135.8
2-Methylnaphthalene		**93.50**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150610a7.blkw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 14:17, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150610W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150610a7.blkw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 14:17, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**2.2**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150610W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150610a7.blkw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 14:17, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150610a7.lcsw10b, Parent Sample ID: 150610a7.lcsw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**88.84**	75.1	135.9	**1.6**	30.0
Diethyl ether		**93.88**	67.4	121.2	**4.2**	30.0
Acetone		**112.54**	29.9	161.5	**10.5**	30.0
Methyl iodide		**95.16**	68.8	116.4	**0.8**	30.0
Carbon disulfide		**95.20**	63.8	137.4	**0.9**	30.0
Methyl acetate		**94.52**	64.7	125.4	**8.3**	30.0
tert-Methyl butyl ether		**101.58**	73.2	122.4	**5.8**	30.0
Acrylonitrile		**97.18**	69.9	128.9	**6.5**	30.0
2-Butanone		**109.38**	44.0	134.4	**18.4**	30.0
Dichlorodifluoromethane		**89.62**	10.0	222.8	**0.1**	30.0
Chloromethane		**95.06**	23.8	166.5	**2.1**	30.0
Vinyl Chloride		**94.26**	43.5	149.1	**2.3**	30.0
Bromomethane		**101.92**	56.8	151.3	**3.3**	30.0
Chloroethane		**109.36**	53.4	149.4	**3.0**	30.0
Trichlorofluoromethane		**91.10**	59.7	151.8	**1.2**	30.0
1,1-Dichloroethene		**96.56**	69.6	139.4	**0.2**	30.0
Methylene Chloride		**94.94**	73.3	121.1	**0.2**	30.0
trans-1,2-Dichloroethene		**99.48**	73.6	129.3	**0.1**	30.0
1,1-Dichloroethane		**100.12**	71.5	126.2	**0.0**	30.0
cis-1,2-Dichloroethene		**98.42**	76.6	122.1	**0.9**	30.0
Tetrahydrofuran		**99.86**	59.0	117.9	**7.9**	30.0
Chloroform		**98.46**	78.4	124.0	**0.0**	30.0
Bromochloromethane		**100.62**	78.2	120.8	**1.3**	30.0
1,1,1-Trichloroethane		**101.16**	79.4	130.9	**0.5**	30.0
Cyclohexane		**93.00**	10.0	169.1	**2.5**	30.0
4-Methyl-2-pentanone		**110.74**	71.6	125.2	**11.2**	30.0
2-Hexanone		**110.44**	55.4	136.9	**12.1**	30.0

Organics - Volatiles, Prep Batch ID: VF150610W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150610a7.lcsw10b, Parent Sample ID: 150610a7.lcsw10a

Run in Batch: 150610A7, Run Date: 06/10/2015 12:49, Prep Date: 06/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Chloroethylvinyl ether	*	**2.22**	70.0	130.0	**5.6**	30.0
Carbon Tetrachloride		**103.76**	72.6	133.0	**0.3**	30.0
Benzene		**101.20**	79.9	124.9	**0.8**	30.0
1,2-Dichloroethane		**98.24**	76.0	126.3	**1.1**	30.0
Trichloroethene		**100.62**	79.7	124.2	**1.7**	30.0
1,2-Dichloropropane		**102.16**	78.6	126.4	**0.1**	30.0
Bromodichloromethane		**103.94**	80.4	128.2	**1.8**	30.0
Methyl cyclohexane		**97.72**	76.6	131.3	**2.7**	30.0
Dibromomethane		**104.70**	76.9	122.1	**3.4**	30.0
cis-1,3-Dichloropropene		**98.30**	79.8	129.9	**0.5**	30.0
Toluene		**104.12**	79.8	124.5	**0.9**	30.0
trans-1,3-Dichloropropene		**98.40**	74.0	131.3	**2.9**	30.0
1,1,2-Trichloroethane		**101.62**	78.7	123.1	**3.2**	30.0
Tetrachloroethene		**102.70**	74.5	124.5	**2.7**	30.0
trans-1,4-Dichloro-2-butene		**104.42**	68.6	135.4	**4.5**	30.0
Dibromochloromethane		**106.70**	74.6	127.2	**2.3**	30.0
1,2-Dibromoethane		**103.34**	70.3	133.7	**3.7**	30.0
Chlorobenzene		**101.14**	79.2	122.7	**2.2**	30.0
1,1,1,2-Tetrachloroethane		**104.34**	80.3	128.2	**0.8**	30.0
Ethylbenzene		**109.50**	79.5	129.1	**1.6**	30.0
p,m-Xylene		**107.76**	79.4	132.2	**2.0**	30.0
o-Xylene		**106.70**	80.2	131.0	**2.2**	30.0
Styrene		**108.54**	69.5	126.7	**2.4**	30.0
Isopropylbenzene		**108.10**	74.4	121.5	**1.8**	30.0
Bromoform		**102.70**	69.4	128.0	**4.7**	30.0
1,1,2,2-Tetrachloroethane		**101.86**	79.8	126.3	**4.3**	30.0
1,2,3-Trichloropropane		**101.18**	78.3	138.8	**4.0**	30.0
n-Propylbenzene		**92.02**	82.0	130.7	**3.4**	30.0
Bromobenzene		**104.36**	78.7	124.6	**0.3**	30.0
1,3,5-Trimethylbenzene		**103.78**	81.3	128.9	**1.2**	30.0
tert-Butylbenzene		**105.48**	80.7	128.9	**2.0**	30.0
1,2,4-Trimethylbenzene		**104.36**	81.4	130.8	**1.8**	30.0
sec-Butylbenzene		**111.74**	77.4	129.8	**1.4**	30.0
p-Isopropyltoluene		**111.70**	79.8	137.5	**0.3**	30.0
1,3-Dichlorobenzene		**107.50**	77.0	131.3	**0.7**	30.0
1,4-Dichlorobenzene		**105.42**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**104.44**	10.0	166.2	**1.9**	30.0
1,2,3-Trimethylbenzene		**108.34**	76.3	124.2	**1.6**	30.0
n-Butylbenzene		**109.90**	80.0	133.3	**1.9**	30.0
Hexachloroethane		**106.20**	23.8	138.1	**1.7**	30.0
1,2-Dibromo-3-Chloropropane		**112.90**	21.2	189.4	**12.6**	30.0
1,2,4-Trichlorobenzene		**106.88**	27.4	143.4	**1.3**	30.0
1,2,3-Trichlorobenzene		**105.76**	75.4	131.4	**1.9**	30.0
Naphthalene		**112.70**	32.9	135.8	**7.3**	30.0
2-Methylnaphthalene		**100.42**	25.5	165.5	**7.1**	30.0

Organics - Volatiles, Prep Batch ID: VF150611W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150611a7.lcsw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 12:46, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**89.22**	75.1	135.9
Diethyl ether		**88.48**	67.4	121.2
Acetone		**109.42**	29.9	161.5
Methyl iodide		**94.58**	68.8	116.4
Carbon disulfide		**94.10**	63.8	137.4
Methyl acetate		**84.36**	64.7	125.4
tert-Methyl butyl ether		**94.06**	73.2	122.4
Acrylonitrile		**89.38**	69.9	128.9
2-Butanone		**100.24**	44.0	134.4
Dichlorodifluoromethane		**89.20**	10.0	222.8
Chloromethane		**97.80**	23.8	166.5
Vinyl Chloride		**97.54**	43.5	149.1
Bromomethane		**108.12**	56.8	151.3
Chloroethane		**114.10**	53.4	149.4
Trichlorofluoromethane		**93.98**	59.7	151.8
1,1-Dichloroethene		**96.90**	69.6	139.4
Methylene Chloride		**95.44**	73.3	121.1
trans-1,2-Dichloroethene		**100.48**	73.6	129.3
1,1-Dichloroethane		**101.30**	71.5	126.2
cis-1,2-Dichloroethene		**100.30**	76.6	122.1
Tetrahydrofuran		**86.92**	59.0	117.9
Chloroform		**100.02**	78.4	124.0
Bromochloromethane		**100.42**	78.2	120.8
1,1,1-Trichloroethane		**102.58**	79.4	130.9
Cyclohexane		**94.62**	10.0	169.1
4-Methyl-2-pentanone		**96.66**	71.6	125.2
2-Hexanone		**101.12**	55.4	136.9
Carbon Tetrachloride		**107.12**	72.6	133.0
Benzene		**104.80**	79.9	124.9
1,2-Dichloroethane		**100.20**	76.0	126.3
Trichloroethene		**102.38**	79.7	124.2
1,2-Dichloropropane		**107.06**	78.6	126.4
Bromodichloromethane		**106.90**	80.4	128.2
Methyl cyclohexane		**101.48**	76.6	131.3
Dibromomethane		**102.64**	76.9	122.1
cis-1,3-Dichloropropene		**101.18**	79.8	129.9
Toluene		**108.00**	79.8	124.5
trans-1,3-Dichloropropene		**100.06**	74.0	131.3
1,1,2-Trichloroethane		**102.98**	78.7	123.1
Tetrachloroethene		**103.44**	74.5	124.5
trans-1,4-Dichloro-2-butene		**97.94**	68.6	135.4
Dibromochloromethane		**105.94**	74.6	127.2
1,2-Dibromoethane		**99.36**	70.3	133.7
Chlorobenzene		**105.14**	79.2	122.7
1,1,1,2-Tetrachloroethane		**107.68**	80.3	128.2
Ethylbenzene		**113.64**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150611W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150611a7.lcsw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 12:46, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**112.02**	79.4	132.2
o-Xylene		**112.50**	80.2	131.0
Styrene		**113.82**	69.5	126.7
Isopropylbenzene		**113.30**	74.4	121.5
Bromoform		**98.22**	69.4	128.0
1,1,2,2-Tetrachloroethane		**97.86**	79.8	126.3
1,2,3-Trichloropropane		**96.02**	78.3	138.8
n-Propylbenzene		**97.26**	82.0	130.7
Bromobenzene		**106.80**	78.7	124.6
1,3,5-Trimethylbenzene		**108.22**	81.3	128.9
tert-Butylbenzene		**111.10**	80.7	128.9
1,2,4-Trimethylbenzene		**108.88**	81.4	130.8
sec-Butylbenzene		**117.50**	77.4	129.8
p-Isopropyltoluene		**117.30**	79.8	137.5
1,3-Dichlorobenzene		**111.92**	77.0	131.3
1,4-Dichlorobenzene		**109.44**	20.7	137.7
1,2-Dichlorobenzene		**107.34**	10.0	166.2
1,2,3-Trimethylbenzene		**111.74**	76.3	124.2
n-Butylbenzene		**114.74**	80.0	133.3
Hexachloroethane		**106.78**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**102.60**	21.2	189.4
1,2,4-Trichlorobenzene		**109.84**	27.4	143.4
1,2,3-Trichlorobenzene		**106.54**	75.4	131.4
Naphthalene		**106.38**	32.9	135.8
2-Methylnaphthalene		**92.26**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150611a7.blkw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 15:03, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150611W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150611a7.blkw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 15:03, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.8**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150611W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150611a7.blkw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 15:03, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150611a7.lcsw11b, Parent Sample ID: 150611a7.lcsw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 13:08, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**87.18**	75.1	135.9	**2.3**	30.0
Diethyl ether		**91.90**	67.4	121.2	**3.8**	30.0
Acetone		**96.00**	29.9	161.5	**13.1**	30.0
Methyl iodide		**94.68**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**94.40**	63.8	137.4	**0.3**	30.0
Methyl acetate		**91.04**	64.7	125.4	**7.6**	30.0
tert-Methyl butyl ether		**98.58**	73.2	122.4	**4.7**	30.0
Acrylonitrile		**94.58**	69.9	128.9	**5.7**	30.0
2-Butanone		**99.80**	44.0	134.4	**0.4**	30.0
Dichlorodifluoromethane		**88.92**	10.0	222.8	**0.3**	30.0
Chloromethane		**97.08**	23.8	166.5	**0.7**	30.0
Vinyl Chloride		**95.22**	43.5	149.1	**2.4**	30.0
Bromomethane		**106.18**	56.8	151.3	**1.8**	30.0
Chloroethane		**113.22**	53.4	149.4	**0.8**	30.0
Trichlorofluoromethane		**91.06**	59.7	151.8	**3.2**	30.0
1,1-Dichloroethene		**96.90**	69.6	139.4	**0.0**	30.0
Methylene Chloride		**95.90**	73.3	121.1	**0.5**	30.0
trans-1,2-Dichloroethene		**100.94**	73.6	129.3	**0.5**	30.0
1,1-Dichloroethane		**101.26**	71.5	126.2	**0.0**	30.0
cis-1,2-Dichloroethene		**101.04**	76.6	122.1	**0.7**	30.0
Tetrahydrofuran		**95.20**	59.0	117.9	**9.1**	30.0
Chloroform		**101.20**	78.4	124.0	**1.2**	30.0
Bromochloromethane		**102.36**	78.2	120.8	**1.9**	30.0
1,1,1-Trichloroethane		**102.46**	79.4	130.9	**0.1**	30.0
Cyclohexane		**91.48**	10.0	169.1	**3.4**	30.0
4-Methyl-2-pentanone		**103.66**	71.6	125.2	**7.0**	30.0
2-Hexanone		**100.94**	55.4	136.9	**0.2**	30.0
2-Chloroethylvinyl ether	*	**2.18**	70.0	130.0	**200.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150611W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150611a7.lcsw11b, Parent Sample ID: 150611a7.lcsw11a

Run in Batch: 150611A7, Run Date: 06/11/2015 13:08, Prep Date: 06/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Carbon Tetrachloride		**104.54**	72.6	133.0	**2.4**	30.0
Benzene		**103.62**	79.9	124.9	**1.1**	30.0
1,2-Dichloroethane		**99.14**	76.0	126.3	**1.1**	30.0
Trichloroethene		**103.68**	79.7	124.2	**1.3**	30.0
1,2-Dichloropropane		**105.56**	78.6	126.4	**1.4**	30.0
Bromodichloromethane		**105.88**	80.4	128.2	**1.0**	30.0
Methyl cyclohexane		**98.22**	76.6	131.3	**3.3**	30.0
Dibromomethane		**104.92**	76.9	122.1	**2.2**	30.0
cis-1,3-Dichloropropene		**101.16**	79.8	129.9	**0.0**	30.0
Toluene		**106.26**	79.8	124.5	**1.6**	30.0
trans-1,3-Dichloropropene		**101.56**	74.0	131.3	**1.5**	30.0
1,1,2-Trichloroethane		**103.30**	78.7	123.1	**0.3**	30.0
Tetrachloroethene		**105.42**	74.5	124.5	**1.9**	30.0
trans-1,4-Dichloro-2-butene		**103.02**	68.6	135.4	**5.1**	30.0
Dibromochloromethane		**110.88**	74.6	127.2	**4.6**	30.0
1,2-Dibromoethane		**105.96**	70.3	133.7	**6.4**	30.0
Chlorobenzene		**107.36**	79.2	122.7	**2.1**	30.0
1,1,1,2-Tetrachloroethane		**108.28**	80.3	128.2	**0.6**	30.0
Ethylbenzene		**114.50**	79.5	129.1	**0.8**	30.0
p,m-Xylene		**112.39**	79.4	132.2	**0.3**	30.0
o-Xylene		**112.56**	80.2	131.0	**0.1**	30.0
Styrene		**114.68**	69.5	126.7	**0.8**	30.0
Isopropylbenzene		**113.74**	74.4	121.5	**0.4**	30.0
Bromoform		**103.22**	69.4	128.0	**5.0**	30.0
1,1,2,2-Tetrachloroethane		**102.26**	79.8	126.3	**4.4**	30.0
1,2,3-Trichloropropane		**102.72**	78.3	138.8	**6.7**	30.0
n-Propylbenzene		**97.48**	82.0	130.7	**0.2**	30.0
Bromobenzene		**107.58**	78.7	124.6	**0.7**	30.0
1,3,5-Trimethylbenzene		**108.10**	81.3	128.9	**0.1**	30.0
tert-Butylbenzene		**109.84**	80.7	128.9	**1.1**	30.0
1,2,4-Trimethylbenzene		**108.96**	81.4	130.8	**0.1**	30.0
sec-Butylbenzene		**113.82**	77.4	129.8	**3.2**	30.0
p-Isopropyltoluene		**113.18**	79.8	137.5	**3.6**	30.0
1,3-Dichlorobenzene		**108.98**	77.0	131.3	**2.7**	30.0
1,4-Dichlorobenzene		**107.62**	20.7	137.7	**1.7**	30.0
1,2-Dichlorobenzene		**106.98**	10.0	166.2	**0.3**	30.0
1,2,3-Trimethylbenzene		**109.40**	76.3	124.2	**2.1**	30.0
n-Butylbenzene		**111.52**	80.0	133.3	**2.8**	30.0
Hexachloroethane		**105.62**	23.8	138.1	**1.1**	30.0
1,2-Dibromo-3-Chloropropane		**106.44**	21.2	189.4	**3.7**	30.0
1,2,4-Trichlorobenzene		**107.58**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**105.16**	75.4	131.4	**1.3**	30.0
Naphthalene		**109.86**	32.9	135.8	**3.2**	30.0
2-Methylnaphthalene		**95.66**	25.5	165.5	**3.6**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF ____

89887

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. STE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: RANDY.CHRISTENSEN@ARCADIS-US.COM FAX NO.: P.O. NO.: B07448 2015.00603
E-MAIL ADDRESS: 616-780-3277 QUOTE NO.:

INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIKADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER ____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER ____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other ____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 Dioxane	TOTAL SELECT METALS *	DISSOLVED SELECT METALS	METALS **	Nitrate/Sulfate	Methane	Total Iron/Manganese	Diss Iron/Manganese
66203.01	6/9	0850	MWBP-12A-UST1-4_060915	GW	9	1	6	2					X		X			X	X	X	X
.02		1020	MWBP-12-UST1-4_060915	GW	4		3	1					X		X						
.03		1125	MWBP-11-UST1-4-060915	GW	4		3	1					X		X						
.04		1350	P6-MW-01-060915	GW	6	1	3	2										X	X	X	X
.05		1415	EB-0001-060915	W	4		3	1					X				X				
.06		1530	PS-SB-32_060915	GW	9	1	6	2					X		X	X		X	X	X	X
.07		1730	MW-12-14_060915	GW	6	1	3	2										X	X	X	X
.08	↓		Trip BLANK	W	1		1						X								

* As, Cr, Cu, Pb, Ni, V

** SB, As, Ba, B, Cd, Cr, Co, Cu, Pb Mn, Hg, Ni, Se, Ag, V, Zn

RELINQUISHED BY: SIGNATURE/ORGANIZATION		☐ Sampler	DATE	TIME
	RMA		6/9	1900
RECEIVED BY: SIGNATURE/ORGANIZATION	PML STORAGE		6/9	1900
RELINQUISHED BY: SIGNATURE/ORGANIZATION			DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	Mer	6-10-15	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/10/15	925

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 8.2

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66249.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66249.01-S66249.02
Project: B0064481.2015.00603 / Plant 6
Submitted Date/Time: 06/11/2015 11:52
Sampled by: Cliff Walls
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-3)
Prep Batch Summary (Page 4)
Surrogates per Lab Sample (Pages 5-6)
Surrogates per QC Sample (Pages 7-8)
Batch QC Results (Pages 9-18)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66249.01
Sample Tag: MW-13-52_061015
Collected Date/Time: 06/10/2015 13:20
Matrix: Groundwater
COC Reference: 83935

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 08:04	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 08:04	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 14:51	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 14:47	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 14:51	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 14:47	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 18:05	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/15/15 18:05	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/12/15 19:15	150612A6	VS150612W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/15/15 18:05	150615A7	VF150615W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S66249.02
Sample Tag: TB_0002_061015
Collected Date/Time: 06/10/2015 07:00
Matrix: Liquid
COC Reference: 83935

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 18:27	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/15/15 18:27	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/15/15 18:27	150615A7	VF150615W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66249.01	Nitrate-N	E300.0	06/12/15 08:04	NTRA150612-W1

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66249.01	Sulfate	E300.0	06/12/15 08:04	SFT150612-W1

Metals, Prep Batch ID: MTD-061615-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66249.01	Iron, Dissolved	SW6020A	06/16/15 14:51	MT3-15-0616B
S66249.01	Iron	SW6020A	06/16/15 14:47	MT3-15-0616B
S66249.01	Manganese, Dissolved	SW6020A	06/16/15 14:51	MT3-15-0616B
S66249.01	Manganese	SW6020A	06/16/15 14:47	MT3-15-0616B

Organics - Volatiles, Prep Batch ID: VF150615W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66249.01	1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 18:05	150615A7
S66249.01	1,2-Dibromoethane	SW8260B	06/15/15 18:05	150615A7
S66249.01	TCL Volatile Organics 8260	SW8260C	06/15/15 18:05	150615A7
S66249.02	1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 18:27	150615A7
S66249.02	1,2-Dibromoethane	SW8260B	06/15/15 18:27	150615A7
S66249.02	TCL Volatile Organics 8260	SW8260C	06/15/15 18:27	150615A7

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66249.01	1,4-Dioxane	SW8260B - SIM	06/12/15 19:15	150612A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66249.01
Sample Tag: MW-13-52_061015
Collected Date/Time: 06/10/2015 13:20
Matrix: Groundwater
COC Reference: 83935

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150615A7, Run Date: 06/15/2015 18:05, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.40**	83.0	119.0
1,2-Dichloroethane-D4		**112.00**	77.0	121.0
Toluene-D8		**93.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66249.02
Sample Tag: TB_0002_061015
Collected Date/Time: 06/10/2015 07:00
Matrix: Liquid
COC Reference: 83935

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150615A7, Run Date: 06/15/2015 18:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.60**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**95.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150615W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 12:48, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.20**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.00**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.00**	83.0	119.0
1,2-Dichloroethane-D4		**99.80**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150612W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150612-W1.LRB1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150612-W1.LCS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**105**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150612-W1.MSD1, Parent Sample ID: NTRA150612-W1.MS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: NTRA150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150612-W1.LRB1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150612-W1.LCS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150612-W1.MSD1, Parent Sample ID: SFT150612-W1.MS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: MTD-061615-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.087.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 14:43, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**105**	85	115
Iron		**105**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.088.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 14:45, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.096.MS, Parent Sample ID: S66252.03

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:02, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**99**	75	125
Iron, Dissolved		**88**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.111.MS, Parent Sample ID: S66251.05

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:32, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**98**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.097.MSD, Parent Sample ID: MT3-15-0616B.096.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:04, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**101**	75	125	**2**	20
Iron, Dissolved		**112**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.112.MSD, Parent Sample ID: MT3-15-0616B.111.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:34, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	75	125	**1**	20
Iron, Dissolved		**113**	75	125	**9**	20

Organics - Volatiles, Prep Batch ID: VF150615W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 12:48, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**86.82**	75.1	135.9
Diethyl ether		**91.62**	67.4	121.2
Acetone		**73.26**	29.9	161.5
Methyl iodide		**92.06**	68.8	116.4
Carbon disulfide		**87.66**	63.8	137.4
Methyl acetate		**91.24**	64.7	125.4
tert-Methyl butyl ether		**97.10**	73.2	122.4
Acrylonitrile		**92.28**	69.9	128.9
2-Butanone		**84.06**	44.0	134.4
Dichlorodifluoromethane		**69.04**	10.0	222.8
Chloromethane		**86.84**	23.8	166.5
Vinyl Chloride		**86.34**	43.5	149.1
Bromomethane		**94.68**	56.8	151.3
Chloroethane		**100.70**	53.4	149.4
Acrolein		**114.20**	70.0	130.0
Trichlorofluoromethane		**88.40**	59.7	151.8
1,1-Dichloroethene		**93.22**	69.6	139.4
Methylene Chloride		**94.74**	73.3	121.1
trans-1,2-Dichloroethene		**96.38**	73.6	129.3
1,1-Dichloroethane		**98.18**	71.5	126.2
cis-1,2-Dichloroethene		**98.28**	76.6	122.1
Tetrahydrofuran		**95.80**	59.0	117.9
Chloroform		**97.84**	78.4	124.0
Bromochloromethane		**99.14**	78.2	120.8
1,1,1-Trichloroethane		**97.26**	79.4	130.9
Cyclohexane		**89.20**	10.0	169.1
4-Methyl-2-pentanone		**103.88**	71.6	125.2
2-Hexanone		**97.20**	55.4	136.9
2-Chloroethylvinyl ether	*	**13.88**	70.0	130.0
Carbon Tetrachloride		**98.60**	72.6	133.0
Benzene		**100.64**	79.9	124.9
1,2-Dichloroethane		**96.44**	76.0	126.3
Trichloroethene		**96.54**	79.7	124.2
1,2-Dichloropropane		**102.32**	78.6	126.4
Bromodichloromethane		**102.32**	80.4	128.2
Methyl cyclohexane		**95.38**	76.6	131.3
Dibromomethane		**100.10**	76.9	122.1
cis-1,3-Dichloropropene		**98.16**	79.8	129.9
Toluene		**103.34**	79.8	124.5
trans-1,3-Dichloropropene		**97.28**	74.0	131.3
1,1,2-Trichloroethane		**100.72**	78.7	123.1
Tetrachloroethene		**96.62**	74.5	124.5
trans-1,4-Dichloro-2-butene		**100.24**	68.6	135.4
Dibromochloromethane		**102.26**	74.6	127.2
1,2-Dibromoethane		**98.36**	70.3	133.7
Chlorobenzene		**100.92**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 12:48, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**100.48**	80.3	128.2
Ethylbenzene		**106.52**	79.5	129.1
p,m-Xylene		**105.54**	79.4	132.2
o-Xylene		**104.38**	80.2	131.0
Styrene		**107.24**	69.5	126.7
Isopropylbenzene		**104.08**	74.4	121.5
Bromoform		**95.46**	69.4	128.0
1,1,2,2-Tetrachloroethane		**97.72**	79.8	126.3
1,2,3-Trichloropropane		**96.60**	78.3	138.8
n-Propylbenzene		**89.64**	82.0	130.7
Bromobenzene		**101.38**	78.7	124.6
1,3,5-Trimethylbenzene		**100.16**	81.3	128.9
tert-Butylbenzene		**101.92**	80.7	128.9
1,2,4-Trimethylbenzene		**101.06**	81.4	130.8
sec-Butylbenzene		**107.12**	77.4	129.8
p-Isopropyltoluene		**109.24**	79.8	137.5
1,3-Dichlorobenzene		**106.14**	77.0	131.3
1,4-Dichlorobenzene		**104.98**	20.7	137.7
1,2-Dichlorobenzene		**103.24**	10.0	166.2
1,2,3-Trimethylbenzene		**108.60**	76.3	124.2
n-Butylbenzene		**105.90**	80.0	133.3
Hexachloroethane		**98.04**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**101.74**	21.2	189.4
1,2,4-Trichlorobenzene		**101.44**	27.4	143.4
1,2,3-Trichlorobenzene		**97.42**	75.4	131.4
Naphthalene		**102.82**	32.9	135.8
2-Methylnaphthalene		**87.44**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**2.3**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**92.14**	75.1	135.9	**5.9**	30.0
Diethyl ether		**96.70**	67.4	121.2	**5.4**	30.0
Acetone		**82.72**	29.9	161.5	**12.1**	30.0
Methyl iodide		**94.58**	68.8	116.4	**2.7**	30.0
Carbon disulfide		**91.46**	63.8	137.4	**4.2**	30.0
Methyl acetate		**100.40**	64.7	125.4	**9.6**	30.0
tert-Methyl butyl ether		**104.76**	73.2	122.4	**7.6**	30.0
Acrylonitrile		**100.40**	69.9	128.9	**8.4**	30.0
2-Butanone		**93.36**	44.0	134.4	**10.5**	30.0
Dichlorodifluoromethane		**73.12**	10.0	222.8	**5.7**	30.0
Chloromethane		**88.38**	23.8	166.5	**1.8**	30.0
Vinyl Chloride		**88.62**	43.5	149.1	**2.6**	30.0
Bromomethane		**93.46**	56.8	151.3	**1.3**	30.0
Chloroethane		**100.02**	53.4	149.4	**0.7**	30.0
Acrolein		**117.36**	70.0	130.0	**2.7**	30.0
Trichlorofluoromethane		**92.16**	59.7	151.8	**4.2**	30.0
1,1-Dichloroethene		**96.62**	69.6	139.4	**3.6**	30.0
Methylene Chloride		**95.78**	73.3	121.1	**1.1**	30.0
trans-1,2-Dichloroethene		**99.54**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**100.82**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**100.08**	76.6	122.1	**1.8**	30.0
Tetrahydrofuran		**105.90**	59.0	117.9	**10.0**	30.0
Chloroform		**99.90**	78.4	124.0	**2.1**	30.0
Bromochloromethane		**102.24**	78.2	120.8	**3.1**	30.0
1,1,1-Trichloroethane		**101.64**	79.4	130.9	**4.4**	30.0
Cyclohexane		**92.10**	10.0	169.1	**3.2**	30.0

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Methyl-2-pentanone		**117.74**	71.6	125.2	**12.5**	30.0
2-Hexanone		**109.22**	55.4	136.9	**11.6**	30.0
2-Chloroethylvinyl ether	*	**2.50**	70.0	130.0	**138.9**	30.0
Carbon Tetrachloride		**102.90**	72.6	133.0	**4.3**	30.0
Benzene		**101.84**	79.9	124.9	**1.2**	30.0
1,2-Dichloroethane		**99.62**	76.0	126.3	**3.2**	30.0
Trichloroethene		**100.30**	79.7	124.2	**3.8**	30.0
1,2-Dichloropropane		**103.66**	78.6	126.4	**1.3**	30.0
Bromodichloromethane		**103.16**	80.4	128.2	**0.8**	30.0
Methyl cyclohexane		**98.90**	76.6	131.3	**3.6**	30.0
Dibromomethane		**106.10**	76.9	122.1	**5.8**	30.0
cis-1,3-Dichloropropene		**100.18**	79.8	129.9	**2.0**	30.0
Toluene		**105.60**	79.8	124.5	**2.2**	30.0
trans-1,3-Dichloropropene		**101.18**	74.0	131.3	**3.9**	30.0
1,1,2-Trichloroethane		**103.98**	78.7	123.1	**3.2**	30.0
Tetrachloroethene		**100.08**	74.5	124.5	**3.5**	30.0
trans-1,4-Dichloro-2-butene		**108.02**	68.6	135.4	**7.5**	30.0
Dibromochloromethane		**104.48**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**104.06**	70.3	133.7	**5.6**	30.0
Chlorobenzene		**101.28**	79.2	122.7	**0.4**	30.0
1,1,1,2-Tetrachloroethane		**102.30**	80.3	128.2	**1.8**	30.0
Ethylbenzene		**108.60**	79.5	129.1	**1.9**	30.0
p,m-Xylene		**106.81**	79.4	132.2	**1.2**	30.0
o-Xylene		**105.56**	80.2	131.0	**1.1**	30.0
Styrene		**107.90**	69.5	126.7	**0.6**	30.0
Isopropylbenzene		**106.36**	74.4	121.5	**2.2**	30.0
Bromoform		**100.82**	69.4	128.0	**5.5**	30.0
1,1,2,2-Tetrachloroethane		**105.80**	79.8	126.3	**7.9**	30.0
1,2,3-Trichloropropane		**103.02**	78.3	138.8	**6.4**	30.0
n-Propylbenzene		**89.84**	82.0	130.7	**0.2**	30.0
Bromobenzene		**102.16**	78.7	124.6	**0.8**	30.0
1,3,5-Trimethylbenzene		**102.98**	81.3	128.9	**2.8**	30.0
tert-Butylbenzene		**104.08**	80.7	128.9	**2.1**	30.0
1,2,4-Trimethylbenzene		**102.46**	81.4	130.8	**1.4**	30.0
sec-Butylbenzene		**106.54**	77.4	129.8	**0.5**	30.0
p-Isopropyltoluene		**106.00**	79.8	137.5	**3.0**	30.0
1,3-Dichlorobenzene		**102.90**	77.0	131.3	**3.1**	30.0
1,4-Dichlorobenzene		**101.46**	20.7	137.7	**3.4**	30.0
1,2-Dichlorobenzene		**101.12**	10.0	166.2	**2.1**	30.0
1,2,3-Trimethylbenzene		**105.88**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**104.14**	80.0	133.3	**1.7**	30.0
Hexachloroethane		**97.16**	23.8	138.1	**0.9**	30.0
1,2-Dibromo-3-Chloropropane		**106.82**	21.2	189.4	**4.9**	30.0
1,2,4-Trichlorobenzene		**101.36**	27.4	143.4	**0.1**	30.0
1,2,3-Trichlorobenzene		**100.04**	75.4	131.4	**2.7**	30.0
Naphthalene		**108.10**	32.9	135.8	**5.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
2-Methylnaphthalene		**95.34**	25.5	165.5	**8.6**	30.0

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**79.66**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.1**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**80.50**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.56**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**91.80**	70.0	130.0	**12.7**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**98.34**	70.0	130.0	**3.0**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**80.66**	70.0	130.0	**1.2**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

83935

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Dr Suite 100
CITY: Brighton | STATE: MI | ZIP CODE: 48116
PHONE NO.: 810 229 8594 | FAX NO.: | P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com | QUOTE NO.:

INVOICE TO

CONTACT NAME | ☑ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: B0064481.2015.00603 Plant 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Curtis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC 624	Sulfate/Nitrate	Total Iron/Manganese	Dissolved Iron/Manganese
66249.01	6-10-15	1320	MW-13-52_061015	GW	9	1	6	2					X	X	X	X
.02	6-10	700	TB-0002_061015	L	1		1						X			

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] ☐ Sampler — DATE: 6/10/15 — TIME: 1500
RECEIVED BY: SIGNATURE/ORGANIZATION: PME Storage — DATE: 6-10-15 — TIME: 1500
RELINQUISHED BY: SIGNATURE/ORGANIZATION: PME Storage — DATE: 6/11 — TIME: 1120
RECEIVED BY: SIGNATURE/ORGANIZATION: [signature] — DATE: 6/11 — TIME: 1120

RELINQUISHED BY: SIGNATURE/ORGANIZATION: [signature] — DATE: 6/11/15 — TIME: 1152
RECEIVED BY: SIGNATURE/ORGANIZATION: [signature] — DATE: 6/11/15 — TIME: 1152

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 10.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66250.01(01)
Generated on 06/24/2015

Report to
Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by
Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66250.01-S66250.03
Project: RACER Plant 6 / B0064481.2015.00603
Submitted Date/Time: 06/11/2015 11:52
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Page 5)
Surrogates per Lab Sample (Pages 6-8)
Surrogates per QC Sample (Pages 9-11)
Batch QC Results (Pages 12-23)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66250.01
Sample Tag: MW-12-13_061115
Collected Date/Time: 06/11/2015 09:25
Matrix: Groundwater
COC Reference: 83936

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 08:17	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 08:17	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/22/15 16:51	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/22/15 16:51	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 16:49	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 18:50	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/15/15 18:50	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/12/15 19:34	150612A6	VS150612W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/15/15 18:50	150615A7	VF150615W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S66250.02
Sample Tag: DUP_09_061115
Collected Date/Time: 06/11/2015 00:01
Matrix: Groundwater
COC Reference: 83936

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	06/22/15 16:53	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 16:53	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 16:53	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 16:53	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 16:53	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 16:53	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 19:12	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/15/15 19:12	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	06/15/15 16:19	150615A6	VS150615W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/15/15 19:12	150615A7	VF150615W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S66250.03
Sample Tag: Trip Blank
Collected Date/Time: 06/11/2015 00:01
Matrix: Liquid
COC Reference: 83936

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 19:34	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	06/15/15 19:34	150615A7	VF150615W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	06/15/15 19:34	150615A7	VF150615W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66250.01	Nitrate-N	E300.0	06/12/15 08:17	NTRA150612-W1

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66250.01	Sulfate	E300.0	06/12/15 08:17	SFT150612-W1

Metals, Prep Batch ID: MTD-062215-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66250.01	Arsenic	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Chromium	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Copper	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Iron, Dissolved	SW6020A	06/22/15 16:51	MT2-15-0622A
S66250.01	Iron	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Lead	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Manganese, Dissolved	SW6020A	06/22/15 16:51	MT2-15-0622A
S66250.01	Manganese	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Nickel	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.01	Vanadium	SW6020A	06/22/15 16:49	MT2-15-0622A
S66250.02	Arsenic	SW6020A	06/22/15 16:53	MT2-15-0622A
S66250.02	Chromium	SW6020A	06/22/15 16:53	MT2-15-0622A
S66250.02	Copper	SW6020A	06/22/15 16:53	MT2-15-0622A
S66250.02	Lead	SW6020A	06/22/15 16:53	MT2-15-0622A
S66250.02	Nickel	SW6020A	06/22/15 16:53	MT2-15-0622A
S66250.02	Vanadium	SW6020A	06/22/15 16:53	MT2-15-0622A

Organics - Volatiles, Prep Batch ID: VF150615W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66250.01	1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 18:50	150615A7
S66250.01	1,2-Dibromoethane	SW8260B	06/15/15 18:50	150615A7
S66250.01	TCL Volatile Organics 8260	SW8260C	06/15/15 18:50	150615A7
S66250.02	1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 19:12	150615A7
S66250.02	1,2-Dibromoethane	SW8260B	06/15/15 19:12	150615A7
S66250.02	TCL Volatile Organics 8260	SW8260C	06/15/15 19:12	150615A7
S66250.03	1,2-Dibromo-3-chloropropane	SW8260C	06/15/15 19:34	150615A7
S66250.03	1,2-Dibromoethane	SW8260B	06/15/15 19:34	150615A7
S66250.03	TCL Volatile Organics 8260	SW8260C	06/15/15 19:34	150615A7

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66250.01	1,4-Dioxane	SW8260B - SIM	06/12/15 19:34	150612A6

Organics - Volatiles, Prep Batch ID: VS150615W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66250.02	1,4-Dioxane	SW8260B - SIM	06/15/15 16:19	150615A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66250.01
Sample Tag: MW-12-13_061115
Collected Date/Time: 06/11/2015 09:25
Matrix: Groundwater
COC Reference: 83936

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150615A7, Run Date: 06/15/2015 18:50, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.40**	83.0	119.0
1,2-Dichloroethane-D4		**110.40**	77.0	121.0
Toluene-D8		**96.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66250.02
Sample Tag: DUP_09_061115
Collected Date/Time: 06/11/2015 00:01
Matrix: Groundwater
COC Reference: 83936

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150615A7, Run Date: 06/15/2015 19:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.20**	83.0	119.0
1,2-Dichloroethane-D4		**109.40**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66250.03
Sample Tag: Trip Blank
Collected Date/Time: 06/11/2015 00:01
Matrix: Liquid
COC Reference: 83936

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150615A7, Run Date: 06/15/2015 19:34, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.00**	83.0	119.0
1,2-Dichloroethane-D4		**112.80**	77.0	121.0
Toluene-D8		**96.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150615W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 12:48, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.20**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.00**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.00**	83.0	119.0
1,2-Dichloroethane-D4		**99.80**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS150612W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150615W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150615a6.lcsw15a

Run in Batch: 150615A6, Run Date: 06/15/2015 13:33, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150615a6.blkw15a

Run in Batch: 150615A6, Run Date: 06/15/2015 14:47, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150615a6.lcsw15b, Parent Sample ID: 150615a6.lcsw15a

Run in Batch: 150615A6, Run Date: 06/15/2015 13:51, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150612-W1.LRB1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150612-W1.LCS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**105**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150612-W1.MSD1, Parent Sample ID: NTRA150612-W1.MS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: NTRA150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150612-W1.LRB1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150612-W1.LCS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150612-W1.MSD1, Parent Sample ID: SFT150612-W1.MS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: MTD-062215-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.093.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:04, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**103**	85	115
Manganese		**104**	85	115
Iron		**101**	85	115
Nickel		**104**	85	115
Copper		**102**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.094.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:06, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.100.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:16, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**102**	75	125
Manganese		**96**	75	125
Iron		**96**	75	125
Nickel		**98**	75	125
Copper		**97**	75	125
Arsenic		**109**	75	125
Lead		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.103.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:44, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**102**	75	125
Manganese, Dissolved		**99**	75	125
Iron, Dissolved		**80**	75	125
Nickel, Dissolved		**96**	75	125
Copper, Dissolved		**95**	75	125
Arsenic, Dissolved		**108**	75	125

Metals, Prep Batch ID: MTD-062215-3 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.103.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:44, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.101.MSD, Parent Sample ID: MT2-15-0622A.100.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:24, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**100**	75	125	**2**	20
Manganese		**98**	75	125	**0**	20
Iron		**92**	75	125	**0**	20
Nickel		**98**	75	125	**1**	20
Copper		**97**	75	125	**0**	20
Arsenic		**109**	75	125	**0**	20
Lead		**95**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.104.MSD, Parent Sample ID: MT2-15-0622A.103.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:46, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**106**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**105**	75	125	**2**	20
Iron, Dissolved		**116**	75	125	**1**	20
Nickel, Dissolved		**99**	75	125	**3**	20
Copper, Dissolved		**99**	75	125	**5**	20
Arsenic, Dissolved		**111**	75	125	**2**	20
Lead, Dissolved		**96**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF150615W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 12:48, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**86.82**	75.1	135.9
Diethyl ether		**91.62**	67.4	121.2
Acetone		**73.26**	29.9	161.5
Methyl iodide		**92.06**	68.8	116.4
Carbon disulfide		**87.66**	63.8	137.4
Methyl acetate		**91.24**	64.7	125.4
tert-Methyl butyl ether		**97.10**	73.2	122.4
Acrylonitrile		**92.28**	69.9	128.9
2-Butanone		**84.06**	44.0	134.4
Dichlorodifluoromethane		**69.04**	10.0	222.8
Chloromethane		**86.84**	23.8	166.5
Vinyl Chloride		**86.34**	43.5	149.1
Bromomethane		**94.68**	56.8	151.3
Chloroethane		**100.70**	53.4	149.4
Acrolein		**114.20**	70.0	130.0
Trichlorofluoromethane		**88.40**	59.7	151.8
1,1-Dichloroethene		**93.22**	69.6	139.4
Methylene Chloride		**94.74**	73.3	121.1
trans-1,2-Dichloroethene		**96.38**	73.6	129.3
1,1-Dichloroethane		**98.18**	71.5	126.2
cis-1,2-Dichloroethene		**98.28**	76.6	122.1
Tetrahydrofuran		**95.80**	59.0	117.9
Chloroform		**97.84**	78.4	124.0
Bromochloromethane		**99.14**	78.2	120.8
1,1,1-Trichloroethane		**97.26**	79.4	130.9
Cyclohexane		**89.20**	10.0	169.1
4-Methyl-2-pentanone		**103.88**	71.6	125.2
2-Hexanone		**97.20**	55.4	136.9
2-Chloroethylvinyl ether	*	**13.88**	70.0	130.0
Carbon Tetrachloride		**98.60**	72.6	133.0
Benzene		**100.64**	79.9	124.9
1,2-Dichloroethane		**96.44**	76.0	126.3
Trichloroethene		**96.54**	79.7	124.2
1,2-Dichloropropane		**102.32**	78.6	126.4
Bromodichloromethane		**102.32**	80.4	128.2
Methyl cyclohexane		**95.38**	76.6	131.3
Dibromomethane		**100.10**	76.9	122.1
cis-1,3-Dichloropropene		**98.16**	79.8	129.9
Toluene		**103.34**	79.8	124.5
trans-1,3-Dichloropropene		**97.28**	74.0	131.3
1,1,2-Trichloroethane		**100.72**	78.7	123.1
Tetrachloroethene		**96.62**	74.5	124.5
trans-1,4-Dichloro-2-butene		**100.24**	68.6	135.4
Dibromochloromethane		**102.26**	74.6	127.2
1,2-Dibromoethane		**98.36**	70.3	133.7
Chlorobenzene		**100.92**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 12:48, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**100.48**	80.3	128.2
Ethylbenzene		**106.52**	79.5	129.1
p,m-Xylene		**105.54**	79.4	132.2
o-Xylene		**104.38**	80.2	131.0
Styrene		**107.24**	69.5	126.7
Isopropylbenzene		**104.08**	74.4	121.5
Bromoform		**95.46**	69.4	128.0
1,1,2,2-Tetrachloroethane		**97.72**	79.8	126.3
1,2,3-Trichloropropane		**96.60**	78.3	138.8
n-Propylbenzene		**89.64**	82.0	130.7
Bromobenzene		**101.38**	78.7	124.6
1,3,5-Trimethylbenzene		**100.16**	81.3	128.9
tert-Butylbenzene		**101.92**	80.7	128.9
1,2,4-Trimethylbenzene		**101.06**	81.4	130.8
sec-Butylbenzene		**107.12**	77.4	129.8
p-Isopropyltoluene		**109.24**	79.8	137.5
1,3-Dichlorobenzene		**106.14**	77.0	131.3
1,4-Dichlorobenzene		**104.98**	20.7	137.7
1,2-Dichlorobenzene		**103.24**	10.0	166.2
1,2,3-Trimethylbenzene		**108.60**	76.3	124.2
n-Butylbenzene		**105.90**	80.0	133.3
Hexachloroethane		**98.04**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**101.74**	21.2	189.4
1,2,4-Trichlorobenzene		**101.44**	27.4	143.4
1,2,3-Trichlorobenzene		**97.42**	75.4	131.4
Naphthalene		**102.82**	32.9	135.8
2-Methylnaphthalene		**87.44**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	1	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acrolein		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**2.3**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150615a7.blkw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 14:38, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**92.14**	75.1	135.9	**5.9**	30.0
Diethyl ether		**96.70**	67.4	121.2	**5.4**	30.0
Acetone		**82.72**	29.9	161.5	**12.1**	30.0
Methyl iodide		**94.58**	68.8	116.4	**2.7**	30.0
Carbon disulfide		**91.46**	63.8	137.4	**4.2**	30.0
Methyl acetate		**100.40**	64.7	125.4	**9.6**	30.0
tert-Methyl butyl ether		**104.76**	73.2	122.4	**7.6**	30.0
Acrylonitrile		**100.40**	69.9	128.9	**8.4**	30.0
2-Butanone		**93.36**	44.0	134.4	**10.5**	30.0
Dichlorodifluoromethane		**73.12**	10.0	222.8	**5.7**	30.0
Chloromethane		**88.38**	23.8	166.5	**1.8**	30.0
Vinyl Chloride		**88.62**	43.5	149.1	**2.6**	30.0
Bromomethane		**93.46**	56.8	151.3	**1.3**	30.0
Chloroethane		**100.02**	53.4	149.4	**0.7**	30.0
Acrolein		**117.36**	70.0	130.0	**2.7**	30.0
Trichlorofluoromethane		**92.16**	59.7	151.8	**4.2**	30.0
1,1-Dichloroethene		**96.62**	69.6	139.4	**3.6**	30.0
Methylene Chloride		**95.78**	73.3	121.1	**1.1**	30.0
trans-1,2-Dichloroethene		**99.54**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**100.82**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**100.08**	76.6	122.1	**1.8**	30.0
Tetrahydrofuran		**105.90**	59.0	117.9	**10.0**	30.0
Chloroform		**99.90**	78.4	124.0	**2.1**	30.0
Bromochloromethane		**102.24**	78.2	120.8	**3.1**	30.0
1,1,1-Trichloroethane		**101.64**	79.4	130.9	**4.4**	30.0
Cyclohexane		**92.10**	10.0	169.1	**3.2**	30.0

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Methyl-2-pentanone		**117.74**	71.6	125.2	**12.5**	30.0
2-Hexanone		**109.22**	55.4	136.9	**11.6**	30.0
2-Chloroethylvinyl ether	*	**2.50**	70.0	130.0	**138.9**	30.0
Carbon Tetrachloride		**102.90**	72.6	133.0	**4.3**	30.0
Benzene		**101.84**	79.9	124.9	**1.2**	30.0
1,2-Dichloroethane		**99.62**	76.0	126.3	**3.2**	30.0
Trichloroethene		**100.30**	79.7	124.2	**3.8**	30.0
1,2-Dichloropropane		**103.66**	78.6	126.4	**1.3**	30.0
Bromodichloromethane		**103.16**	80.4	128.2	**0.8**	30.0
Methyl cyclohexane		**98.90**	76.6	131.3	**3.6**	30.0
Dibromomethane		**106.10**	76.9	122.1	**5.8**	30.0
cis-1,3-Dichloropropene		**100.18**	79.8	129.9	**2.0**	30.0
Toluene		**105.60**	79.8	124.5	**2.2**	30.0
trans-1,3-Dichloropropene		**101.18**	74.0	131.3	**3.9**	30.0
1,1,2-Trichloroethane		**103.98**	78.7	123.1	**3.2**	30.0
Tetrachloroethene		**100.08**	74.5	124.5	**3.5**	30.0
trans-1,4-Dichloro-2-butene		**108.02**	68.6	135.4	**7.5**	30.0
Dibromochloromethane		**104.48**	74.6	127.2	**2.1**	30.0
1,2-Dibromoethane		**104.06**	70.3	133.7	**5.6**	30.0
Chlorobenzene		**101.28**	79.2	122.7	**0.4**	30.0
1,1,1,2-Tetrachloroethane		**102.30**	80.3	128.2	**1.8**	30.0
Ethylbenzene		**108.60**	79.5	129.1	**1.9**	30.0
p,m-Xylene		**106.81**	79.4	132.2	**1.2**	30.0
o-Xylene		**105.56**	80.2	131.0	**1.1**	30.0
Styrene		**107.90**	69.5	126.7	**0.6**	30.0
Isopropylbenzene		**106.36**	74.4	121.5	**2.2**	30.0
Bromoform		**100.82**	69.4	128.0	**5.5**	30.0
1,1,2,2-Tetrachloroethane		**105.80**	79.8	126.3	**7.9**	30.0
1,2,3-Trichloropropane		**103.02**	78.3	138.8	**6.4**	30.0
n-Propylbenzene		**89.84**	82.0	130.7	**0.2**	30.0
Bromobenzene		**102.16**	78.7	124.6	**0.8**	30.0
1,3,5-Trimethylbenzene		**102.98**	81.3	128.9	**2.8**	30.0
tert-Butylbenzene		**104.08**	80.7	128.9	**2.1**	30.0
1,2,4-Trimethylbenzene		**102.46**	81.4	130.8	**1.4**	30.0
sec-Butylbenzene		**106.54**	77.4	129.8	**0.5**	30.0
p-Isopropyltoluene		**106.00**	79.8	137.5	**3.0**	30.0
1,3-Dichlorobenzene		**102.90**	77.0	131.3	**3.1**	30.0
1,4-Dichlorobenzene		**101.46**	20.7	137.7	**3.4**	30.0
1,2-Dichlorobenzene		**101.12**	10.0	166.2	**2.1**	30.0
1,2,3-Trimethylbenzene		**105.88**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**104.14**	80.0	133.3	**1.7**	30.0
Hexachloroethane		**97.16**	23.8	138.1	**0.9**	30.0
1,2-Dibromo-3-Chloropropane		**106.82**	21.2	189.4	**4.9**	30.0
1,2,4-Trichlorobenzene		**101.36**	27.4	143.4	**0.1**	30.0
1,2,3-Trichlorobenzene		**100.04**	75.4	131.4	**2.7**	30.0
Naphthalene		**108.10**	32.9	135.8	**5.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150615W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150615a7.lcsw15b, Parent Sample ID: 150615a7.lcsw15a

Run in Batch: 150615A7, Run Date: 06/15/2015 13:10, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
2-Methylnaphthalene		**95.34**	25.5	165.5	**8.6**	30.0

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**79.66**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.1**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**80.50**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.56**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**91.80**	70.0	130.0	**12.7**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**98.34**	70.0	130.0	**3.0**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**80.66**	70.0	130.0	**1.2**	30.0

Organics - Volatiles, Prep Batch ID: VS150615W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150615a6.lcsw15a

Run in Batch: 150615A6, Run Date: 06/15/2015 13:33, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**80.36**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150615a6.blkw15a

Run in Batch: 150615A6, Run Date: 06/15/2015 14:47, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.9**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150615a6.lcsw15b, Parent Sample ID: 150615a6.lcsw15a

Run in Batch: 150615A6, Run Date: 06/15/2015 13:51, Prep Date: 06/15/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**80.78**	70.0	130.0	**0.5**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

83936

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR STE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 616 - 780-3277 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: QUOTE NO.: B#064481.2015.00603

INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO/NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: ROBERT HIRADE RMA

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1-4 DIOXANE	SELECT METALS (TOTAL)	TOTAL IRON/MANGANESE	DISSOLVED IRON MANGANESE	NITRATE/SULFATE	METHANE
160250.01	6/11	0925	MW-12-13_061115	GW	9	1	6	2					X	X	X	X	X	X	X
.02	↓	—	DUP_09_061115	GW	4		3	1					X	X	X				
.03	↓		TRIP BLANK																

SELECT METALS
As, Cr, Cu, Pb, Ni, V

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	RMA & Sampler	6/11	1020
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	6/11	1020
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	6/11	1120
RECEIVED BY: SIGNATURE/ORGANIZATION		6/11	1120

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/11	1152
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		6/11/15	1152

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 10.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66251.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66251.01-S66251.06
Project: RACER Plant 6 / B0064481.2015.00603
Submitted Date/Time: 06/11/2015 11:52
Sampled by: Robert Hikade
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Pages 8-9)
Batch QC Results (Pages 10-14)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66251.01
Sample Tag: MW-12-10_061015
Collected Date/Time: 06/10/2015 09:20
Matrix: Groundwater
COC Reference: 89888

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 07:39	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 07:39	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 15:14	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 15:12	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 15:14	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 15:12	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S66251.02
Sample Tag: MW-02-01(6)_061015
Collected Date/Time: 06/10/2015 12:15
Matrix: Groundwater
COC Reference: 89888

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 08:30	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 08:30	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 15:18	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 15:16	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 15:18	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 15:16	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S66251.03
Sample Tag: MW-03-07_061015
Collected Date/Time: 06/10/2015 13:45
Matrix: Groundwater
COC Reference: 89888

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 08:43	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 08:43	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 15:22	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 15:20	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 15:22	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 15:20	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S66251.04
Sample Tag: MW-02-02(6)_061015
Collected Date/Time: 06/10/2015 14:55
Matrix: Groundwater
COC Reference: 89888

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 08:56	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 08:56	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 15:26	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 15:24	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 15:26	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 15:24	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S66251.05
Sample Tag: SME-MW-02_061015
Collected Date/Time: 06/10/2015 16:30
Matrix: Groundwater
COC Reference: 89888

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 09:08	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 09:08	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 15:30	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 15:28	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 15:30	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 15:28	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S66251.06
Sample Tag: P6-SB-18_061015
Collected Date/Time: 06/10/2015 18:25
Matrix: Groundwater
COC Reference: 89888

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 09:21	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 09:21	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Iron, Dissolved	SW6020A	06/22/15 16:56	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/22/15 16:56	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/22/15 16:54	MT2-15-0622A	MTD-062215-3	No	LCS/BLK/MS/MSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66251.01	Nitrate-N	E300.0	06/12/15 07:39	NTRA150612-W1
S66251.02	Nitrate-N	E300.0	06/12/15 08:30	NTRA150612-W1
S66251.03	Nitrate-N	E300.0	06/12/15 08:43	NTRA150612-W1
S66251.04	Nitrate-N	E300.0	06/12/15 08:56	NTRA150612-W1
S66251.05	Nitrate-N	E300.0	06/12/15 09:08	NTRA150612-W1
S66251.06	Nitrate-N	E300.0	06/12/15 09:21	NTRA150612-W1

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66251.01	Sulfate	E300.0	06/12/15 07:39	SFT150612-W1
S66251.02	Sulfate	E300.0	06/12/15 08:30	SFT150612-W1
S66251.03	Sulfate	E300.0	06/12/15 08:43	SFT150612-W1
S66251.04	Sulfate	E300.0	06/12/15 08:56	SFT150612-W1
S66251.05	Sulfate	E300.0	06/12/15 09:08	SFT150612-W1
S66251.06	Sulfate	E300.0	06/12/15 09:21	SFT150612-W1

Metals, Prep Batch ID: MTD-061615-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66251.01	Iron, Dissolved	SW6020A	06/16/15 15:14	MT3-15-0616B
S66251.01	Iron	SW6020A	06/16/15 15:12	MT3-15-0616B
S66251.01	Manganese, Dissolved	SW6020A	06/16/15 15:14	MT3-15-0616B
S66251.01	Manganese	SW6020A	06/16/15 15:12	MT3-15-0616B
S66251.02	Iron, Dissolved	SW6020A	06/16/15 15:18	MT3-15-0616B
S66251.02	Iron	SW6020A	06/16/15 15:16	MT3-15-0616B
S66251.02	Manganese, Dissolved	SW6020A	06/16/15 15:18	MT3-15-0616B
S66251.02	Manganese	SW6020A	06/16/15 15:16	MT3-15-0616B
S66251.03	Iron, Dissolved	SW6020A	06/16/15 15:22	MT3-15-0616B
S66251.03	Iron	SW6020A	06/16/15 15:20	MT3-15-0616B
S66251.03	Manganese, Dissolved	SW6020A	06/16/15 15:22	MT3-15-0616B
S66251.03	Manganese	SW6020A	06/16/15 15:20	MT3-15-0616B
S66251.04	Iron, Dissolved	SW6020A	06/16/15 15:26	MT3-15-0616B
S66251.04	Iron	SW6020A	06/16/15 15:24	MT3-15-0616B
S66251.04	Manganese, Dissolved	SW6020A	06/16/15 15:26	MT3-15-0616B
S66251.04	Manganese	SW6020A	06/16/15 15:24	MT3-15-0616B
S66251.05	Iron, Dissolved	SW6020A	06/16/15 15:30	MT3-15-0616B
S66251.05	Iron	SW6020A	06/16/15 15:28	MT3-15-0616B
S66251.05	Manganese, Dissolved	SW6020A	06/16/15 15:30	MT3-15-0616B
S66251.05	Manganese	SW6020A	06/16/15 15:28	MT3-15-0616B

Metals, Prep Batch ID: MTD-062215-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66251.06	Arsenic	SW6020A	06/22/15 16:54	MT2-15-0622A
S66251.06	Chromium	SW6020A	06/22/15 16:54	MT2-15-0622A
S66251.06	Copper	SW6020A	06/22/15 16:54	MT2-15-0622A
S66251.06	Iron, Dissolved	SW6020A	06/22/15 16:56	MT2-15-0622A
S66251.06	Iron	SW6020A	06/22/15 16:54	MT2-15-0622A
S66251.06	Lead	SW6020A	06/22/15 16:54	MT2-15-0622A

Metals, Prep Batch ID: MTD-062215-3 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66251.06	Manganese, Dissolved	SW6020A	06/22/15 16:56	MT2-15-0622A
S66251.06	Manganese	SW6020A	06/22/15 16:54	MT2-15-0622A
S66251.06	Nickel	SW6020A	06/22/15 16:54	MT2-15-0622A
S66251.06	Vanadium	SW6020A	06/22/15 16:54	MT2-15-0622A

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150612-W1.LRB1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150612-W1.LCS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**105**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150612-W1.MSD1, Parent Sample ID: NTRA150612-W1.MS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: NTRA150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150612-W1.LRB1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150612-W1.LCS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150612-W1.MSD1, Parent Sample ID: SFT150612-W1.MS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: MTD-061615-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.087.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 14:43, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Manganese		**105**	85	115
Iron		**105**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.088.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 14:45, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.096.MS, Parent Sample ID: S66252.03

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:02, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**99**	75	125
Iron, Dissolved		**88**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.111.MS, Parent Sample ID: S66251.05

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:32, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Manganese, Dissolved		**98**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.097.MSD, Parent Sample ID: MT3-15-0616B.096.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:04, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**101**	75	125	**2**	20
Iron, Dissolved		**112**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.112.MSD, Parent Sample ID: MT3-15-0616B.111.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:34, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Manganese, Dissolved		**100**	75	125	**1**	20
Iron, Dissolved		**113**	75	125	**9**	20

Metals, Prep Batch ID: MTD-062215-3

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0622A.093.LCS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:04, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**103**	85	115
Chromium		**103**	85	115
Manganese		**104**	85	115
Iron		**101**	85	115
Nickel		**104**	85	115
Copper		**102**	85	115
Arsenic		**103**	85	115
Lead		**101**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0622A.094.LRB

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:06, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.100.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:16, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**105**	75	125
Chromium		**102**	75	125
Manganese		**96**	75	125
Iron		**96**	75	125
Nickel		**98**	75	125
Copper		**97**	75	125
Arsenic		**109**	75	125
Lead		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0622A.103.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:44, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**106**	75	125
Chromium, Dissolved		**102**	75	125
Manganese, Dissolved		**99**	75	125
Iron, Dissolved		**80**	75	125
Nickel, Dissolved		**96**	75	125
Copper, Dissolved		**95**	75	125
Arsenic, Dissolved		**108**	75	125

Metals, Prep Batch ID: MTD-062215-3 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0622A.103.MS, Parent Sample ID: S66205.03

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:44, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Lead, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.101.MSD, Parent Sample ID: MT2-15-0622A.100.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:24, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**100**	75	125	**2**	20
Manganese		**98**	75	125	**0**	20
Iron		**92**	75	125	**0**	20
Nickel		**98**	75	125	**1**	20
Copper		**97**	75	125	**0**	20
Arsenic		**109**	75	125	**0**	20
Lead		**95**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0622A.104.MSD, Parent Sample ID: MT2-15-0622A.103.MS

Run in Batch: MT2-15-0622A, Run Date: 06/22/2015 16:46, Prep Date: 06/22/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**106**	75	125	**0**	20
Chromium, Dissolved		**103**	75	125	**1**	20
Manganese, Dissolved		**105**	75	125	**2**	20
Iron, Dissolved		**116**	75	125	**1**	20
Nickel, Dissolved		**99**	75	125	**3**	20
Copper, Dissolved		**99**	75	125	**5**	20
Arsenic, Dissolved		**111**	75	125	**2**	20
Lead, Dissolved		**96**	75	125	**1**	20

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C.O.C. PAGE # 1 OF 1

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CHAIN OF CUSTODY RECORD

REPORT TO

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COMPANY: ARCADIS
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CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 616-780-3271 FAX NO.: P.O. NO.:
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INVOICE TO

CONTACT NAME: SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER PLANT 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Robert Hilage Randy

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	METHANE	TOTAL IRON/MANGANESE	DISSOLVED IRON/MANGANESE	NITRATE/SULFATE	TOTAL SELECT METALS*	DISS SELECT METALS*	Special Instructions
16251.01	6/10	0920	MW-12-10R_061015	GW	6	1	3	2					X	X	X	X			
.02		1219	MW-02-01(6)_061015	GW	6	1	3	2					X	X	X	X			
.03		1345	MW-03-07_061015	GW	6	1	3	2					X	X	X	X			
.04		1455	MW-02-02(6)_061015	GW	6	1	3	2					X	X	X	X			
.05		1630	SME-MW02_061015	GW	6	1	3	2					X	X	X	X			
.06		1825	PG-SB-18_061015	GW	6	1	3	2					X	X	X	X	X		BELOW 10 NTU.*
.07			Trip BLANK	W	1		1						X						

* SELECT METALS, As, Cr, Cu, Pb, Ni, V

RELINQUISHED BY: SIGNATURE/ORGANIZATION	RMA (Sampler)	DATE 6/10	TIME 1900
RECEIVED BY: SIGNATURE/ORGANIZATION	PM STORAGE	DATE 6/10	TIME 1900
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE 6/11	TIME 1120
RECEIVED BY: SIGNATURE/ORGANIZATION	Isl	DATE 6/11	TIME 1120

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Isl	DATE 6/11	TIME 1152
RECEIVED BY: SIGNATURE/ORGANIZATION	Robert Hilage	DATE 6/11/15	TIME 1152

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 10.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S66252.01(01)
Generated on 06/24/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S66252.01-S66252.03
Project: B0064481.2015.00603 / Lansing Racer GWS
Submitted Date/Time: 06/11/2015 11:52
Sampled by: Donald Richmond
P.O. #: B0064481.2015.00603

QC Report Sections

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Analysis Summary (Pages 2-4)
Prep Batch Summary (Pages 5-6)
Surrogates per Lab Sample (Pages 7-8)
Surrogates per QC Sample (Pages 9-10)
Batch QC Results (Pages 11-26)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S66252.01
Sample Tag: MW-12-15_061015
Collected Date/Time: 06/10/2015 11:15
Matrix: Groundwater
COC Reference: 89889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 10:38	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 10:38	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 14:55	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 14:53	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 14:55	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 14:53	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S66252.02
Sample Tag: EB0003_061015
Collected Date/Time: 06/10/2015 09:50
Matrix: Liquid
COC Reference: 89889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Barium	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Boron	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Mercury	SW7471B	06/15/15 14:50	HG2-15-0615A	HGD-061515-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Selenium	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Silver	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Zinc	SW6020A	06/18/15 16:55	MT2-15-0618A	MTD-061815-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/17/15 17:19	150617A3	VF150617W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/17/15 17:19	150617A3	VF150617W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/17/15 17:19	150617A3	VF150617W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S66252.03
Sample Tag: MW-12-01_061015
Collected Date/Time: 06/10/2015 16:40
Matrix: Groundwater
COC Reference: 89889

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Nitrate-N	E300.0	06/12/15 10:51	NTRA150612-W1	NTRA150612-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	06/12/15 10:51	SFT150612-W1	SFT150612-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Iron, Dissolved	SW6020A	06/16/15 15:00	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Iron	SW6020A	06/16/15 14:58	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	06/16/15 15:00	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Manganese	SW6020A	06/16/15 14:58	MT3-15-0616B	MTD-061615-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	06/17/15 17:39	150617A3	VF150617W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	06/17/15 17:39	150617A3	VF150617W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	06/12/15 19:52	150612A6	VS150612W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	06/17/15 17:39	150617A3	VF150617W1	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.01	Nitrate-N	E300.0	06/12/15 10:38	NTRA150612-W1
S66252.03	Nitrate-N	E300.0	06/12/15 10:51	NTRA150612-W1

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.01	Sulfate	E300.0	06/12/15 10:38	SFT150612-W1
S66252.03	Sulfate	E300.0	06/12/15 10:51	SFT150612-W1

Metals, Prep Batch ID: HGD-061515-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.02	Mercury	SW7471B	06/15/15 14:50	HG2-15-0615A

Metals, Prep Batch ID: MTD-061615-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.01	Iron, Dissolved	SW6020A	06/16/15 14:55	MT3-15-0616B
S66252.01	Iron	SW6020A	06/16/15 14:53	MT3-15-0616B
S66252.01	Manganese, Dissolved	SW6020A	06/16/15 14:55	MT3-15-0616B
S66252.01	Manganese	SW6020A	06/16/15 14:53	MT3-15-0616B
S66252.03	Iron, Dissolved	SW6020A	06/16/15 15:00	MT3-15-0616B
S66252.03	Iron	SW6020A	06/16/15 14:58	MT3-15-0616B
S66252.03	Manganese, Dissolved	SW6020A	06/16/15 15:00	MT3-15-0616B
S66252.03	Manganese	SW6020A	06/16/15 14:58	MT3-15-0616B

Metals, Prep Batch ID: MTD-061815-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.02	Antimony	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Arsenic	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Barium	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Boron	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Cadmium	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Chromium	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Cobalt	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Copper	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Lead	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Manganese	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Nickel	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Selenium	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Silver	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Vanadium	SW6020A	06/18/15 16:55	MT2-15-0618A
S66252.02	Zinc	SW6020A	06/18/15 16:55	MT2-15-0618A

Organics - Volatiles, Prep Batch ID: VF150617W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.02	1,2-Dibromo-3-chloropropane	SW8260C	06/17/15 17:19	150617A3
S66252.02	1,2-Dibromoethane	SW8260B	06/17/15 17:19	150617A3

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.02	TCL Volatile Organics 8260	SW8260C	06/17/15 17:19	150617A3
S66252.03	1,2-Dibromo-3-chloropropane	SW8260C	06/17/15 17:39	150617A3
S66252.03	1,2-Dibromoethane	SW8260B	06/17/15 17:39	150617A3
S66252.03	TCL Volatile Organics 8260	SW8260C	06/17/15 17:39	150617A3

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S66252.03	1,4-Dioxane	SW8260B - SIM	06/12/15 19:52	150612A6

QC Report - Surrogates per Lab Sample

Lab Sample ID: S66252.02
Sample Tag: EB0003_061015
Collected Date/Time: 06/10/2015 09:50
Matrix: Liquid
COC Reference: 89889

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150617A3, Run Date: 06/17/2015 17:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**91.40**	77.0	121.0
Toluene-D8		**92.40**	86.0	118.0

Lab Sample ID: S66252.03
Sample Tag: MW-12-01_061015
Collected Date/Time: 06/10/2015 16:40
Matrix: Groundwater
COC Reference: 89889

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150617A3, Run Date: 06/17/2015 17:39, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.40**	77.0	121.0
Toluene-D8		**89.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150617W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 12:50, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**83.20**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150617a3.blkw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 14:31, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**89.80**	77.0	121.0
Toluene-D8		**91.00**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150617a3.6620504m, Parent Sample ID: S66205.03

Run in Batch: 150617A3, Run Date: 06/17/2015 21:39, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**110.40**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150617a3.6620505n, Parent Sample ID: 150617a3.6620504m

Run in Batch: 150617A3, Run Date: 06/17/2015 21:59, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.40**	83.0	119.0
1,2-Dichloroethane-D4		**85.40**	77.0	121.0
Toluene-D8		**95.80**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150617a3.lcsw17b, Parent Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 13:11, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.40**	83.0	119.0
1,2-Dichloroethane-D4		**84.40**	77.0	121.0
Toluene-D8		**95.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150612W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: NTRA150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: NTRA150612-W1.LRB1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Nitrate-N		**ND**	0.1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: NTRA150612-W1.LCS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**97**	90	110

Matrix Spike (MS)

Lab Sample ID: NTRA150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Nitrate-N		**105**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: NTRA150612-W1.MSD1, Parent Sample ID: NTRA150612-W1.MS1

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nitrate-N		**104**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: NTRA150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: NTRA150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Nitrate-N		**<1**	15

Inorganics, Prep Batch ID: SFT150612-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT150612-W1.LRB1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 06:48, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT150612-W1.LCS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 07:13, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**100**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT150612-W1.MS1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:00, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT150612-W1.MSD1, Parent Sample ID: SFT150612-W1.MS1

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 10:12, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT150612-W1.DP1, Parent Sample ID: S66248.01

Run in Batch: SFT150612-W1, Run Date: 06/12/2015 09:47, Prep Date: 06/12/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: HGD-061515-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-15-0615A.018.LCS

Run in Batch: HG2-15-0615A, Run Date: 06/15/2015 14:46, Prep Date: 06/15/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**103**	85	115

Blank (BLK)

Lab Sample ID: HG2-15-0615A.019.LRB

Run in Batch: HG2-15-0615A, Run Date: 06/15/2015 14:48, Prep Date: 06/15/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-15-0615A.030.MS, Parent Sample ID: S66261.01

Run in Batch: HG2-15-0615A, Run Date: 06/15/2015 15:10, Prep Date: 06/15/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: HG2-15-0615A.044.MS, Parent Sample ID: S66307.06

Run in Batch: HG2-15-0615A, Run Date: 06/15/2015 15:38, Prep Date: 06/15/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**90**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-0615A.031.MSD, Parent Sample ID: HG2-15-0615A.030.MS

Run in Batch: HG2-15-0615A, Run Date: 06/15/2015 15:12, Prep Date: 06/15/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**94**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-0615A.045.MSD, Parent Sample ID: HG2-15-0615A.044.MS

Run in Batch: HG2-15-0615A, Run Date: 06/15/2015 15:40, Prep Date: 06/15/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**92**	75	125	**2**	20

Metals, Prep Batch ID: MTD-061615-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-0616B.087.LCS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 14:43, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**105**	85	115
Iron		**105**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-0616B.088.LRB

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 14:45, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Manganese		**ND**	0.001	mg/L
Iron		**ND**	0.004	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.096.MS, Parent Sample ID: S66252.03

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:02, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese, Dissolved		**99**	75	125
Iron, Dissolved		**88**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-0616B.111.MS, Parent Sample ID: S66251.05

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:32, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese, Dissolved		**98**	75	125
Iron, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.097.MSD, Parent Sample ID: MT3-15-0616B.096.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:04, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese, Dissolved		**101**	75	125	**2**	20
Iron, Dissolved		**112**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-0616B.112.MSD, Parent Sample ID: MT3-15-0616B.111.MS

Run in Batch: MT3-15-0616B, Run Date: 06/16/2015 15:34, Prep Date: 06/16/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese, Dissolved		**100**	75	125	**1**	20
Iron, Dissolved		**113**	75	125	**9**	20

Metals, Prep Batch ID: MTD-061815-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0618A.052.LCS

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 16:30, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Beryllium		**105**	85	115
Boron		**102**	85	115
Vanadium		**102**	85	115
Chromium		**103**	85	115
Manganese		**102**	85	115
Cobalt		**102**	85	115
Nickel		**101**	85	115
Copper		**101**	85	115
Zinc		**100**	85	115
Arsenic		**99**	85	115
Selenium		**100**	85	115
Silver		**96**	85	115
Cadmium		**100**	85	115
Antimony		**104**	85	115
Barium		**104**	85	115
Thallium		**101**	85	115
Lead		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0618A.053.LRB

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 16:37, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Beryllium		**ND**	0.001	mg/L
Boron		**ND**	0.02	mg/L
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Cobalt		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Zinc		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Selenium		**ND**	0.001	mg/L
Silver		**ND**	0.0002	mg/L
Cadmium		**ND**	0.0001	mg/L
Antimony		**ND**	0.001	mg/L
Barium		**ND**	0.001	mg/L
Thallium		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-0618A.061.MS, Parent Sample ID: S66282.03

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 17:00, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Beryllium		**106**	75	125
Boron		**96**	75	125

Metals, Prep Batch ID: MTD-061815-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-0618A.061.MS, Parent Sample ID: S66282.03

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 17:00, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**108**	75	125
Chromium		**102**	75	125
Manganese		**103**	75	125
Cobalt		**106**	75	125
Nickel		**105**	75	125
Copper		**104**	75	125
Zinc		**107**	75	125
Arsenic		**105**	75	125
Selenium		**104**	75	125
Silver		**97**	75	125
Cadmium		**105**	75	125
Antimony		**110**	75	125
Barium		**107**	75	125
Thallium		**97**	75	125
Lead		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0618A.062.MSD, Parent Sample ID: MT2-15-0618A.061.MS

Run in Batch: MT2-15-0618A, Run Date: 06/18/2015 17:02, Prep Date: 06/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Beryllium		**108**	75	125	**2**	20
Boron		**103**	75	125	**5**	20
Vanadium		**102**	75	125	**6**	20
Chromium		**100**	75	125	**2**	20
Manganese		**100**	75	125	**3**	20
Cobalt		**100**	75	125	**5**	20
Nickel		**100**	75	125	**4**	20
Copper		**102**	75	125	**3**	20
Zinc		**104**	75	125	**3**	20
Arsenic		**102**	75	125	**3**	20
Selenium		**100**	75	125	**4**	20
Silver		**98**	75	125	**1**	20
Cadmium		**103**	75	125	**2**	20
Antimony		**105**	75	125	**4**	20
Barium		**104**	75	125	**2**	20
Thallium		**98**	75	125	**0**	20
Lead		**100**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF150617W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 12:50, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.72**	75.1	135.9
Diethyl ether		**80.28**	67.4	121.2
Acetone		**92.16**	29.9	161.5
Methyl iodide		**106.72**	68.8	116.4
Carbon disulfide		**100.70**	63.8	137.4
Methyl acetate		**76.74**	64.7	125.4
tert-Methyl butyl ether		**97.90**	73.2	122.4
Acrylonitrile		**80.12**	69.9	128.9
2-Butanone		**72.10**	44.0	134.4
Dichlorodifluoromethane		**119.32**	10.0	222.8
Chloromethane		**73.30**	23.8	166.5
Vinyl Chloride		**85.76**	43.5	149.1
Bromomethane		**88.82**	56.8	151.3
Chloroethane		**81.58**	53.4	149.4
Trichlorofluoromethane		**101.28**	59.7	151.8
1,1-Dichloroethene		**82.34**	69.6	139.4
Methylene Chloride		**95.90**	73.3	121.1
trans-1,2-Dichloroethene		**89.92**	73.6	129.3
1,1-Dichloroethane		**93.08**	71.5	126.2
cis-1,2-Dichloroethene		**98.00**	76.6	122.1
Tetrahydrofuran		**75.50**	59.0	117.9
Chloroform		**94.16**	78.4	124.0
Bromochloromethane		**104.04**	78.2	120.8
1,1,1-Trichloroethane		**119.74**	79.4	130.9
Cyclohexane		**94.96**	10.0	169.1
4-Methyl-2-pentanone		**84.16**	71.6	125.2
2-Hexanone		**86.30**	55.4	136.9
Carbon Tetrachloride		**124.38**	72.6	133.0
Benzene		**93.32**	79.9	124.9
1,2-Dichloroethane		**90.22**	76.0	126.3
Trichloroethene		**100.28**	79.7	124.2
1,2-Dichloropropane		**93.70**	78.6	126.4
Bromodichloromethane		**103.38**	80.4	128.2
Methyl cyclohexane		**107.88**	76.6	131.3
Dibromomethane		**109.38**	76.9	122.1
cis-1,3-Dichloropropene		**96.90**	79.8	129.9
Toluene		**96.64**	79.8	124.5
trans-1,3-Dichloropropene		**96.80**	74.0	131.3
1,1,2-Trichloroethane		**96.62**	78.7	123.1
Tetrachloroethene		**105.12**	74.5	124.5
trans-1,4-Dichloro-2-butene		**93.22**	68.6	135.4
Dibromochloromethane		**116.42**	74.6	127.2
1,2-Dibromoethane		**115.56**	70.3	133.7
Chlorobenzene		**111.40**	79.2	122.7
1,1,1,2-Tetrachloroethane		**114.06**	80.3	128.2
Ethylbenzene		**105.22**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 12:50, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**106.00**	79.4	132.2
o-Xylene		**102.74**	80.2	131.0
Styrene		**109.24**	69.5	126.7
Isopropylbenzene		**109.36**	74.4	121.5
Bromoform		**109.30**	69.4	128.0
1,1,2,2-Tetrachloroethane		**99.24**	79.8	126.3
1,2,3-Trichloropropane		**105.84**	78.3	138.8
n-Propylbenzene		**109.54**	82.0	130.7
Bromobenzene		**114.82**	78.7	124.6
1,3,5-Trimethylbenzene		**114.34**	81.3	128.9
tert-Butylbenzene		**106.88**	80.7	128.9
1,2,4-Trimethylbenzene		**112.08**	81.4	130.8
sec-Butylbenzene		**103.84**	77.4	129.8
p-Isopropyltoluene		**108.98**	79.8	137.5
1,3-Dichlorobenzene		**104.76**	77.0	131.3
1,4-Dichlorobenzene		**103.96**	20.7	137.7
1,2-Dichlorobenzene		**103.80**	10.0	166.2
1,2,3-Trimethylbenzene		**100.18**	76.3	124.2
n-Butylbenzene		**105.56**	80.0	133.3
Hexachloroethane		**107.08**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**95.32**	21.2	189.4
1,2,4-Trichlorobenzene		**109.06**	27.4	143.4
1,2,3-Trichlorobenzene		**106.60**	75.4	131.4
Naphthalene		**101.70**	32.9	135.8
2-Methylnaphthalene		**116.82**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150617a3.blkw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 14:31, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150617a3.blkw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 14:31, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran	*	**1.7**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	10	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150617a3.blkw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 14:31, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150617a3.6620504m, Parent Sample ID: S66205.03

Run in Batch: 150617A3, Run Date: 06/17/2015 21:39, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**112.26**	75.1	135.9
Diethyl ether		**76.08**	67.4	121.2
Acetone		**72.50**	29.9	161.5
Methyl iodide		**101.36**	68.8	116.4
Carbon disulfide		**68.04**	63.8	137.4
Methyl acetate		**69.18**	64.7	125.4
tert-Methyl butyl ether		**93.62**	73.2	122.4
Acrylonitrile		**75.22**	69.9	128.9
2-Butanone		**65.10**	44.0	134.4
Dichlorodifluoromethane		**118.50**	10.0	222.8
Chloromethane		**69.18**	23.8	166.5
Vinyl Chloride		**79.44**	43.5	149.1
Bromomethane		**84.14**	56.8	151.3
Chloroethane		**78.34**	53.4	149.4
Trichlorofluoromethane		**102.28**	59.7	151.8
1,1-Dichloroethene		**79.34**	69.6	139.4
Methylene Chloride		**95.14**	73.3	121.1
trans-1,2-Dichloroethene		**86.82**	73.6	129.3
1,1-Dichloroethane		**91.86**	71.5	126.2
cis-1,2-Dichloroethene		**95.92**	76.6	122.1
Tetrahydrofuran		**69.92**	59.0	117.9
Chloroform		**95.56**	78.4	124.0
Bromochloromethane		**100.64**	78.2	120.8
1,1,1-Trichloroethane		**119.70**	79.4	130.9
Cyclohexane		**90.06**	10.0	169.1
4-Methyl-2-pentanone		**85.56**	71.6	125.2
2-Hexanone		**84.78**	55.4	136.9
Carbon Tetrachloride		**120.74**	72.6	133.0

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150617a3.6620504m, Parent Sample ID: S66205.03

Run in Batch: 150617A3, Run Date: 06/17/2015 21:39, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzene		**90.92**	79.9	124.9
1,2-Dichloroethane		**92.08**	76.0	126.3
Trichloroethene		**99.02**	79.7	124.2
1,2-Dichloropropane		**93.10**	78.6	126.4
Bromodichloromethane		**100.56**	80.4	128.2
Methyl cyclohexane		**97.56**	76.6	131.3
Dibromomethane		**105.70**	76.9	122.1
cis-1,3-Dichloropropene		**89.70**	79.8	129.9
Toluene		**92.98**	79.8	124.5
trans-1,3-Dichloropropene		**88.34**	74.0	131.3
1,1,2-Trichloroethane		**98.06**	78.7	123.1
Tetrachloroethene		**102.44**	74.5	124.5
trans-1,4-Dichloro-2-butene	*	**52.66**	68.6	135.4
Dibromochloromethane		**105.70**	74.6	127.2
1,2-Dibromoethane		**110.42**	70.3	133.7
Chlorobenzene		**108.52**	79.2	122.7
1,1,1,2-Tetrachloroethane		**110.36**	80.3	128.2
Ethylbenzene		**97.74**	79.5	129.1
p,m-Xylene		**90.20**	79.4	132.2
o-Xylene		**90.72**	80.2	131.0
Styrene	*	**55.12**	69.5	126.7
Isopropylbenzene		**101.60**	74.4	121.5
Bromoform		**89.18**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.12**	79.8	126.3
1,2,3-Trichloropropane		**103.48**	78.3	138.8
n-Propylbenzene		**99.94**	82.0	130.7
Bromobenzene		**109.38**	78.7	124.6
1,3,5-Trimethylbenzene	*	**80.12**	81.3	128.9
tert-Butylbenzene		**96.60**	80.7	128.9
1,2,4-Trimethylbenzene		**82.28**	81.4	130.8
sec-Butylbenzene		**96.40**	77.4	129.8
p-Isopropyltoluene		**95.46**	79.8	137.5
1,3-Dichlorobenzene		**99.68**	77.0	131.3
1,4-Dichlorobenzene		**98.74**	20.7	137.7
1,2-Dichlorobenzene		**98.38**	10.0	166.2
1,2,3-Trimethylbenzene	*	**73.32**	76.3	124.2
n-Butylbenzene		**93.36**	80.0	133.3
Hexachloroethane		**93.98**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.68**	21.2	189.4
1,2,4-Trichlorobenzene		**92.74**	27.4	143.4
1,2,3-Trichlorobenzene		**91.26**	75.4	131.4
Naphthalene		**89.60**	32.9	135.8
2-Methylnaphthalene		**93.90**	25.5	165.5

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150617a3.6620505n, Parent Sample ID: 150617a3.6620504m

Run in Batch: 150617A3, Run Date: 06/17/2015 21:59, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**111.44**	75.1	135.9	**0.7**	30.0
Diethyl ether		**77.10**	67.4	121.2	**1.3**	30.0
Acetone		**69.02**	29.9	161.5	**4.9**	30.0
Methyl iodide		**104.70**	68.8	116.4	**3.2**	30.0
Carbon disulfide		**71.36**	63.8	137.4	**4.8**	30.0
Methyl acetate		**68.64**	64.7	125.4	**0.8**	30.0
tert-Methyl butyl ether		**95.68**	73.2	122.4	**2.2**	30.0
Acrylonitrile		**72.98**	69.9	128.9	**3.0**	30.0
2-Butanone		**63.04**	44.0	134.4	**3.2**	30.0
Dichlorodifluoromethane		**116.24**	10.0	222.8	**1.9**	30.0
Chloromethane		**69.96**	23.8	166.5	**1.1**	30.0
Vinyl Chloride		**80.34**	43.5	149.1	**1.1**	30.0
Bromomethane		**86.20**	56.8	151.3	**2.4**	30.0
Chloroethane		**79.66**	53.4	149.4	**1.7**	30.0
Trichlorofluoromethane		**102.02**	59.7	151.8	**0.3**	30.0
1,1-Dichloroethene		**79.20**	69.6	139.4	**0.2**	30.0
Methylene Chloride		**95.16**	73.3	121.1	**0.0**	30.0
trans-1,2-Dichloroethene		**87.14**	73.6	129.3	**0.4**	30.0
1,1-Dichloroethane		**92.78**	71.5	126.2	**1.0**	30.0
cis-1,2-Dichloroethene		**97.94**	76.6	122.1	**2.1**	30.0
Tetrahydrofuran		**68.10**	59.0	117.9	**2.6**	30.0
Chloroform		**95.52**	78.4	124.0	**0.0**	30.0
Bromochloromethane		**101.86**	78.2	120.8	**1.2**	30.0
1,1,1-Trichloroethane		**121.62**	79.4	130.9	**1.6**	30.0
Cyclohexane		**90.48**	10.0	169.1	**0.5**	30.0
4-Methyl-2-pentanone		**85.42**	71.6	125.2	**0.2**	30.0
2-Hexanone		**83.98**	55.4	136.9	**0.9**	30.0
Carbon Tetrachloride		**121.94**	72.6	133.0	**1.0**	30.0
Benzene		**90.98**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**90.44**	76.0	126.3	**1.8**	30.0
Trichloroethene		**99.74**	79.7	124.2	**0.7**	30.0
1,2-Dichloropropane		**92.74**	78.6	126.4	**0.4**	30.0
Bromodichloromethane		**100.62**	80.4	128.2	**0.1**	30.0
Methyl cyclohexane		**96.96**	76.6	131.3	**0.6**	30.0
Dibromomethane		**105.64**	76.9	122.1	**0.1**	30.0
cis-1,3-Dichloropropene		**89.18**	79.8	129.9	**0.6**	30.0
Toluene		**92.66**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**88.18**	74.0	131.3	**0.2**	30.0
1,1,2-Trichloroethane		**95.72**	78.7	123.1	**2.4**	30.0
Tetrachloroethene		**101.92**	74.5	124.5	**0.5**	30.0
trans-1,4-Dichloro-2-butene	*	**56.80**	68.6	135.4	**7.6**	30.0
Dibromochloromethane		**105.80**	74.6	127.2	**0.1**	30.0
1,2-Dibromoethane		**108.88**	70.3	133.7	**1.4**	30.0
Chlorobenzene		**109.06**	79.2	122.7	**0.5**	30.0
1,1,1,2-Tetrachloroethane		**111.68**	80.3	128.2	**1.2**	30.0
Ethylbenzene		**98.02**	79.5	129.1	**0.3**	30.0

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150617a3.6620505n, Parent Sample ID: 150617a3.6620504m

Run in Batch: 150617A3, Run Date: 06/17/2015 21:59, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
p,m-Xylene		**90.15**	79.4	132.2	**0.1**	30.0
o-Xylene		**90.36**	80.2	131.0	**0.4**	30.0
Styrene	*	**52.78**	69.5	126.7	**4.3**	30.0
Isopropylbenzene		**102.76**	74.4	121.5	**1.1**	30.0
Bromoform		**91.52**	69.4	128.0	**2.6**	30.0
1,1,2,2-Tetrachloroethane		**96.36**	79.8	126.3	**0.2**	30.0
1,2,3-Trichloropropane		**103.50**	78.3	138.8	**0.0**	30.0
n-Propylbenzene		**101.62**	82.0	130.7	**1.7**	30.0
Bromobenzene		**110.50**	78.7	124.6	**1.0**	30.0
1,3,5-Trimethylbenzene	*	**79.80**	81.3	128.9	**0.4**	30.0
tert-Butylbenzene		**98.24**	80.7	128.9	**1.7**	30.0
1,2,4-Trimethylbenzene		**82.68**	81.4	130.8	**0.5**	30.0
sec-Butylbenzene		**99.28**	77.4	129.8	**2.9**	30.0
p-Isopropyltoluene		**98.54**	79.8	137.5	**3.2**	30.0
1,3-Dichlorobenzene		**102.60**	77.0	131.3	**2.9**	30.0
1,4-Dichlorobenzene		**101.22**	20.7	137.7	**2.5**	30.0
1,2-Dichlorobenzene		**100.82**	10.0	166.2	**2.4**	30.0
1,2,3-Trimethylbenzene	*	**73.68**	76.3	124.2	**0.5**	30.0
n-Butylbenzene		**97.26**	80.0	133.3	**4.1**	30.0
Hexachloroethane		**96.58**	23.8	138.1	**2.7**	30.0
1,2-Dibromo-3-Chloropropane		**89.46**	21.2	189.4	**4.3**	30.0
1,2,4-Trichlorobenzene		**104.86**	27.4	143.4	**12.3**	30.0
1,2,3-Trichlorobenzene		**105.28**	75.4	131.4	**14.3**	30.0
Naphthalene		**101.06**	32.9	135.8	**12.0**	30.0
2-Methylnaphthalene		**120.00**	25.5	165.5	**24.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150617a3.lcsw17b, Parent Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 13:11, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**115.08**	75.1	135.9	**2.1**	30.0
Diethyl ether		**82.18**	67.4	121.2	**2.3**	30.0
Acetone		**105.36**	29.9	161.5	**13.4**	30.0
Methyl iodide		**107.12**	68.8	116.4	**0.4**	30.0
Carbon disulfide		**100.28**	63.8	137.4	**0.4**	30.0
Methyl acetate		**79.76**	64.7	125.4	**3.9**	30.0
tert-Methyl butyl ether		**102.20**	73.2	122.4	**4.3**	30.0
Acrylonitrile		**83.70**	69.9	128.9	**4.4**	30.0
2-Butanone		**79.06**	44.0	134.4	**9.2**	30.0
Dichlorodifluoromethane		**119.70**	10.0	222.8	**0.3**	30.0
Chloromethane		**74.04**	23.8	166.5	**1.0**	30.0
Vinyl Chloride		**85.76**	43.5	149.1	**0.0**	30.0
Bromomethane		**90.54**	56.8	151.3	**1.9**	30.0
Chloroethane		**82.00**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**100.50**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**81.98**	69.6	139.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150617a3.lcsw17b, Parent Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 13:11, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methylene Chloride		**96.24**	73.3	121.1	**0.4**	30.0
trans-1,2-Dichloroethene		**88.96**	73.6	129.3	**1.1**	30.0
1,1-Dichloroethane		**92.20**	71.5	126.2	**0.9**	30.0
cis-1,2-Dichloroethene		**98.14**	76.6	122.1	**0.1**	30.0
Tetrahydrofuran		**80.70**	59.0	117.9	**6.7**	30.0
Chloroform		**93.74**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**103.94**	78.2	120.8	**0.1**	30.0
1,1,1-Trichloroethane		**118.98**	79.4	130.9	**0.6**	30.0
Cyclohexane		**94.04**	10.0	169.1	**1.0**	30.0
4-Methyl-2-pentanone		**87.84**	71.6	125.2	**4.3**	30.0
2-Hexanone		**91.44**	55.4	136.9	**5.8**	30.0
Carbon Tetrachloride		**121.06**	72.6	133.0	**2.7**	30.0
Benzene		**91.36**	79.9	124.9	**2.1**	30.0
1,2-Dichloroethane		**89.30**	76.0	126.3	**1.0**	30.0
Trichloroethene		**98.02**	79.7	124.2	**2.3**	30.0
1,2-Dichloropropane		**91.32**	78.6	126.4	**2.6**	30.0
Bromodichloromethane		**100.46**	80.4	128.2	**2.9**	30.0
Methyl cyclohexane		**102.44**	76.6	131.3	**5.2**	30.0
Dibromomethane		**108.84**	76.9	122.1	**0.5**	30.0
cis-1,3-Dichloropropene		**94.28**	79.8	129.9	**2.7**	30.0
Toluene		**93.86**	79.8	124.5	**2.9**	30.0
trans-1,3-Dichloropropene		**95.10**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**95.36**	78.7	123.1	**1.3**	30.0
Tetrachloroethene		**103.02**	74.5	124.5	**2.0**	30.0
trans-1,4-Dichloro-2-butene		**95.70**	68.6	135.4	**2.6**	30.0
Dibromochloromethane		**117.82**	74.6	127.2	**1.2**	30.0
1,2-Dibromoethane		**115.90**	70.3	133.7	**0.3**	30.0
Chlorobenzene		**109.84**	79.2	122.7	**1.4**	30.0
1,1,1,2-Tetrachloroethane		**114.66**	80.3	128.2	**0.5**	30.0
Ethylbenzene		**103.32**	79.5	129.1	**1.8**	30.0
p,m-Xylene		**103.36**	79.4	132.2	**2.5**	30.0
o-Xylene		**102.36**	80.2	131.0	**0.4**	30.0
Styrene		**106.18**	69.5	126.7	**2.8**	30.0
Isopropylbenzene		**108.46**	74.4	121.5	**0.8**	30.0
Bromoform		**111.18**	69.4	128.0	**1.7**	30.0
1,1,2,2-Tetrachloroethane		**103.34**	79.8	126.3	**4.0**	30.0
1,2,3-Trichloropropane		**109.98**	78.3	138.8	**3.8**	30.0
n-Propylbenzene		**107.16**	82.0	130.7	**2.2**	30.0
Bromobenzene		**114.30**	78.7	124.6	**0.5**	30.0
1,3,5-Trimethylbenzene		**111.78**	81.3	128.9	**2.3**	30.0
tert-Butylbenzene		**105.26**	80.7	128.9	**1.5**	30.0
1,2,4-Trimethylbenzene		**110.72**	81.4	130.8	**1.2**	30.0
sec-Butylbenzene		**100.42**	77.4	129.8	**3.3**	30.0
p-Isopropyltoluene		**104.36**	79.8	137.5	**4.3**	30.0
1,3-Dichlorobenzene		**103.04**	77.0	131.3	**1.7**	30.0
1,4-Dichlorobenzene		**102.88**	20.7	137.7	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150617W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150617a3.lcsw17b, Parent Sample ID: 150617a3.lcsw17a

Run in Batch: 150617A3, Run Date: 06/17/2015 13:11, Prep Date: 06/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichlorobenzene		**104.98**	10.0	166.2	**1.1**	30.0
1,2,3-Trimethylbenzene		**99.22**	76.3	124.2	**1.0**	30.0
n-Butylbenzene		**102.04**	80.0	133.3	**3.4**	30.0
Hexachloroethane		**102.52**	23.8	138.1	**4.4**	30.0
1,2-Dibromo-3-Chloropropane		**102.34**	21.2	189.4	**7.1**	30.0
1,2,4-Trichlorobenzene		**109.54**	27.4	143.4	**0.4**	30.0
1,2,3-Trichlorobenzene		**109.80**	75.4	131.4	**3.0**	30.0
Naphthalene		**107.30**	32.9	135.8	**5.4**	30.0
2-Methylnaphthalene		**126.62**	25.5	165.5	**8.1**	30.0

Organics - Volatiles, Prep Batch ID: VS150612W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:23, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**79.66**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150612a6.blkw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 14:09, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.1**	5	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 150612a6.6612807m, Parent Sample ID: S66128.06

Run in Batch: 150612A6, Run Date: 06/12/2015 12:59, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**80.50**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 150612a6.6613102m, Parent Sample ID: S66131.01

Run in Batch: 150612A6, Run Date: 06/12/2015 13:34, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**93.56**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6612808n, Parent Sample ID: 150612a6.6612807m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:16, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**91.80**	70.0	130.0	**12.7**	30.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150612a6.6613103n, Parent Sample ID: 150612a6.6613102m

Run in Batch: 150612A6, Run Date: 06/12/2015 13:52, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**98.34**	70.0	130.0	**3.0**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150612a6.lcsw12b, Parent Sample ID: 150612a6.lcsw12a

Run in Batch: 150612A6, Run Date: 06/12/2015 12:41, Prep Date: 06/12/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**80.66**	70.0	130.0	**1.2**	30.0

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Phone (517) 332-0167 Fax (517) 332-4034
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C.O.C. PAGE # _____ OF _____

89889

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 517 819 8800 FAX NO.:
P.O. NO.:
E-MAIL ADDRESS:
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: B006448l.2015.00603 / Lansing Racer GWS
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Donald Richard / [signature]

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	# Total metals (from [illegible])	Dissolved metals (from [illegible])	Nitrate / Sulfate	Methane	VOC 8260	metals 6020	VOCs 1,4 Dioxane
160252.01	6/10/15	1115	MW-12-15_D61015	GW	6	1	3	2					X	X	X	X			
.02	6/10/15	0950	EB0003_061015	L	4		3	1									X	X	
.03	6/10/15	1640	MW-12-01_061015	GW	9	1	6	2					X	X	X	X			X

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☑ Sampler	DATE	TIME
[signature] / Arcadis		6/10/15	1730
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
[signature] / Arcadis		6/10/15	17:30
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
[signature] Arcadis		6/11/15	7:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
[signature]		6/11/15	1120

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
[signature]	6/11	1152
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Thomas Heage	6/11/15	1152

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 10.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S68231.01(01)
Generated on 10/15/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S68231.01-S68231.13
Project: B0064479.2015.00603/RACER Lansing, MI Plant 2
Submitted Date/Time: 09/14/2015 08:00
Sampled by: Adam Richmond
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-14)
Prep Batch Summary (Pages 15-17)
Surrogates per Lab Sample (Pages 18-28)
Surrogates per QC Sample (Pages 29-34)
Batch QC Results (Pages 35-60)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S68231.01
Sample Tag: MW-13-43_091015
Collected Date/Time: 09/10/2015 12:35
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 17:52	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 17:52	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/21/15 19:58	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/18/15 17:52	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.02
Sample Tag: MW-13-45_091015
Collected Date/Time: 09/10/2015 14:00
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 18:14	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 18:14	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/21/15 18:28	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/18/15 18:14	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.03
Sample Tag: TW-14-02_091015
Collected Date/Time: 09/10/2015 16:45
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Antimony	SW6020A	10/05/15 13:05	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Arsenic, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Boron, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	10/05/15 13:05	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Cadmium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Cobalt, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	10/05/15 13:05	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	10/05/15 13:05	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Mercury, Dissolved	SW7471B	09/14/15 16:05	HG2-15-0914A	HGD-091415-1	No	LCS/BLK/MS/MSD
Mercury	SW7471B	09/14/15 16:05	HG2-15-0914A	HGD-091415-1	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Nickel	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Silver, Dissolved	SW6020A	10/02/15 15:17	MT3-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	10/02/15 15:20	MT3-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	10/05/15 13:05	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	10/02/15 12:42	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	09/17/15 23:14	H150917	SF150916W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	09/17/15 23:14	H150917B	SF150916W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 18:36	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 18:36	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/22/15 15:06	150922A3	VF150922W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 18:36	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.04
Sample Tag: MW-13-42_091115
Collected Date/Time: 09/11/2015 08:50
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 18:58	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 18:58	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/21/15 18:46	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/18/15 18:58	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.05
Sample Tag: MW-12-05_091115
Collected Date/Time: 09/11/2015 11:30
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/23/15 15:53	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	09/23/15 15:53	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	09/21/15 18:10	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/23/15 15:53	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S68231.06
Sample Tag: MW-12-05_091115 MS
Collected Date/Time: 09/11/2015 11:30
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/23/15 13:29	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	09/23/15 13:29	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	09/21/15 17:16	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/23/15 13:29	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S68231.07
Sample Tag: MW-12-05_091115 MSD
Collected Date/Time: 09/11/2015 11:30
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/23/15 13:56	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	09/23/15 13:56	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	09/21/15 16:42	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/23/15 13:56	150923A7	VF150923W1	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S68231.08
Sample Tag: MW-14-56_091115
Collected Date/Time: 09/11/2015 13:30
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 19:42	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 19:42	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/21/15 19:40	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/18/15 19:42	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.09
Sample Tag: EB0001-091115
Collected Date/Time: 09/11/2015 14:15
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	10/05/15 13:02	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	10/05/15 13:02	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	10/05/15 13:02	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	10/05/15 13:02	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Mercury	SW7471B	09/14/15 16:07	HG2-15-0914A	HGD-091415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	10/05/15 13:02	MT3-15-1005A	MTD-100215-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	10/02/15 12:35	MT2-15-1002B	MTD-100215-2	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 20:04	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 20:04	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 20:04	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.10
Sample Tag: FB0001-091115
Collected Date/Time: 09/11/2015 14:30
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 20:26	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 20:26	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 20:26	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.11
Sample Tag: DUP_01_091015
Collected Date/Time: 09/10/2015 00:01
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 20:48	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 20:48	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/22/15 15:24	150922A3	VF150922W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 20:48	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.12
Sample Tag: Trip Blank
Collected Date/Time: 09/11/2015 00:01
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 21:10	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 21:10	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 21:10	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68231.13
Sample Tag: MW-13-44_091115
Collected Date/Time: 09/11/2015 10:00
Matrix: Groundwater
COC Reference: 89166

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 21:32	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 21:32	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/22/15 14:48	150922A3	VF150922W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 21:32	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Metals, Prep Batch ID: HGD-091415-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.03	Mercury, Dissolved	SW7471B	09/14/15 16:05	HG2-15-0914A
S68231.03	Mercury	SW7471B	09/14/15 16:05	HG2-15-0914A
S68231.09	Mercury	SW7471B	09/14/15 16:07	HG2-15-0914A

Metals, Prep Batch ID: MTD-100215-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.03	Antimony, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A
S68231.03	Antimony	SW6020A	10/05/15 13:05	MT3-15-1005A
S68231.03	Arsenic, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Arsenic	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Barium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Barium	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Boron, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A
S68231.03	Boron	SW6020A	10/05/15 13:05	MT3-15-1005A
S68231.03	Cadmium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Cadmium	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Chromium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Chromium	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Cobalt, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A
S68231.03	Cobalt	SW6020A	10/05/15 13:05	MT3-15-1005A
S68231.03	Copper, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Copper	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Lead, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Lead	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Manganese, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A
S68231.03	Manganese	SW6020A	10/05/15 13:05	MT3-15-1005A
S68231.03	Nickel, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Nickel	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Selenium, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Selenium	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.03	Silver, Dissolved	SW6020A	10/02/15 15:17	MT3-15-1002B
S68231.03	Silver	SW6020A	10/02/15 15:20	MT3-15-1002B
S68231.03	Vanadium, Dissolved	SW6020A	10/05/15 13:12	MT3-15-1005A
S68231.03	Vanadium	SW6020A	10/05/15 13:05	MT3-15-1005A
S68231.03	Zinc, Dissolved	SW6020A	10/02/15 12:37	MT2-15-1002B
S68231.03	Zinc	SW6020A	10/02/15 12:42	MT2-15-1002B
S68231.09	Antimony	SW6020A	10/05/15 13:02	MT3-15-1005A
S68231.09	Arsenic	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Barium	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Boron	SW6020A	10/05/15 13:02	MT3-15-1005A
S68231.09	Cadmium	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Chromium	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Cobalt	SW6020A	10/05/15 13:02	MT3-15-1005A
S68231.09	Copper	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Lead	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Manganese	SW6020A	10/05/15 13:02	MT3-15-1005A
S68231.09	Nickel	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Selenium	SW6020A	10/02/15 12:35	MT2-15-1002B
S68231.09	Silver	SW6020A	10/02/15 12:35	MT2-15-1002B

Metals, Prep Batch ID: MTD-100215-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.09	Vanadium	SW6020A	10/05/15 13:02	MT3-15-1005A
S68231.09	Zinc	SW6020A	10/02/15 12:35	MT2-15-1002B

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.03	TCL Semi-Volatile Organics	SW8270D	09/17/15 23:14	H150917
S68231.03	TCL Semi-Volatile Organics	SW8270D	09/17/15 23:14	H150917B

Organics - Volatiles, Prep Batch ID: VF150918W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.01	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 17:52	150918A7
S68231.01	1,2-Dibromoethane	SW8260B	09/18/15 17:52	150918A7
S68231.01	TCL Volatile Organics 8260	SW8260C	09/18/15 17:52	150918A7
S68231.02	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 18:14	150918A7
S68231.02	1,2-Dibromoethane	SW8260B	09/18/15 18:14	150918A7
S68231.02	TCL Volatile Organics 8260	SW8260C	09/18/15 18:14	150918A7
S68231.03	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 18:36	150918A7
S68231.03	1,2-Dibromoethane	SW8260B	09/18/15 18:36	150918A7
S68231.03	TCL Volatile Organics 8260	SW8260C	09/18/15 18:36	150918A7
S68231.04	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 18:58	150918A7
S68231.04	1,2-Dibromoethane	SW8260B	09/18/15 18:58	150918A7
S68231.04	TCL Volatile Organics 8260	SW8260C	09/18/15 18:58	150918A7
S68231.08	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 19:42	150918A7
S68231.08	1,2-Dibromoethane	SW8260B	09/18/15 19:42	150918A7
S68231.08	TCL Volatile Organics 8260	SW8260C	09/18/15 19:42	150918A7
S68231.09	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 20:04	150918A7
S68231.09	1,2-Dibromoethane	SW8260B	09/18/15 20:04	150918A7
S68231.09	TCL Volatile Organics 8260	SW8260C	09/18/15 20:04	150918A7
S68231.10	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 20:26	150918A7
S68231.10	1,2-Dibromoethane	SW8260B	09/18/15 20:26	150918A7
S68231.10	TCL Volatile Organics 8260	SW8260C	09/18/15 20:26	150918A7
S68231.11	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 20:48	150918A7
S68231.11	1,2-Dibromoethane	SW8260B	09/18/15 20:48	150918A7
S68231.11	TCL Volatile Organics 8260	SW8260C	09/18/15 20:48	150918A7
S68231.12	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 21:10	150918A7
S68231.12	1,2-Dibromoethane	SW8260B	09/18/15 21:10	150918A7
S68231.12	TCL Volatile Organics 8260	SW8260C	09/18/15 21:10	150918A7
S68231.13	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 21:32	150918A7
S68231.13	1,2-Dibromoethane	SW8260B	09/18/15 21:32	150918A7
S68231.13	TCL Volatile Organics 8260	SW8260C	09/18/15 21:32	150918A7

Organics - Volatiles, Prep Batch ID: VF150922W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.03	1,4-Dioxane	SW8260B - SIM	09/22/15 15:06	150922A3
S68231.11	1,4-Dioxane	SW8260B - SIM	09/22/15 15:24	150922A3
S68231.13	1,4-Dioxane	SW8260B - SIM	09/22/15 14:48	150922A3

Organics - Volatiles, Prep Batch ID: VF150923W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.05	1,2-Dibromo-3-chloropropane	SW8260C	09/23/15 15:53	150923A7
S68231.05	1,2-Dibromoethane	SW8260B	09/23/15 15:53	150923A7
S68231.05	TCL Volatile Organics 8260	SW8260C	09/23/15 15:53	150923A7
S68231.06	1,2-Dibromo-3-chloropropane	SW8260C	09/23/15 13:29	150923A7
S68231.06	1,2-Dibromoethane	SW8260B	09/23/15 13:29	150923A7
S68231.06	TCL Volatile Organics 8260	SW8260C	09/23/15 13:29	150923A7
S68231.07	1,2-Dibromo-3-chloropropane	SW8260C	09/23/15 13:56	150923A7
S68231.07	1,2-Dibromoethane	SW8260B	09/23/15 13:56	150923A7
S68231.07	TCL Volatile Organics 8260	SW8260C	09/23/15 13:56	150923A7

Organics - Volatiles, Prep Batch ID: VS150921W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68231.01	1,4-Dioxane	SW8260B - SIM	09/21/15 19:58	150921A3
S68231.02	1,4-Dioxane	SW8260B - SIM	09/21/15 18:28	150921A3
S68231.04	1,4-Dioxane	SW8260B - SIM	09/21/15 18:46	150921A3
S68231.05	1,4-Dioxane	SW8260B - SIM	09/21/15 18:10	150921A3
S68231.06	1,4-Dioxane	SW8260B - SIM	09/21/15 17:16	150921A3
S68231.07	1,4-Dioxane	SW8260B - SIM	09/21/15 16:42	150921A3
S68231.08	1,4-Dioxane	SW8260B - SIM	09/21/15 19:40	150921A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S68231.01
Sample Tag: MW-13-43_091015
Collected Date/Time: 09/10/2015 12:35
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 17:52, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**101.20**	86.0	118.0

Lab Sample ID: S68231.02
Sample Tag: MW-13-45_091015
Collected Date/Time: 09/10/2015 14:00
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 18:14, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.60**	77.0	121.0
Toluene-D8		**97.80**	86.0	118.0

Lab Sample ID: S68231.03
Sample Tag: TW-14-02_091015
Collected Date/Time: 09/10/2015 16:45
Matrix: Groundwater
COC Reference: 89166

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H150917, Run Date: 09/17/2015 23:14, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**26.40**	10.0	110.0
2-Fluorobiphenyl		**41.70**	10.0	116.0
Nitrobenzene-D5		**35.80**	10.0	114.0
Phenol-D5		**21.30**	10.0	110.0
2,4,6-Tribromophenol		**46.60**	10.0	123.0
Terphenyl-D14		**45.70**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 18:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.00**	83.0	119.0
1,2-Dichloroethane-D4		**100.20**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S68231.04
Sample Tag: MW-13-42_091115
Collected Date/Time: 09/11/2015 08:50
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 18:58, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**101.60**	83.0	119.0
1,2-Dichloroethane-D4		**103.20**	77.0	121.0
Toluene-D8		**95.00**	86.0	118.0

Lab Sample ID: S68231.05
Sample Tag: MW-12-05_091115
Collected Date/Time: 09/11/2015 11:30
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150923A7, Run Date: 09/23/2015 15:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**94.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S68231.08
Sample Tag: MW-14-56_091115
Collected Date/Time: 09/11/2015 13:30
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 19:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.80**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Lab Sample ID: S68231.09
Sample Tag: EB0001-091115
Collected Date/Time: 09/11/2015 14:15
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 20:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.80**	77.0	121.0
Toluene-D8		**95.80**	86.0	118.0

Lab Sample ID: S68231.10
Sample Tag: FB0001-091115
Collected Date/Time: 09/11/2015 14:30
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 20:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.20**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**97.60**	86.0	118.0

Lab Sample ID: S68231.11
Sample Tag: DUP_01_091015
Collected Date/Time: 09/10/2015 00:01
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 20:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.20**	83.0	119.0
1,2-Dichloroethane-D4		**103.60**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Lab Sample ID: S68231.12
Sample Tag: Trip Blank
Collected Date/Time: 09/11/2015 00:01
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 21:10, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**103.80**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

Lab Sample ID: S68231.13
Sample Tag: MW-13-44_091115
Collected Date/Time: 09/11/2015 10:00
Matrix: Groundwater
COC Reference: 89166

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 21:32, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.00**	83.0	119.0
1,2-Dichloroethane-D4		**102.80**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**52.60**	10.0	110.0
2-Fluorobiphenyl		**58.20**	10.0	116.0
Nitrobenzene-D5		**53.20**	10.0	114.0
Phenol-D5		**51.20**	10.0	110.0
2,4,6-Tribromophenol		**66.30**	10.0	123.0
Terphenyl-D14		**63.50**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**56.70**	10.0	110.0
2-Fluorobiphenyl		**62.40**	10.0	116.0
Nitrobenzene-D5		**59.20**	10.0	114.0
Phenol-D5		**55.80**	10.0	110.0
2,4,6-Tribromophenol		**67.10**	10.0	123.0
Terphenyl-D14		**67.20**	10.0	141.0

Blank (BLK)

Lab Sample ID: h150917b.blkw17a

Run in Batch: H150917B, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917.lcsdw17a, Parent Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**54.60**	10.0	110.0
2-Fluorobiphenyl		**60.20**	10.0	116.0
Nitrobenzene-D5		**55.30**	10.0	114.0
Phenol-D5		**53.10**	10.0	110.0
2,4,6-Tribromophenol		**68.30**	10.0	123.0
Terphenyl-D14		**65.50**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917b.lcsdw17a, Parent Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150918W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:35, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150918a7.blkw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 16:25, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**103.60**	77.0	121.0
Toluene-D8		**97.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.80**	83.0	119.0
1,2-Dichloroethane-D4		**108.20**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF150922W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150922a3.lcsw22a

Run in Batch: 150922A3, Run Date: 09/22/2015 13:35, Prep Date: 09/22/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150922a3.blkw22a

Run in Batch: 150922A3, Run Date: 09/22/2015 14:30, Prep Date: 09/22/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150922a3.lcsw22b, Parent Sample ID: 150922a3.lcsw22a

Run in Batch: 150922A3, Run Date: 09/22/2015 13:53, Prep Date: 09/22/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF150923W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150923a7.lcsw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 12:34, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.00**	83.0	119.0
1,2-Dichloroethane-D4		**109.00**	77.0	121.0
Toluene-D8		**98.40**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150923a7.blkw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 15:31, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.40**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 150923a7.6823106m, Parent Sample ID: S68231.05

Run in Batch: 150923A7, Run Date: 09/23/2015 13:29, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.80**	83.0	119.0
1,2-Dichloroethane-D4		**98.40**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150923a7.6823107n, Parent Sample ID: 150923a7.6823106m

Run in Batch: 150923A7, Run Date: 09/23/2015 13:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.00**	77.0	121.0
Toluene-D8		**96.80**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150923a7.lcsw23b, Parent Sample ID: 150923a7.lcsw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 12:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.00**	83.0	119.0
1,2-Dichloroethane-D4		**101.40**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150921W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:28, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150921a3.blkw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 17:52, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150921a3.6823106x, Parent Sample ID: S68231.05

Run in Batch: 150921A3, Run Date: 09/21/2015 17:16, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150921a3.6823107n, Parent Sample ID: 150921a3.6823106x

Run in Batch: 150921A3, Run Date: 09/21/2015 16:42, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150921a3.lcsw21b, Parent Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:46, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: HGD-091415-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-15-0914A.015.LCS

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:44, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**97**	85	115

Blank (BLK)

Lab Sample ID: HG2-15-0914A.016.LRB

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:46, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-15-0914A.020.MS, Parent Sample ID: S68098.04

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:54, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**95**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-0914A.021.MSD, Parent Sample ID: HG2-15-0914A.020.MS

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:56, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**95**	75	125	**0**	20

Metals, Prep Batch ID: MTD-100215-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1002B.018.LCS

Run in Batch: MT2-15-1002B, Run Date: 10/02/2015 11:45, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	85	115
Arsenic		**101**	85	115
Barium		**98**	85	115
Cadmium		**99**	85	115
Chromium		**98**	85	115
Copper		**101**	85	115
Nickel		**95**	85	115
Lead		**104**	85	115
Selenium		**99**	85	115
Zinc		**101**	85	115

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-1002B.041.LCS

Run in Batch: MT3-15-1002B, Run Date: 10/02/2015 15:04, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Silver		**104**	85	115
Arsenic		**102**	85	115
Chromium		**105**	85	115
Lead		**101**	85	115
Selenium		**99**	85	115

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-1005A.021.LCS

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 12:52, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Boron		**99**	85	115
Cobalt		**101**	85	115
Manganese		**103**	85	115
Antimony		**102**	85	115
Vanadium		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1002B.019.LRB

Run in Batch: MT2-15-1002B, Run Date: 10/02/2015 11:47, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Silver		**ND**	0.0002	mg/L
Arsenic		**ND**	0.0004	mg/L
Barium		**ND**	0.001	mg/L
Cadmium		**ND**	0.0001	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Selenium		**ND**	0.001	mg/L
Zinc		**ND**	0.002	mg/L

Metals, Prep Batch ID: MTD-100215-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Blank (BLK)

Lab Sample ID: MT3-15-1002B.043.LRB

Run in Batch: MT3-15-1002B, Run Date: 10/02/2015 15:09, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Silver		**ND**	0.0001	mg/L
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Selenium		**ND**	0.001	mg/L

Blank (BLK)

Lab Sample ID: MT3-15-1005A.023.LRB

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 12:59, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Boron		**ND**	0.004	mg/L
Cobalt		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Antimony		**ND**	0.001	mg/L
Vanadium		**ND**	0.001	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1002B.029.MS, Parent Sample ID: S68556.01

Run in Batch: MT2-15-1002B, Run Date: 10/02/2015 12:15, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL
Silver		**96**	75	125
Arsenic		**99**	75	125
Barium		**98**	75	125
Cadmium		**100**	75	125
Chromium		**100**	75	125
Copper		**98**	75	125
Nickel		**96**	75	125
Lead		**100**	75	125
Selenium		**97**	75	125
Zinc		**96**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1002B.037.MS, Parent Sample ID: S68231.03

Run in Batch: MT2-15-1002B, Run Date: 10/02/2015 12:45, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**97**	75	125
Arsenic		**107**	75	125
Barium		**100**	75	125
Cadmium		**102**	75	125
Chromium		**102**	75	125
Copper		**98**	75	125
Nickel		**100**	75	125
Lead		**96**	75	125
Selenium		**108**	75	125
Zinc		**103**	75	125

Metals, Prep Batch ID: MTD-100215-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS)

Lab Sample ID: MT3-15-1002B.048.MS, Parent Sample ID: S68231.03

Run in Batch: MT3-15-1002B, Run Date: 10/02/2015 15:23, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**105**	75	125
Arsenic		**112**	75	125
Chromium		**112**	75	125
Lead		**96**	75	125
Selenium		**108**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1002B.030.MSD, Parent Sample ID: MT2-15-1002B.029.MS

Run in Batch: MT2-15-1002B, Run Date: 10/02/2015 12:17, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 25

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**100**	75	125	**4**	20
Arsenic		**102**	75	125	**3**	20
Barium		**99**	75	125	**2**	20
Cadmium		**102**	75	125	**2**	20
Chromium		**101**	75	125	**1**	20
Copper		**102**	75	125	**4**	20
Nickel		**99**	75	125	**3**	20
Lead		**101**	75	125	**1**	20
Selenium		**100**	75	125	**3**	20
Zinc		**102**	75	125	**6**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1002B.038.MSD, Parent Sample ID: MT2-15-1002B.037.MS

Run in Batch: MT2-15-1002B, Run Date: 10/02/2015 12:47, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**96**	75	125	**1**	20
Arsenic		**105**	75	125	**2**	20
Barium		**96**	75	125	**1**	20
Cadmium		**103**	75	125	**0**	20
Chromium		**102**	75	125	**0**	20
Copper		**99**	75	125	**0**	20
Nickel		**101**	75	125	**1**	20
Lead		**96**	75	125	**1**	20
Selenium		**116**	75	125	**6**	20
Zinc		**104**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1002B.049.MSD, Parent Sample ID: MT3-15-1002B.048.MS

Run in Batch: MT3-15-1002B, Run Date: 10/02/2015 15:25, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**105**	75	125	**0**	20
Arsenic		**111**	75	125	**1**	20
Chromium		**111**	75	125	**1**	20
Lead		**96**	75	125	**1**	20
Selenium		**108**	75	125	**1**	20

Metals, Prep Batch ID: MTD-100215-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1005A.029.MSD, Parent Sample ID: MT3-15-1005A.028.MS

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 13:18, Prep Date: 10/02/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Boron		**102**	75	125	**1**	20
Cobalt		**100**	75	125	**0**	20
Manganese		**100**	75	125	**1**	20
Antimony		**104**	75	125	**1**	20
Vanadium		**106**	75	125	**0**	20

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**48.80**	10.0	130.4
2-Chlorophenol		**52.84**	35.5	114.1
Bis(2-chloroethyl)ether		**48.24**	43.4	101.8
Bis(2-chloroisopropyl)ether		**40.08**	33.2	105.8
Hexachloroethane		**47.84**	23.8	138.1
N-Nitrosodi-n-propylamine		**48.82**	35.8	109.3
Nitrobenzene		**66.82**	41.7	110.1
Isophorone		**47.14**	44.9	107.5
2-Nitrophenol		**59.68**	54.4	109.5
2,4-Dimethylphenol		**49.26**	43.4	114.9
Bis(2-chloroethoxy)methane		**51.60**	48.3	105.4
2,4-Dichlorophenol		**57.80**	57.7	115.6
Naphthalene		**51.74**	32.9	135.8
4-Chloroaniline		**38.84**	33.4	89.4
Hexachlorobutadiene		**53.92**	30.2	119.4
4-Chloro-3-methylphenol		**56.88**	39.0	123.2
2-Methylnaphthalene		**50.22**	25.5	165.5
Hexachlorocyclopentadiene		**33.30**	10.0	271.8
2,4,6-Trichlorophenol		**57.02**	47.8	117.4
2,4,5-Trichlorophenol		**61.24**	48.9	118.8
2-Chloronaphthalene		**53.90**	50.3	108.3
2-Nitroaniline		**58.70**	53.4	119.9
Acenaphthylene		**54.76**	16.9	140.7
Dimethyl Phthalate		**58.00**	49.3	118.4
2,6-Dinitrotoluene		**61.94**	48.0	119.1
3-Nitroaniline		**49.62**	42.1	109.0
Acenaphthene		**53.52**	34.8	124.7
2,4-Dinitrophenol		**36.60**	10.0	171.2
Dibenzofuran		**55.34**	52.1	111.9
4-Nitrophenol		**49.74**	15.4	122.0
2,4-Dinitrotoluene		**59.48**	35.8	126.7
Fluorene		**56.28**	37.1	110.3
Diethyl phthalate		**58.88**	48.1	118.0
4-Chlorophenyl phenyl ether		**59.94**	52.2	116.5
4-Nitroaniline		**48.94**	45.8	119.7
4,6-Dinitro-2-methylphenol		**53.98**	18.7	149.0
N-Nitrosodiphenylamine		**48.70**	10.0	104.2
4-Bromophenyl phenyl ether		**60.42**	44.5	116.9
Hexachlorobenzene		**56.58**	45.2	118.5
Pentachlorophenol		**48.90**	10.3	139.1
Phenanthrene		**54.22**	31.8	123.3
Anthracene		**54.70**	38.1	115.5
Carbazole		**50.16**	44.3	128.8
di-N-butyl phthalate		**55.30**	48.1	121.8
Fluoranthene		**56.66**	43.0	127.9
Pyrene		**61.00**	37.8	131.4

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Butyl benzyl phthalate		**57.20**	47.4	121.6
Benzo(a)anthracene		**57.88**	40.7	115.5
3,3'-Dichlorobenzidine		**51.88**	37.0	97.2
Chrysene		**57.42**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**59.16**	45.2	126.2
Di-n-octyl phthalate		**45.88**	45.7	123.1
Benzo(b)fluoranthene	*	**40.06**	43.3	119.4
Benzo(k)fluoranthene	*	**40.68**	41.2	116.9
Benzo(a)pyrene	*	**43.20**	51.2	133.4
Indeno(1,2,3-cd)pyrene	*	**39.72**	41.5	116.9
Dibenzo(ah)anthracene		**45.44**	33.8	132.4
Benzo(ghi)perylene		**47.60**	36.7	122.1
1-methylnaphthalene		**55.50**	10.0	133.6
1,4-Dichlorobenzene		**47.26**	20.7	137.7
1,2-Dichlorobenzene		**47.68**	9.6	166.2
o-Cresol		**55.02**	39.1	109.4
3,4-methylphenol		**60.58**	36.4	115.4
1,3-Dichlorobenzene		**46.72**	36.8	105.8
1,2-Diphenylhydrazine		**55.18**	40.2	136.4
1,2,4-Trichlorobenzene		**53.34**	32.2	118.4
1,2,4,5-Tetrachlorobenzene	*	**55.74**	70.0	130.0
2,3,4,6-Tetrachlorophenol	*	**63.02**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde		**36.78**	35.6	137.2
Acetophenone		**53.72**	48.3	105.9
Caprolactam		**64.46**	10.0	113.1
1,1'-Biphenyl		**56.82**	49.7	110.7
Atrazine		**58.86**	52.5	143.1
Carbazole		**48.80**	44.3	128.8

Blank (BLK)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acenaphthene		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
di-n-Butyl phthalate		**ND**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(ghi)perylene		**ND**	0.5	ug/l
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Chlorophenol		**ND**	0.5	ug/l
4-Chloro-3-methylphenol		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
bis(2-Chloroethoxy)methane		**ND**	0.5	ug/l
bis(2-Chloroethyl)ether		**ND**	0.5	ug/l
bis(2-Chloroisopropyl)ether		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
2,4-Dinitrotoluene		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
Dimethyl phthalate		**ND**	0.5	ug/l
bis(2-Ethylhexyl)phthalate	*	**1.0**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4-Nitrophenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Pentachlorophenol		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Phenol		**ND**	0.5	ug/l
Pyrene		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: h150917b.blkw17a

Run in Batch: H150917B, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Atrazine		**ND**	0.5	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917.lcsdw17a, Parent Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**52.78**	10.0	130.4	**7.8**	30.0
2-Chlorophenol		**56.72**	35.5	114.1	**7.1**	30.0
Bis(2-chloroethyl)ether		**52.96**	43.4	101.8	**9.3**	30.0
Bis(2-chloroisopropyl)ether		**43.38**	33.2	105.8	**7.9**	30.0
Hexachloroethane		**51.88**	23.8	138.1	**8.1**	30.0
N-Nitrosodi-n-propylamine		**54.00**	35.8	109.3	**10.1**	30.0
Nitrobenzene		**73.22**	41.7	110.1	**9.1**	30.0
Isophorone		**51.64**	44.9	107.5	**9.1**	30.0
2-Nitrophenol		**65.64**	54.4	109.5	**9.5**	30.0
2,4-Dimethylphenol		**53.80**	43.4	114.9	**8.8**	30.0
Bis(2-chloroethoxy)methane		**56.12**	48.3	105.4	**8.4**	30.0
2,4-Dichlorophenol		**62.88**	57.7	115.6	**8.4**	30.0
Naphthalene		**56.32**	32.9	135.8	**8.5**	30.0
4-Chloroaniline		**43.36**	33.4	89.4	**11.0**	30.0
Hexachlorobutadiene		**58.64**	30.2	119.4	**8.4**	30.0
4-Chloro-3-methylphenol		**62.00**	39.0	123.2	**8.6**	30.0
2-Methylnaphthalene		**55.26**	25.5	165.5	**9.6**	30.0
Hexachlorocyclopentadiene		**36.66**	10.0	271.8	**9.6**	30.0
2,4,6-Trichlorophenol		**62.28**	47.8	117.4	**8.8**	30.0
2,4,5-Trichlorophenol		**66.40**	48.9	118.8	**8.1**	30.0
2-Chloronaphthalene		**58.24**	50.3	108.3	**7.7**	30.0
2-Nitroaniline		**63.32**	53.4	119.9	**7.6**	30.0
Acenaphthylene		**59.22**	16.9	140.7	**7.8**	30.0
Dimethyl Phthalate		**63.02**	49.3	118.4	**8.3**	30.0
2,6-Dinitrotoluene		**68.32**	48.0	119.1	**9.8**	30.0
3-Nitroaniline		**54.60**	42.1	109.0	**9.6**	30.0
Acenaphthene		**59.04**	34.8	124.7	**9.8**	30.0
2,4-Dinitrophenol		**40.38**	10.0	171.2	**9.8**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h150917.lcsdw17a, Parent Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Dibenzofuran		**60.66**	52.1	111.9	**9.2**	30.0
4-Nitrophenol		**53.78**	15.4	122.0	**7.8**	30.0
2,4-Dinitrotoluene		**64.44**	35.8	126.7	**8.0**	30.0
Fluorene		**60.84**	37.1	110.3	**7.8**	30.0
Diethyl phthalate		**63.38**	48.1	118.0	**7.4**	30.0
4-Chlorophenyl phenyl ether		**64.60**	52.2	116.5	**7.5**	30.0
4-Nitroaniline		**54.76**	45.8	119.7	**11.2**	30.0
4,6-Dinitro-2-methylphenol		**60.08**	18.7	149.0	**10.7**	30.0
N-Nitrosodiphenylamine		**53.44**	10.0	104.2	**9.3**	30.0
4-Bromophenyl phenyl ether		**66.58**	44.5	116.9	**9.7**	30.0
Hexachlorobenzene		**62.98**	45.2	118.5	**10.7**	30.0
Pentachlorophenol		**53.88**	10.3	139.1	**9.7**	30.0
Phenanthrene		**59.16**	31.8	123.3	**8.7**	30.0
Anthracene		**59.38**	38.1	115.5	**8.2**	30.0
Carbazole		**55.16**	44.3	128.8	**9.5**	30.0
di-N-butyl phthalate		**60.08**	48.1	121.8	**8.3**	30.0
Fluoranthene		**62.42**	43.0	127.9	**9.7**	30.0
Pyrene		**65.22**	37.8	131.4	**6.7**	30.0
Butyl benzyl phthalate		**61.52**	47.4	121.6	**7.3**	30.0
Benzo(a)anthracene		**61.38**	40.7	115.5	**5.9**	30.0
3,3'-Dichlorobenzidine		**55.54**	37.0	97.2	**6.8**	30.0
Chrysene		**61.00**	28.9	136.7	**6.0**	30.0
Bis(2-ethylhexyl)phthalate		**61.92**	45.2	126.2	**4.6**	30.0
Di-n-octyl phthalate		**48.78**	45.7	123.1	**6.1**	30.0
Benzo(b)fluoranthene	*	**42.48**	43.3	119.4	**5.9**	30.0
Benzo(k)fluoranthene		**44.10**	41.2	116.9	**8.1**	30.0
Benzo(a)pyrene	*	**46.36**	51.2	133.4	**7.1**	30.0
Indeno(1,2,3-cd)pyrene		**42.94**	41.5	116.9	**7.8**	30.0
Dibenzo(ah)anthracene		**48.40**	33.8	132.4	**6.3**	30.0
Benzo(ghi)perylene		**50.28**	36.7	122.1	**5.5**	30.0
1-methylnaphthalene		**60.10**	10.0	133.6	**8.0**	30.0
1,4-Dichlorobenzene		**51.48**	20.7	137.7	**8.5**	30.0
1,2-Dichlorobenzene		**51.54**	9.6	166.2	**7.8**	30.0
o-Cresol		**58.46**	39.1	109.4	**6.1**	30.0
3,4-methylphenol		**65.76**	36.4	115.4	**8.2**	30.0
1,3-Dichlorobenzene		**51.00**	36.8	105.8	**8.8**	30.0
1,2-Diphenylhydrazine		**61.12**	40.2	136.4	**10.2**	30.0
1,2,4-Trichlorobenzene		**57.84**	32.2	118.4	**8.1**	30.0
1,2,4,5-Tetrachlorobenzene	*	**60.90**	70.0	130.0	**8.8**	30.0
2,3,4,6-Tetrachlorophenol	*	**67.56**	70.0	130.0	**7.0**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917b.lcsdw17a, Parent Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Benzaldehyde		**40.04**	35.6	137.2	**8.5**	30.0
Acetophenone		**59.44**	48.3	105.9	**10.1**	30.0
Caprolactam		**70.58**	10.0	113.1	**9.1**	30.0
1,1'-Biphenyl		**61.26**	49.7	110.7	**7.5**	30.0
Atrazine		**63.84**	52.5	143.1	**8.1**	30.0
Carbazole		**53.68**	44.3	128.8	**9.5**	30.0

Organics - Volatiles, Prep Batch ID: VF150918W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:35, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**94.90**	75.1	135.9
Diethyl ether		**87.44**	67.4	121.2
Acetone		**76.84**	29.9	161.5
Methyl iodide		**92.74**	68.8	116.4
Carbon disulfide		**92.16**	63.8	137.4
Methyl acetate		**97.30**	64.7	125.4
tert-Methyl butyl ether		**94.22**	73.2	122.4
Acrylonitrile		**93.70**	69.9	128.9
2-Butanone		**79.62**	44.0	134.4
Dichlorodifluoromethane		**88.96**	10.0	222.8
Chloromethane		**86.86**	23.8	166.5
Vinyl Chloride		**88.22**	43.5	149.1
Bromomethane		**89.06**	56.8	151.3
Chloroethane		**89.16**	53.4	149.4
Trichlorofluoromethane		**79.98**	59.7	151.8
1,1-Dichloroethene		**94.00**	69.6	139.4
Methylene Chloride		**94.62**	73.3	121.1
trans-1,2-Dichloroethene		**94.98**	73.6	129.3
1,1-Dichloroethane		**96.90**	71.5	126.2
cis-1,2-Dichloroethene		**96.42**	76.6	122.1
Tetrahydrofuran		**90.10**	59.0	117.9
Chloroform		**97.22**	78.4	124.0
Bromochloromethane		**98.62**	78.2	120.8
1,1,1-Trichloroethane		**95.42**	79.4	130.9
Cyclohexane		**93.48**	10.0	169.1
4-Methyl-2-pentanone		**88.66**	71.6	125.2
2-Hexanone		**67.60**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.10**	70.0	130.0
Carbon Tetrachloride		**94.46**	72.6	133.0
Benzene		**91.52**	79.9	124.9
1,2-Dichloroethane		**92.70**	76.0	126.3
Trichloroethene		**90.72**	79.7	124.2
1,2-Dichloropropane		**93.76**	78.6	126.4
Bromodichloromethane		**94.32**	80.4	128.2
Methyl cyclohexane		**94.34**	76.6	131.3
Dibromomethane		**90.44**	76.9	122.1
cis-1,3-Dichloropropene		**91.40**	79.8	129.9
Toluene		**88.82**	79.8	124.5
trans-1,3-Dichloropropene		**91.60**	74.0	131.3
1,1,2-Trichloroethane		**89.34**	78.7	123.1
Tetrachloroethene		**90.50**	74.5	124.5
trans-1,4-Dichloro-2-butene		**92.40**	68.6	135.4
Dibromochloromethane		**95.18**	74.6	127.2
1,2-Dibromoethane		**94.08**	70.3	133.7
Chlorobenzene		**89.14**	79.2	122.7
1,1,1,2-Tetrachloroethane		**90.98**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:35, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**93.58**	79.5	129.1
p,m-Xylene		**94.99**	79.4	132.2
o-Xylene		**95.34**	80.2	131.0
Styrene		**95.70**	69.5	126.7
Isopropylbenzene		**95.64**	74.4	121.5
Bromoform		**90.56**	69.4	128.0
1,1,2,2-Tetrachloroethane		**94.42**	79.8	126.3
1,2,3-Trichloropropane		**91.48**	78.3	138.8
n-Propylbenzene		**98.14**	82.0	130.7
Bromobenzene		**95.10**	78.7	124.6
1,3,5-Trimethylbenzene		**96.78**	81.3	128.9
tert-Butylbenzene		**96.52**	80.7	128.9
1,2,4-Trimethylbenzene		**97.84**	81.4	130.8
sec-Butylbenzene		**94.62**	77.4	129.8
p-Isopropyltoluene		**98.12**	79.8	137.5
1,3-Dichlorobenzene		**95.60**	77.0	131.3
1,4-Dichlorobenzene		**94.72**	20.7	137.7
1,2-Dichlorobenzene		**91.46**	10.0	166.2
1,2,3-Trimethylbenzene		**93.44**	76.3	124.2
n-Butylbenzene		**96.32**	80.0	133.3
Hexachloroethane		**99.24**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**97.30**	21.2	189.4
1,2,4-Trichlorobenzene		**98.68**	27.4	143.4
1,2,3-Trichlorobenzene		**95.54**	75.4	131.4
Naphthalene		**95.18**	32.9	135.8
2-Methylnaphthalene		**96.00**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150918a7.blkw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 16:25, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150918a7.blkw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 16:25, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.44**	75.1	135.9	**0.6**	30.0
Diethyl ether		**90.96**	67.4	121.2	**3.9**	30.0
Acetone		**98.50**	29.9	161.5	**24.7**	30.0
Methyl iodide		**92.88**	68.8	116.4	**0.2**	30.0
Carbon disulfide		**91.86**	63.8	137.4	**0.3**	30.0
Methyl acetate		**106.14**	64.7	125.4	**8.7**	30.0
tert-Methyl butyl ether		**97.92**	73.2	122.4	**3.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acrylonitrile		**98.06**	69.9	128.9	**4.5**	30.0
2-Butanone		**91.08**	44.0	134.4	**13.4**	30.0
Dichlorodifluoromethane		**88.48**	10.0	222.8	**0.5**	30.0
Chloromethane		**87.10**	23.8	166.5	**0.3**	30.0
Vinyl Chloride		**87.44**	43.5	149.1	**0.9**	30.0
Bromomethane		**89.26**	56.8	151.3	**0.2**	30.0
Chloroethane		**88.70**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**95.78**	59.7	151.8	**18.0**	30.0
1,1-Dichloroethene		**93.58**	69.6	139.4	**0.4**	30.0
Methylene Chloride		**96.56**	73.3	121.1	**2.0**	30.0
trans-1,2-Dichloroethene		**94.96**	73.6	129.3	**0.0**	30.0
1,1-Dichloroethane		**97.12**	71.5	126.2	**0.2**	30.0
cis-1,2-Dichloroethene		**96.56**	76.6	122.1	**0.1**	30.0
Tetrahydrofuran		**101.56**	59.0	117.9	**12.0**	30.0
Chloroform		**97.34**	78.4	124.0	**0.1**	30.0
Bromochloromethane		**98.24**	78.2	120.8	**0.4**	30.0
1,1,1-Trichloroethane		**96.68**	79.4	130.9	**1.3**	30.0
Cyclohexane		**93.24**	10.0	169.1	**0.3**	30.0
4-Methyl-2-pentanone		**95.78**	71.6	125.2	**7.7**	30.0
2-Hexanone		**87.02**	55.4	136.9	**25.1**	30.0
2-Chloroethylvinyl ether	*	**2.42**	70.0	130.0	**14.2**	30.0
Carbon Tetrachloride		**93.68**	72.6	133.0	**0.8**	30.0
Benzene		**92.22**	79.9	124.9	**0.8**	30.0
1,2-Dichloroethane		**93.54**	76.0	126.3	**0.9**	30.0
Trichloroethene		**93.18**	79.7	124.2	**2.7**	30.0
1,2-Dichloropropane		**94.08**	78.6	126.4	**0.3**	30.0
Bromodichloromethane		**96.16**	80.4	128.2	**1.9**	30.0
Methyl cyclohexane		**90.90**	76.6	131.3	**3.7**	30.0
Dibromomethane		**95.20**	76.9	122.1	**5.1**	30.0
cis-1,3-Dichloropropene		**94.66**	79.8	129.9	**3.5**	30.0
Toluene		**91.10**	79.8	124.5	**2.5**	30.0
trans-1,3-Dichloropropene		**96.42**	74.0	131.3	**5.1**	30.0
1,1,2-Trichloroethane		**95.86**	78.7	123.1	**7.0**	30.0
Tetrachloroethene		**94.12**	74.5	124.5	**3.9**	30.0
trans-1,4-Dichloro-2-butene		**99.40**	68.6	135.4	**7.3**	30.0
Dibromochloromethane		**98.86**	74.6	127.2	**3.8**	30.0
1,2-Dibromoethane		**98.98**	70.3	133.7	**5.1**	30.0
Chlorobenzene		**92.80**	79.2	122.7	**4.0**	30.0
1,1,1,2-Tetrachloroethane		**90.98**	80.3	128.2	**0.0**	30.0
Ethylbenzene		**97.00**	79.5	129.1	**3.6**	30.0
p,m-Xylene		**97.44**	79.4	132.2	**2.5**	30.0
o-Xylene		**95.70**	80.2	131.0	**0.4**	30.0
Styrene		**96.78**	69.5	126.7	**1.1**	30.0
Isopropylbenzene		**95.72**	74.4	121.5	**0.1**	30.0
Bromoform		**95.26**	69.4	128.0	**5.1**	30.0
1,1,2,2-Tetrachloroethane		**99.72**	79.8	126.3	**5.5**	30.0

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**100.08**	78.3	138.8	**9.0**	30.0
n-Propylbenzene		**97.64**	82.0	130.7	**0.5**	30.0
Bromobenzene		**96.94**	78.7	124.6	**1.9**	30.0
1,3,5-Trimethylbenzene		**98.26**	81.3	128.9	**1.5**	30.0
tert-Butylbenzene		**97.18**	80.7	128.9	**0.7**	30.0
1,2,4-Trimethylbenzene		**99.06**	81.4	130.8	**1.2**	30.0
sec-Butylbenzene		**102.40**	77.4	129.8	**7.9**	30.0
p-Isopropyltoluene		**104.52**	79.8	137.5	**6.3**	30.0
1,3-Dichlorobenzene		**100.98**	77.0	131.3	**5.5**	30.0
1,4-Dichlorobenzene		**101.16**	20.7	137.7	**6.6**	30.0
1,2-Dichlorobenzene		**97.82**	10.0	166.2	**6.7**	30.0
1,2,3-Trimethylbenzene		**100.32**	76.3	124.2	**7.1**	30.0
n-Butylbenzene		**100.84**	80.0	133.3	**4.6**	30.0
Hexachloroethane		**102.56**	23.8	138.1	**3.3**	30.0
1,2-Dibromo-3-Chloropropane		**108.70**	21.2	189.4	**11.1**	30.0
1,2,4-Trichlorobenzene		**102.62**	27.4	143.4	**3.9**	30.0
1,2,3-Trichlorobenzene		**104.26**	75.4	131.4	**8.7**	30.0
Naphthalene		**103.10**	32.9	135.8	**8.0**	30.0
2-Methylnaphthalene		**106.20**	25.5	165.5	**10.1**	30.0

Organics - Volatiles, Prep Batch ID: VF150922W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150922a3.lcsw22a

Run in Batch: 150922A3, Run Date: 09/22/2015 13:35, Prep Date: 09/22/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**109.04**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150922a3.blkw22a

Run in Batch: 150922A3, Run Date: 09/22/2015 14:30, Prep Date: 09/22/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**2.0**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150922a3.lcsw22b, Parent Sample ID: 150922a3.lcsw22a

Run in Batch: 150922A3, Run Date: 09/22/2015 13:53, Prep Date: 09/22/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**112.34**	70.0	130.0	**3.0**	30.0

Organics - Volatiles, Prep Batch ID: VF150923W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150923a7.lcsw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 12:34, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**100.42**	75.1	135.9
Diethyl ether		**94.02**	67.4	121.2
Acetone		**119.46**	29.9	161.5
Methyl iodide		**96.68**	68.8	116.4
Carbon disulfide		**94.66**	63.8	137.4
Methyl acetate		**99.74**	64.7	125.4
tert-Methyl butyl ether		**93.48**	73.2	122.4
Acrylonitrile		**90.28**	69.9	128.9
2-Butanone		**98.84**	44.0	134.4
Dichlorodifluoromethane		**71.68**	10.0	222.8
Chloromethane		**76.10**	23.8	166.5
Vinyl Chloride		**81.92**	43.5	149.1
Bromomethane		**90.22**	56.8	151.3
Chloroethane		**92.18**	53.4	149.4
Acrolein		**88.74**	70.0	130.0
Trichlorofluoromethane		**97.12**	59.7	151.8
1,1-Dichloroethene		**98.76**	69.6	139.4
Methylene Chloride		**99.26**	73.3	121.1
trans-1,2-Dichloroethene		**97.12**	73.6	129.3
1,1-Dichloroethane		**99.14**	71.5	126.2
cis-1,2-Dichloroethene		**97.58**	76.6	122.1
Tetrahydrofuran		**91.62**	59.0	117.9
Chloroform		**97.44**	78.4	124.0
Bromochloromethane		**97.52**	78.2	120.8
1,1,1-Trichloroethane		**96.16**	79.4	130.9
Cyclohexane		**77.98**	10.0	169.1
4-Methyl-2-pentanone		**78.24**	71.6	125.2
2-Hexanone		**62.70**	55.4	136.9
2-Chloroethylvinyl ether	*	**27.68**	70.0	130.0
Carbon Tetrachloride		**89.12**	72.6	133.0
Benzene		**90.26**	79.9	124.9
1,2-Dichloroethane		**91.50**	76.0	126.3
Trichloroethene		**89.72**	79.7	124.2
1,2-Dichloropropane		**92.50**	78.6	126.4
Bromodichloromethane		**91.66**	80.4	128.2
Methyl cyclohexane		**92.38**	76.6	131.3
Dibromomethane		**84.22**	76.9	122.1
cis-1,3-Dichloropropene		**90.28**	79.8	129.9
Toluene		**89.62**	79.8	124.5
trans-1,3-Dichloropropene		**88.00**	74.0	131.3
1,1,2-Trichloroethane		**88.70**	78.7	123.1
Tetrachloroethene		**75.98**	74.5	124.5
trans-1,4-Dichloro-2-butene		**84.24**	68.6	135.4
Dibromochloromethane		**91.48**	74.6	127.2
1,2-Dibromoethane		**91.16**	70.3	133.7
Chlorobenzene		**90.92**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150923a7.lcsw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 12:34, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**88.24**	80.3	128.2
Ethylbenzene		**95.74**	79.5	129.1
p,m-Xylene		**95.71**	79.4	132.2
o-Xylene		**95.08**	80.2	131.0
Styrene		**94.32**	69.5	126.7
Isopropylbenzene		**93.22**	74.4	121.5
Bromoform		**81.52**	69.4	128.0
1,1,2,2-Tetrachloroethane		**87.88**	79.8	126.3
1,2,3-Trichloropropane		**85.28**	78.3	138.8
n-Propylbenzene		**97.48**	82.0	130.7
Bromobenzene		**91.48**	78.7	124.6
1,3,5-Trimethylbenzene		**95.20**	81.3	128.9
tert-Butylbenzene		**93.96**	80.7	128.9
1,2,4-Trimethylbenzene		**97.60**	81.4	130.8
sec-Butylbenzene		**96.50**	77.4	129.8
p-Isopropyltoluene		**97.62**	79.8	137.5
1,3-Dichlorobenzene		**93.44**	77.0	131.3
1,4-Dichlorobenzene		**92.30**	20.7	137.7
1,2-Dichlorobenzene		**90.56**	10.0	166.2
1,2,3-Trimethylbenzene		**95.74**	76.3	124.2
n-Butylbenzene		**96.82**	80.0	133.3
Hexachloroethane		**89.38**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**82.88**	21.2	189.4
1,2,4-Trichlorobenzene		**91.66**	27.4	143.4
1,2,3-Trichlorobenzene		**89.72**	75.4	131.4
Naphthalene		**87.62**	32.9	135.8
2-Methylnaphthalene		**84.64**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150923a7.blkw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 15:31, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150923a7.blkw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 15:31, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150923a7.6823106m, Parent Sample ID: S68231.05

Run in Batch: 150923A7, Run Date: 09/23/2015 13:29, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**133.72**	75.1	135.9
Diethyl ether		**120.82**	67.4	121.2
Acetone	*	**171.94**	29.9	161.5
Methyl iodide	*	**126.32**	68.8	116.4
Carbon disulfide		**124.62**	63.8	137.4
Methyl acetate	*	**145.60**	64.7	125.4

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150923a7.6823106m, Parent Sample ID: S68231.05

Run in Batch: 150923A7, Run Date: 09/23/2015 13:29, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
tert-Methyl butyl ether	*	**127.44**	73.2	122.4
Acrylonitrile	*	**132.12**	69.9	128.9
2-Butanone	*	**136.62**	44.0	134.4
Dichlorodifluoromethane		**94.16**	10.0	222.8
Chloromethane		**96.06**	23.8	166.5
Vinyl Chloride		**109.02**	43.5	149.1
Bromomethane		**115.50**	56.8	151.3
Chloroethane		**122.40**	53.4	149.4
Trichlorofluoromethane		**112.94**	59.7	151.8
1,1-Dichloroethene		**129.10**	69.6	139.4
Methylene Chloride	*	**126.80**	73.3	121.1
trans-1,2-Dichloroethene		**126.50**	73.6	129.3
1,1-Dichloroethane	*	**128.54**	71.5	126.2
cis-1,2-Dichloroethene	*	**127.28**	76.6	122.1
Tetrahydrofuran	*	**129.94**	59.0	117.9
Chloroform	*	**125.82**	78.4	124.0
Bromochloromethane	*	**128.64**	78.2	120.8
1,1,1-Trichloroethane		**125.80**	79.4	130.9
Cyclohexane		**102.30**	10.0	169.1
4-Methyl-2-pentanone	*	**128.38**	71.6	125.2
2-Hexanone		**103.54**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.74**	70.0	130.0
Carbon Tetrachloride		**120.54**	72.6	133.0
Benzene		**123.98**	79.9	124.9
1,2-Dichloroethane		**125.42**	76.0	126.3
Trichloroethene	*	**125.20**	79.7	124.2
1,2-Dichloropropane		**126.14**	78.6	126.4
Bromodichloromethane		**122.82**	80.4	128.2
Methyl cyclohexane	*	**138.84**	76.6	131.3
Dibromomethane	*	**123.32**	76.9	122.1
cis-1,3-Dichloropropene		**119.96**	79.8	129.9
Toluene		**120.86**	79.8	124.5
trans-1,3-Dichloropropene		**120.96**	74.0	131.3
1,1,2-Trichloroethane	*	**125.50**	78.7	123.1
Tetrachloroethene		**107.78**	74.5	124.5
trans-1,4-Dichloro-2-butene		**126.90**	68.6	135.4
Dibromochloromethane		**126.04**	74.6	127.2
1,2-Dibromoethane		**133.40**	70.3	133.7
Chlorobenzene	*	**124.96**	79.2	122.7
1,1,1,2-Tetrachloroethane		**117.70**	80.3	128.2
Ethylbenzene	*	**129.98**	79.5	129.1
p,m-Xylene		**126.01**	79.4	132.2
o-Xylene		**124.40**	80.2	131.0
Styrene		**115.88**	69.5	126.7
Isopropylbenzene	*	**129.22**	74.4	121.5
Bromoform		**116.56**	69.4	128.0

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 150923a7.6823106m, Parent Sample ID: S68231.05

Run in Batch: 150923A7, Run Date: 09/23/2015 13:29, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2,2-Tetrachloroethane	*	**130.12**	79.8	126.3
1,2,3-Trichloropropane		**130.30**	78.3	138.8
n-Propylbenzene	*	**133.20**	82.0	130.7
Bromobenzene	*	**126.56**	78.7	124.6
1,3,5-Trimethylbenzene		**123.12**	81.3	128.9
tert-Butylbenzene	*	**132.22**	80.7	128.9
1,2,4-Trimethylbenzene		**127.98**	81.4	130.8
sec-Butylbenzene	*	**147.24**	77.4	129.8
p-Isopropyltoluene	*	**145.64**	79.8	137.5
1,3-Dichlorobenzene	*	**134.20**	77.0	131.3
1,4-Dichlorobenzene		**132.64**	20.7	137.7
1,2-Dichlorobenzene		**129.54**	10.0	166.2
1,2,3-Trimethylbenzene	*	**128.10**	76.3	124.2
n-Butylbenzene	*	**155.88**	80.0	133.3
Hexachloroethane		**137.28**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**129.10**	21.2	189.4
1,2,4-Trichlorobenzene	*	**143.56**	27.4	143.4
1,2,3-Trichlorobenzene	*	**142.64**	75.4	131.4
Naphthalene	*	**138.92**	32.9	135.8
2-Methylnaphthalene		**145.34**	25.5	165.5

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150923a7.6823107n, Parent Sample ID: 150923a7.6823106m

Run in Batch: 150923A7, Run Date: 09/23/2015 13:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**113.92**	75.1	135.9	**16.0**	30.0
Diethyl ether		**101.22**	67.4	121.2	**17.7**	30.0
Acetone		**141.42**	29.9	161.5	**19.5**	30.0
Methyl iodide		**105.80**	68.8	116.4	**17.7**	30.0
Carbon disulfide		**104.48**	63.8	137.4	**17.6**	30.0
Methyl acetate		**118.40**	64.7	125.4	**20.6**	30.0
tert-Methyl butyl ether		**104.84**	73.2	122.4	**19.5**	30.0
Acrylonitrile		**109.36**	69.9	128.9	**18.9**	30.0
2-Butanone		**120.98**	44.0	134.4	**12.1**	30.0
Dichlorodifluoromethane		**83.50**	10.0	222.8	**12.0**	30.0
Chloromethane		**83.16**	23.8	166.5	**14.4**	30.0
Vinyl Chloride		**92.88**	43.5	149.1	**16.0**	30.0
Bromomethane		**97.10**	56.8	151.3	**17.3**	30.0
Chloroethane		**99.54**	53.4	149.4	**20.6**	30.0
Trichlorofluoromethane		**96.64**	59.7	151.8	**15.6**	30.0
1,1-Dichloroethene		**108.88**	69.6	139.4	**17.0**	30.0
Methylene Chloride		**105.12**	73.3	121.1	**18.7**	30.0
trans-1,2-Dichloroethene		**106.90**	73.6	129.3	**16.8**	30.0
1,1-Dichloroethane		**108.12**	71.5	126.2	**17.3**	30.0
cis-1,2-Dichloroethene		**106.88**	76.6	122.1	**17.4**	30.0
Tetrahydrofuran		**106.62**	59.0	117.9	**19.7**	30.0

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150923a7.6823107n, Parent Sample ID: 150923a7.6823106m

Run in Batch: 150923A7, Run Date: 09/23/2015 13:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloroform		**106.58**	78.4	124.0	**16.6**	30.0
Bromochloromethane		**108.48**	78.2	120.8	**17.0**	30.0
1,1,1-Trichloroethane		**106.14**	79.4	130.9	**17.0**	30.0
Cyclohexane		**87.10**	10.0	169.1	**16.1**	30.0
4-Methyl-2-pentanone		**100.36**	71.6	125.2	**24.5**	30.0
2-Hexanone		**84.12**	55.4	136.9	**20.7**	30.0
2-Chloroethylvinyl ether	*	**2.28**	70.0	130.0	**18.3**	30.0
Carbon Tetrachloride		**99.60**	72.6	133.0	**19.0**	30.0
Benzene		**101.94**	79.9	124.9	**19.5**	30.0
1,2-Dichloroethane		**102.52**	76.0	126.3	**20.1**	30.0
Trichloroethene		**102.08**	79.7	124.2	**20.3**	30.0
1,2-Dichloropropane		**103.90**	78.6	126.4	**19.3**	30.0
Bromodichloromethane		**101.26**	80.4	128.2	**19.2**	30.0
Methyl cyclohexane		**112.82**	76.6	131.3	**20.7**	30.0
Dibromomethane		**100.10**	76.9	122.1	**20.8**	30.0
cis-1,3-Dichloropropene		**98.86**	79.8	129.9	**19.3**	30.0
Toluene		**98.78**	79.8	124.5	**20.1**	30.0
trans-1,3-Dichloropropene		**98.74**	74.0	131.3	**20.2**	30.0
1,1,2-Trichloroethane		**102.54**	78.7	123.1	**20.1**	30.0
Tetrachloroethene		**84.66**	74.5	124.5	**24.0**	30.0
trans-1,4-Dichloro-2-butene		**96.24**	68.6	135.4	**27.5**	30.0
Dibromochloromethane		**104.44**	74.6	127.2	**18.7**	30.0
1,2-Dibromoethane		**108.30**	70.3	133.7	**20.8**	30.0
Chlorobenzene		**103.64**	79.2	122.7	**18.7**	30.0
1,1,1,2-Tetrachloroethane		**97.28**	80.3	128.2	**19.0**	30.0
Ethylbenzene		**106.64**	79.5	129.1	**19.7**	30.0
p,m-Xylene		**105.06**	79.4	132.2	**18.1**	30.0
o-Xylene		**104.36**	80.2	131.0	**17.5**	30.0
Styrene		**99.58**	69.5	126.7	**15.1**	30.0
Isopropylbenzene		**107.10**	74.4	121.5	**18.7**	30.0
Bromoform		**96.06**	69.4	128.0	**19.3**	30.0
1,1,2,2-Tetrachloroethane		**106.10**	79.8	126.3	**20.3**	30.0
1,2,3-Trichloropropane		**105.48**	78.3	138.8	**21.1**	30.0
n-Propylbenzene		**111.24**	82.0	130.7	**18.0**	30.0
Bromobenzene		**102.42**	78.7	124.6	**21.1**	30.0
1,3,5-Trimethylbenzene		**105.58**	81.3	128.9	**15.3**	30.0
tert-Butylbenzene		**107.74**	80.7	128.9	**20.4**	30.0
1,2,4-Trimethylbenzene		**106.58**	81.4	130.8	**18.2**	30.0
sec-Butylbenzene		**115.40**	77.4	129.8	**24.2**	30.0
p-Isopropyltoluene		**115.34**	79.8	137.5	**23.2**	30.0
1,3-Dichlorobenzene		**104.48**	77.0	131.3	**24.9**	30.0
1,4-Dichlorobenzene		**104.34**	20.7	137.7	**23.9**	30.0
1,2-Dichlorobenzene		**103.32**	10.0	166.2	**22.5**	30.0
1,2,3-Trimethylbenzene		**103.52**	76.3	124.2	**21.2**	30.0
n-Butylbenzene		**123.02**	80.0	133.3	**23.6**	30.0
Hexachloroethane		**109.46**	23.8	138.1	**22.6**	30.0

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 150923a7.6823107n, Parent Sample ID: 150923a7.6823106m

Run in Batch: 150923A7, Run Date: 09/23/2015 13:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dibromo-3-Chloropropane		**108.00**	21.2	189.4	**17.8**	30.0
1,2,4-Trichlorobenzene		**110.22**	27.4	143.4	**26.3**	30.0
1,2,3-Trichlorobenzene		**111.30**	75.4	131.4	**24.7**	30.0
Naphthalene		**110.26**	32.9	135.8	**23.0**	30.0
2-Methylnaphthalene		**114.88**	25.5	165.5	**23.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150923a7.lcsw23b, Parent Sample ID: 150923a7.lcsw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 12:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**97.96**	75.1	135.9	**2.5**	30.0
Diethyl ether		**101.54**	67.4	121.2	**7.7**	30.0
Acetone		**125.68**	29.9	161.5	**5.1**	30.0
Methyl iodide		**94.30**	68.8	116.4	**2.5**	30.0
Carbon disulfide		**92.02**	63.8	137.4	**2.8**	30.0
Methyl acetate		**102.58**	64.7	125.4	**2.8**	30.0
tert-Methyl butyl ether		**96.08**	73.2	122.4	**2.7**	30.0
Acrylonitrile		**96.06**	69.9	128.9	**6.2**	30.0
2-Butanone		**107.30**	44.0	134.4	**8.2**	30.0
Dichlorodifluoromethane		**70.02**	10.0	222.8	**2.3**	30.0
Chloromethane		**70.80**	23.8	166.5	**7.2**	30.0
Vinyl Chloride		**79.98**	43.5	149.1	**2.4**	30.0
Bromomethane		**86.48**	56.8	151.3	**4.2**	30.0
Chloroethane		**88.06**	53.4	149.4	**4.6**	30.0
Acrolein		**92.28**	70.0	130.0	**3.9**	30.0
Trichlorofluoromethane		**97.02**	59.7	151.8	**0.1**	30.0
1,1-Dichloroethene		**96.46**	69.6	139.4	**2.4**	30.0
Methylene Chloride		**97.18**	73.3	121.1	**2.1**	30.0
trans-1,2-Dichloroethene		**94.90**	73.6	129.3	**2.3**	30.0
1,1-Dichloroethane		**97.88**	71.5	126.2	**1.3**	30.0
cis-1,2-Dichloroethene		**96.34**	76.6	122.1	**1.3**	30.0
Tetrahydrofuran		**96.12**	59.0	117.9	**4.8**	30.0
Chloroform		**95.84**	78.4	124.0	**1.7**	30.0
Bromochloromethane		**97.66**	78.2	120.8	**0.1**	30.0
1,1,1-Trichloroethane		**92.82**	79.4	130.9	**3.5**	30.0
Cyclohexane		**74.48**	10.0	169.1	**4.6**	30.0
4-Methyl-2-pentanone		**87.26**	71.6	125.2	**10.9**	30.0
2-Hexanone		**69.78**	55.4	136.9	**10.7**	30.0
2-Chloroethylvinyl ether	*	**8.90**	70.0	130.0	**102.7**	30.0
Carbon Tetrachloride		**91.24**	72.6	133.0	**2.4**	30.0
Benzene		**92.08**	79.9	124.9	**2.0**	30.0
1,2-Dichloroethane		**94.90**	76.0	126.3	**3.6**	30.0
Trichloroethene		**91.60**	79.7	124.2	**2.1**	30.0
1,2-Dichloropropane		**93.98**	78.6	126.4	**1.6**	30.0
Bromodichloromethane		**93.60**	80.4	128.2	**2.1**	30.0
Methyl cyclohexane		**92.52**	76.6	131.3	**0.2**	30.0

Organics - Volatiles, Prep Batch ID: VF150923W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150923a7.lcsw23b, Parent Sample ID: 150923a7.lcsw23a

Run in Batch: 150923A7, Run Date: 09/23/2015 12:56, Prep Date: 09/23/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Dibromomethane		**91.38**	76.9	122.1	**8.2**	30.0
cis-1,3-Dichloropropene		**92.84**	79.8	129.9	**2.8**	30.0
Toluene		**90.84**	79.8	124.5	**1.4**	30.0
trans-1,3-Dichloropropene		**93.06**	74.0	131.3	**5.6**	30.0
1,1,2-Trichloroethane		**92.72**	78.7	123.1	**4.4**	30.0
Tetrachloroethene		**78.78**	74.5	124.5	**3.6**	30.0
trans-1,4-Dichloro-2-butene		**90.54**	68.6	135.4	**7.2**	30.0
Dibromochloromethane		**92.30**	74.6	127.2	**0.9**	30.0
1,2-Dibromoethane		**93.28**	70.3	133.7	**2.3**	30.0
Chlorobenzene		**89.36**	79.2	122.7	**1.7**	30.0
1,1,1,2-Tetrachloroethane		**87.32**	80.3	128.2	**1.0**	30.0
Ethylbenzene		**93.86**	79.5	129.1	**2.0**	30.0
p,m-Xylene		**93.67**	79.4	132.2	**2.2**	30.0
o-Xylene		**93.38**	80.2	131.0	**1.8**	30.0
Styrene		**93.32**	69.5	126.7	**1.1**	30.0
Isopropylbenzene		**91.56**	74.4	121.5	**1.8**	30.0
Bromoform		**85.90**	69.4	128.0	**5.2**	30.0
1,1,2,2-Tetrachloroethane		**90.66**	79.8	126.3	**3.1**	30.0
1,2,3-Trichloropropane		**90.96**	78.3	138.8	**6.4**	30.0
n-Propylbenzene		**94.80**	82.0	130.7	**2.8**	30.0
Bromobenzene		**92.02**	78.7	124.6	**0.6**	30.0
1,3,5-Trimethylbenzene		**91.50**	81.3	128.9	**4.0**	30.0
tert-Butylbenzene		**90.62**	80.7	128.9	**3.6**	30.0
1,2,4-Trimethylbenzene		**94.68**	81.4	130.8	**3.0**	30.0
sec-Butylbenzene		**96.76**	77.4	129.8	**0.3**	30.0
p-Isopropyltoluene		**98.48**	79.8	137.5	**0.9**	30.0
1,3-Dichlorobenzene		**96.14**	77.0	131.3	**2.8**	30.0
1,4-Dichlorobenzene		**94.08**	20.7	137.7	**1.9**	30.0
1,2-Dichlorobenzene		**93.64**	10.0	166.2	**3.3**	30.0
1,2,3-Trimethylbenzene		**97.42**	76.3	124.2	**1.7**	30.0
n-Butylbenzene		**97.48**	80.0	133.3	**0.7**	30.0
Hexachloroethane		**89.12**	23.8	138.1	**0.3**	30.0
1,2-Dibromo-3-Chloropropane		**89.50**	21.2	189.4	**7.7**	30.0
1,2,4-Trichlorobenzene		**95.12**	27.4	143.4	**3.7**	30.0
1,2,3-Trichlorobenzene		**93.42**	75.4	131.4	**4.0**	30.0
Naphthalene		**92.94**	32.9	135.8	**5.9**	30.0
2-Methylnaphthalene		**91.52**	25.5	165.5	**7.8**	30.0

Organics - Volatiles, Prep Batch ID: VS150921W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:28, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.18**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150921a3.blkw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 17:52, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**3.1**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150921a3.6823106x, Parent Sample ID: S68231.05

Run in Batch: 150921A3, Run Date: 09/21/2015 17:16, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**98.76**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150921a3.6823107n, Parent Sample ID: 150921a3.6823106x

Run in Batch: 150921A3, Run Date: 09/21/2015 16:42, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.52**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150921a3.lcsw21b, Parent Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:46, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**107.10**	70.0	130.0	**3.7**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89166

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: ARCADIS U.S. Inc
ADDRESS: 10559 Citation Drive Ste. 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810.225.1940 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: randy.christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: B006479.2015.00603 / RACER Lansing, MI Plant 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Adam Richmond

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☑ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TCL VOC SW 8260	SVOC SW8270D	1, 4 Dioxane*	TAL Metals 6020A*	Special Instructions
6823.01	9/10/15	1235	MW-13-43_091015	GW	3		3						✓		✓		*Metals include: Sb, As, Ba,
.02		1400	MW-13-45_091015	GW	3		3						✓		✓		B, Cd, Cr, Cr VI, Co,
.03		1645	TW-14-02_091015	GW	6 (7 MS/MSD)		2	3	2				✓	✓	✓	✓[13]	Cu, Pb, Mn, Hg, Ni, Se,
.04	9/11/15	0850 (1000) 091115	MW-13-42_091115	GW	3		3						✓		✓		Ag, V, Zn
.05/.06/.07		1130	MW-12-05_091115	GW	3 (5 MS/MSD)		3 (5 MS/MSD)						✓		✓		MS/MSD
.08		1330	MW-14-56_091115	GW	3		3						✓		✓		
.09		1415	EB0001_091115	GW	4		3	1					✓	091115 ✓	✓	✓	
.10		1430	FB0001_091115	GW	3		3						✓				
.11	9/10/15	—	DUP-1	GW	3		3						✓		✓		[13] Dissolved metals - field
.12	9/11/15	—	TRIP BLANK	GW	1		1						✓				filtered + total metals (unfiltered)
.13	9/11/15	1000	MW-13-44_091115	GW	3		3						✓		✓		[2] Total metals - unfiltered
60																	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☑ Sampler	DATE	TIME
Adam Richmond / ARCADIS		9/11/15	1510
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Merit Dropbox	9.14.15	8:00
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	9/14/15	8:00

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
	✓	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 5.5

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S68233.01(01)
Generated on 10/15/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S68233.01-S68233.06
Project: B0064480.2015.00603/RACER Lansing, MI Plant 3
Submitted Date/Time: 09/14/2015 08:00
Sampled by: Adam Richmond
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Pages 8-9)
Surrogates per Lab Sample (Pages 10-12)
Surrogates per QC Sample (Pages 13-16)
Batch QC Results (Pages 17-32)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S68233.01
Sample Tag: MW-13-22_090915
Collected Date/Time: 09/09/2015 10:10
Matrix: Groundwater
COC Reference: 89167

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 21:54	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 21:54	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/21/15 20:17	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/18/15 21:54	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68233.02
Sample Tag: MW-15-71_090915
Collected Date/Time: 09/09/2015 12:40
Matrix: Groundwater
COC Reference: 89167

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Antimony	SW6020A	10/05/15 13:52	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Arsenic, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Barium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Barium	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Boron, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Boron	SW6020A	10/05/15 13:52	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Cadmium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Cobalt, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	10/05/15 13:52	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Manganese	SW6020A	10/05/15 13:52	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Mercury, Dissolved	SW7471B	09/14/15 16:15	HG2-15-0914A	HGD-091415-1	No	LCS/BLK/MS/MSD
Mercury	SW7471B	09/14/15 16:09	HG2-15-0914A	HGD-091415-1	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Selenium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Selenium	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Silver, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Silver	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	10/05/15 13:52	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD
Zinc, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Zinc	SW6020A	09/28/15 10:52	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	09/17/15 23:41	H150917	SF150916W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	09/17/15 23:41	H150917B	SF150916W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 22:16	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 22:16	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	09/21/15 19:22	150921A3	VS150921W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	09/18/15 22:16	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S68233.03
Sample Tag: MW-13-32_090915
Collected Date/Time: 09/09/2015 14:50
Matrix: Groundwater
COC Reference: 89167

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	09/28/15 10:57	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	09/28/15 10:57	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	09/28/15 10:57	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	09/28/15 10:57	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	09/28/15 10:57	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	10/05/15 13:42	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD

Lab Sample ID: S68233.04
Sample Tag: MW-13-31_090915
Collected Date/Time: 09/09/2015 16:10
Matrix: Groundwater
COC Reference: 89167

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	09/28/15 11:00	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	09/28/15 11:00	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	09/28/15 11:00	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	09/28/15 11:00	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	09/28/15 11:00	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	10/05/15 13:45	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD

Lab Sample ID: S68233.05
Sample Tag: DUP_02_090915
Collected Date/Time: 09/09/2015 00:01
Matrix: Groundwater
COC Reference: 89167

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	09/28/15 11:02	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	09/28/15 11:02	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	09/28/15 11:02	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	09/28/15 11:02	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	09/28/15 11:02	MT2-15-0928A	MTD-092815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	10/05/15 13:49	MT3-15-1005A	MTD-092815-1	No	LCS/BLK/MS/MSD

Lab Sample ID: S68233.06
Sample Tag: Trip Blank
Collected Date/Time: 09/09/2015 00:01
Matrix: Groundwater
COC Reference: 89167

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 22:38	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	09/18/15 22:38	150918A7	VF150918W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	09/18/15 22:38	150918A7	VF150918W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: HGD-091415-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68233.02	Mercury, Dissolved	SW7471B	09/14/15 16:15	HG2-15-0914A
S68233.02	Mercury	SW7471B	09/14/15 16:09	HG2-15-0914A

Metals, Prep Batch ID: MTD-092815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68233.02	Antimony, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A
S68233.02	Antimony	SW6020A	10/05/15 13:52	MT3-15-1005A
S68233.02	Arsenic, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Arsenic	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Barium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Barium	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Boron, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A
S68233.02	Boron	SW6020A	10/05/15 13:52	MT3-15-1005A
S68233.02	Cadmium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Cadmium	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Chromium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Chromium	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Cobalt, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A
S68233.02	Cobalt	SW6020A	10/05/15 13:52	MT3-15-1005A
S68233.02	Copper, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Copper	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Lead, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Lead	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Manganese, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A
S68233.02	Manganese	SW6020A	10/05/15 13:52	MT3-15-1005A
S68233.02	Nickel, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Nickel	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Selenium, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Selenium	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Silver, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Silver	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.02	Vanadium, Dissolved	SW6020A	10/05/15 13:58	MT3-15-1005A
S68233.02	Vanadium	SW6020A	10/05/15 13:52	MT3-15-1005A
S68233.02	Zinc, Dissolved	SW6020A	09/28/15 10:55	MT2-15-0928A
S68233.02	Zinc	SW6020A	09/28/15 10:52	MT2-15-0928A
S68233.03	Arsenic	SW6020A	09/28/15 10:57	MT2-15-0928A
S68233.03	Chromium	SW6020A	09/28/15 10:57	MT2-15-0928A
S68233.03	Copper	SW6020A	09/28/15 10:57	MT2-15-0928A
S68233.03	Lead	SW6020A	09/28/15 10:57	MT2-15-0928A
S68233.03	Nickel	SW6020A	09/28/15 10:57	MT2-15-0928A
S68233.03	Vanadium	SW6020A	10/05/15 13:42	MT3-15-1005A
S68233.04	Arsenic	SW6020A	09/28/15 11:00	MT2-15-0928A
S68233.04	Chromium	SW6020A	09/28/15 11:00	MT2-15-0928A
S68233.04	Copper	SW6020A	09/28/15 11:00	MT2-15-0928A
S68233.04	Lead	SW6020A	09/28/15 11:00	MT2-15-0928A
S68233.04	Nickel	SW6020A	09/28/15 11:00	MT2-15-0928A
S68233.04	Vanadium	SW6020A	10/05/15 13:45	MT3-15-1005A
S68233.05	Arsenic	SW6020A	09/28/15 11:02	MT2-15-0928A
S68233.05	Chromium	SW6020A	09/28/15 11:02	MT2-15-0928A

Metals, Prep Batch ID: MTD-092815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68233.05	Copper	SW6020A	09/28/15 11:02	MT2-15-0928A
S68233.05	Lead	SW6020A	09/28/15 11:02	MT2-15-0928A
S68233.05	Nickel	SW6020A	09/28/15 11:02	MT2-15-0928A
S68233.05	Vanadium	SW6020A	10/05/15 13:49	MT3-15-1005A

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68233.02	TCL Semi-Volatile Organics	SW8270D	09/17/15 23:41	H150917
S68233.02	TCL Semi-Volatile Organics	SW8270D	09/17/15 23:41	H150917B

Organics - Volatiles, Prep Batch ID: VF150918W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68233.01	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 21:54	150918A7
S68233.01	1,2-Dibromoethane	SW8260B	09/18/15 21:54	150918A7
S68233.01	TCL Volatile Organics 8260	SW8260C	09/18/15 21:54	150918A7
S68233.02	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 22:16	150918A7
S68233.02	1,2-Dibromoethane	SW8260B	09/18/15 22:16	150918A7
S68233.02	TCL Volatile Organics 8260	SW8260C	09/18/15 22:16	150918A7
S68233.06	1,2-Dibromo-3-chloropropane	SW8260C	09/18/15 22:38	150918A7
S68233.06	1,2-Dibromoethane	SW8260B	09/18/15 22:38	150918A7
S68233.06	TCL Volatile Organics 8260	SW8260C	09/18/15 22:38	150918A7

Organics - Volatiles, Prep Batch ID: VS150921W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S68233.01	1,4-Dioxane	SW8260B - SIM	09/21/15 20:17	150921A3
S68233.02	1,4-Dioxane	SW8260B - SIM	09/21/15 19:22	150921A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S68233.01
Sample Tag: MW-13-22_090915
Collected Date/Time: 09/09/2015 10:10
Matrix: Groundwater
COC Reference: 89167

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 21:54, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.20**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S68233.02
Sample Tag: MW-15-71_090915
Collected Date/Time: 09/09/2015 12:40
Matrix: Groundwater
COC Reference: 89167

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H150917, Run Date: 09/17/2015 23:41, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**53.90**	10.0	110.0
2-Fluorobiphenyl		**74.50**	10.0	116.0
Nitrobenzene-D5		**65.50**	10.0	114.0
Phenol-D5		**44.60**	10.0	110.0
2,4,6-Tribromophenol		**81.10**	10.0	123.0
Terphenyl-D14		**76.00**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 150918A7, Run Date: 09/18/2015 22:16, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.80**	77.0	121.0
Toluene-D8		**95.60**	86.0	118.0

Lab Sample ID: S68233.06

Sample Tag: Trip Blank

Collected Date/Time: 09/09/2015 00:01

Matrix: Groundwater

COC Reference: 89167

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Run in Batch: 150918A7, Run Date: 09/18/2015 22:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.20**	77.0	121.0
Toluene-D8		**96.40**	86.0	118.0

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**52.60**	10.0	110.0
2-Fluorobiphenyl		**58.20**	10.0	116.0
Nitrobenzene-D5		**53.20**	10.0	114.0
Phenol-D5		**51.20**	10.0	110.0
2,4,6-Tribromophenol		**66.30**	10.0	123.0
Terphenyl-D14		**63.50**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**56.70**	10.0	110.0
2-Fluorobiphenyl		**62.40**	10.0	116.0
Nitrobenzene-D5		**59.20**	10.0	114.0
Phenol-D5		**55.80**	10.0	110.0
2,4,6-Tribromophenol		**67.10**	10.0	123.0
Terphenyl-D14		**67.20**	10.0	141.0

Blank (BLK)

Lab Sample ID: h150917b.blkw17a

Run in Batch: H150917B, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917.lcsdw17a, Parent Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**54.60**	10.0	110.0
2-Fluorobiphenyl		**60.20**	10.0	116.0
Nitrobenzene-D5		**55.30**	10.0	114.0
Phenol-D5		**53.10**	10.0	110.0
2,4,6-Tribromophenol		**68.30**	10.0	123.0
Terphenyl-D14		**65.50**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917b.lcsdw17a, Parent Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF150918W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:35, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

Blank (BLK)

Lab Sample ID: 150918a7.blkw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 16:25, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**103.60**	77.0	121.0
Toluene-D8		**97.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.80**	83.0	119.0
1,2-Dichloroethane-D4		**108.20**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS150921W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:28, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 150921a3.blkw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 17:52, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 150921a3.6823106x, Parent Sample ID: S68231.05

Run in Batch: 150921A3, Run Date: 09/21/2015 17:16, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150921a3.6823107n, Parent Sample ID: 150921a3.6823106x

Run in Batch: 150921A3, Run Date: 09/21/2015 16:42, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150921a3.lcsw21b, Parent Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:46, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: HGD-091415-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-15-0914A.015.LCS

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:44, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**97**	85	115

Blank (BLK)

Lab Sample ID: HG2-15-0914A.016.LRB

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:46, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-15-0914A.020.MS, Parent Sample ID: S68098.04

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:54, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**95**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-0914A.021.MSD, Parent Sample ID: HG2-15-0914A.020.MS

Run in Batch: HG2-15-0914A, Run Date: 09/14/2015 15:56, Prep Date: 09/14/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**95**	75	125	**0**	20

Metals, Prep Batch ID: MTD-092815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-0928A.018.LCS

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 10:36, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Silver		**97**	85	115
Arsenic		**100**	85	115
Barium		**99**	85	115
Cadmium		**99**	85	115
Chromium		**100**	85	115
Copper		**99**	85	115
Nickel		**96**	85	115
Lead		**101**	85	115
Selenium		**96**	85	115
Zinc		**96**	85	115

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-1005A.033.LCS

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 13:32, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Boron		**99**	85	115
Cobalt		**104**	85	115
Manganese		**105**	85	115
Antimony		**100**	85	115
Vanadium		**103**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-0928A.019.LRB

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 10:39, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Silver		**ND**	0.0002	mg/L
Arsenic		**ND**	0.0004	mg/L
Barium		**ND**	0.001	mg/L
Cadmium		**ND**	0.0001	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Selenium		**ND**	0.001	mg/L
Zinc		**ND**	0.002	mg/L

Blank (BLK)

Lab Sample ID: MT3-15-1005A.035.LRB

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 13:39, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Boron		**ND**	0.004	mg/L
Cobalt		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Antimony		**ND**	0.001	mg/L
Vanadium		**ND**	0.001	mg/L

Metals, Prep Batch ID: MTD-092815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS)

Lab Sample ID: MT2-15-0928A.032.MS, Parent Sample ID: S68249.02

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 11:14, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**84**	75	125
Arsenic		**108**	75	125
Barium		**101**	75	125
Cadmium		**102**	75	125
Chromium		**105**	75	125
Copper		**101**	75	125
Nickel		**98**	75	125
Lead		**95**	75	125
Selenium		**109**	75	125
Zinc		**105**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-0928A.047.MS, Parent Sample ID: S68363.02

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 11:59, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**99**	75	125
Arsenic		**107**	75	125
Barium		**101**	75	125
Cadmium		**102**	75	125
Chromium		**105**	75	125
Copper		**104**	75	125
Nickel		**100**	75	125
Lead		**98**	75	125
Selenium		**108**	75	125
Zinc		**108**	75	125

Matrix Spike (MS)

Lab Sample ID: MT3-15-1005A.042.MS, Parent Sample ID: S68233.02

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 14:02, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Boron		**108**	75	125
Cobalt		**100**	75	125
Manganese		**100**	75	125
Antimony		**104**	75	125
Vanadium		**102**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0928A.033.MSD, Parent Sample ID: MT2-15-0928A.032.MS

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 11:17, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**86**	75	125	**2**	20
Arsenic		**112**	75	125	**4**	20
Barium		**101**	75	125	**0**	20
Cadmium		**102**	75	125	**1**	20
Chromium		**105**	75	125	**0**	20
Copper		**103**	75	125	**1**	20

Metals, Prep Batch ID: MTD-092815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-0928A.033.MSD, Parent Sample ID: MT2-15-0928A.032.MS

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 11:17, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nickel		**101**	75	125	**2**	20
Lead		**95**	75	125	**0**	20
Selenium		**106**	75	125	**2**	20
Zinc		**106**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-0928A.048.MSD, Parent Sample ID: MT2-15-0928A.047.MS

Run in Batch: MT2-15-0928A, Run Date: 09/28/2015 12:02, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**99**	75	125	**0**	20
Arsenic		**106**	75	125	**0**	20
Barium		**99**	75	125	**2**	20
Cadmium		**102**	75	125	**0**	20
Chromium		**105**	75	125	**0**	20
Copper		**104**	75	125	**0**	20
Nickel		**102**	75	125	**2**	20
Lead		**98**	75	125	**0**	20
Selenium		**106**	75	125	**1**	20
Zinc		**104**	75	125	**3**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1005A.043.MSD, Parent Sample ID: MT3-15-1005A.042.MS

Run in Batch: MT3-15-1005A, Run Date: 10/05/2015 14:05, Prep Date: 09/28/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Boron		**103**	75	125	**3**	20
Cobalt		**99**	75	125	**1**	20
Manganese		**102**	75	125	**1**	20
Antimony		**105**	75	125	**1**	20
Vanadium		**102**	75	125	**0**	20

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**48.80**	10.0	130.4
2-Chlorophenol		**52.84**	35.5	114.1
Bis(2-chloroethyl)ether		**48.24**	43.4	101.8
Bis(2-chloroisopropyl)ether		**40.08**	33.2	105.8
Hexachloroethane		**47.84**	23.8	138.1
N-Nitrosodi-n-propylamine		**48.82**	35.8	109.3
Nitrobenzene		**66.82**	41.7	110.1
Isophorone		**47.14**	44.9	107.5
2-Nitrophenol		**59.68**	54.4	109.5
2,4-Dimethylphenol		**49.26**	43.4	114.9
Bis(2-chloroethoxy)methane		**51.60**	48.3	105.4
2,4-Dichlorophenol		**57.80**	57.7	115.6
Naphthalene		**51.74**	32.9	135.8
4-Chloroaniline		**38.84**	33.4	89.4
Hexachlorobutadiene		**53.92**	30.2	119.4
4-Chloro-3-methylphenol		**56.88**	39.0	123.2
2-Methylnaphthalene		**50.22**	25.5	165.5
Hexachlorocyclopentadiene		**33.30**	10.0	271.8
2,4,6-Trichlorophenol		**57.02**	47.8	117.4
2,4,5-Trichlorophenol		**61.24**	48.9	118.8
2-Chloronaphthalene		**53.90**	50.3	108.3
2-Nitroaniline		**58.70**	53.4	119.9
Acenaphthylene		**54.76**	16.9	140.7
Dimethyl Phthalate		**58.00**	49.3	118.4
2,6-Dinitrotoluene		**61.94**	48.0	119.1
3-Nitroaniline		**49.62**	42.1	109.0
Acenaphthene		**53.52**	34.8	124.7
2,4-Dinitrophenol		**36.60**	10.0	171.2
Dibenzofuran		**55.34**	52.1	111.9
4-Nitrophenol		**49.74**	15.4	122.0
2,4-Dinitrotoluene		**59.48**	35.8	126.7
Fluorene		**56.28**	37.1	110.3
Diethyl phthalate		**58.88**	48.1	118.0
4-Chlorophenyl phenyl ether		**59.94**	52.2	116.5
4-Nitroaniline		**48.94**	45.8	119.7
4,6-Dinitro-2-methylphenol		**53.98**	18.7	149.0
N-Nitrosodiphenylamine		**48.70**	10.0	104.2
4-Bromophenyl phenyl ether		**60.42**	44.5	116.9
Hexachlorobenzene		**56.58**	45.2	118.5
Pentachlorophenol		**48.90**	10.3	139.1
Phenanthrene		**54.22**	31.8	123.3
Anthracene		**54.70**	38.1	115.5
Carbazole		**50.16**	44.3	128.8
di-N-butyl phthalate		**55.30**	48.1	121.8
Fluoranthene		**56.66**	43.0	127.9
Pyrene		**61.00**	37.8	131.4

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Butyl benzyl phthalate		**57.20**	47.4	121.6
Benzo(a)anthracene		**57.88**	40.7	115.5
3,3'-Dichlorobenzidine		**51.88**	37.0	97.2
Chrysene		**57.42**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**59.16**	45.2	126.2
Di-n-octyl phthalate		**45.88**	45.7	123.1
Benzo(b)fluoranthene	*	**40.06**	43.3	119.4
Benzo(k)fluoranthene	*	**40.68**	41.2	116.9
Benzo(a)pyrene	*	**43.20**	51.2	133.4
Indeno(1,2,3-cd)pyrene	*	**39.72**	41.5	116.9
Dibenzo(ah)anthracene		**45.44**	33.8	132.4
Benzo(ghi)perylene		**47.60**	36.7	122.1
1-methylnaphthalene		**55.50**	10.0	133.6
1,4-Dichlorobenzene		**47.26**	20.7	137.7
1,2-Dichlorobenzene		**47.68**	9.6	166.2
o-Cresol		**55.02**	39.1	109.4
3,4-methylphenol		**60.58**	36.4	115.4
1,3-Dichlorobenzene		**46.72**	36.8	105.8
1,2-Diphenylhydrazine		**55.18**	40.2	136.4
1,2,4-Trichlorobenzene		**53.34**	32.2	118.4
1,2,4,5-Tetrachlorobenzene	*	**55.74**	70.0	130.0
2,3,4,6-Tetrachlorophenol	*	**63.02**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:19, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde		**36.78**	35.6	137.2
Acetophenone		**53.72**	48.3	105.9
Caprolactam		**64.46**	10.0	113.1
1,1'-Biphenyl		**56.82**	49.7	110.7
Atrazine		**58.86**	52.5	143.1
Carbazole		**48.80**	44.3	128.8

Blank (BLK)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acenaphthene		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
di-n-Butyl phthalate		**ND**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(ghi)perylene		**ND**	0.5	ug/l
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Chlorophenol		**ND**	0.5	ug/l
4-Chloro-3-methylphenol		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
bis(2-Chloroethoxy)methane		**ND**	0.5	ug/l
bis(2-Chloroethyl)ether		**ND**	0.5	ug/l
bis(2-Chloroisopropyl)ether		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
2,4-Dinitrotoluene		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
Dimethyl phthalate		**ND**	0.5	ug/l
bis(2-Ethylhexyl)phthalate	*	**1.0**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4-Nitrophenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Pentachlorophenol		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Phenol		**ND**	0.5	ug/l
Pyrene		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h150917.blkw17a

Run in Batch: H150917, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: h150917b.blkw17a

Run in Batch: H150917B, Run Date: 09/17/2015 21:51, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Atrazine		**ND**	0.5	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917.lcsdw17a, Parent Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**52.78**	10.0	130.4	**7.8**	30.0
2-Chlorophenol		**56.72**	35.5	114.1	**7.1**	30.0
Bis(2-chloroethyl)ether		**52.96**	43.4	101.8	**9.3**	30.0
Bis(2-chloroisopropyl)ether		**43.38**	33.2	105.8	**7.9**	30.0
Hexachloroethane		**51.88**	23.8	138.1	**8.1**	30.0
N-Nitrosodi-n-propylamine		**54.00**	35.8	109.3	**10.1**	30.0
Nitrobenzene		**73.22**	41.7	110.1	**9.1**	30.0
Isophorone		**51.64**	44.9	107.5	**9.1**	30.0
2-Nitrophenol		**65.64**	54.4	109.5	**9.5**	30.0
2,4-Dimethylphenol		**53.80**	43.4	114.9	**8.8**	30.0
Bis(2-chloroethoxy)methane		**56.12**	48.3	105.4	**8.4**	30.0
2,4-Dichlorophenol		**62.88**	57.7	115.6	**8.4**	30.0
Naphthalene		**56.32**	32.9	135.8	**8.5**	30.0
4-Chloroaniline		**43.36**	33.4	89.4	**11.0**	30.0
Hexachlorobutadiene		**58.64**	30.2	119.4	**8.4**	30.0
4-Chloro-3-methylphenol		**62.00**	39.0	123.2	**8.6**	30.0
2-Methylnaphthalene		**55.26**	25.5	165.5	**9.6**	30.0
Hexachlorocyclopentadiene		**36.66**	10.0	271.8	**9.6**	30.0
2,4,6-Trichlorophenol		**62.28**	47.8	117.4	**8.8**	30.0
2,4,5-Trichlorophenol		**66.40**	48.9	118.8	**8.1**	30.0
2-Chloronaphthalene		**58.24**	50.3	108.3	**7.7**	30.0
2-Nitroaniline		**63.32**	53.4	119.9	**7.6**	30.0
Acenaphthylene		**59.22**	16.9	140.7	**7.8**	30.0
Dimethyl Phthalate		**63.02**	49.3	118.4	**8.3**	30.0
2,6-Dinitrotoluene		**68.32**	48.0	119.1	**9.8**	30.0
3-Nitroaniline		**54.60**	42.1	109.0	**9.6**	30.0
Acenaphthene		**59.04**	34.8	124.7	**9.8**	30.0
2,4-Dinitrophenol		**40.38**	10.0	171.2	**9.8**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h150917.lcsdw17a, Parent Sample ID: h150917.lcsw17a

Run in Batch: H150917, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Dibenzofuran		**60.66**	52.1	111.9	**9.2**	30.0
4-Nitrophenol		**53.78**	15.4	122.0	**7.8**	30.0
2,4-Dinitrotoluene		**64.44**	35.8	126.7	**8.0**	30.0
Fluorene		**60.84**	37.1	110.3	**7.8**	30.0
Diethyl phthalate		**63.38**	48.1	118.0	**7.4**	30.0
4-Chlorophenyl phenyl ether		**64.60**	52.2	116.5	**7.5**	30.0
4-Nitroaniline		**54.76**	45.8	119.7	**11.2**	30.0
4,6-Dinitro-2-methylphenol		**60.08**	18.7	149.0	**10.7**	30.0
N-Nitrosodiphenylamine		**53.44**	10.0	104.2	**9.3**	30.0
4-Bromophenyl phenyl ether		**66.58**	44.5	116.9	**9.7**	30.0
Hexachlorobenzene		**62.98**	45.2	118.5	**10.7**	30.0
Pentachlorophenol		**53.88**	10.3	139.1	**9.7**	30.0
Phenanthrene		**59.16**	31.8	123.3	**8.7**	30.0
Anthracene		**59.38**	38.1	115.5	**8.2**	30.0
Carbazole		**55.16**	44.3	128.8	**9.5**	30.0
di-N-butyl phthalate		**60.08**	48.1	121.8	**8.3**	30.0
Fluoranthene		**62.42**	43.0	127.9	**9.7**	30.0
Pyrene		**65.22**	37.8	131.4	**6.7**	30.0
Butyl benzyl phthalate		**61.52**	47.4	121.6	**7.3**	30.0
Benzo(a)anthracene		**61.38**	40.7	115.5	**5.9**	30.0
3,3'-Dichlorobenzidine		**55.54**	37.0	97.2	**6.8**	30.0
Chrysene		**61.00**	28.9	136.7	**6.0**	30.0
Bis(2-ethylhexyl)phthalate		**61.92**	45.2	126.2	**4.6**	30.0
Di-n-octyl phthalate		**48.78**	45.7	123.1	**6.1**	30.0
Benzo(b)fluoranthene	*	**42.48**	43.3	119.4	**5.9**	30.0
Benzo(k)fluoranthene		**44.10**	41.2	116.9	**8.1**	30.0
Benzo(a)pyrene	*	**46.36**	51.2	133.4	**7.1**	30.0
Indeno(1,2,3-cd)pyrene		**42.94**	41.5	116.9	**7.8**	30.0
Dibenzo(ah)anthracene		**48.40**	33.8	132.4	**6.3**	30.0
Benzo(ghi)perylene		**50.28**	36.7	122.1	**5.5**	30.0
1-methylnaphthalene		**60.10**	10.0	133.6	**8.0**	30.0
1,4-Dichlorobenzene		**51.48**	20.7	137.7	**8.5**	30.0
1,2-Dichlorobenzene		**51.54**	9.6	166.2	**7.8**	30.0
o-Cresol		**58.46**	39.1	109.4	**6.1**	30.0
3,4-methylphenol		**65.76**	36.4	115.4	**8.2**	30.0
1,3-Dichlorobenzene		**51.00**	36.8	105.8	**8.8**	30.0
1,2-Diphenylhydrazine		**61.12**	40.2	136.4	**10.2**	30.0
1,2,4-Trichlorobenzene		**57.84**	32.2	118.4	**8.1**	30.0
1,2,4,5-Tetrachlorobenzene	*	**60.90**	70.0	130.0	**8.8**	30.0
2,3,4,6-Tetrachlorophenol	*	**67.56**	70.0	130.0	**7.0**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF150916W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h150917b.lcsdw17a, Parent Sample ID: h150917b.lcsw17a

Run in Batch: H150917B, Run Date: 09/17/2015 22:46, Prep Date: 09/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzaldehyde		**40.04**	35.6	137.2	**8.5**	30.0
Acetophenone		**59.44**	48.3	105.9	**10.1**	30.0
Caprolactam		**70.58**	10.0	113.1	**9.1**	30.0
1,1'-Biphenyl		**61.26**	49.7	110.7	**7.5**	30.0
Atrazine		**63.84**	52.5	143.1	**8.1**	30.0
Carbazole		**53.68**	44.3	128.8	**9.5**	30.0

Organics - Volatiles, Prep Batch ID: VF150918W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:35, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**94.90**	75.1	135.9
Diethyl ether		**87.44**	67.4	121.2
Acetone		**76.84**	29.9	161.5
Methyl iodide		**92.74**	68.8	116.4
Carbon disulfide		**92.16**	63.8	137.4
Methyl acetate		**97.30**	64.7	125.4
tert-Methyl butyl ether		**94.22**	73.2	122.4
Acrylonitrile		**93.70**	69.9	128.9
2-Butanone		**79.62**	44.0	134.4
Dichlorodifluoromethane		**88.96**	10.0	222.8
Chloromethane		**86.86**	23.8	166.5
Vinyl Chloride		**88.22**	43.5	149.1
Bromomethane		**89.06**	56.8	151.3
Chloroethane		**89.16**	53.4	149.4
Trichlorofluoromethane		**79.98**	59.7	151.8
1,1-Dichloroethene		**94.00**	69.6	139.4
Methylene Chloride		**94.62**	73.3	121.1
trans-1,2-Dichloroethene		**94.98**	73.6	129.3
1,1-Dichloroethane		**96.90**	71.5	126.2
cis-1,2-Dichloroethene		**96.42**	76.6	122.1
Tetrahydrofuran		**90.10**	59.0	117.9
Chloroform		**97.22**	78.4	124.0
Bromochloromethane		**98.62**	78.2	120.8
1,1,1-Trichloroethane		**95.42**	79.4	130.9
Cyclohexane		**93.48**	10.0	169.1
4-Methyl-2-pentanone		**88.66**	71.6	125.2
2-Hexanone		**67.60**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.10**	70.0	130.0
Carbon Tetrachloride		**94.46**	72.6	133.0
Benzene		**91.52**	79.9	124.9
1,2-Dichloroethane		**92.70**	76.0	126.3
Trichloroethene		**90.72**	79.7	124.2
1,2-Dichloropropane		**93.76**	78.6	126.4
Bromodichloromethane		**94.32**	80.4	128.2
Methyl cyclohexane		**94.34**	76.6	131.3
Dibromomethane		**90.44**	76.9	122.1
cis-1,3-Dichloropropene		**91.40**	79.8	129.9
Toluene		**88.82**	79.8	124.5
trans-1,3-Dichloropropene		**91.60**	74.0	131.3
1,1,2-Trichloroethane		**89.34**	78.7	123.1
Tetrachloroethene		**90.50**	74.5	124.5
trans-1,4-Dichloro-2-butene		**92.40**	68.6	135.4
Dibromochloromethane		**95.18**	74.6	127.2
1,2-Dibromoethane		**94.08**	70.3	133.7
Chlorobenzene		**89.14**	79.2	122.7
1,1,1,2-Tetrachloroethane		**90.98**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:35, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**93.58**	79.5	129.1
p,m-Xylene		**94.99**	79.4	132.2
o-Xylene		**95.34**	80.2	131.0
Styrene		**95.70**	69.5	126.7
Isopropylbenzene		**95.64**	74.4	121.5
Bromoform		**90.56**	69.4	128.0
1,1,2,2-Tetrachloroethane		**94.42**	79.8	126.3
1,2,3-Trichloropropane		**91.48**	78.3	138.8
n-Propylbenzene		**98.14**	82.0	130.7
Bromobenzene		**95.10**	78.7	124.6
1,3,5-Trimethylbenzene		**96.78**	81.3	128.9
tert-Butylbenzene		**96.52**	80.7	128.9
1,2,4-Trimethylbenzene		**97.84**	81.4	130.8
sec-Butylbenzene		**94.62**	77.4	129.8
p-Isopropyltoluene		**98.12**	79.8	137.5
1,3-Dichlorobenzene		**95.60**	77.0	131.3
1,4-Dichlorobenzene		**94.72**	20.7	137.7
1,2-Dichlorobenzene		**91.46**	10.0	166.2
1,2,3-Trimethylbenzene		**93.44**	76.3	124.2
n-Butylbenzene		**96.32**	80.0	133.3
Hexachloroethane		**99.24**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**97.30**	21.2	189.4
1,2,4-Trichlorobenzene		**98.68**	27.4	143.4
1,2,3-Trichlorobenzene		**95.54**	75.4	131.4
Naphthalene		**95.18**	32.9	135.8
2-Methylnaphthalene		**96.00**	25.5	165.5

Blank (BLK)

Lab Sample ID: 150918a7.blkw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 16:25, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 150918a7.blkw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 16:25, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.44**	75.1	135.9	**0.6**	30.0
Diethyl ether		**90.96**	67.4	121.2	**3.9**	30.0
Acetone		**98.50**	29.9	161.5	**24.7**	30.0
Methyl iodide		**92.88**	68.8	116.4	**0.2**	30.0
Carbon disulfide		**91.86**	63.8	137.4	**0.3**	30.0
Methyl acetate		**106.14**	64.7	125.4	**8.7**	30.0
tert-Methyl butyl ether		**97.92**	73.2	122.4	**3.9**	30.0

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acrylonitrile		**98.06**	69.9	128.9	**4.5**	30.0
2-Butanone		**91.08**	44.0	134.4	**13.4**	30.0
Dichlorodifluoromethane		**88.48**	10.0	222.8	**0.5**	30.0
Chloromethane		**87.10**	23.8	166.5	**0.3**	30.0
Vinyl Chloride		**87.44**	43.5	149.1	**0.9**	30.0
Bromomethane		**89.26**	56.8	151.3	**0.2**	30.0
Chloroethane		**88.70**	53.4	149.4	**0.5**	30.0
Trichlorofluoromethane		**95.78**	59.7	151.8	**18.0**	30.0
1,1-Dichloroethene		**93.58**	69.6	139.4	**0.4**	30.0
Methylene Chloride		**96.56**	73.3	121.1	**2.0**	30.0
trans-1,2-Dichloroethene		**94.96**	73.6	129.3	**0.0**	30.0
1,1-Dichloroethane		**97.12**	71.5	126.2	**0.2**	30.0
cis-1,2-Dichloroethene		**96.56**	76.6	122.1	**0.1**	30.0
Tetrahydrofuran		**101.56**	59.0	117.9	**12.0**	30.0
Chloroform		**97.34**	78.4	124.0	**0.1**	30.0
Bromochloromethane		**98.24**	78.2	120.8	**0.4**	30.0
1,1,1-Trichloroethane		**96.68**	79.4	130.9	**1.3**	30.0
Cyclohexane		**93.24**	10.0	169.1	**0.3**	30.0
4-Methyl-2-pentanone		**95.78**	71.6	125.2	**7.7**	30.0
2-Hexanone		**87.02**	55.4	136.9	**25.1**	30.0
2-Chloroethylvinyl ether	*	**2.42**	70.0	130.0	**14.2**	30.0
Carbon Tetrachloride		**93.68**	72.6	133.0	**0.8**	30.0
Benzene		**92.22**	79.9	124.9	**0.8**	30.0
1,2-Dichloroethane		**93.54**	76.0	126.3	**0.9**	30.0
Trichloroethene		**93.18**	79.7	124.2	**2.7**	30.0
1,2-Dichloropropane		**94.08**	78.6	126.4	**0.3**	30.0
Bromodichloromethane		**96.16**	80.4	128.2	**1.9**	30.0
Methyl cyclohexane		**90.90**	76.6	131.3	**3.7**	30.0
Dibromomethane		**95.20**	76.9	122.1	**5.1**	30.0
cis-1,3-Dichloropropene		**94.66**	79.8	129.9	**3.5**	30.0
Toluene		**91.10**	79.8	124.5	**2.5**	30.0
trans-1,3-Dichloropropene		**96.42**	74.0	131.3	**5.1**	30.0
1,1,2-Trichloroethane		**95.86**	78.7	123.1	**7.0**	30.0
Tetrachloroethene		**94.12**	74.5	124.5	**3.9**	30.0
trans-1,4-Dichloro-2-butene		**99.40**	68.6	135.4	**7.3**	30.0
Dibromochloromethane		**98.86**	74.6	127.2	**3.8**	30.0
1,2-Dibromoethane		**98.98**	70.3	133.7	**5.1**	30.0
Chlorobenzene		**92.80**	79.2	122.7	**4.0**	30.0
1,1,1,2-Tetrachloroethane		**90.98**	80.3	128.2	**0.0**	30.0
Ethylbenzene		**97.00**	79.5	129.1	**3.6**	30.0
p,m-Xylene		**97.44**	79.4	132.2	**2.5**	30.0
o-Xylene		**95.70**	80.2	131.0	**0.4**	30.0
Styrene		**96.78**	69.5	126.7	**1.1**	30.0
Isopropylbenzene		**95.72**	74.4	121.5	**0.1**	30.0
Bromoform		**95.26**	69.4	128.0	**5.1**	30.0
1,1,2,2-Tetrachloroethane		**99.72**	79.8	126.3	**5.5**	30.0

Organics - Volatiles, Prep Batch ID: VF150918W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 150918a7.lcsw18b, Parent Sample ID: 150918a7.lcsw18a

Run in Batch: 150918A7, Run Date: 09/18/2015 14:56, Prep Date: 09/18/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**100.08**	78.3	138.8	**9.0**	30.0
n-Propylbenzene		**97.64**	82.0	130.7	**0.5**	30.0
Bromobenzene		**96.94**	78.7	124.6	**1.9**	30.0
1,3,5-Trimethylbenzene		**98.26**	81.3	128.9	**1.5**	30.0
tert-Butylbenzene		**97.18**	80.7	128.9	**0.7**	30.0
1,2,4-Trimethylbenzene		**99.06**	81.4	130.8	**1.2**	30.0
sec-Butylbenzene		**102.40**	77.4	129.8	**7.9**	30.0
p-Isopropyltoluene		**104.52**	79.8	137.5	**6.3**	30.0
1,3-Dichlorobenzene		**100.98**	77.0	131.3	**5.5**	30.0
1,4-Dichlorobenzene		**101.16**	20.7	137.7	**6.6**	30.0
1,2-Dichlorobenzene		**97.82**	10.0	166.2	**6.7**	30.0
1,2,3-Trimethylbenzene		**100.32**	76.3	124.2	**7.1**	30.0
n-Butylbenzene		**100.84**	80.0	133.3	**4.6**	30.0
Hexachloroethane		**102.56**	23.8	138.1	**3.3**	30.0
1,2-Dibromo-3-Chloropropane		**108.70**	21.2	189.4	**11.1**	30.0
1,2,4-Trichlorobenzene		**102.62**	27.4	143.4	**3.9**	30.0
1,2,3-Trichlorobenzene		**104.26**	75.4	131.4	**8.7**	30.0
Naphthalene		**103.10**	32.9	135.8	**8.0**	30.0
2-Methylnaphthalene		**106.20**	25.5	165.5	**10.1**	30.0

Organics - Volatiles, Prep Batch ID: VS150921W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:28, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.18**	70.0	130.0

Blank (BLK)

Lab Sample ID: 150921a3.blkw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 17:52, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**3.1**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 150921a3.6823106x, Parent Sample ID: S68231.05

Run in Batch: 150921A3, Run Date: 09/21/2015 17:16, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**98.76**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 150921a3.6823107n, Parent Sample ID: 150921a3.6823106x

Run in Batch: 150921A3, Run Date: 09/21/2015 16:42, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.52**	70.0	130.0	**5.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 150921a3.lcsw21b, Parent Sample ID: 150921a3.lcsw21a

Run in Batch: 150921A3, Run Date: 09/21/2015 15:46, Prep Date: 09/21/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**107.10**	70.0	130.0	**3.7**	30.0

Merit Laboratories, Inc.

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C.O.C. PAGE # 1 OF 1

89167

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: ARCADIS U.S., Inc.
ADDRESS: 10559 Citation Dr. Ste. 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810.225.1940 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: randy.christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: B0064480.2015.0063 / RACER Lansing, MI Plant 3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Adam Richmond

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☑ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	TCL VOC SW 8260	SVOC SW 8270D	1,4 Dioxane*	TAL Metals 6020A
68233.01	9/9/15	1010	MW-13-22_090915	GW	3		3						✓		✓	
.02		1240	MW-15-71_090915	GW	7	2	3	2					✓	✓	✓	✓[1]
.03		1450	MW-13-32_090915	GW	1			1								✓[2]
.04		1610	MW-13-31_090915	GW	1			1								✓[3]
.05		—	DUP-01	GW	1			1								✓[2]
.06	9/9/15	—	TRIP BLANK	GW	1		1						✓			

* via 8260B SIMs

[1] Metals include: Sb, As, Ba, B, Cd, Cr, Cr VI, Co, Cu, Pb, Mn, Hg, Ni, Se, Ag, V, Zn (total and dissolved - dissolved bottle is field filtered)

[2] Select metals include: As, Ni, Pb, V, Cr, Cu (total metals - unfiltered)

[3]

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☑ Sampler ARCADIS	DATE 9/11/15	TIME 1500
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Merit Dropbox	DATE 9.14.15	TIME 8:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 9.14.15	TIME 8:00
SEAL NO.	SEAL INTACT YES ☑ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL 5.5
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S69980.01(01)
Generated on 12/21/2015

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241
Email: Randy.Christensen@arcadis-us.com

Addtional Contacts: Alex Villhauer, Kristen Padron

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Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S69980.01-S69980.02
Project: RACER Lansing - Plant 3 / B0064480.2015.00603
Collected Date: 12/01/2015
Submitted Date/Time: 12/02/2015 11:20
Sampled by: J. Ness
P.O. #: B0064480.2015.00603

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
N/A	Not Applicable
SW3015A	SW 846 Method 3015A Revision 1 February 2007
SW3510C	SW 846 Method 3510C Revision 3 December 1996
SW6020A	SW 846 Method 6020A Revision 1 February 2007
SW7471B	SW 846 Method 7471B Revision 2 February 2007
SW8260B	SW 846 Method 8260B Revision 2 December 1996
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006
SW8270D	SW 846 Method 8270D Revision 4 February 2007

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S69980.01	MW-15-71_120115	Water	12/01/15 13:00
S69980.02	TB0003-120115	Water	12/01/15 00:01

Analytical Laboratory Report

Lab Sample ID: S69980.01
Sample Tag: MW-15-71_120115
Collected Date/Time: 12/01/2015 13:00
Matrix: Water
COC Reference: 88613

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
2	1L Amber	None	Yes	5.5	IR
3	40ml Glass	HCL	Yes	5.5	IR
2	125ml Plastic	HNO3	Yes	5.5	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
BNA Extraction	Completed			SW3510C	12/08/15 15:37	EMR		
Mercury Digestion	Completed			SW7471B	12/03/15 12:00	RGS		
Mercury Digestion	Completed			SW7471B	12/03/15 12:00	RGS		
Metal Digestion	Completed			SW3015A	12/21/15 09:00	CCM		
Metal Digestion	Completed			SW3015A	12/21/15 09:00	CCM		
pH check for VOCs	<2	STD Units		N/A	12/07/15 21:45	LBR		
Metals								
Antimony, Dissolved	Not detected	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-36-0	
Antimony	Not detected	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-36-0	
Arsenic, Dissolved	0.007	mg/L	0.002	SW6020A	12/21/15 12:00	CCM	7440-38-2	
Arsenic	0.008	mg/L	0.002	SW6020A	12/21/15 11:36	CCM	7440-38-2	
Barium, Dissolved	0.263	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-39-3	
Barium	0.265	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-39-3	
Boron, Dissolved	0.11	mg/L	0.04	SW6020A	12/21/15 12:00	CCM	7440-42-8	
Boron	0.11	mg/L	0.04	SW6020A	12/21/15 11:36	CCM	7440-42-8	
Cadmium, Dissolved	Not detected	mg/L	0.0005	SW6020A	12/21/15 12:00	CCM	7440-43-9	
Cadmium	Not detected	mg/L	0.0005	SW6020A	12/21/15 11:36	CCM	7440-43-9	
Chromium, Dissolved	Not detected	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-47-3	
Chromium	Not detected	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-47-3	
Cobalt, Dissolved	Not detected	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-48-4	
Cobalt	Not detected	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-48-4	
Copper, Dissolved	Not detected	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-50-8	
Copper	Not detected	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-50-8	
Lead, Dissolved	Not detected	mg/L	0.003	SW6020A	12/21/15 12:00	CCM	7439-92-1	
Lead	Not detected	mg/L	0.003	SW6020A	12/21/15 11:36	CCM	7439-92-1	
Manganese, Dissolved	0.106	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7439-96-5	
Manganese	0.143	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7439-96-5	
Mercury, Dissolved	Not detected	mg/L	0.0001	SW7471B	12/03/15 12:00	RGS	7439-97-6	
Mercury	Not detected	mg/L	0.0002	SW7471B	12/03/15 15:34	RGS	7439-97-6	
Nickel, Dissolved	0.007	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-02-0	
Nickel	0.008	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-02-0	
Selenium, Dissolved	Not detected	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7782-49-2	
Selenium	Not detected	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7782-49-2	
Silver, Dissolved	Not detected	mg/L	0.0005	SW6020A	12/21/15 12:00	CCM	7440-22-4	
Silver	Not detected	mg/L	0.0005	SW6020A	12/21/15 11:36	CCM	7440-22-4	
Vanadium, Dissolved	Not detected	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-62-2	
Vanadium	Not detected	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-62-2	
Zinc, Dissolved	0.008	mg/L	0.005	SW6020A	12/21/15 12:00	CCM	7440-66-6	
Zinc	0.005	mg/L	0.005	SW6020A	12/21/15 11:36	CCM	7440-66-6	

Lab Sample ID: S69980.01 (continued)
Sample Tag: MW-15-71_120115

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Semi-Volatiles								
TCL Semi-Volatile Organics								
Acenaphthene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	83-32-9	
Acenaphthylene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	208-96-8	
Anthracene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	120-12-7	
4-Bromophenyl phenyl ether	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	101-55-3	
di-n-Butyl phthalate	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	84-74-2	
Benzo(a)anthracene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	56-55-3	
Benzo(a)pyrene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	50-32-8	
Benzo(b)fluoranthene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	205-99-2	
Benzo(ghi)perylene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	191-24-2	
Benzo(k)fluoranthene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	207-08-9	
Butyl benzyl phthalate	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	85-68-7	
2-Chloronaphthalene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	91-58-7	
2-Chlorophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	95-57-8	
4-Chloro-3-methylphenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	59-50-7	
4-Chloroaniline	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	106-47-8	
4-Chlorophenyl phenyl ether	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	7005-72-3	
bis(2-Chloroethoxy)methane	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	111-91-1	
bis(2-Chloroethyl)ether	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	111-44-4	
bis(2-Chloroisopropyl)ether	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	108-60-1	
Chrysene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	218-01-9	
2,4-Dichlorophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	120-83-2	
2,4-Dimethylphenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	105-67-9	
2,4-Dinitrophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	51-28-5	
2,4-Dinitrotoluene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	121-14-2	
2,6-Dinitrotoluene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	606-20-2	
4,6-Dinitro-2-methylphenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	534-52-1	
Dibenzo(ah)anthracene	Not detected	ug/L	2	SW8270D	12/08/15 23:13	PL	53-70-3	
Dibenzofuran	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	132-64-9	
Diethyl phthalate	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	84-66-2	
Dimethyl phthalate	Not detected	ug/L	2	SW8270D	12/08/15 23:13	PL	131-11-3	
bis(2-Ethylhexyl)phthalate	3	ug/L	2	SW8270D	12/08/15 23:13	PL	117-81-7	B
Fluoranthene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	206-44-0	
Fluorene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	86-73-7	
Hexachlorobutadiene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	87-68-3	
Hexachlorocyclopentadiene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	77-47-4	
Hexachloroethane	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	67-72-1	
Indeno(1,2,3-cd)pyrene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	193-39-5	
Isophorone	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	78-59-1	
2-Methylnaphthalene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	91-57-6	
2-Methylphenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	95-48-7	
3-, 4-Methylphenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	3/4-Cresol	
2-Nitroaniline	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	88-74-4	
2-Nitrophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	88-75-5	
3-Nitroaniline	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	99-09-2	
4-Nitroaniline	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	100-01-6	
4-Nitrophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	100-02-7	
N-Nitrosodi-n-propylamine	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	621-64-7	
N-Nitrosodiphenylamine	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	86-30-6	

B-Compound also found in associated method blank

Lab Sample ID: S69980.01 (continued)
Sample Tag: MW-15-71_120115

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Semi-Volatiles (continued)								
TCL Semi-Volatile Organics (continued)								
Naphthalene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	91-20-3	
Nitrobenzene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	98-95-3	
di-n-Octyl phthalate	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	117-84-0	
Pentachlorophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	87-86-5	
Phenanthrene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	85-01-8	
Phenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	108-95-2	
Pyrene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	129-00-0	
2,4,5-Trichlorophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	95-95-4	
2,4,6-Trichlorophenol	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	88-06-2	
Hexachlorobenzene	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	118-74-1	
3,3'-Dichlorobenzidine	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	91-94-1	
TCL Semi-Volatile Organics								
Benzaldehyde	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	100-52-7	
Acetophenone	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	98-86-2	
Caprolactam	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	105-60-2	
Carbazole	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	86-74-8	
1,1'-Biphenyl	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	92-52-4	
Atrazine	Not detected	ug/L	1	SW8270D	12/08/15 23:13	PL	1912-24-9	
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260B	12/07/15 16:39	LBR	106-93-4	
1,4-Dioxane	Not detected	ug/L	3	SW8260B - SIM	12/04/15 17:42	LBR	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	12/07/15 16:39	LBR	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	12/07/15 16:39	LBR	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	12/07/15 16:39	LBR	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	12/07/15 16:39	LBR	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	12/07/15 16:39	LBR	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	56-23-5	

Lab Sample ID: S69980.01 (continued)
Sample Tag: MW-15-71_120115

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Benzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	12/07/15 16:39	LBR		
o-Xylene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	12/07/15 16:39	LBR	120-82-1	

Analytical Laboratory Report

Lab Sample ID: S69980.02
Sample Tag: TB0003-120115
Collected Date/Time: 12/01/2015 00:01
Matrix: Water
COC Reference: 88613

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	n/a	n/a	No	n/a	n/a

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Other / Misc.								
No Analyses	Completed				12/07/15 17:00	KAG		

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

88613

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alex Villhauer
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Dr. Suite 500
CITY: Novi | STATE: MI | ZIP CODE: 48377
PHONE NO.: (517) 325-5036 | FAX NO.: 248-994-2241 | P.O. NO.: NA
E-MAIL ADDRESS: alex.villhauer@arcadis.com | QUOTE NO.: NA

INVOICE TO

CONTACT NAME | ☒ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: RACER Lansing - Plant 3 B006448.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: J Ness

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☒ Other Lansing, MI

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1,4-Dioxane	SVOCs	Metals	Dissolved Metals	Special Instructions
69980.01	12/1/15	1300	MW-15-71_120115	W	7	2	3		2				✓	✓	✓	✓	✓	
	—	—	~~TRIP~~ VN 120115															
162	—	—	TB0003_120115	W	1		1						✓					TRIP BLANK
																		All Samples immediately packed on ice.

RELINQUISHED BY: James Ness / SIGNATURE/ORGANIZATION: ARCADIS ☐ Sampler | DATE: 12/1/15 | TIME: 1700
RECEIVED BY: SIGNATURE/ORGANIZATION: Merit 12-2-15 | DATE | TIME: 900
RELINQUISHED BY: SIGNATURE/ORGANIZATION | DATE | TIME
RECEIVED BY: SIGNATURE/ORGANIZATION | DATE | TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION | DATE 12-2-15 | TIME
RECEIVED BY: SIGNATURE/ORGANIZATION | DATE 12/2/15 | TIME 11:20
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: | TEMP. ON ARRIVAL 5.5

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S69861.01(01)
Generated on 12/23/2015

Report to

Attention: Alex Villhauer
Arcadis
10559 Citation Drive
Suite 500
Brighton, MI 48116

Phone: 616-780-3277 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S69861.01, S69861.04-S69861.09, S69861.11
Project: RACER Lansing
Submitted Date/Time: 11/20/2015 16:20
Sampled by: Billy J. Cobern
P.O. #: B0064429.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-13)
Surrogates per Lab Sample (Pages 14-21)
Surrogates per QC Sample (Pages 22-23)
Batch QC Results (Pages 24-33)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S69861.01
Sample Tag: ESC-1_112015
Collected Date/Time: 11/20/2015 10:00
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 15:56	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 14:54	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 17:53	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 17:53	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 14:58	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 17:53	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 17:53	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.04
Sample Tag: P3-MH-NE_112015
Collected Date/Time: 11/20/2015 12:00
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 15:58	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 14:56	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 18:15	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 18:15	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 15:17	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 18:15	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 18:15	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.05
Sample Tag: P2-MH-NW_112015
Collected Date/Time: 11/20/2015 13:40
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 16:00	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 15:22	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 18:37	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 18:37	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 15:35	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 18:37	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 18:37	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.06
Sample Tag: P2-MH-W_112015
Collected Date/Time: 11/20/2015 14:15
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 16:02	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 15:24	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 18:59	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 18:59	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 15:53	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 18:59	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 18:59	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.07
Sample Tag: P6-MH2-NE_112015
Collected Date/Time: 11/20/2015 14:45
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 16:04	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 15:27	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 19:21	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 19:21	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 16:11	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 19:21	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 19:21	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.08
Sample Tag: P6-MH2-SW_112015
Collected Date/Time: 11/20/2015 15:15
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 16:08	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 15:29	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 19:43	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 19:43	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 16:29	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 19:43	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 19:43	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.09
Sample Tag: P2 Outfall at P3_112015
Collected Date/Time: 11/20/2015 16:00
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Barium	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Boron	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Mercury	SW7471B	11/24/15 16:10	HG2-15-1124A	HGD-112415-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Selenium	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Zinc	SW6020A	12/08/15 15:32	MT2-15-1208B	MTD-120815-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 20:05	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 20:05	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 16:47	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 20:05	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 20:05	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S69861.11
Sample Tag: Trip Blank-112015
Collected Date/Time: 11/20/2015 00:01
Matrix: Liquid
COC Reference: 88234

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 17:31	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/01/15 17:31	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/01/15 17:05	151201A3	VS151201W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/01/15 17:31	151201A7	VF151201W1	Yes	LCS/BLK/LCSD
Volatile Organics - DEQ List	SW8260C	12/01/15 17:31	151201A7	VF151201W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: HGD-112415-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69861.01	Mercury	SW7471B	11/24/15 15:56	HG2-15-1124A
S69861.04	Mercury	SW7471B	11/24/15 15:58	HG2-15-1124A
S69861.05	Mercury	SW7471B	11/24/15 16:00	HG2-15-1124A
S69861.06	Mercury	SW7471B	11/24/15 16:02	HG2-15-1124A
S69861.07	Mercury	SW7471B	11/24/15 16:04	HG2-15-1124A
S69861.08	Mercury	SW7471B	11/24/15 16:08	HG2-15-1124A
S69861.09	Mercury	SW7471B	11/24/15 16:10	HG2-15-1124A

Metals, Prep Batch ID: MTD-120815-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69861.01	Antimony	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Arsenic	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Barium	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Boron	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Cadmium	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Chromium	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Cobalt	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Copper	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Lead	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Manganese	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Nickel	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Selenium	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Vanadium	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.01	Zinc	SW6020A	12/08/15 14:54	MT2-15-1208B
S69861.04	Antimony	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Arsenic	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Barium	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Boron	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Cadmium	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Chromium	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Cobalt	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Copper	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Lead	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Manganese	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Nickel	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Selenium	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Vanadium	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.04	Zinc	SW6020A	12/08/15 14:56	MT2-15-1208B
S69861.05	Antimony	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Arsenic	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Barium	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Boron	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Cadmium	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Chromium	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Cobalt	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Copper	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Lead	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Manganese	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Nickel	SW6020A	12/08/15 15:22	MT2-15-1208B

Metals, Prep Batch ID: MTD-120815-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69861.05	Selenium	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Vanadium	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.05	Zinc	SW6020A	12/08/15 15:22	MT2-15-1208B
S69861.06	Antimony	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Arsenic	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Barium	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Boron	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Cadmium	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Chromium	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Cobalt	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Copper	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Lead	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Manganese	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Nickel	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Selenium	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Vanadium	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.06	Zinc	SW6020A	12/08/15 15:24	MT2-15-1208B
S69861.07	Antimony	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Arsenic	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Barium	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Boron	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Cadmium	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Chromium	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Cobalt	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Copper	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Lead	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Manganese	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Nickel	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Selenium	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Vanadium	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.07	Zinc	SW6020A	12/08/15 15:27	MT2-15-1208B
S69861.08	Antimony	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Arsenic	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Barium	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Boron	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Cadmium	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Chromium	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Cobalt	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Copper	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Lead	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Manganese	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Nickel	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Selenium	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Vanadium	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.08	Zinc	SW6020A	12/08/15 15:29	MT2-15-1208B
S69861.09	Antimony	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Arsenic	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Barium	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Boron	SW6020A	12/08/15 15:32	MT2-15-1208B

Metals, Prep Batch ID: MTD-120815-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69861.09	Cadmium	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Chromium	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Cobalt	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Copper	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Lead	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Manganese	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Nickel	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Selenium	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Vanadium	SW6020A	12/08/15 15:32	MT2-15-1208B
S69861.09	Zinc	SW6020A	12/08/15 15:32	MT2-15-1208B

Organics - Volatiles, Prep Batch ID: VF151201W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69861.01	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 17:53	151201A7
S69861.01	1,2-Dibromoethane	SW8260B	12/01/15 17:53	151201A7
S69861.01	TCL Volatile Organics 8260	SW8260C	12/01/15 17:53	151201A7
S69861.01	Volatile Organics - DEQ List	SW8260C	12/01/15 17:53	151201A7
S69861.04	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 18:15	151201A7
S69861.04	1,2-Dibromoethane	SW8260B	12/01/15 18:15	151201A7
S69861.04	TCL Volatile Organics 8260	SW8260C	12/01/15 18:15	151201A7
S69861.04	Volatile Organics - DEQ List	SW8260C	12/01/15 18:15	151201A7
S69861.05	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 18:37	151201A7
S69861.05	1,2-Dibromoethane	SW8260B	12/01/15 18:37	151201A7
S69861.05	TCL Volatile Organics 8260	SW8260C	12/01/15 18:37	151201A7
S69861.05	Volatile Organics - DEQ List	SW8260C	12/01/15 18:37	151201A7
S69861.06	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 18:59	151201A7
S69861.06	1,2-Dibromoethane	SW8260B	12/01/15 18:59	151201A7
S69861.06	TCL Volatile Organics 8260	SW8260C	12/01/15 18:59	151201A7
S69861.06	Volatile Organics - DEQ List	SW8260C	12/01/15 18:59	151201A7
S69861.07	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 19:21	151201A7
S69861.07	1,2-Dibromoethane	SW8260B	12/01/15 19:21	151201A7
S69861.07	TCL Volatile Organics 8260	SW8260C	12/01/15 19:21	151201A7
S69861.07	Volatile Organics - DEQ List	SW8260C	12/01/15 19:21	151201A7
S69861.08	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 19:43	151201A7
S69861.08	1,2-Dibromoethane	SW8260B	12/01/15 19:43	151201A7
S69861.08	TCL Volatile Organics 8260	SW8260C	12/01/15 19:43	151201A7
S69861.08	Volatile Organics - DEQ List	SW8260C	12/01/15 19:43	151201A7
S69861.09	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 20:05	151201A7
S69861.09	1,2-Dibromoethane	SW8260B	12/01/15 20:05	151201A7
S69861.09	TCL Volatile Organics 8260	SW8260C	12/01/15 20:05	151201A7
S69861.09	Volatile Organics - DEQ List	SW8260C	12/01/15 20:05	151201A7
S69861.11	1,2-Dibromo-3-chloropropane	SW8260C	12/01/15 17:31	151201A7
S69861.11	1,2-Dibromoethane	SW8260B	12/01/15 17:31	151201A7
S69861.11	TCL Volatile Organics 8260	SW8260C	12/01/15 17:31	151201A7
S69861.11	Volatile Organics - DEQ List	SW8260C	12/01/15 17:31	151201A7

Organics - Volatiles, Prep Batch ID: VS151201W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69861.01	1,4-Dioxane	SW8260C	12/01/15 14:58	151201A3
S69861.04	1,4-Dioxane	SW8260C	12/01/15 15:17	151201A3
S69861.05	1,4-Dioxane	SW8260C	12/01/15 15:35	151201A3
S69861.06	1,4-Dioxane	SW8260C	12/01/15 15:53	151201A3
S69861.07	1,4-Dioxane	SW8260C	12/01/15 16:11	151201A3
S69861.08	1,4-Dioxane	SW8260C	12/01/15 16:29	151201A3
S69861.09	1,4-Dioxane	SW8260C	12/01/15 16:47	151201A3
S69861.11	1,4-Dioxane	SW8260C	12/01/15 17:05	151201A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S69861.01
Sample Tag: ESC-1_112015
Collected Date/Time: 11/20/2015 10:00
Matrix: Liquid
COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Organics - Volatiles, Analysis: Volatile Organics - DEQ List
Run in Batch: 151201A7, Run Date: 12/01/2015 17:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.40**	83.0	119.0
1,2-Dichloroethane-D4		**105.80**	77.0	121.0
Toluene-D8		**97.40**	86.0	118.0

Lab Sample ID: S69861.04
Sample Tag: P3-MH-NE_112015
Collected Date/Time: 11/20/2015 12:00
Matrix: Liquid
COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Organics - Volatiles, Analysis: Volatile Organics - DEQ List
Run in Batch: 151201A7, Run Date: 12/01/2015 18:15, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.80**	83.0	119.0
1,2-Dichloroethane-D4		**106.40**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S69861.05
Sample Tag: P2-MH-NW_112015
Collected Date/Time: 11/20/2015 13:40
Matrix: Liquid
COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Organics - Volatiles, Analysis: Volatile Organics - DEQ List
Run in Batch: 151201A7, Run Date: 12/01/2015 18:37, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.20**	83.0	119.0
1,2-Dichloroethane-D4		**109.80**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Lab Sample ID: S69861.06
Sample Tag: P2-MH-W_112015
Collected Date/Time: 11/20/2015 14:15
Matrix: Liquid
COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Organics - Volatiles, Analysis: Volatile Organics - DEQ List
Run in Batch: 151201A7, Run Date: 12/01/2015 18:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.60**	77.0	121.0
Toluene-D8		**98.40**	86.0	118.0

Lab Sample ID: S69861.07
Sample Tag: P6-MH2-NE_112015
Collected Date/Time: 11/20/2015 14:45
Matrix: Liquid
COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Organics - Volatiles, Analysis: Volatile Organics - DEQ List
Run in Batch: 151201A7, Run Date: 12/01/2015 19:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.20**	83.0	119.0
1,2-Dichloroethane-D4		**111.20**	77.0	121.0
Toluene-D8		**101.20**	86.0	118.0

Lab Sample ID: S69861.08

Sample Tag: P6-MH2-SW_112015

Collected Date/Time: 11/20/2015 15:15

Matrix: Liquid

COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 151201A7, Run Date: 12/01/2015 19:43, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.40**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Lab Sample ID: S69861.09

Sample Tag: P2 Outfall at P3_112015

Collected Date/Time: 11/20/2015 16:00

Matrix: Liquid

COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Organics - Volatiles, Analysis: Volatile Organics - DEQ List

Run in Batch: 151201A7, Run Date: 12/01/2015 20:05, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.20**	83.0	119.0
1,2-Dichloroethane-D4		**106.80**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Lab Sample ID: S69861.11
Sample Tag: Trip Blank-112015
Collected Date/Time: 11/20/2015 00:01
Matrix: Liquid
COC Reference: 88234

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Organics - Volatiles, Analysis: Volatile Organics - DEQ List
Run in Batch: 151201A7, Run Date: 12/01/2015 17:31, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.40**	83.0	119.0
1,2-Dichloroethane-D4		**110.40**	77.0	121.0
Toluene-D8		**98.40**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF151201W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151201a7.lcsw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 12:01, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.80**	83.0	119.0
1,2-Dichloroethane-D4		**93.00**	77.0	121.0
Toluene-D8		**97.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151201a7.blkw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 13:50, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.80**	83.0	119.0
1,2-Dichloroethane-D4		**101.40**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151201a7.lcsw01b, Parent Sample ID: 151201a7.lcsw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 12:23, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.20**	83.0	119.0
1,2-Dichloroethane-D4		**92.40**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151201W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151201a3.lcsw01a

Run in Batch: 151201A3, Run Date: 12/01/2015 11:20, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151201a3.blkw01a

Run in Batch: 151201A3, Run Date: 12/01/2015 12:14, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151201a3.lcsw01b, Parent Sample ID: 151201a3.lcsw01a

Run in Batch: 151201A3, Run Date: 12/01/2015 11:38, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: HGD-112415-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-15-1124A.017.LCS

Run in Batch: HG2-15-1124A, Run Date: 11/24/2015 15:46, Prep Date: 11/24/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**96**	85	115

Blank (BLK)

Lab Sample ID: HG2-15-1124A.018.LRB

Run in Batch: HG2-15-1124A, Run Date: 11/24/2015 15:48, Prep Date: 11/24/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-15-1124A.034.MS, Parent Sample ID: S69869.01

Run in Batch: HG2-15-1124A, Run Date: 11/24/2015 16:29, Prep Date: 11/24/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury	*	**55**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-15-1124A.035.MSD, Parent Sample ID: HG2-15-1124A.034.MS

Run in Batch: HG2-15-1124A, Run Date: 11/24/2015 16:33, Prep Date: 11/24/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury	*	**53**	75	125	**1**	20

Metals, Prep Batch ID: MTD-120815-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1208B.021.LCS

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 14:17, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**102**	85	115
Barium		**100**	85	115
Boron		**109**	85	115
Cadmium		**100**	85	115
Cobalt		**102**	85	115
Chromium		**102**	85	115
Copper		**104**	85	115
Manganese		**102**	85	115
Nickel		**102**	85	115
Lead		**103**	85	115
Antimony		**100**	85	115
Selenium		**103**	85	115
Vanadium		**102**	85	115
Zinc		**104**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1208B.022.LRB

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 14:24, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Barium		**ND**	0.001	mg/L
Boron		**ND**	0.02	mg/L
Cadmium		**ND**	0.0001	mg/L
Cobalt		**ND**	0.001	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Manganese		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Antimony		**ND**	0.001	mg/L
Selenium		**ND**	0.001	mg/L
Vanadium		**ND**	0.0008	mg/L
Zinc		**ND**	0.002	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1208B.034.MS, Parent Sample ID: S69774.01

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 15:01, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**106**	75	125
Barium		**107**	75	125
Boron		**100**	75	125
Cadmium		**102**	75	125
Cobalt		**103**	75	125
Chromium		**103**	75	125
Copper		**99**	75	125
Manganese		**104**	75	125

Metals, Prep Batch ID: MTD-120815-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-15-1208B.034.MS, Parent Sample ID: S69774.01

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 15:01, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Nickel		**101**	75	125
Lead		**98**	75	125
Antimony		**108**	75	125
Selenium		**107**	75	125
Vanadium		**105**	75	125
Zinc		**106**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1208B.044.MS, Parent Sample ID: S69861.09

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 15:34, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**102**	75	125
Barium		**103**	75	125
Boron		**95**	75	125
Cadmium		**102**	75	125
Cobalt		**95**	75	125
Chromium		**98**	75	125
Copper		**93**	75	125
Manganese		**92**	75	125
Nickel		**93**	75	125
Lead		**101**	75	125
Antimony		**106**	75	125
Selenium		**100**	75	125
Vanadium		**104**	75	125
Zinc		**95**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1208B.035.MSD, Parent Sample ID: MT2-15-1208B.034.MS

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 15:03, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**104**	75	125	**2**	20
Barium		**104**	75	125	**2**	20
Boron		**104**	75	125	**3**	20
Cadmium		**100**	75	125	**2**	20
Cobalt		**99**	75	125	**4**	20
Chromium		**99**	75	125	**4**	20
Copper		**100**	75	125	**2**	20
Manganese		**101**	75	125	**3**	20
Nickel		**96**	75	125	**5**	20
Lead		**99**	75	125	**2**	20
Antimony		**104**	75	125	**4**	20
Selenium		**108**	75	125	**1**	20
Vanadium		**104**	75	125	**2**	20
Zinc		**102**	75	125	**3**	20

Metals, Prep Batch ID: MTD-120815-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1208B.045.MSD, Parent Sample ID: MT2-15-1208B.044.MS

Run in Batch: MT2-15-1208B, Run Date: 12/08/2015 15:36, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Arsenic		**104**	75	125	**2**	20
Barium		**102**	75	125	**1**	20
Boron		**101**	75	125	**4**	20
Cadmium		**100**	75	125	**1**	20
Cobalt		**100**	75	125	**5**	20
Chromium		**101**	75	125	**3**	20
Copper		**98**	75	125	**5**	20
Manganese		**96**	75	125	**2**	20
Nickel		**95**	75	125	**2**	20
Lead		**102**	75	125	**1**	20
Antimony		**106**	75	125	**0**	20
Selenium		**108**	75	125	**8**	20
Vanadium		**105**	75	125	**1**	20
Zinc		**100**	75	125	**4**	20

Organics - Volatiles, Prep Batch ID: VF151201W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151201a7.lcsw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 12:01, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**94.94**	75.1	135.9
Diethyl ether		**89.22**	67.4	121.2
Acetone		**32.86**	29.9	161.5
Methyl iodide		**97.48**	68.8	116.4
Carbon disulfide		**86.16**	63.8	137.4
Methyl acetate		**86.64**	64.7	125.4
tert-Methyl butyl ether		**94.60**	73.2	122.4
Acrylonitrile		**89.06**	69.9	128.9
2-Butanone		**52.70**	44.0	134.4
Dichlorodifluoromethane		**114.44**	10.0	222.8
Chloromethane		**88.46**	23.8	166.5
Vinyl Chloride		**93.66**	43.5	149.1
Bromomethane		**86.26**	56.8	151.3
Chloroethane		**83.76**	53.4	149.4
Acrolein		**71.30**	70.0	130.0
Trichlorofluoromethane	*	**55.30**	59.7	151.8
1,1-Dichloroethene		**95.02**	69.6	139.4
Methylene Chloride		**98.80**	73.3	121.1
trans-1,2-Dichloroethene		**93.34**	73.6	129.3
1,1-Dichloroethane		**94.20**	71.5	126.2
cis-1,2-Dichloroethene		**100.10**	76.6	122.1
Tetrahydrofuran		**85.66**	59.0	117.9
Chloroform		**99.28**	78.4	124.0
Bromochloromethane		**98.28**	78.2	120.8
1,1,1-Trichloroethane		**100.78**	79.4	130.9
Cyclohexane		**84.58**	10.0	169.1
4-Methyl-2-pentanone		**90.60**	71.6	125.2
2-Hexanone		**58.78**	55.4	136.9
2-Chloroethylvinyl ether	*	**30.36**	70.0	130.0
Carbon Tetrachloride		**101.74**	72.6	133.0
Benzene		**95.34**	79.9	124.9
1,2-Dichloroethane		**88.00**	76.0	126.3
Trichloroethene		**98.84**	79.7	124.2
1,2-Dichloropropane		**91.64**	78.6	126.4
Bromodichloromethane		**97.70**	80.4	128.2
Methyl cyclohexane		**89.20**	76.6	131.3
Dibromomethane		**99.14**	76.9	122.1
cis-1,3-Dichloropropene		**97.48**	79.8	129.9
Toluene		**99.08**	79.8	124.5
trans-1,3-Dichloropropene		**99.42**	74.0	131.3
1,1,2-Trichloroethane		**96.60**	78.7	123.1
Tetrachloroethene		**90.18**	74.5	124.5
trans-1,4-Dichloro-2-butene		**106.32**	68.6	135.4
Dibromochloromethane		**106.78**	74.6	127.2
1,2-Dibromoethane		**105.52**	70.3	133.7
Chlorobenzene		**101.48**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF151201W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151201a7.lcsw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 12:01, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**102.00**	80.3	128.2
Ethylbenzene		**105.26**	79.5	129.1
p,m-Xylene		**103.32**	79.4	132.2
o-Xylene		**86.68**	80.2	131.0
Styrene		**94.86**	69.5	126.7
Isopropylbenzene		**105.16**	74.4	121.5
Bromoform		**109.38**	69.4	128.0
1,1,2,2-Tetrachloroethane		**99.52**	79.8	126.3
1,2,3-Trichloropropane		**100.08**	78.3	138.8
n-Propylbenzene		**106.40**	82.0	130.7
Bromobenzene		**100.38**	78.7	124.6
1,3,5-Trimethylbenzene		**101.70**	81.3	128.9
tert-Butylbenzene		**100.46**	80.7	128.9
1,2,4-Trimethylbenzene	*	**-2.00**	81.4	130.8
2-Chlorotoluene		**107.40**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151201a7.blkw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 13:50, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acetone		**ND**	10	ug/l
Acrylonitrile		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Benzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
Carbon disulfide		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151201W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151201a7.blkw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 13:50, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,3-Dichlorobenzene		ND	1	ug/l
1,4-Dichlorobenzene		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
Dichlorodifluoromethane		ND	1	ug/l
Diethyl ether		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Ethylbenzene		ND	1	ug/l
2-Hexanone		ND	10	ug/l
Hexachloroethane		ND	1	ug/l
p-Isopropyltoluene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
2-Methylnaphthalene		ND	1	ug/l
Methyl Acetate		ND	1	ug/l
4-Methyl-2-pentanone (MIBK)		ND	1	ug/l
tert-Methyl butyl ether (MTBE)		ND	1	ug/l
Methyl cyclohexane		ND	1	ug/l
Methyl iodide		ND	1	ug/l
Methylene chloride		ND	1	ug/l
Naphthalene		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Styrene		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1,2,2-Tetrachloroethane		ND	1	ug/l
1,1,2-Trichloro-1,2,2-trifluoroethane		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
1,2,3-Trichlorobenzene		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
1,2,3-Trimethylbenzene		ND	1	ug/l
1,2,4-Trichlorobenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Toluene		ND	1	ug/l
Trichloroethene		ND	1	ug/l
Trichlorofluoromethane		ND	1	ug/l
Vinyl chloride		ND	1	ug/l
o-Xylene		ND	1	ug/l
p,m-Xylene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151201W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151201a7.lcsw01b, Parent Sample ID: 151201a7.lcsw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 12:23, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**99.74**	75.1	135.9	**4.9**	30.0
Diethyl ether		**94.68**	67.4	121.2	**5.9**	30.0
Acetone		**35.68**	29.9	161.5	**8.2**	30.0
Methyl iodide		**101.04**	68.8	116.4	**3.6**	30.0
Carbon disulfide		**89.68**	63.8	137.4	**4.0**	30.0
Methyl acetate		**97.14**	64.7	125.4	**11.4**	30.0
tert-Methyl butyl ether		**100.42**	73.2	122.4	**6.0**	30.0
Acrylonitrile		**96.54**	69.9	128.9	**8.1**	30.0
2-Butanone		**63.74**	44.0	134.4	**19.0**	30.0
Dichlorodifluoromethane		**118.02**	10.0	222.8	**3.1**	30.0
Chloromethane		**93.06**	23.8	166.5	**5.1**	30.0
Vinyl Chloride		**95.76**	43.5	149.1	**2.2**	30.0
Bromomethane		**85.80**	56.8	151.3	**0.5**	30.0
Chloroethane		**85.66**	53.4	149.4	**2.2**	30.0
Acrolein		**73.76**	70.0	130.0	**3.4**	30.0
Trichlorofluoromethane	*	**86.04**	59.7	151.8	**43.5**	30.0
1,1-Dichloroethene		**99.06**	69.6	139.4	**4.2**	30.0
Methylene Chloride		**101.32**	73.3	121.1	**2.5**	30.0
trans-1,2-Dichloroethene		**95.90**	73.6	129.3	**2.7**	30.0
1,1-Dichloroethane		**97.86**	71.5	126.2	**3.8**	30.0
cis-1,2-Dichloroethene		**104.72**	76.6	122.1	**4.5**	30.0
Tetrahydrofuran		**94.82**	59.0	117.9	**10.2**	30.0
Chloroform		**103.16**	78.4	124.0	**3.8**	30.0
Bromochloromethane		**102.08**	78.2	120.8	**3.8**	30.0
1,1,1-Trichloroethane		**104.64**	79.4	130.9	**3.8**	30.0
Cyclohexane		**87.46**	10.0	169.1	**3.3**	30.0
4-Methyl-2-pentanone		**106.50**	71.6	125.2	**16.1**	30.0
2-Hexanone		**67.78**	55.4	136.9	**14.2**	30.0
2-Chloroethylvinyl ether	*	**9.62**	70.0	130.0	**103.8**	30.0
Carbon Tetrachloride		**109.70**	72.6	133.0	**7.5**	30.0
Benzene		**101.18**	79.9	124.9	**5.9**	30.0
1,2-Dichloroethane		**94.08**	76.0	126.3	**6.7**	30.0
Trichloroethene		**104.90**	79.7	124.2	**5.9**	30.0
1,2-Dichloropropane		**97.46**	78.6	126.4	**6.2**	30.0
Bromodichloromethane		**104.44**	80.4	128.2	**6.7**	30.0
Methyl cyclohexane		**96.66**	76.6	131.3	**8.0**	30.0
Dibromomethane		**109.98**	76.9	122.1	**10.4**	30.0
cis-1,3-Dichloropropene		**104.24**	79.8	129.9	**6.7**	30.0
Toluene		**104.20**	79.8	124.5	**5.0**	30.0
trans-1,3-Dichloropropene		**106.24**	74.0	131.3	**6.6**	30.0
1,1,2-Trichloroethane		**105.48**	78.7	123.1	**8.8**	30.0
Tetrachloroethene		**93.64**	74.5	124.5	**3.8**	30.0
trans-1,4-Dichloro-2-butene		**112.82**	68.6	135.4	**5.9**	30.0
Dibromochloromethane		**111.78**	74.6	127.2	**4.6**	30.0
1,2-Dibromoethane		**111.14**	70.3	133.7	**5.2**	30.0
Chlorobenzene		**104.80**	79.2	122.7	**3.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151201W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151201a7.lcsw01b, Parent Sample ID: 151201a7.lcsw01a

Run in Batch: 151201A7, Run Date: 12/01/2015 12:23, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		**105.88**	80.3	128.2	**3.7**	30.0
Ethylbenzene		**112.06**	79.5	129.1	**6.3**	30.0
p,m-Xylene		**106.52**	79.4	132.2	**3.0**	30.0
o-Xylene		**90.12**	80.2	131.0	**3.9**	30.0
Styrene		**97.00**	69.5	126.7	**2.2**	30.0
Isopropylbenzene		**109.26**	74.4	121.5	**3.8**	30.0
Bromoform		**118.28**	69.4	128.0	**7.8**	30.0
1,1,2,2-Tetrachloroethane		**110.34**	79.8	126.3	**10.3**	30.0
1,2,3-Trichloropropane		**106.12**	78.3	138.8	**5.9**	30.0
n-Propylbenzene		**110.86**	82.0	130.7	**4.1**	30.0
Bromobenzene		**105.10**	78.7	124.6	**4.6**	30.0
1,3,5-Trimethylbenzene		**103.40**	81.3	128.9	**1.7**	30.0
tert-Butylbenzene		**103.36**	80.7	128.9	**2.8**	30.0
1,2,4-Trimethylbenzene	*	**-2.00**	81.4	130.8	**0.0**	30.0
2-Chlorotoluene		**109.78**	70.0	130.0	**2.2**	30.0

Organics - Volatiles, Prep Batch ID: VS151201W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151201a3.lcsw01a

Run in Batch: 151201A3, Run Date: 12/01/2015 11:20, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**97.20**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151201a3.blkw01a

Run in Batch: 151201A3, Run Date: 12/01/2015 12:14, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151201a3.lcsw01b, Parent Sample ID: 151201a3.lcsw01a

Run in Batch: 151201A3, Run Date: 12/01/2015 11:38, Prep Date: 12/01/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**92.36**	70.0	130.0	**5.1**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

88234

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: ALEX VILLHAVER
COMPANY: ANCADIS
ADDRESS: 10559 CITATION DRIVE
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 517-325-5036 FAX NO.: P.O. NO.: B0064429.2015
E-MAIL ADDRESS: ALEX.VILLHAVER@ANCADIS-US.COM QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER LANSING
SAMPLER(S) - PLEASE PRINT/SIGN NAME: BILLY J. CLARK

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260 1,4 Dioxane	TAL METALS	Special Instructions
69861.01	11/20/15	10:00	ESC-1_112015	L	12		X	X					X	X	MS/MSD .02/.03
.02	11/20/15	12:00	P3-MH-NE_112015	L	4		X	X					X	X	
.03	11/20/15	13:40	P2-MH-NW_112015	L	4		X	X					X	X	
.06	11/20/15	14:15	P2-MH-W_112015	L	4		X	X					X	X	
.07	11/20/15	14:45	P6-MH2-NE_112015	L	4		X	X					X	X	
.08	11/20/15	15:15	P6-MH2-SW_112015	L	4		X	X					X	X	
.09	11/20/15	16:00	P2 OUTFALL AT P3_112015	L	4		X	X					X	X	
.10	11/20/15	—	DUP-01_112015	L	4		X	X					X	X	
.11	—	—	TRIP BLANK_112015	L	1		X						X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION [signature] ANCADIS ☐ Sampler DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION [signature] DATE 11/20/15 TIME 16:20
RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S69983.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S69983.01-S69983.05
Project: RACER Plant 2 / B0064479.2015.00603
Submitted Date/Time: 12/02/2015 11:20
Sampled by: Cliff Walls
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-13)
Surrogates per QC Sample (Pages 14-17)
Batch QC Results (Pages 18-43)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S69983.01
Sample Tag: TB_0002_120115
Collected Date/Time: 12/01/2015 07:00
Matrix: Liquid
COC Reference: 90165

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 04:21	151207B7	VF151207W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 04:21	151207B7	VF151207W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 04:21	151207B7	VF151207W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S69983.02
Sample Tag: MW-12-02_120115
Collected Date/Time: 12/01/2015 11:35
Matrix: Groundwater
COC Reference: 90165

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/07/15 17:45	151207A7	VF151207W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/07/15 17:45	151207A7	VF151207W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/04/15 16:48	151204A3	VS151204W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/07/15 17:45	151207A7	VF151207W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S69983.03
Sample Tag: P2-MW-04_120115
Collected Date/Time: 12/01/2015 14:20
Matrix: Groundwater
COC Reference: 90165

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 14:30	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/03/15 10:49	CL151203-W1	CL151203-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/03/15 10:49	SFT151203-W1	SFT151203-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/09/15 12:02	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:12	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:02	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:02	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:02	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:12	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:02	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:12	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:12	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:02	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/07/15 18:07	151207A7	VF151207W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/07/15 18:07	151207A7	VF151207W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/04/15 17:06	151204A3	VS151204W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/07/15 18:07	151207A7	VF151207W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S69983.04
Sample Tag: Dup_2_120115
Collected Date/Time: 12/01/2015 00:01
Matrix: Groundwater
COC Reference: 90165

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chloride	E300.0	12/03/15 11:02	CL151203-W1	CL151203-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/03/15 11:02	SFT151203-W1	SFT151203-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/09/15 12:07	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:07	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:07	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:07	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:07	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:07	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/07/15 18:28	151207A7	VF151207W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/07/15 18:28	151207A7	VF151207W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/04/15 17:24	151204A3	VS151204W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/07/15 18:28	151207A7	VF151207W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S69983.05
Sample Tag: FB_0001_120115
Collected Date/Time: 12/01/2015 14:25
Matrix: Liquid
COC Reference: 90165

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 02:40	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 02:40	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 02:40	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.03	Alkalinity as CaCO3	SM2320B	12/07/15 14:30	ALK151207-W2

Inorganics, Prep Batch ID: CL151203-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.03	Chloride	E300.0	12/03/15 10:49	CL151203-W1
S69983.04	Chloride	E300.0	12/03/15 11:02	CL151203-W1

Inorganics, Prep Batch ID: SFT151203-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.03	Sulfate	E300.0	12/03/15 10:49	SFT151203-W1
S69983.04	Sulfate	E300.0	12/03/15 11:02	SFT151203-W1

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.03	Arsenic, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B
S69983.03	Arsenic	SW6020A	12/09/15 12:02	MT2-15-1209B
S69983.03	Chromium, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B
S69983.03	Chromium	SW6020A	12/09/15 12:02	MT2-15-1209B
S69983.03	Copper, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B
S69983.03	Copper	SW6020A	12/09/15 12:02	MT2-15-1209B
S69983.03	Lead, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B
S69983.03	Lead	SW6020A	12/09/15 12:02	MT2-15-1209B
S69983.03	Nickel, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B
S69983.03	Nickel	SW6020A	12/09/15 12:02	MT2-15-1209B
S69983.03	Vanadium, Dissolved	SW6020A	12/09/15 12:05	MT2-15-1209B
S69983.03	Vanadium	SW6020A	12/09/15 12:02	MT2-15-1209B
S69983.04	Arsenic, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B
S69983.04	Arsenic	SW6020A	12/09/15 12:07	MT2-15-1209B
S69983.04	Chromium, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B
S69983.04	Chromium	SW6020A	12/09/15 12:07	MT2-15-1209B
S69983.04	Copper, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B
S69983.04	Copper	SW6020A	12/09/15 12:07	MT2-15-1209B
S69983.04	Lead, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B
S69983.04	Lead	SW6020A	12/09/15 12:07	MT2-15-1209B
S69983.04	Nickel, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B
S69983.04	Nickel	SW6020A	12/09/15 12:07	MT2-15-1209B
S69983.04	Vanadium, Dissolved	SW6020A	12/09/15 12:08	MT2-15-1209B
S69983.04	Vanadium	SW6020A	12/09/15 12:07	MT2-15-1209B

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.03	Calcium	SW6020A	12/17/15 13:12	MT2-15-1217B
S69983.03	Magnesium	SW6020A	12/17/15 13:12	MT2-15-1217B
S69983.03	Potassium	SW6020A	12/17/15 13:12	MT2-15-1217B
S69983.03	Sodium	SW6020A	12/17/15 13:12	MT2-15-1217B

Organics - Volatiles, Prep Batch ID: VF151207W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.02	1,2-Dibromo-3-chloropropane	SW8260C	12/07/15 17:45	151207A7
S69983.02	1,2-Dibromoethane	SW8260B	12/07/15 17:45	151207A7
S69983.02	TCL Volatile Organics 8260	SW8260C	12/07/15 17:45	151207A7
S69983.03	1,2-Dibromo-3-chloropropane	SW8260C	12/07/15 18:07	151207A7
S69983.03	1,2-Dibromoethane	SW8260B	12/07/15 18:07	151207A7
S69983.03	TCL Volatile Organics 8260	SW8260C	12/07/15 18:07	151207A7
S69983.04	1,2-Dibromo-3-chloropropane	SW8260C	12/07/15 18:28	151207A7
S69983.04	1,2-Dibromoethane	SW8260B	12/07/15 18:28	151207A7
S69983.04	TCL Volatile Organics 8260	SW8260C	12/07/15 18:28	151207A7

Organics - Volatiles, Prep Batch ID: VF151207W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.01	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 04:21	151207B7
S69983.01	1,2-Dibromoethane	SW8260B	12/08/15 04:21	151207B7
S69983.01	TCL Volatile Organics 8260	SW8260C	12/08/15 04:21	151207B7

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.05	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 02:40	151208B7
S69983.05	1,2-Dibromoethane	SW8260B	12/09/15 02:40	151208B7
S69983.05	TCL Volatile Organics 8260	SW8260C	12/09/15 02:40	151208B7

Organics - Volatiles, Prep Batch ID: VS151204W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S69983.02	1,4-Dioxane	SW8260B - SIM	12/04/15 16:48	151204A3
S69983.03	1,4-Dioxane	SW8260B - SIM	12/04/15 17:06	151204A3
S69983.04	1,4-Dioxane	SW8260B - SIM	12/04/15 17:24	151204A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S69983.01
Sample Tag: TB_0002_120115
Collected Date/Time: 12/01/2015 07:00
Matrix: Liquid
COC Reference: 90165

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151207B7, Run Date: 12/08/2015 04:21, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.60**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

Lab Sample ID: S69983.02
Sample Tag: MW-12-02_120115
Collected Date/Time: 12/01/2015 11:35
Matrix: Groundwater
COC Reference: 90165

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151207A7, Run Date: 12/07/2015 17:45, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.80**	83.0	119.0
1,2-Dichloroethane-D4		**108.80**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S69983.03
Sample Tag: P2-MW-04_120115
Collected Date/Time: 12/01/2015 14:20
Matrix: Groundwater
COC Reference: 90165

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151207A7, Run Date: 12/07/2015 18:07, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.40**	83.0	119.0
1,2-Dichloroethane-D4		**113.00**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S69983.04
Sample Tag: Dup_2_120115
Collected Date/Time: 12/01/2015 00:01
Matrix: Groundwater
COC Reference: 90165

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151207A7, Run Date: 12/07/2015 18:28, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.00**	83.0	119.0
1,2-Dichloroethane-D4		**112.20**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S69983.05
Sample Tag: FB_0001_120115
Collected Date/Time: 12/01/2015 14:25
Matrix: Liquid
COC Reference: 90165

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 02:40, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.80**	83.0	119.0
1,2-Dichloroethane-D4		**115.60**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151207W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.40**	83.0	119.0
1,2-Dichloroethane-D4		**90.60**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151207a7.blkw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 13:21, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.60**	83.0	119.0
1,2-Dichloroethane-D4		**106.80**	77.0	121.0
Toluene-D8		**103.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151207a7.lcsw07b, Parent Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:53, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.60**	83.0	119.0
1,2-Dichloroethane-D4		**98.40**	77.0	121.0
Toluene-D8		**101.00**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF151207W3

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 00:41, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**92.80**	83.0	119.0
1,2-Dichloroethane-D4		**96.20**	77.0	121.0
Toluene-D8		**106.80**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151207b7.blkw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 02:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.20**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151207b7.lcsw07b, Parent Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 01:03, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.60**	83.0	119.0
1,2-Dichloroethane-D4		**92.00**	77.0	121.0
Toluene-D8		**102.00**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF151208W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**104.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**96.00**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151204W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151204a3.lcsw04a

Run in Batch: 151204A3, Run Date: 12/04/2015 12:16, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151204a3.blkw04a

Run in Batch: 151204A3, Run Date: 12/04/2015 14:05, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151204a3.6998407m, Parent Sample ID: S69984.06

Run in Batch: 151204A3, Run Date: 12/04/2015 12:53, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151204a3.6998408n, Parent Sample ID: 151204a3.6998407m

Run in Batch: 151204A3, Run Date: 12/04/2015 13:11, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151204a3.lcsw04b, Parent Sample ID: 151204a3.lcsw04a

Run in Batch: 151204A3, Run Date: 12/04/2015 12:34, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151207-W2.LRB1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:00, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Carbonate/Bicarbonate/Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151207-W2.LCS1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:15, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**92**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151207-W2.MS1, Parent Sample ID: S69983.03

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:35, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**92**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151207-W2.DP1, Parent Sample ID: S69934.06

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:25, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 2

Analyte	Flags	**RPD**	RPD CL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**<1**	15

Inorganics, Prep Batch ID: CL151203-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151203-W1.LRB1

Run in Batch: CL151203-W1, Run Date: 12/03/2015 09:45, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151203-W1.LCS1

Run in Batch: CL151203-W1, Run Date: 12/03/2015 10:10, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**99**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151203-W1.MS1, Parent Sample ID: S69983.03

Run in Batch: CL151203-W1, Run Date: 12/03/2015 12:05, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**94**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151203-W1.MSD1, Parent Sample ID: CL151203-W1.MS1

Run in Batch: CL151203-W1, Run Date: 12/03/2015 12:18, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**96**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: CL151203-W1.DP1, Parent Sample ID: S69983.03

Run in Batch: CL151203-W1, Run Date: 12/03/2015 11:52, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Chloride		**<1**	15

Inorganics, Prep Batch ID: SFT151203-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151203-W1.LRB1

Run in Batch: SFT151203-W1, Run Date: 12/03/2015 09:45, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151203-W1.LCS1

Run in Batch: SFT151203-W1, Run Date: 12/03/2015 10:10, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**101**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151203-W1.MS1, Parent Sample ID: S69983.03

Run in Batch: SFT151203-W1, Run Date: 12/03/2015 12:05, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**99**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151203-W1.MSD1, Parent Sample ID: SFT151203-W1.MS1

Run in Batch: SFT151203-W1, Run Date: 12/03/2015 12:18, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**100**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT151203-W1.DP1, Parent Sample ID: S69983.03

Run in Batch: SFT151203-W1, Run Date: 12/03/2015 11:52, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Sulfate		**1**	15

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.019.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:55, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**98**	85	115
Chromium		**100**	85	115
Nickel		**103**	85	115
Copper		**101**	85	115
Arsenic		**99**	85	115
Lead		**103**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.020.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:58, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.032.MS, Parent Sample ID: S70007.05

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:18, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**96**	75	125
Nickel		**91**	75	125
Copper		**92**	75	125
Arsenic		**102**	75	125
Lead		**95**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.046.MS, Parent Sample ID: S70050.04

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:39, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**97**	75	125
Nickel		**91**	75	125
Copper		**91**	75	125
Arsenic		**103**	75	125
Lead		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**102**	75	125	**1**	20
Chromium		**98**	75	125	**2**	20

Metals, Prep Batch ID: MTD-120915-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nickel		**94**	75	125	**3**	20
Copper		**92**	75	125	**1**	20
Arsenic		**102**	75	125	**0**	20
Lead		**97**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.047.MSD, Parent Sample ID: MT2-15-1209B.046.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:40, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**99**	75	125	**2**	20
Nickel		**92**	75	125	**1**	20
Copper		**91**	75	125	**0**	20
Arsenic		**102**	75	125	**1**	20
Lead		**100**	75	125	**1**	20

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		**109**	85	115
Magnesium		**104**	85	115
Potassium		**103**	85	115
Calcium		**105**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Calcium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Sodium		**106**	75	125
Magnesium		**109**	75	125
Potassium		**102**	75	125
Calcium		**100**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		**100**	75	125
Magnesium		**103**	75	125
Potassium		**100**	75	125
Calcium		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		**105**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Potassium		**102**	75	125	**0**	20
Calcium		**115**	75	125	**2**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sodium		**101**	75	125	**0**	20
Magnesium		**101**	75	125	**2**	20
Potassium		**98**	75	125	**1**	20
Calcium		**98**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF151207W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**86.52**	75.1	135.9
Diethyl ether		**85.12**	67.4	121.2
Acetone	*	**25.74**	29.9	161.5
Methyl iodide		**86.00**	68.8	116.4
Carbon disulfide		**78.52**	63.8	137.4
Methyl acetate		**80.80**	64.7	125.4
tert-Methyl butyl ether		**83.64**	73.2	122.4
Acrylonitrile		**82.14**	69.9	128.9
2-Butanone		**51.62**	44.0	134.4
Dichlorodifluoromethane		**102.62**	10.0	222.8
Chloromethane		**86.76**	23.8	166.5
Vinyl Chloride		**91.22**	43.5	149.1
Bromomethane		**81.60**	56.8	151.3
Chloroethane		**80.04**	53.4	149.4
Acrolein		**78.56**	70.0	130.0
Trichlorofluoromethane		**78.84**	59.7	151.8
1,1-Dichloroethene		**91.78**	69.6	139.4
Methylene Chloride		**96.10**	73.3	121.1
trans-1,2-Dichloroethene		**90.30**	73.6	129.3
1,1-Dichloroethane		**92.66**	71.5	126.2
cis-1,2-Dichloroethene		**94.34**	76.6	122.1
Tetrahydrofuran		**78.74**	59.0	117.9
Chloroform		**95.94**	78.4	124.0
Bromochloromethane		**93.92**	78.2	120.8
1,1,1-Trichloroethane		**96.08**	79.4	130.9
Cyclohexane		**80.00**	10.0	169.1
4-Methyl-2-pentanone		**84.76**	71.6	125.2
2-Hexanone		**55.40**	55.4	136.9
2-Chloroethylvinyl ether	*	**34.98**	70.0	130.0
Carbon Tetrachloride		**100.94**	72.6	133.0
Benzene		**95.38**	79.9	124.9
1,2-Dichloroethane		**86.88**	76.0	126.3
Trichloroethene		**95.10**	79.7	124.2
1,2-Dichloropropane		**92.68**	78.6	126.4
Bromodichloromethane		**98.12**	80.4	128.2
Methyl cyclohexane		**86.44**	76.6	131.3
Dibromomethane		**97.74**	76.9	122.1
cis-1,3-Dichloropropene		**97.72**	79.8	129.9
Toluene		**97.14**	79.8	124.5
trans-1,3-Dichloropropene		**97.26**	74.0	131.3
1,1,2-Trichloroethane		**97.14**	78.7	123.1
Tetrachloroethene		**88.30**	74.5	124.5
trans-1,4-Dichloro-2-butene		**96.70**	68.6	135.4
Dibromochloromethane		**97.38**	74.6	127.2
1,2-Dibromoethane		**97.88**	70.3	133.7
Chlorobenzene		**92.68**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF151207W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**94.80**	80.3	128.2
Ethylbenzene		**98.32**	79.5	129.1
p,m-Xylene		**96.05**	79.4	132.2
o-Xylene		**80.28**	80.2	131.0
Styrene		**86.38**	69.5	126.7
Isopropylbenzene		**98.36**	74.4	121.5
Bromoform		**98.26**	69.4	128.0
1,1,2,2-Tetrachloroethane		**93.74**	79.8	126.3
1,2,3-Trichloropropane		**90.64**	78.3	138.8
n-Propylbenzene		**100.90**	82.0	130.7
Bromobenzene		**94.62**	78.7	124.6
1,3,5-Trimethylbenzene		**95.06**	81.3	128.9
tert-Butylbenzene		**95.42**	80.7	128.9
1,2,4-Trimethylbenzene		**95.72**	81.4	130.8
sec-Butylbenzene		**99.68**	77.4	129.8
p-Isopropyltoluene	*	**79.66**	79.8	137.5
1,3-Dichlorobenzene		**91.90**	77.0	131.3
1,4-Dichlorobenzene		**92.22**	20.7	137.7
1,2-Dichlorobenzene		**93.64**	10.0	166.2
1,2,3-Trimethylbenzene		**91.38**	76.3	124.2
n-Butylbenzene		**96.46**	80.0	133.3
Hexachloroethane		**87.84**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**95.18**	21.2	189.4
1,2,4-Trichlorobenzene		**95.20**	27.4	143.4
1,2,3-Trichlorobenzene		**98.36**	75.4	131.4
Naphthalene		**97.54**	32.9	135.8
2-Methylnaphthalene		**96.78**	25.5	165.5
2-Chlorotoluene		**101.56**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151207a7.blkw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 13:21, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151207W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151207a7.blkw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 13:21, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloroethane		ND	1	ug/l
Acrolein		ND	10	ug/l
Trichlorofluoromethane		ND	1	ug/l
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	1	ug/l
2-Hexanone (*)		ND	10	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
2-Chlorotoluene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151207W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151207a7.blkw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 13:21, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151207a7.lcsw07b, Parent Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:53, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**92.18**	75.1	135.9	**6.3**	30.0
Diethyl ether		**93.96**	67.4	121.2	**9.9**	30.0
Acetone		**34.74**	29.9	161.5	**29.8**	30.0
Methyl iodide		**90.60**	68.8	116.4	**5.2**	30.0
Carbon disulfide		**82.24**	63.8	137.4	**4.6**	30.0
Methyl acetate		**90.06**	64.7	125.4	**10.8**	30.0
tert-Methyl butyl ether		**92.24**	73.2	122.4	**9.8**	30.0
Acrylonitrile		**94.44**	69.9	128.9	**13.9**	30.0
2-Butanone		**60.48**	44.0	134.4	**15.8**	30.0
Dichlorodifluoromethane		**105.76**	10.0	222.8	**3.0**	30.0
Chloromethane		**91.28**	23.8	166.5	**5.1**	30.0
Vinyl Chloride		**95.04**	43.5	149.1	**4.1**	30.0
Bromomethane		**88.96**	56.8	151.3	**8.6**	30.0
Chloroethane		**84.52**	53.4	149.4	**5.4**	30.0
Acrolein		**95.98**	70.0	130.0	**20.0**	30.0
Trichlorofluoromethane	*	**58.34**	59.7	151.8	**29.9**	30.0
1,1-Dichloroethene		**97.08**	69.6	139.4	**5.6**	30.0
Methylene Chloride		**100.02**	73.3	121.1	**4.0**	30.0
trans-1,2-Dichloroethene		**94.56**	73.6	129.3	**4.6**	30.0
1,1-Dichloroethane		**97.94**	71.5	126.2	**5.5**	30.0
cis-1,2-Dichloroethene		**101.06**	76.6	122.1	**6.9**	30.0
Tetrahydrofuran		**94.08**	59.0	117.9	**17.8**	30.0
Chloroform		**100.12**	78.4	124.0	**4.3**	30.0
Bromochloromethane		**100.50**	78.2	120.8	**6.8**	30.0

Organics - Volatiles, Prep Batch ID: VF151207W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151207a7.lcsw07b, Parent Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:53, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1-Trichloroethane		**101.60**	79.4	130.9	**5.6**	30.0
Cyclohexane		**84.70**	10.0	169.1	**5.7**	30.0
4-Methyl-2-pentanone		**96.36**	71.6	125.2	**12.8**	30.0
2-Hexanone		**61.44**	55.4	136.9	**10.3**	30.0
2-Chloroethylvinyl ether	*	**11.30**	70.0	130.0	**102.3**	30.0
Carbon Tetrachloride		**104.04**	72.6	133.0	**3.0**	30.0
Benzene		**97.20**	79.9	124.9	**1.9**	30.0
1,2-Dichloroethane		**89.68**	76.0	126.3	**3.2**	30.0
Trichloroethene		**98.88**	79.7	124.2	**3.9**	30.0
1,2-Dichloropropane		**93.14**	78.6	126.4	**0.5**	30.0
Bromodichloromethane		**100.10**	80.4	128.2	**2.0**	30.0
Methyl cyclohexane		**89.58**	76.6	131.3	**3.6**	30.0
Dibromomethane		**101.90**	76.9	122.1	**4.2**	30.0
cis-1,3-Dichloropropene		**100.58**	79.8	129.9	**2.9**	30.0
Toluene		**100.76**	79.8	124.5	**3.7**	30.0
trans-1,3-Dichloropropene		**101.40**	74.0	131.3	**4.2**	30.0
1,1,2-Trichloroethane		**100.54**	78.7	123.1	**3.4**	30.0
Tetrachloroethene		**89.04**	74.5	124.5	**0.8**	30.0
trans-1,4-Dichloro-2-butene		**102.44**	68.6	135.4	**5.8**	30.0
Dibromochloromethane		**103.24**	74.6	127.2	**5.8**	30.0
1,2-Dibromoethane		**105.10**	70.3	133.7	**7.1**	30.0
Chlorobenzene		**95.30**	79.2	122.7	**2.8**	30.0
1,1,1,2-Tetrachloroethane		**98.52**	80.3	128.2	**3.8**	30.0
Ethylbenzene		**100.08**	79.5	129.1	**1.8**	30.0
p,m-Xylene		**99.52**	79.4	132.2	**3.5**	30.0
o-Xylene		**82.18**	80.2	131.0	**2.3**	30.0
Styrene		**89.42**	69.5	126.7	**3.5**	30.0
Isopropylbenzene		**102.52**	74.4	121.5	**4.1**	30.0
Bromoform		**106.28**	69.4	128.0	**7.8**	30.0
1,1,2,2-Tetrachloroethane		**101.94**	79.8	126.3	**8.4**	30.0
1,2,3-Trichloropropane		**102.46**	78.3	138.8	**12.2**	30.0
n-Propylbenzene		**102.66**	82.0	130.7	**1.7**	30.0
Bromobenzene		**95.74**	78.7	124.6	**1.2**	30.0
1,3,5-Trimethylbenzene		**97.96**	81.3	128.9	**3.0**	30.0
tert-Butylbenzene		**97.00**	80.7	128.9	**1.6**	30.0
1,2,4-Trimethylbenzene		**97.92**	81.4	130.8	**2.3**	30.0
sec-Butylbenzene		**99.74**	77.4	129.8	**0.1**	30.0
p-Isopropyltoluene		**80.92**	79.8	137.5	**1.6**	30.0
1,3-Dichlorobenzene		**91.46**	77.0	131.3	**0.5**	30.0
1,4-Dichlorobenzene		**92.44**	20.7	137.7	**0.2**	30.0
1,2-Dichlorobenzene		**96.14**	10.0	166.2	**2.6**	30.0
1,2,3-Trimethylbenzene		**90.78**	76.3	124.2	**0.7**	30.0
n-Butylbenzene		**98.16**	80.0	133.3	**1.7**	30.0
Hexachloroethane		**88.06**	23.8	138.1	**0.3**	30.0
1,2-Dibromo-3-Chloropropane		**104.94**	21.2	189.4	**9.8**	30.0
1,2,4-Trichlorobenzene		**97.28**	27.4	143.4	**2.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151207W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151207a7.lcsw07b, Parent Sample ID: 151207a7.lcsw07a

Run in Batch: 151207A7, Run Date: 12/07/2015 11:53, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,2,3-Trichlorobenzene		**98.98**	75.4	131.4	**0.6**	30.0
Naphthalene		**105.02**	32.9	135.8	**7.4**	30.0
2-Methylnaphthalene		**109.14**	25.5	165.5	**12.0**	30.0
2-Chlorotoluene		**103.72**	70.0	130.0	**2.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151207W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 00:41, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.76**	75.1	135.9
Diethyl ether		**90.30**	67.4	121.2
Acetone	*	**17.40**	29.9	161.5
Methyl iodide		**93.54**	68.8	116.4
Carbon disulfide		**91.06**	63.8	137.4
Methyl acetate		**82.44**	64.7	125.4
tert-Methyl butyl ether		**87.56**	73.2	122.4
Acrylonitrile		**87.68**	69.9	128.9
2-Butanone		**56.54**	44.0	134.4
Dichlorodifluoromethane		**115.24**	10.0	222.8
Chloromethane		**94.86**	23.8	166.5
Vinyl Chloride		**94.00**	43.5	149.1
Bromomethane		**90.42**	56.8	151.3
Chloroethane		**88.92**	53.4	149.4
Acrolein		**73.82**	70.0	130.0
Trichlorofluoromethane		**89.62**	59.7	151.8
1,1-Dichloroethene		**94.16**	69.6	139.4
Methylene Chloride		**95.00**	73.3	121.1
trans-1,2-Dichloroethene		**92.06**	73.6	129.3
1,1-Dichloroethane		**94.40**	71.5	126.2
cis-1,2-Dichloroethene		**94.82**	76.6	122.1
Tetrahydrofuran		**82.56**	59.0	117.9
Chloroform		**98.06**	78.4	124.0
Bromochloromethane		**93.16**	78.2	120.8
1,1,1-Trichloroethane		**96.42**	79.4	130.9
Cyclohexane		**86.74**	10.0	169.1
4-Methyl-2-pentanone		**99.62**	71.6	125.2
2-Hexanone		**66.74**	55.4	136.9
2-Chloroethylvinyl ether	*	**45.94**	70.0	130.0
Carbon Tetrachloride		**103.50**	72.6	133.0
Benzene		**101.78**	79.9	124.9
1,2-Dichloroethane		**92.12**	76.0	126.3
Trichloroethene		**102.30**	79.7	124.2
1,2-Dichloropropane		**97.94**	78.6	126.4
Bromodichloromethane		**101.08**	80.4	128.2
Methyl cyclohexane		**94.58**	76.6	131.3
Dibromomethane		**103.76**	76.9	122.1
cis-1,3-Dichloropropene		**99.92**	79.8	129.9
Toluene		**104.44**	79.8	124.5
trans-1,3-Dichloropropene		**102.98**	74.0	131.3
1,1,2-Trichloroethane		**103.00**	78.7	123.1
Tetrachloroethene		**94.06**	74.5	124.5
trans-1,4-Dichloro-2-butene		**85.86**	68.6	135.4
Dibromochloromethane		**97.48**	74.6	127.2
1,2-Dibromoethane		**97.40**	70.3	133.7
Chlorobenzene		**96.20**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF151207W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 00:41, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**97.14**	80.3	128.2
Ethylbenzene		**102.50**	79.5	129.1
p,m-Xylene		**101.57**	79.4	132.2
o-Xylene		**84.40**	80.2	131.0
Styrene		**91.40**	69.5	126.7
Isopropylbenzene		**103.74**	74.4	121.5
Bromoform		**96.96**	69.4	128.0
1,1,2,2-Tetrachloroethane		**97.56**	79.8	126.3
1,2,3-Trichloropropane		**94.32**	78.3	138.8
n-Propylbenzene		**105.96**	82.0	130.7
Bromobenzene		**97.26**	78.7	124.6
1,3,5-Trimethylbenzene		**99.86**	81.3	128.9
tert-Butylbenzene		**98.54**	80.7	128.9
1,2,4-Trimethylbenzene		**100.40**	81.4	130.8
sec-Butylbenzene		**109.34**	77.4	129.8
p-Isopropyltoluene		**88.54**	79.8	137.5
1,3-Dichlorobenzene		**98.44**	77.0	131.3
1,4-Dichlorobenzene		**101.02**	20.7	137.7
1,2-Dichlorobenzene		**102.12**	10.0	166.2
1,2,3-Trimethylbenzene		**100.50**	76.3	124.2
n-Butylbenzene		**107.08**	80.0	133.3
Hexachloroethane		**96.34**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**94.90**	21.2	189.4
1,2,4-Trichlorobenzene		**108.00**	27.4	143.4
1,2,3-Trichlorobenzene		**106.60**	75.4	131.4
Naphthalene		**106.64**	32.9	135.8
2-Methylnaphthalene		**117.00**	25.5	165.5
2-Chlorotoluene		**106.34**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151207b7.blkw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 02:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151207W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151207b7.blkw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 02:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloroethane		ND	1	ug/l
Acrolein		ND	10	ug/l
Trichlorofluoromethane		ND	1	ug/l
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	1	ug/l
2-Hexanone (*)		ND	10	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
2-Chlorotoluene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151207W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151207b7.blkw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 02:31, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,3,5-Trimethylbenzene		**ND**	1	ug/l
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151207b7.lcsw07b, Parent Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 01:03, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**80.04**	75.1	135.9	**0.4**	30.0
Diethyl ether		**91.18**	67.4	121.2	**1.0**	30.0
Acetone	*	**24.06**	29.9	161.5	**32.1**	30.0
Methyl iodide		**93.32**	68.8	116.4	**0.2**	30.0
Carbon disulfide		**89.74**	63.8	137.4	**1.5**	30.0
Methyl acetate		**82.20**	64.7	125.4	**0.3**	30.0
tert-Methyl butyl ether		**88.50**	73.2	122.4	**1.1**	30.0
Acrylonitrile		**86.22**	69.9	128.9	**1.7**	30.0
2-Butanone		**54.82**	44.0	134.4	**3.1**	30.0
Dichlorodifluoromethane		**114.82**	10.0	222.8	**0.4**	30.0
Chloromethane		**90.04**	23.8	166.5	**5.2**	30.0
Vinyl Chloride		**88.82**	43.5	149.1	**5.7**	30.0
Bromomethane		**84.40**	56.8	151.3	**6.9**	30.0
Chloroethane		**83.38**	53.4	149.4	**6.4**	30.0
Acrolein		**74.46**	70.0	130.0	**0.9**	30.0
Trichlorofluoromethane		**81.10**	59.7	151.8	**10.0**	30.0
1,1-Dichloroethene		**93.92**	69.6	139.4	**0.3**	30.0
Methylene Chloride		**94.16**	73.3	121.1	**0.9**	30.0
trans-1,2-Dichloroethene		**91.68**	73.6	129.3	**0.4**	30.0
1,1-Dichloroethane		**93.36**	71.5	126.2	**1.1**	30.0
cis-1,2-Dichloroethene		**95.14**	76.6	122.1	**0.3**	30.0
Tetrahydrofuran		**83.32**	59.0	117.9	**0.9**	30.0
Chloroform		**96.14**	78.4	124.0	**2.0**	30.0
Bromochloromethane		**93.60**	78.2	120.8	**0.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151207W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151207b7.lcsw07b, Parent Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 01:03, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1-Trichloroethane		**96.06**	79.4	130.9	**0.4**	30.0
Cyclohexane		**85.60**	10.0	169.1	**1.3**	30.0
4-Methyl-2-pentanone		**95.22**	71.6	125.2	**4.5**	30.0
2-Hexanone		**64.78**	55.4	136.9	**3.0**	30.0
2-Chloroethylvinyl ether	*	**12.44**	70.0	130.0	**114.8**	30.0
Carbon Tetrachloride		**102.14**	72.6	133.0	**1.3**	30.0
Benzene		**99.10**	79.9	124.9	**2.7**	30.0
1,2-Dichloroethane		**90.88**	76.0	126.3	**1.4**	30.0
Trichloroethene		**99.16**	79.7	124.2	**3.1**	30.0
1,2-Dichloropropane		**95.68**	78.6	126.4	**2.3**	30.0
Bromodichloromethane		**99.34**	80.4	128.2	**1.7**	30.0
Methyl cyclohexane		**91.44**	76.6	131.3	**3.4**	30.0
Dibromomethane		**103.74**	76.9	122.1	**0.0**	30.0
cis-1,3-Dichloropropene		**98.16**	79.8	129.9	**1.8**	30.0
Toluene		**101.32**	79.8	124.5	**3.0**	30.0
trans-1,3-Dichloropropene		**100.28**	74.0	131.3	**2.7**	30.0
1,1,2-Trichloroethane		**101.82**	78.7	123.1	**1.2**	30.0
Tetrachloroethene		**91.68**	74.5	124.5	**2.6**	30.0
trans-1,4-Dichloro-2-butene		**89.20**	68.6	135.4	**3.8**	30.0
Dibromochloromethane		**104.84**	74.6	127.2	**7.3**	30.0
1,2-Dibromoethane		**106.26**	70.3	133.7	**8.7**	30.0
Chlorobenzene		**101.88**	79.2	122.7	**5.7**	30.0
1,1,1,2-Tetrachloroethane		**102.86**	80.3	128.2	**5.7**	30.0
Ethylbenzene		**109.66**	79.5	129.1	**6.7**	30.0
p,m-Xylene		**106.70**	79.4	132.2	**4.9**	30.0
o-Xylene		**89.44**	80.2	131.0	**5.8**	30.0
Styrene		**97.30**	69.5	126.7	**6.3**	30.0
Isopropylbenzene		**108.54**	74.4	121.5	**4.5**	30.0
Bromoform		**108.62**	69.4	128.0	**11.3**	30.0
1,1,2,2-Tetrachloroethane		**107.46**	79.8	126.3	**9.7**	30.0
1,2,3-Trichloropropane		**100.42**	78.3	138.8	**6.3**	30.0
n-Propylbenzene		**110.74**	82.0	130.7	**4.4**	30.0
Bromobenzene		**101.98**	78.7	124.6	**4.7**	30.0
1,3,5-Trimethylbenzene		**105.14**	81.3	128.9	**5.2**	30.0
tert-Butylbenzene		**103.26**	80.7	128.9	**4.7**	30.0
1,2,4-Trimethylbenzene		**105.04**	81.4	130.8	**4.5**	30.0
sec-Butylbenzene		**108.56**	77.4	129.8	**0.7**	30.0
p-Isopropyltoluene		**88.52**	79.8	137.5	**0.0**	30.0
1,3-Dichlorobenzene		**98.36**	77.0	131.3	**0.1**	30.0
1,4-Dichlorobenzene		**98.50**	20.7	137.7	**2.5**	30.0
1,2-Dichlorobenzene		**101.54**	10.0	166.2	**0.6**	30.0
1,2,3-Trimethylbenzene		**100.20**	76.3	124.2	**0.3**	30.0
n-Butylbenzene		**104.96**	80.0	133.3	**2.0**	30.0
Hexachloroethane		**97.34**	23.8	138.1	**1.0**	30.0
1,2-Dibromo-3-Chloropropane		**105.30**	21.2	189.4	**10.4**	30.0
1,2,4-Trichlorobenzene		**105.82**	27.4	143.4	**2.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151207W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151207b7.lcsw07b, Parent Sample ID: 151207b7.lcsw07a

Run in Batch: 151207B7, Run Date: 12/08/2015 01:03, Prep Date: 12/07/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,2,3-Trichlorobenzene		**105.52**	75.4	131.4	**1.0**	30.0
Naphthalene		**106.94**	32.9	135.8	**0.3**	30.0
2-Methylnaphthalene		**120.26**	25.5	165.5	**2.7**	30.0
2-Chlorotoluene		**109.88**	70.0	130.0	**3.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**81.46**	75.1	135.9
Diethyl ether		**91.20**	67.4	121.2
Acetone		**90.28**	29.9	161.5
Methyl iodide		**97.06**	68.8	116.4
Carbon disulfide		**93.24**	63.8	137.4
Methyl acetate		**89.36**	64.7	125.4
tert-Methyl butyl ether		**92.10**	73.2	122.4
Acrylonitrile		**94.34**	69.9	128.9
2-Butanone		**91.80**	44.0	134.4
Dichlorodifluoromethane		**113.30**	10.0	222.8
Chloromethane		**93.62**	23.8	166.5
Vinyl Chloride		**97.96**	43.5	149.1
Bromomethane		**84.44**	56.8	151.3
Chloroethane		**84.84**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**92.80**	69.6	139.4
Methylene Chloride		**97.66**	73.3	121.1
trans-1,2-Dichloroethene		**93.70**	73.6	129.3
1,1-Dichloroethane		**95.36**	71.5	126.2
cis-1,2-Dichloroethene		**98.98**	76.6	122.1
Tetrahydrofuran		**89.18**	59.0	117.9
Chloroform		**97.80**	78.4	124.0
Bromochloromethane		**95.86**	78.2	120.8
1,1,1-Trichloroethane		**97.52**	79.4	130.9
Cyclohexane		**87.24**	10.0	169.1
4-Methyl-2-pentanone		**105.86**	71.6	125.2
2-Hexanone		**99.42**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.86**	70.0	130.0
Carbon Tetrachloride		**103.10**	72.6	133.0
Benzene		**100.60**	79.9	124.9
1,2-Dichloroethane		**91.06**	76.0	126.3
Trichloroethene		**100.28**	79.7	124.2
1,2-Dichloropropane		**97.40**	78.6	126.4
Bromodichloromethane		**100.94**	80.4	128.2
Methyl cyclohexane		**95.00**	76.6	131.3
Dibromomethane		**105.58**	76.9	122.1
cis-1,3-Dichloropropene		**101.58**	79.8	129.9
Toluene		**103.98**	79.8	124.5
trans-1,3-Dichloropropene		**102.42**	74.0	131.3
1,1,2-Trichloroethane		**102.42**	78.7	123.1
Tetrachloroethene		**94.94**	74.5	124.5
trans-1,4-Dichloro-2-butene		**110.28**	68.6	135.4
Dibromochloromethane		**106.04**	74.6	127.2
1,2-Dibromoethane		**106.84**	70.3	133.7
Chlorobenzene		**103.02**	79.2	122.7
1,1,1,2-Tetrachloroethane		**103.24**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**108.24**	79.5	129.1
p,m-Xylene		**106.93**	79.4	132.2
o-Xylene		**89.46**	80.2	131.0
Styrene		**93.92**	69.5	126.7
Isopropylbenzene		**108.60**	74.4	121.5
Bromoform		**108.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**104.52**	79.8	126.3
1,2,3-Trichloropropane		**101.96**	78.3	138.8
n-Propylbenzene		**111.42**	82.0	130.7
Bromobenzene		**105.26**	78.7	124.6
1,3,5-Trimethylbenzene		**105.82**	81.3	128.9
tert-Butylbenzene		**103.14**	80.7	128.9
1,2,4-Trimethylbenzene		**105.36**	81.4	130.8
sec-Butylbenzene		**102.26**	77.4	129.8
p-Isopropyltoluene		**81.48**	79.8	137.5
1,3-Dichlorobenzene		**94.06**	77.0	131.3
1,4-Dichlorobenzene		**94.04**	20.7	137.7
1,2-Dichlorobenzene		**96.04**	10.0	166.2
1,2,3-Trimethylbenzene		**95.40**	76.3	124.2
n-Butylbenzene		**99.58**	80.0	133.3
Hexachloroethane		**96.50**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**91.28**	21.2	189.4
1,2,4-Trichlorobenzene		**101.42**	27.4	143.4
1,2,3-Trichlorobenzene		**100.76**	75.4	131.4
Naphthalene		**100.86**	32.9	135.8
2-Methylnaphthalene		**108.94**	25.5	165.5
2-Chlorotoluene		**109.90**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran		**ND**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
2-Chlorotoluene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**82.72**	75.1	135.9	**1.5**	30.0
Diethyl ether		**91.92**	67.4	121.2	**0.8**	30.0
Acetone		**82.94**	29.9	161.5	**8.5**	30.0
Methyl iodide		**97.06**	68.8	116.4	**0.0**	30.0
Carbon disulfide		**92.48**	63.8	137.4	**0.8**	30.0
Methyl acetate		**90.84**	64.7	125.4	**1.6**	30.0
tert-Methyl butyl ether		**92.18**	73.2	122.4	**0.1**	30.0
Acrylonitrile		**88.32**	69.9	128.9	**6.6**	30.0
2-Butanone		**92.88**	44.0	134.4	**1.2**	30.0
Dichlorodifluoromethane		**112.48**	10.0	222.8	**0.7**	30.0
Chloromethane		**92.16**	23.8	166.5	**1.6**	30.0
Vinyl Chloride		**92.88**	43.5	149.1	**5.3**	30.0
Bromomethane		**82.22**	56.8	151.3	**2.7**	30.0
Chloroethane		**82.18**	53.4	149.4	**3.2**	30.0
Trichlorofluoromethane		**74.50**	59.7	151.8	**1.1**	30.0
1,1-Dichloroethene		**94.26**	69.6	139.4	**1.6**	30.0
Methylene Chloride		**96.86**	73.3	121.1	**0.8**	30.0
trans-1,2-Dichloroethene		**92.96**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**95.06**	71.5	126.2	**0.3**	30.0
cis-1,2-Dichloroethene		**98.70**	76.6	122.1	**0.3**	30.0
Tetrahydrofuran		**85.80**	59.0	117.9	**3.9**	30.0
Chloroform		**98.84**	78.4	124.0	**1.1**	30.0
Bromochloromethane		**96.64**	78.2	120.8	**0.8**	30.0
1,1,1-Trichloroethane		**99.44**	79.4	130.9	**1.9**	30.0
Cyclohexane		**89.84**	10.0	169.1	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Methyl-2-pentanone		**109.94**	71.6	125.2	**3.8**	30.0
2-Hexanone		**105.12**	55.4	136.9	**5.6**	30.0
2-Chloroethylvinyl ether	*	**3.10**	70.0	130.0	**8.1**	30.0
Carbon Tetrachloride		**104.40**	72.6	133.0	**1.3**	30.0
Benzene		**101.46**	79.9	124.9	**0.9**	30.0
1,2-Dichloroethane		**90.96**	76.0	126.3	**0.1**	30.0
Trichloroethene		**102.00**	79.7	124.2	**1.7**	30.0
1,2-Dichloropropane		**97.52**	78.6	126.4	**0.1**	30.0
Bromodichloromethane		**103.68**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**93.26**	76.6	131.3	**1.8**	30.0
Dibromomethane		**105.20**	76.9	122.1	**0.4**	30.0
cis-1,3-Dichloropropene		**103.74**	79.8	129.9	**2.1**	30.0
Toluene		**104.26**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**104.36**	74.0	131.3	**1.9**	30.0
1,1,2-Trichloroethane		**102.86**	78.7	123.1	**0.4**	30.0
Tetrachloroethene		**101.60**	74.5	124.5	**6.8**	30.0
trans-1,4-Dichloro-2-butene		**104.12**	68.6	135.4	**5.7**	30.0
Dibromochloromethane		**106.14**	74.6	127.2	**0.1**	30.0
1,2-Dibromoethane		**106.78**	70.3	133.7	**0.1**	30.0
Chlorobenzene		**100.64**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**100.74**	80.3	128.2	**2.5**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**105.79**	79.4	132.2	**1.1**	30.0
o-Xylene		**87.50**	80.2	131.0	**2.2**	30.0
Styrene		**95.40**	69.5	126.7	**1.6**	30.0
Isopropylbenzene		**106.70**	74.4	121.5	**1.8**	30.0
Bromoform		**108.70**	69.4	128.0	**0.6**	30.0
1,1,2,2-Tetrachloroethane		**107.68**	79.8	126.3	**3.0**	30.0
1,2,3-Trichloropropane		**102.70**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**107.86**	82.0	130.7	**3.2**	30.0
Bromobenzene		**100.68**	78.7	124.6	**4.4**	30.0
1,3,5-Trimethylbenzene		**103.26**	81.3	128.9	**2.4**	30.0
tert-Butylbenzene		**101.54**	80.7	128.9	**1.6**	30.0
1,2,4-Trimethylbenzene		**102.26**	81.4	130.8	**3.0**	30.0
sec-Butylbenzene		**105.88**	77.4	129.8	**3.5**	30.0
p-Isopropyltoluene		**85.66**	79.8	137.5	**5.0**	30.0
1,3-Dichlorobenzene		**99.36**	77.0	131.3	**5.5**	30.0
1,4-Dichlorobenzene		**97.84**	20.7	137.7	**4.0**	30.0
1,2-Dichlorobenzene		**99.76**	10.0	166.2	**3.8**	30.0
1,2,3-Trimethylbenzene		**100.28**	76.3	124.2	**5.0**	30.0
n-Butylbenzene		**103.28**	80.0	133.3	**3.6**	30.0
Hexachloroethane		**99.38**	23.8	138.1	**2.9**	30.0
1,2-Dibromo-3-Chloropropane		**102.84**	21.2	189.4	**11.9**	30.0
1,2,4-Trichlorobenzene		**105.04**	27.4	143.4	**3.5**	30.0
1,2,3-Trichlorobenzene		**106.18**	75.4	131.4	**5.2**	30.0
Naphthalene		**108.16**	32.9	135.8	**7.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
2-Methylnaphthalene		**116.18**	25.5	165.5	**6.4**	30.0
2-Chlorotoluene		**109.80**	70.0	130.0	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VS151204W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151204a3.lcsw04a

Run in Batch: 151204A3, Run Date: 12/04/2015 12:16, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**99.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151204a3.blkw04a

Run in Batch: 151204A3, Run Date: 12/04/2015 14:05, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Matrix Spike (MS)

Lab Sample ID: 151204a3.6998407m, Parent Sample ID: S69984.06

Run in Batch: 151204A3, Run Date: 12/04/2015 12:53, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**92.66**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151204a3.6998408n, Parent Sample ID: 151204a3.6998407m

Run in Batch: 151204A3, Run Date: 12/04/2015 13:11, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**94.36**	70.0	130.0	**1.8**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151204a3.lcsw04b, Parent Sample ID: 151204a3.lcsw04a

Run in Batch: 151204A3, Run Date: 12/04/2015 12:34, Prep Date: 12/04/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.28**	70.0	130.0	**7.7**	30.0

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www.meritlabs.com

C.O.C. PAGE # 1 OF 1

90165

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 616-780-3277 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Wallis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals *	Geochem *	Diss Select Metals	Special Instructions
69983.01	12-1-15	700	TB_0002_120115	L	1		1						X					Select Metal:
.02	12-1-15	1135	MW-12-02_120115	GW	3		3						X	X				Arsenic, Nickel
.03	12-1-15	1420	P2-MW-04_120115	GW	6	1	3	2					X	X	X	X	X	Lead, Vanadium,
.04	12-1-15		DUP-2_120115	GW	6	1	3	2					X	X	X	X	X	Chromium, Copper
.05	12-1-15	1425	FB_0003_120115	L	5	1	3	1										
																		Geochem:
																		Magnesium / Sulfate
																		Sodium / Chloride
																		Potassium / Calcium
																		Total Alkalinity

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☑ Sampler	DATE 12-1-15	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION PME Storage		DATE 12-1-15	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION PME Storage		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION Merit		DATE 12-2-15	TIME 900

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12-2-15	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12-2-15	TIME 11:20
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL 5.5
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70007.01(01)
Generated on 12/15/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70007.01-S70007.08
Project: RACER Lansing Plant-3 / B0064480.2015
Submitted Date/Time: 12/03/2015 11:50
Sampled by: Billy J. Cobern
P.O. #: B0064480.2015

QC Report Sections

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Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70007.01
Sample Tag: MW-02-02(3)_120215
Collected Date/Time: 12/02/2015 08:55
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 20:06	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 20:06	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 18:23	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 20:06	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70007.02
Sample Tag: MW-02-04(3)_120215
Collected Date/Time: 12/02/2015 10:35
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 20:27	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 20:27	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 18:41	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 20:27	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70007.03
Sample Tag: MW-13-40_120215
Collected Date/Time: 12/02/2015 11:55
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:15	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:15	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:15	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:15	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:15	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:15	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 20:49	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 20:49	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 18:59	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 20:49	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70007.04
Sample Tag: MW-13-38_120215
Collected Date/Time: 12/02/2015 12:55
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 21:11	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 21:11	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 19:17	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 21:11	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70007.05
Sample Tag: MW-13-41_120215
Collected Date/Time: 12/02/2015 13:50
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:16	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:16	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:16	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:16	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:16	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:16	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 21:33	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 21:33	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 19:35	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 21:33	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70007.06
Sample Tag: MW-91-2_120215
Collected Date/Time: 12/02/2015 14:55
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI	SM3500-Cr B	12/03/15 14:40	CHR151203-W1	CHR151203-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic	SW6020A	12/09/15 12:24	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:24	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:24	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:24	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:24	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:24	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 21:55	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 21:55	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 19:53	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 21:55	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70007.07
Sample Tag: CH-14-RO_120215
Collected Date/Time: 12/02/2015 16:00
Matrix: Groundwater
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Chromium VI	SM3500-Cr B	12/03/15 14:45	CHR151203-W1	CHR151203-W1	No	BLK/LCS/MS/DUP
Metals						
Arsenic	SW6020A	12/09/15 12:25	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:25	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:25	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:25	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:25	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:25	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S70007.08
Sample Tag: Trip Blank_120215
Collected Date/Time: 12/02/2015 00:01
Matrix: Liquid
COC Reference: 75746

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 22:17	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 22:17	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 22:17	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: CHR151203-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70007.06	Chromium VI	SM3500-Cr B	12/03/15 14:40	CHR151203-W1
S70007.07	Chromium VI	SM3500-Cr B	12/03/15 14:45	CHR151203-W1

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70007.03	Arsenic	SW6020A	12/09/15 12:15	MT2-15-1209B
S70007.03	Chromium	SW6020A	12/09/15 12:15	MT2-15-1209B
S70007.03	Copper	SW6020A	12/09/15 12:15	MT2-15-1209B
S70007.03	Lead	SW6020A	12/09/15 12:15	MT2-15-1209B
S70007.03	Nickel	SW6020A	12/09/15 12:15	MT2-15-1209B
S70007.03	Vanadium	SW6020A	12/09/15 12:15	MT2-15-1209B
S70007.05	Arsenic	SW6020A	12/09/15 12:16	MT2-15-1209B
S70007.05	Chromium	SW6020A	12/09/15 12:16	MT2-15-1209B
S70007.05	Copper	SW6020A	12/09/15 12:16	MT2-15-1209B
S70007.05	Lead	SW6020A	12/09/15 12:16	MT2-15-1209B
S70007.05	Nickel	SW6020A	12/09/15 12:16	MT2-15-1209B
S70007.05	Vanadium	SW6020A	12/09/15 12:16	MT2-15-1209B
S70007.06	Arsenic	SW6020A	12/09/15 12:24	MT2-15-1209B
S70007.06	Chromium	SW6020A	12/09/15 12:24	MT2-15-1209B
S70007.06	Copper	SW6020A	12/09/15 12:24	MT2-15-1209B
S70007.06	Lead	SW6020A	12/09/15 12:24	MT2-15-1209B
S70007.06	Nickel	SW6020A	12/09/15 12:24	MT2-15-1209B
S70007.06	Vanadium	SW6020A	12/09/15 12:24	MT2-15-1209B
S70007.07	Arsenic	SW6020A	12/09/15 12:25	MT2-15-1209B
S70007.07	Chromium	SW6020A	12/09/15 12:25	MT2-15-1209B
S70007.07	Copper	SW6020A	12/09/15 12:25	MT2-15-1209B
S70007.07	Lead	SW6020A	12/09/15 12:25	MT2-15-1209B
S70007.07	Nickel	SW6020A	12/09/15 12:25	MT2-15-1209B
S70007.07	Vanadium	SW6020A	12/09/15 12:25	MT2-15-1209B

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70007.01	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 20:06	151208B7
S70007.01	1,2-Dibromoethane	SW8260B	12/08/15 20:06	151208B7
S70007.01	TCL Volatile Organics 8260	SW8260C	12/08/15 20:06	151208B7
S70007.02	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 20:27	151208B7
S70007.02	1,2-Dibromoethane	SW8260B	12/08/15 20:27	151208B7
S70007.02	TCL Volatile Organics 8260	SW8260C	12/08/15 20:27	151208B7
S70007.03	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 20:49	151208B7
S70007.03	1,2-Dibromoethane	SW8260B	12/08/15 20:49	151208B7
S70007.03	TCL Volatile Organics 8260	SW8260C	12/08/15 20:49	151208B7
S70007.04	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 21:11	151208B7
S70007.04	1,2-Dibromoethane	SW8260B	12/08/15 21:11	151208B7
S70007.04	TCL Volatile Organics 8260	SW8260C	12/08/15 21:11	151208B7
S70007.05	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 21:33	151208B7
S70007.05	1,2-Dibromoethane	SW8260B	12/08/15 21:33	151208B7
S70007.05	TCL Volatile Organics 8260	SW8260C	12/08/15 21:33	151208B7
S70007.06	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 21:55	151208B7

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70007.06	1,2-Dibromoethane	SW8260B	12/08/15 21:55	151208B7
S70007.06	TCL Volatile Organics 8260	SW8260C	12/08/15 21:55	151208B7
S70007.08	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 22:17	151208B7
S70007.08	1,2-Dibromoethane	SW8260B	12/08/15 22:17	151208B7
S70007.08	TCL Volatile Organics 8260	SW8260C	12/08/15 22:17	151208B7

Organics - Volatiles, Prep Batch ID: VS151208W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70007.01	1,4-Dioxane	SW8260B - SIM	12/08/15 18:23	151208A3
S70007.02	1,4-Dioxane	SW8260B - SIM	12/08/15 18:41	151208A3
S70007.03	1,4-Dioxane	SW8260B - SIM	12/08/15 18:59	151208A3
S70007.04	1,4-Dioxane	SW8260B - SIM	12/08/15 19:17	151208A3
S70007.05	1,4-Dioxane	SW8260B - SIM	12/08/15 19:35	151208A3
S70007.06	1,4-Dioxane	SW8260B - SIM	12/08/15 19:53	151208A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70007.01
Sample Tag: MW-02-02(3)_120215
Collected Date/Time: 12/02/2015 08:55
Matrix: Groundwater
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 20:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.60**	83.0	119.0
1,2-Dichloroethane-D4		**101.20**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70007.02
Sample Tag: MW-02-04(3)_120215
Collected Date/Time: 12/02/2015 10:35
Matrix: Groundwater
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 20:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.60**	83.0	119.0
1,2-Dichloroethane-D4		**112.20**	77.0	121.0
Toluene-D8		**102.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70007.03
Sample Tag: MW-13-40_120215
Collected Date/Time: 12/02/2015 11:55
Matrix: Groundwater
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 20:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.80**	83.0	119.0
1,2-Dichloroethane-D4		**111.80**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70007.04
Sample Tag: MW-13-38_120215
Collected Date/Time: 12/02/2015 12:55
Matrix: Groundwater
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 21:11, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.40**	83.0	119.0
1,2-Dichloroethane-D4		**115.00**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70007.05
Sample Tag: MW-13-41_120215
Collected Date/Time: 12/02/2015 13:50
Matrix: Groundwater
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 21:33, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.60**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

Lab Sample ID: S70007.06
Sample Tag: MW-91-2_120215
Collected Date/Time: 12/02/2015 14:55
Matrix: Groundwater
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 21:55, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.60**	83.0	119.0
1,2-Dichloroethane-D4		**112.20**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70007.08
Sample Tag: Trip Blank_120215
Collected Date/Time: 12/02/2015 00:01
Matrix: Liquid
COC Reference: 75746

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 22:17, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.80**	83.0	119.0
1,2-Dichloroethane-D4		**108.60**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151208W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**104.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**96.00**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151208W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 15:58, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151208a3.blkw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208a3.lcsw08b, Parent Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:16, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: CHR151203-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: CHR151203-W1.LRB1

Run in Batch: CHR151203-W1, Run Date: 12/03/2015 13:50, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chromium VI		**ND**	0.01	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CHR151203-W1.LCS1

Run in Batch: CHR151203-W1, Run Date: 12/03/2015 14:05, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chromium VI		**108**	90	110

Matrix Spike (MS)

Lab Sample ID: CHR151203-W1.MS1, Parent Sample ID: S70005.04

Run in Batch: CHR151203-W1, Run Date: 12/03/2015 14:35, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chromium VI		**63**	80	120

Duplicate (DUP)

Lab Sample ID: CHR151203-W1.DP1, Parent Sample ID: S70005.01

Run in Batch: CHR151203-W1, Run Date: 12/03/2015 14:15, Prep Date: 12/03/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**RPD**	RPD CL
Chromium VI		**<1**	15

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.019.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:55, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**98**	85	115
Chromium		**100**	85	115
Nickel		**103**	85	115
Copper		**101**	85	115
Arsenic		**99**	85	115
Lead		**103**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.020.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:58, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.032.MS, Parent Sample ID: S70007.05

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:18, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**96**	75	125
Nickel		**91**	75	125
Copper		**92**	75	125
Arsenic		**102**	75	125
Lead		**95**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.046.MS, Parent Sample ID: S70050.04

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:39, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**97**	75	125
Nickel		**91**	75	125
Copper		**91**	75	125
Arsenic		**103**	75	125
Lead		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**102**	75	125	**1**	20
Chromium		**98**	75	125	**2**	20

Metals, Prep Batch ID: MTD-120915-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nickel		**94**	75	125	**3**	20
Copper		**92**	75	125	**1**	20
Arsenic		**102**	75	125	**0**	20
Lead		**97**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.047.MSD, Parent Sample ID: MT2-15-1209B.046.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:40, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**99**	75	125	**2**	20
Nickel		**92**	75	125	**1**	20
Copper		**91**	75	125	**0**	20
Arsenic		**102**	75	125	**1**	20
Lead		**100**	75	125	**1**	20

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**81.46**	75.1	135.9
Diethyl ether		**91.20**	67.4	121.2
Acetone		**90.28**	29.9	161.5
Methyl iodide		**97.06**	68.8	116.4
Carbon disulfide		**93.24**	63.8	137.4
Methyl acetate		**89.36**	64.7	125.4
tert-Methyl butyl ether		**92.10**	73.2	122.4
Acrylonitrile		**94.34**	69.9	128.9
2-Butanone		**91.80**	44.0	134.4
Dichlorodifluoromethane		**113.30**	10.0	222.8
Chloromethane		**93.62**	23.8	166.5
Vinyl Chloride		**97.96**	43.5	149.1
Bromomethane		**84.44**	56.8	151.3
Chloroethane		**84.84**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**92.80**	69.6	139.4
Methylene Chloride		**97.66**	73.3	121.1
trans-1,2-Dichloroethene		**93.70**	73.6	129.3
1,1-Dichloroethane		**95.36**	71.5	126.2
cis-1,2-Dichloroethene		**98.98**	76.6	122.1
Tetrahydrofuran		**89.18**	59.0	117.9
Chloroform		**97.80**	78.4	124.0
Bromochloromethane		**95.86**	78.2	120.8
1,1,1-Trichloroethane		**97.52**	79.4	130.9
Cyclohexane		**87.24**	10.0	169.1
4-Methyl-2-pentanone		**105.86**	71.6	125.2
2-Hexanone		**99.42**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.86**	70.0	130.0
Carbon Tetrachloride		**103.10**	72.6	133.0
Benzene		**100.60**	79.9	124.9
1,2-Dichloroethane		**91.06**	76.0	126.3
Trichloroethene		**100.28**	79.7	124.2
1,2-Dichloropropane		**97.40**	78.6	126.4
Bromodichloromethane		**100.94**	80.4	128.2
Methyl cyclohexane		**95.00**	76.6	131.3
Dibromomethane		**105.58**	76.9	122.1
cis-1,3-Dichloropropene		**101.58**	79.8	129.9
Toluene		**103.98**	79.8	124.5
trans-1,3-Dichloropropene		**102.42**	74.0	131.3
1,1,2-Trichloroethane		**102.42**	78.7	123.1
Tetrachloroethene		**94.94**	74.5	124.5
trans-1,4-Dichloro-2-butene		**110.28**	68.6	135.4
Dibromochloromethane		**106.04**	74.6	127.2
1,2-Dibromoethane		**106.84**	70.3	133.7
Chlorobenzene		**103.02**	79.2	122.7
1,1,1,2-Tetrachloroethane		**103.24**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**108.24**	79.5	129.1
p,m-Xylene		**106.93**	79.4	132.2
o-Xylene		**89.46**	80.2	131.0
Styrene		**93.92**	69.5	126.7
Isopropylbenzene		**108.60**	74.4	121.5
Bromoform		**108.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**104.52**	79.8	126.3
1,2,3-Trichloropropane		**101.96**	78.3	138.8
n-Propylbenzene		**111.42**	82.0	130.7
Bromobenzene		**105.26**	78.7	124.6
1,3,5-Trimethylbenzene		**105.82**	81.3	128.9
tert-Butylbenzene		**103.14**	80.7	128.9
1,2,4-Trimethylbenzene		**105.36**	81.4	130.8
sec-Butylbenzene		**102.26**	77.4	129.8
p-Isopropyltoluene		**81.48**	79.8	137.5
1,3-Dichlorobenzene		**94.06**	77.0	131.3
1,4-Dichlorobenzene		**94.04**	20.7	137.7
1,2-Dichlorobenzene		**96.04**	10.0	166.2
1,2,3-Trimethylbenzene		**95.40**	76.3	124.2
n-Butylbenzene		**99.58**	80.0	133.3
Hexachloroethane		**96.50**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**91.28**	21.2	189.4
1,2,4-Trichlorobenzene		**101.42**	27.4	143.4
1,2,3-Trichlorobenzene		**100.76**	75.4	131.4
Naphthalene		**100.86**	32.9	135.8
2-Methylnaphthalene		**108.94**	25.5	165.5
2-Chlorotoluene		**109.90**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran		**ND**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
2-Chlorotoluene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**82.72**	75.1	135.9	**1.5**	30.0
Diethyl ether		**91.92**	67.4	121.2	**0.8**	30.0
Acetone		**82.94**	29.9	161.5	**8.5**	30.0
Methyl iodide		**97.06**	68.8	116.4	**0.0**	30.0
Carbon disulfide		**92.48**	63.8	137.4	**0.8**	30.0
Methyl acetate		**90.84**	64.7	125.4	**1.6**	30.0
tert-Methyl butyl ether		**92.18**	73.2	122.4	**0.1**	30.0
Acrylonitrile		**88.32**	69.9	128.9	**6.6**	30.0
2-Butanone		**92.88**	44.0	134.4	**1.2**	30.0
Dichlorodifluoromethane		**112.48**	10.0	222.8	**0.7**	30.0
Chloromethane		**92.16**	23.8	166.5	**1.6**	30.0
Vinyl Chloride		**92.88**	43.5	149.1	**5.3**	30.0
Bromomethane		**82.22**	56.8	151.3	**2.7**	30.0
Chloroethane		**82.18**	53.4	149.4	**3.2**	30.0
Trichlorofluoromethane		**74.50**	59.7	151.8	**1.1**	30.0
1,1-Dichloroethene		**94.26**	69.6	139.4	**1.6**	30.0
Methylene Chloride		**96.86**	73.3	121.1	**0.8**	30.0
trans-1,2-Dichloroethene		**92.96**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**95.06**	71.5	126.2	**0.3**	30.0
cis-1,2-Dichloroethene		**98.70**	76.6	122.1	**0.3**	30.0
Tetrahydrofuran		**85.80**	59.0	117.9	**3.9**	30.0
Chloroform		**98.84**	78.4	124.0	**1.1**	30.0
Bromochloromethane		**96.64**	78.2	120.8	**0.8**	30.0
1,1,1-Trichloroethane		**99.44**	79.4	130.9	**1.9**	30.0
Cyclohexane		**89.84**	10.0	169.1	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Methyl-2-pentanone		**109.94**	71.6	125.2	**3.8**	30.0
2-Hexanone		**105.12**	55.4	136.9	**5.6**	30.0
2-Chloroethylvinyl ether	*	**3.10**	70.0	130.0	**8.1**	30.0
Carbon Tetrachloride		**104.40**	72.6	133.0	**1.3**	30.0
Benzene		**101.46**	79.9	124.9	**0.9**	30.0
1,2-Dichloroethane		**90.96**	76.0	126.3	**0.1**	30.0
Trichloroethene		**102.00**	79.7	124.2	**1.7**	30.0
1,2-Dichloropropane		**97.52**	78.6	126.4	**0.1**	30.0
Bromodichloromethane		**103.68**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**93.26**	76.6	131.3	**1.8**	30.0
Dibromomethane		**105.20**	76.9	122.1	**0.4**	30.0
cis-1,3-Dichloropropene		**103.74**	79.8	129.9	**2.1**	30.0
Toluene		**104.26**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**104.36**	74.0	131.3	**1.9**	30.0
1,1,2-Trichloroethane		**102.86**	78.7	123.1	**0.4**	30.0
Tetrachloroethene		**101.60**	74.5	124.5	**6.8**	30.0
trans-1,4-Dichloro-2-butene		**104.12**	68.6	135.4	**5.7**	30.0
Dibromochloromethane		**106.14**	74.6	127.2	**0.1**	30.0
1,2-Dibromoethane		**106.78**	70.3	133.7	**0.1**	30.0
Chlorobenzene		**100.64**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**100.74**	80.3	128.2	**2.5**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**105.79**	79.4	132.2	**1.1**	30.0
o-Xylene		**87.50**	80.2	131.0	**2.2**	30.0
Styrene		**95.40**	69.5	126.7	**1.6**	30.0
Isopropylbenzene		**106.70**	74.4	121.5	**1.8**	30.0
Bromoform		**108.70**	69.4	128.0	**0.6**	30.0
1,1,2,2-Tetrachloroethane		**107.68**	79.8	126.3	**3.0**	30.0
1,2,3-Trichloropropane		**102.70**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**107.86**	82.0	130.7	**3.2**	30.0
Bromobenzene		**100.68**	78.7	124.6	**4.4**	30.0
1,3,5-Trimethylbenzene		**103.26**	81.3	128.9	**2.4**	30.0
tert-Butylbenzene		**101.54**	80.7	128.9	**1.6**	30.0
1,2,4-Trimethylbenzene		**102.26**	81.4	130.8	**3.0**	30.0
sec-Butylbenzene		**105.88**	77.4	129.8	**3.5**	30.0
p-Isopropyltoluene		**85.66**	79.8	137.5	**5.0**	30.0
1,3-Dichlorobenzene		**99.36**	77.0	131.3	**5.5**	30.0
1,4-Dichlorobenzene		**97.84**	20.7	137.7	**4.0**	30.0
1,2-Dichlorobenzene		**99.76**	10.0	166.2	**3.8**	30.0
1,2,3-Trimethylbenzene		**100.28**	76.3	124.2	**5.0**	30.0
n-Butylbenzene		**103.28**	80.0	133.3	**3.6**	30.0
Hexachloroethane		**99.38**	23.8	138.1	**2.9**	30.0
1,2-Dibromo-3-Chloropropane		**102.84**	21.2	189.4	**11.9**	30.0
1,2,4-Trichlorobenzene		**105.04**	27.4	143.4	**3.5**	30.0
1,2,3-Trichlorobenzene		**106.18**	75.4	131.4	**5.2**	30.0
Naphthalene		**108.16**	32.9	135.8	**7.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
2-Methylnaphthalene		**116.18**	25.5	165.5	**6.4**	30.0
2-Chlorotoluene		**109.80**	70.0	130.0	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VS151208W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 15:58, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**111.22**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208a3.blkw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208a3.lcsw08b, Parent Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:16, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**115.82**	70.0	130.0	**4.1**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

75746

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DR. SUITE 100
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.: 810-229-8837 P.O. NO.: B0006480.2015
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS.COM QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: RACER LANSING PLANT-3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: BRIAN J. GIBSON

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC - 8260 1,4 DIOXANE	SELECT METALS	HEXAVALENT CHROMIUM	Special Instructions
70007.01	12/2/15	8:55	MW-02-02(3)_120215	GW	3		3						X			SELECT METALS = As,
.02	12/2/15	10:35	MW-02-04(3)_120215	GW	3		3						X			Cr, Cu, Pb, Ni, V
.03	12/2/15	11:55	MW-13-40_120215	GW	4		3	1					X	X		
.04	12/2/15	12:55	MW-13-38_120215	GW	3		3						X			
.05	12/2/15	13:50	MW-13-41_120215	GW	4		3	1					X	X		
.06	12/2/15	14:55	MW-91-2_120215	GW	5	1	3	1					X	X	X	
.07	12/2/15	16:00	CH-14-RO_120215	GW	2	1		1						X	X	
.08	—	—	TRIP BLANK_120215	L	1		1						X			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	ARCADIS ☒ Sampler	DATE 12-2-15	TIME 10:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/3/15	TIME 1100
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/3/15	TIME 1150
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

NOTES: TEMP. ON ARRIVAL 5.2

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70008.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70008.01-S70008.05
Project: RACER Lansing P2 / B0064479.2015.00603
Submitted Date/Time: 12/03/2015 11:50
Sampled by: Cliff Walls
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-13)
Surrogates per QC Sample (Pages 14-17)
Batch QC Results (Pages 18-37)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70008.01
Sample Tag: TB_0002_120215
Collected Date/Time: 12/02/2015 07:00
Matrix: Liquid
COC Reference: 78754

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 22:39	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 22:39	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 22:39	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70008.02
Sample Tag: EB_0002_120215
Collected Date/Time: 12/02/2015 17:00
Matrix: Liquid
COC Reference: 78754

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:27	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:27	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:27	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:27	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:27	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:27	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	12/09/15 02:28	H151208	SF151208W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	12/09/15 02:28	H151208B	SF151208W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 23:01	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 23:01	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 20:11	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 23:01	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70008.03
Sample Tag: MW-14-56_120215
Collected Date/Time: 12/02/2015 13:05
Matrix: Groundwater
COC Reference: 78754

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 14:40	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/04/15 13:12	CL151204-W1	CL151204-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/04/15 13:12	SFT151204-W1	SFT151204-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium	SW6020A	12/17/15 13:13	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:13	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:13	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:13	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 23:23	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 23:23	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 20:29	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 23:23	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70008.04
Sample Tag: MW-12-09_120215
Collected Date/Time: 12/02/2015 15:00
Matrix: Groundwater
COC Reference: 78754

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 14:45	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/04/15 11:42	CL151204-W1	CL151204-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/04/15 11:42	SFT151204-W1	SFT151204-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:14	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:14	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:14	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:14	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 23:45	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/08/15 23:45	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 20:47	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/08/15 23:45	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70008.05
Sample Tag: P2-SB-20_120215
Collected Date/Time: 12/02/2015 16:35
Matrix: Groundwater
COC Reference: 78754

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 00:07	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 00:07	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 21:05	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 00:07	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.03	Alkalinity as CaCO3	SM2320B	12/07/15 14:40	ALK151207-W2
S70008.04	Alkalinity as CaCO3	SM2320B	12/07/15 14:45	ALK151207-W2

Inorganics, Prep Batch ID: CL151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.03	Chloride	E300.0	12/04/15 13:12	CL151204-W1
S70008.04	Chloride	E300.0	12/04/15 11:42	CL151204-W1

Inorganics, Prep Batch ID: SFT151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.03	Sulfate	E300.0	12/04/15 13:12	SFT151204-W1
S70008.04	Sulfate	E300.0	12/04/15 11:42	SFT151204-W1

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.02	Arsenic	SW6020A	12/09/15 12:27	MT2-15-1209B
S70008.02	Chromium	SW6020A	12/09/15 12:27	MT2-15-1209B
S70008.02	Copper	SW6020A	12/09/15 12:27	MT2-15-1209B
S70008.02	Lead	SW6020A	12/09/15 12:27	MT2-15-1209B
S70008.02	Nickel	SW6020A	12/09/15 12:27	MT2-15-1209B
S70008.02	Vanadium	SW6020A	12/09/15 12:27	MT2-15-1209B

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.03	Calcium	SW6020A	12/17/15 13:13	MT2-15-1217B
S70008.03	Magnesium	SW6020A	12/17/15 13:13	MT2-15-1217B
S70008.03	Potassium	SW6020A	12/17/15 13:13	MT2-15-1217B
S70008.03	Sodium	SW6020A	12/17/15 13:13	MT2-15-1217B
S70008.04	Calcium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B
S70008.04	Calcium	SW6020A	12/17/15 13:14	MT2-15-1217B
S70008.04	Magnesium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B
S70008.04	Magnesium	SW6020A	12/17/15 13:14	MT2-15-1217B
S70008.04	Potassium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B
S70008.04	Potassium	SW6020A	12/17/15 13:14	MT2-15-1217B
S70008.04	Sodium, Dissolved	SW6020A	12/17/15 13:16	MT2-15-1217B
S70008.04	Sodium	SW6020A	12/17/15 13:14	MT2-15-1217B

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.02	TCL Semi-Volatile Organics	SW8270D	12/09/15 02:28	H151208
S70008.02	TCL Semi-Volatile Organics	SW8270D	12/09/15 02:28	H151208B

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.01	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 22:39	151208B7
S70008.01	1,2-Dibromoethane	SW8260B	12/08/15 22:39	151208B7
S70008.01	TCL Volatile Organics 8260	SW8260C	12/08/15 22:39	151208B7
S70008.02	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 23:01	151208B7
S70008.02	1,2-Dibromoethane	SW8260B	12/08/15 23:01	151208B7
S70008.02	TCL Volatile Organics 8260	SW8260C	12/08/15 23:01	151208B7
S70008.03	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 23:23	151208B7
S70008.03	1,2-Dibromoethane	SW8260B	12/08/15 23:23	151208B7
S70008.03	TCL Volatile Organics 8260	SW8260C	12/08/15 23:23	151208B7
S70008.04	1,2-Dibromo-3-chloropropane	SW8260C	12/08/15 23:45	151208B7
S70008.04	1,2-Dibromoethane	SW8260B	12/08/15 23:45	151208B7
S70008.04	TCL Volatile Organics 8260	SW8260C	12/08/15 23:45	151208B7
S70008.05	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 00:07	151208B7
S70008.05	1,2-Dibromoethane	SW8260B	12/09/15 00:07	151208B7
S70008.05	TCL Volatile Organics 8260	SW8260C	12/09/15 00:07	151208B7

Organics - Volatiles, Prep Batch ID: VS151208W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70008.02	1,4-Dioxane	SW8260B - SIM	12/08/15 20:11	151208A3
S70008.03	1,4-Dioxane	SW8260B - SIM	12/08/15 20:29	151208A3
S70008.04	1,4-Dioxane	SW8260B - SIM	12/08/15 20:47	151208A3
S70008.05	1,4-Dioxane	SW8260B - SIM	12/08/15 21:05	151208A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70008.01
Sample Tag: TB_0002_120215
Collected Date/Time: 12/02/2015 07:00
Matrix: Liquid
COC Reference: 78754

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 22:39, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.00**	83.0	119.0
1,2-Dichloroethane-D4		**113.20**	77.0	121.0
Toluene-D8		**98.80**	86.0	118.0

Lab Sample ID: S70008.02

Sample Tag: EB_0002_120215

Collected Date/Time: 12/02/2015 17:00

Matrix: Liquid

COC Reference: 78754

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics

Run in Batch: H151208, Run Date: 12/09/2015 02:28, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.70**	10.0	110.0
2-Fluorobiphenyl		**85.20**	10.0	116.0
Nitrobenzene-D5		**74.80**	10.0	114.0
Phenol-D5		**49.90**	10.0	110.0
2,4,6-Tribromophenol		**83.60**	10.0	123.0
Terphenyl-D14		**98.30**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Run in Batch: 151208B7, Run Date: 12/08/2015 23:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**92.00**	83.0	119.0
1,2-Dichloroethane-D4		**110.20**	77.0	121.0
Toluene-D8		**102.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70008.03
Sample Tag: MW-14-56_120215
Collected Date/Time: 12/02/2015 13:05
Matrix: Groundwater
COC Reference: 78754

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 23:23, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.80**	83.0	119.0
1,2-Dichloroethane-D4		**110.80**	77.0	121.0
Toluene-D8		**98.40**	86.0	118.0

Lab Sample ID: S70008.04
Sample Tag: MW-12-09_120215
Collected Date/Time: 12/02/2015 15:00
Matrix: Groundwater
COC Reference: 78754

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/08/2015 23:45, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.40**	83.0	119.0
1,2-Dichloroethane-D4		**114.20**	77.0	121.0
Toluene-D8		**99.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70008.05
Sample Tag: P2-SB-20_120215
Collected Date/Time: 12/02/2015 16:35
Matrix: Groundwater
COC Reference: 78754

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 00:07, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.60**	83.0	119.0
1,2-Dichloroethane-D4		**105.60**	77.0	121.0
Toluene-D8		**97.80**	86.0	118.0

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:18, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**75.00**	10.0	110.0
2-Fluorobiphenyl		**83.60**	10.0	116.0
Nitrobenzene-D5		**76.40**	10.0	114.0
Phenol-D5		**78.90**	10.0	110.0
2,4,6-Tribromophenol		**94.60**	10.0	123.0
Terphenyl-D14		**93.60**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h151208b.lcsw08a

Run in Batch: H151208B, Run Date: 12/08/2015 22:18, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h151208.blkw08a

Run in Batch: H151208, Run Date: 12/08/2015 21:50, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**57.90**	10.0	110.0
2-Fluorobiphenyl		**64.80**	10.0	116.0
Nitrobenzene-D5		**59.00**	10.0	114.0
Phenol-D5		**59.80**	10.0	110.0
2,4,6-Tribromophenol		**70.40**	10.0	123.0
Terphenyl-D14		**73.40**	10.0	141.0

Blank (BLK)

Lab Sample ID: h151208b.blkw08a

Run in Batch: H151208B, Run Date: 12/08/2015 21:50, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151208.lcsdw08a, Parent Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:46, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**68.00**	10.0	110.0
2-Fluorobiphenyl		**76.40**	10.0	116.0
Nitrobenzene-D5		**70.10**	10.0	114.0
Phenol-D5		**71.40**	10.0	110.0
2,4,6-Tribromophenol		**85.10**	10.0	123.0
Terphenyl-D14		**84.70**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151208b.lcsdw08a, Parent Sample ID: h151208b.lcsw08a

Run in Batch: H151208B, Run Date: 12/08/2015 22:46, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
No Surrogates				

Organics - Volatiles, Prep Batch ID: VF151208W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**104.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**96.00**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151208W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 15:58, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151208a3.blkw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208a3.lcsw08b, Parent Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:16, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151207-W2.LRB1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:00, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Carbonate/Bicarbonate/Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151207-W2.LCS1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:15, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**92**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151207-W2.MS1, Parent Sample ID: S69983.03

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:35, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**92**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151207-W2.DP1, Parent Sample ID: S69934.06

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:25, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 2

Analyte	Flags	**RPD**	RPD CL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**<1**	15

Inorganics, Prep Batch ID: CL151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151204-W1.LRB1

Run in Batch: CL151204-W1, Run Date: 12/04/2015 10:00, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151204-W1.LCS1

Run in Batch: CL151204-W1, Run Date: 12/04/2015 10:25, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**98**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151204-W1.MS1, Parent Sample ID: S70008.04

Run in Batch: CL151204-W1, Run Date: 12/04/2015 14:28, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**98**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151204-W1.MSD1, Parent Sample ID: CL151204-W1.MS1

Run in Batch: CL151204-W1, Run Date: 12/04/2015 14:41, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**98**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151204-W1.DP1, Parent Sample ID: S70008.04

Run in Batch: CL151204-W1, Run Date: 12/04/2015 13:24, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**RPD**	RPD CL
Chloride		**<1**	15

Inorganics, Prep Batch ID: SFT151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151204-W1.LRB1

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 10:00, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151204-W1.LCS1

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 10:25, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**101**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151204-W1.MS1, Parent Sample ID: S70008.04

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 14:28, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**104**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151204-W1.MSD1, Parent Sample ID: SFT151204-W1.MS1

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 14:41, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT151204-W1.DP1, Parent Sample ID: S70008.04

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 13:24, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.019.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:55, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**98**	85	115
Chromium		**100**	85	115
Nickel		**103**	85	115
Copper		**101**	85	115
Arsenic		**99**	85	115
Lead		**103**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.020.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:58, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.032.MS, Parent Sample ID: S70007.05

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:18, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**96**	75	125
Nickel		**91**	75	125
Copper		**92**	75	125
Arsenic		**102**	75	125
Lead		**95**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.046.MS, Parent Sample ID: S70050.04

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:39, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**97**	75	125
Nickel		**91**	75	125
Copper		**91**	75	125
Arsenic		**103**	75	125
Lead		**98**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**102**	75	125	**1**	20
Chromium		**98**	75	125	**2**	20

Metals, Prep Batch ID: MTD-120915-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nickel		**94**	75	125	**3**	20
Copper		**92**	75	125	**1**	20
Arsenic		**102**	75	125	**0**	20
Lead		**97**	75	125	**2**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.047.MSD, Parent Sample ID: MT2-15-1209B.046.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:40, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**99**	75	125	**2**	20
Nickel		**92**	75	125	**1**	20
Copper		**91**	75	125	**0**	20
Arsenic		**102**	75	125	**1**	20
Lead		**100**	75	125	**1**	20

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		**109**	85	115
Magnesium		**104**	85	115
Potassium		**103**	85	115
Calcium		**105**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Calcium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Sodium		**106**	75	125
Magnesium		**109**	75	125
Potassium		**102**	75	125
Calcium		**100**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		**100**	75	125
Magnesium		**103**	75	125
Potassium		**100**	75	125
Calcium		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		**105**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Potassium		**102**	75	125	**0**	20
Calcium		**115**	75	125	**2**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sodium		**101**	75	125	**0**	20
Magnesium		**101**	75	125	**2**	20
Potassium		**98**	75	125	**1**	20
Calcium		**98**	75	125	**1**	20

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:18, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**61.86**	10.0	130.4
2-Chlorophenol		**66.44**	35.5	114.1
Bis(2-chloroethyl)ether		**62.76**	43.4	101.8
Bis(2-chloroisopropyl)ether		**55.62**	33.2	105.8
Hexachloroethane		**64.88**	23.8	138.1
N-Nitrosodi-n-propylamine		**70.22**	35.8	109.3
Nitrobenzene		**81.64**	41.7	110.1
Isophorone		**82.84**	44.9	107.5
2-Nitrophenol		**68.50**	54.4	109.5
2,4-Dimethylphenol		**67.16**	43.4	114.9
Bis(2-chloroethoxy)methane		**65.96**	48.3	105.4
2,4-Dichlorophenol		**68.32**	57.7	115.6
Naphthalene		**67.54**	32.9	135.8
4-Chloroaniline		**41.42**	33.4	89.4
Hexachlorobutadiene		**67.96**	30.2	119.4
4-Chloro-3-methylphenol		**69.90**	39.0	123.2
2-Methylnaphthalene		**68.76**	25.5	165.5
Hexachlorocyclopentadiene		**73.64**	10.0	271.8
2,4,6-Trichlorophenol		**68.20**	47.8	117.4
2,4,5-Trichlorophenol		**70.26**	48.9	118.8
2-Chloronaphthalene		**72.04**	50.3	108.3
2-Nitroaniline		**68.98**	53.4	119.9
Acenaphthylene		**78.62**	16.9	140.7
Dimethyl Phthalate		**72.82**	49.3	118.4
2,6-Dinitrotoluene		**75.04**	48.0	119.1
3-Nitroaniline		**61.36**	42.1	109.0
Acenaphthene		**70.36**	34.8	124.7
2,4-Dinitrophenol		**54.90**	10.0	171.2
Dibenzofuran		**69.20**	52.1	111.9
4-Nitrophenol		**56.68**	15.4	122.0
2,4-Dinitrotoluene		**72.50**	35.8	126.7
Fluorene		**76.82**	37.1	110.3
Diethyl phthalate		**75.34**	48.1	118.0
4-Chlorophenyl phenyl ether		**78.58**	52.2	116.5
4-Nitroaniline		**87.42**	45.8	119.7
4,6-Dinitro-2-methylphenol		**62.60**	18.7	149.0
N-Nitrosodiphenylamine		**89.50**	10.0	104.2
4-Bromophenyl phenyl ether		**72.76**	44.5	116.9
Hexachlorobenzene		**74.98**	45.2	118.5
Pentachlorophenol		**60.40**	10.3	139.1
Phenanthrene		**70.94**	31.8	123.3
Anthracene		**72.06**	38.1	115.5
di-N-butyl phthalate		**66.94**	48.1	121.8
Fluoranthene		**75.30**	43.0	127.9
Pyrene		**75.48**	37.8	131.4
Butyl benzyl phthalate		**69.62**	47.4	121.6

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:18, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzo(a)anthracene		**71.56**	40.7	115.5
3,3'-Dichlorobenzidine		**87.94**	37.0	97.2
Chrysene		**72.10**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**72.72**	45.2	126.2
Di-n-octyl phthalate		**71.92**	45.7	123.1
Benzo(b)fluoranthene		**66.38**	43.3	119.4
Benzo(k)fluoranthene		**71.96**	41.2	116.9
Benzo(a)pyrene		**74.46**	51.2	133.4
Indeno(1,2,3-cd)pyrene		**77.78**	41.5	116.9
Dibenzo(ah)anthracene		**79.28**	33.8	132.4
Benzo(ghi)perylene		**77.68**	36.7	122.1
1-methylnaphthalene		**80.86**	10.0	133.6
1,4-Dichlorobenzene		**64.54**	20.7	137.7
1,2-Dichlorobenzene		**64.98**	9.6	166.2
o-Cresol		**67.46**	39.1	109.4
3,4-methylphenol		**65.23**	36.4	115.4
1,3-Dichlorobenzene		**63.70**	36.8	105.8
1,2-Diphenylhydrazine		**71.34**	40.2	136.4
1,2,4-Trichlorobenzene		**68.38**	32.2	118.4
1,2,4,5-Tetrachlorobenzene		**80.10**	70.0	130.0
2,3,4,6-Tetrachlorophenol		**72.46**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h151208b.lcsw08a

Run in Batch: H151208B, Run Date: 12/08/2015 22:18, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde		**54.28**	35.6	137.2
Acetophenone		**71.62**	48.3	105.9
Caprolactam		**74.32**	10.0	113.1
1,1'-Biphenyl		**74.02**	49.7	110.7
Atrazine		**72.66**	52.5	143.1
Carbazole		**69.86**	44.3	128.8

Blank (BLK)

Lab Sample ID: h151208.blkw08a

Run in Batch: H151208, Run Date: 12/08/2015 21:50, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
N-Nitrosodimethylamine		**ND**	0.5	ug/l
Phenol **		**ND**	0.5	ug/l
2-Chlorophenol **		**ND**	0.5	ug/l
Bis(2-chloroethyl)ether		**ND**	0.5	ug/l
1,3-Dichlorobenzene		**ND**	0.5	ug/l
1,4-Dichlorobenzene **		**ND**	0.5	ug/l
1,2-Dichlorobenzene		**ND**	0.5	ug/l
Bis(2-chloroisopropyl)ether		**ND**	0.5	ug/l
Benzyl Alcohol		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h151208.blkw08a

Run in Batch: H151208, Run Date: 12/08/2015 21:50, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
o-Cresol		**ND**	0.5	ug/l
3,4-methylphenol		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
N-Nitroso-n-dipropylamine		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
Bis(2-chloroethoxy)methane		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
1,2,4-Trichlorobenzene **		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
2,6-Dichlorophenol		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
4-Chloro-3-methylphenol **		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
1-Methylnaphthalene		**ND**	0.5	ug/l
1,2,4,5-Tetrachlorobenzene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Dimethyl Phthalate		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
Acenaphthene **		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
4-Nitrophenol **		**ND**	0.5	ug/l
2,4-Dinitrotoluene **		**ND**	0.5	ug/l
2,3,4,6-Tetrachlorophenol		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l
1,2-Diphenylhydrazine		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l
Pentachlorophenol **		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h151208.blkw08a

Run in Batch: H151208, Run Date: 12/08/2015 21:50, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
di-N-butyl phthalate	*	**0.2**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Benzidine		**ND**	0.5	ug/l
Pyrene **		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
Bis(2-ethylhexyl)phthalate	*	**2.3**	0.5	ug/l
Di-n-octyl phthalate		**ND**	0.5	ug/l
Di-n-octyl phthalate - Low Lev		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Benzo(ghi)perylene		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: h151208b.blkw08a

Run in Batch: H151208B, Run Date: 12/08/2015 21:50, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Atrazine		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151208.lcsdw08a, Parent Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:46, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**58.16**	10.0	130.4	**6.2**	30.0
2-Chlorophenol		**62.28**	35.5	114.1	**6.5**	30.0
Bis(2-chloroethyl)ether		**58.28**	43.4	101.8	**7.4**	30.0
Bis(2-chloroisopropyl)ether		**52.14**	33.2	105.8	**6.5**	30.0
Hexachloroethane		**61.14**	23.8	138.1	**5.9**	30.0
N-Nitrosodi-n-propylamine		**65.80**	35.8	109.3	**6.5**	30.0
Nitrobenzene		**77.44**	41.7	110.1	**5.3**	30.0
Isophorone		**78.28**	44.9	107.5	**5.7**	30.0
2-Nitrophenol		**63.46**	54.4	109.5	**7.6**	30.0
2,4-Dimethylphenol		**63.66**	43.4	114.9	**5.4**	30.0
Bis(2-chloroethoxy)methane		**62.12**	48.3	105.4	**6.0**	30.0
2,4-Dichlorophenol		**64.66**	57.7	115.6	**5.5**	30.0
Naphthalene		**63.92**	32.9	135.8	**5.5**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h151208.lcsdw08a, Parent Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:46, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Chloroaniline		**41.08**	33.4	89.4	**0.8**	30.0
Hexachlorobutadiene		**64.38**	30.2	119.4	**5.4**	30.0
4-Chloro-3-methylphenol		**66.18**	39.0	123.2	**5.5**	30.0
2-Methylnaphthalene		**65.20**	25.5	165.5	**5.3**	30.0
Hexachlorocyclopentadiene		**67.56**	10.0	271.8	**8.6**	30.0
2,4,6-Trichlorophenol		**63.92**	47.8	117.4	**6.5**	30.0
2,4,5-Trichlorophenol		**66.70**	48.9	118.8	**5.2**	30.0
2-Chloronaphthalene		**67.56**	50.3	108.3	**6.4**	30.0
2-Nitroaniline		**64.58**	53.4	119.9	**6.6**	30.0
Acenaphthylene		**73.48**	16.9	140.7	**6.8**	30.0
Dimethyl Phthalate		**68.54**	49.3	118.4	**6.1**	30.0
2,6-Dinitrotoluene		**70.30**	48.0	119.1	**6.5**	30.0
3-Nitroaniline		**57.32**	42.1	109.0	**6.8**	30.0
Acenaphthene		**66.52**	34.8	124.7	**5.6**	30.0
2,4-Dinitrophenol		**52.40**	10.0	171.2	**4.7**	30.0
Dibenzofuran		**65.28**	52.1	111.9	**5.8**	30.0
4-Nitrophenol		**52.60**	15.4	122.0	**7.5**	30.0
2,4-Dinitrotoluene		**67.80**	35.8	126.7	**6.7**	30.0
Fluorene		**72.12**	37.1	110.3	**6.3**	30.0
Diethyl phthalate		**70.02**	48.1	118.0	**7.3**	30.0
4-Chlorophenyl phenyl ether		**74.14**	52.2	116.5	**5.8**	30.0
4-Nitroaniline		**82.96**	45.8	119.7	**5.2**	30.0
4,6-Dinitro-2-methylphenol		**58.54**	18.7	149.0	**6.7**	30.0
N-Nitrosodiphenylamine		**84.90**	10.0	104.2	**5.3**	30.0
4-Bromophenyl phenyl ether		**69.20**	44.5	116.9	**5.0**	30.0
Hexachlorobenzene		**69.80**	45.2	118.5	**7.2**	30.0
Pentachlorophenol		**56.74**	10.3	139.1	**6.2**	30.0
Phenanthrene		**66.96**	31.8	123.3	**5.8**	30.0
Anthracene		**68.62**	38.1	115.5	**4.9**	30.0
di-N-butyl phthalate		**63.12**	48.1	121.8	**5.9**	30.0
Fluoranthene		**71.06**	43.0	127.9	**5.8**	30.0
Pyrene		**70.80**	37.8	131.4	**6.4**	30.0
Butyl benzyl phthalate		**65.50**	47.4	121.6	**6.1**	30.0
Benzo(a)anthracene		**66.66**	40.7	115.5	**7.1**	30.0
3,3'-Dichlorobenzidine		**83.98**	37.0	97.2	**4.6**	30.0
Chrysene		**67.46**	28.9	136.7	**6.6**	30.0
Bis(2-ethylhexyl)phthalate		**66.82**	45.2	126.2	**8.5**	30.0
Di-n-octyl phthalate		**67.42**	45.7	123.1	**6.5**	30.0
Benzo(b)fluoranthene		**65.10**	43.3	119.4	**1.9**	30.0
Benzo(k)fluoranthene		**64.26**	41.2	116.9	**11.3**	30.0
Benzo(a)pyrene		**69.34**	51.2	133.4	**7.1**	30.0
Indeno(1,2,3-cd)pyrene		**73.02**	41.5	116.9	**6.3**	30.0
Dibenzo(ah)anthracene		**74.18**	33.8	132.4	**6.6**	30.0
Benzo(ghi)perylene		**72.78**	36.7	122.1	**6.5**	30.0
1-methylnaphthalene		**75.74**	10.0	133.6	**6.5**	30.0
1,4-Dichlorobenzene		**60.24**	20.7	137.7	**6.9**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF151208W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h151208.lcsdw08a, Parent Sample ID: h151208.lcsw08a

Run in Batch: H151208, Run Date: 12/08/2015 22:46, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2-Dichlorobenzene		**60.92**	9.6	166.2	**6.4**	30.0
o-Cresol		**62.98**	39.1	109.4	**6.9**	30.0
3,4-methylphenol		**62.01**	36.4	115.4	**5.1**	30.0
1,3-Dichlorobenzene		**60.68**	36.8	105.8	**4.9**	30.0
1,2-Diphenylhydrazine		**67.52**	40.2	136.4	**5.5**	30.0
1,2,4-Trichlorobenzene		**64.70**	32.2	118.4	**5.5**	30.0
1,2,4,5-Tetrachlorobenzene		**75.88**	70.0	130.0	**5.4**	30.0
2,3,4,6-Tetrachlorophenol	*	**68.48**	70.0	130.0	**5.6**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151208b.lcsdw08a, Parent Sample ID: h151208b.lcsw08a

Run in Batch: H151208B, Run Date: 12/08/2015 22:46, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzaldehyde		**50.76**	35.6	137.2	**6.7**	30.0
Acetophenone		**67.14**	48.3	105.9	**6.5**	30.0
Caprolactam		**69.26**	10.0	113.1	**7.0**	30.0
1,1'-Biphenyl		**69.42**	49.7	110.7	**6.4**	30.0
Atrazine		**68.46**	52.5	143.1	**6.0**	30.0
Carbazole		**66.04**	44.3	128.8	**5.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**81.46**	75.1	135.9
Diethyl ether		**91.20**	67.4	121.2
Acetone		**90.28**	29.9	161.5
Methyl iodide		**97.06**	68.8	116.4
Carbon disulfide		**93.24**	63.8	137.4
Methyl acetate		**89.36**	64.7	125.4
tert-Methyl butyl ether		**92.10**	73.2	122.4
Acrylonitrile		**94.34**	69.9	128.9
2-Butanone		**91.80**	44.0	134.4
Dichlorodifluoromethane		**113.30**	10.0	222.8
Chloromethane		**93.62**	23.8	166.5
Vinyl Chloride		**97.96**	43.5	149.1
Bromomethane		**84.44**	56.8	151.3
Chloroethane		**84.84**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**92.80**	69.6	139.4
Methylene Chloride		**97.66**	73.3	121.1
trans-1,2-Dichloroethene		**93.70**	73.6	129.3
1,1-Dichloroethane		**95.36**	71.5	126.2
cis-1,2-Dichloroethene		**98.98**	76.6	122.1
Tetrahydrofuran		**89.18**	59.0	117.9
Chloroform		**97.80**	78.4	124.0
Bromochloromethane		**95.86**	78.2	120.8
1,1,1-Trichloroethane		**97.52**	79.4	130.9
Cyclohexane		**87.24**	10.0	169.1
4-Methyl-2-pentanone		**105.86**	71.6	125.2
2-Hexanone		**99.42**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.86**	70.0	130.0
Carbon Tetrachloride		**103.10**	72.6	133.0
Benzene		**100.60**	79.9	124.9
1,2-Dichloroethane		**91.06**	76.0	126.3
Trichloroethene		**100.28**	79.7	124.2
1,2-Dichloropropane		**97.40**	78.6	126.4
Bromodichloromethane		**100.94**	80.4	128.2
Methyl cyclohexane		**95.00**	76.6	131.3
Dibromomethane		**105.58**	76.9	122.1
cis-1,3-Dichloropropene		**101.58**	79.8	129.9
Toluene		**103.98**	79.8	124.5
trans-1,3-Dichloropropene		**102.42**	74.0	131.3
1,1,2-Trichloroethane		**102.42**	78.7	123.1
Tetrachloroethene		**94.94**	74.5	124.5
trans-1,4-Dichloro-2-butene		**110.28**	68.6	135.4
Dibromochloromethane		**106.04**	74.6	127.2
1,2-Dibromoethane		**106.84**	70.3	133.7
Chlorobenzene		**103.02**	79.2	122.7
1,1,1,2-Tetrachloroethane		**103.24**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**108.24**	79.5	129.1
p,m-Xylene		**106.93**	79.4	132.2
o-Xylene		**89.46**	80.2	131.0
Styrene		**93.92**	69.5	126.7
Isopropylbenzene		**108.60**	74.4	121.5
Bromoform		**108.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**104.52**	79.8	126.3
1,2,3-Trichloropropane		**101.96**	78.3	138.8
n-Propylbenzene		**111.42**	82.0	130.7
Bromobenzene		**105.26**	78.7	124.6
1,3,5-Trimethylbenzene		**105.82**	81.3	128.9
tert-Butylbenzene		**103.14**	80.7	128.9
1,2,4-Trimethylbenzene		**105.36**	81.4	130.8
sec-Butylbenzene		**102.26**	77.4	129.8
p-Isopropyltoluene		**81.48**	79.8	137.5
1,3-Dichlorobenzene		**94.06**	77.0	131.3
1,4-Dichlorobenzene		**94.04**	20.7	137.7
1,2-Dichlorobenzene		**96.04**	10.0	166.2
1,2,3-Trimethylbenzene		**95.40**	76.3	124.2
n-Butylbenzene		**99.58**	80.0	133.3
Hexachloroethane		**96.50**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**91.28**	21.2	189.4
1,2,4-Trichlorobenzene		**101.42**	27.4	143.4
1,2,3-Trichlorobenzene		**100.76**	75.4	131.4
Naphthalene		**100.86**	32.9	135.8
2-Methylnaphthalene		**108.94**	25.5	165.5
2-Chlorotoluene		**109.90**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acrolein		**ND**	10	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene (CCC/MS)		**ND**	1	ug/l
Methylene Chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane (SPCC)		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Tetrahydrofuran		**ND**	10	ug/l
Chloroform (CCC)		**ND**	1	ug/l
Bromochloromethane		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
1,1-Dichloropropene		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		**ND**	1	ug/l
2-Hexanone (*)		**ND**	10	ug/l
2-chloroethylvinyl ether		**ND**	1	ug/l
Carbon Tetrachloride		**ND**	1	ug/l
Benzene (MS)		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene (MS)		**ND**	1	ug/l
1,2-Dichloropropane (CCC)		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl Cyclohexane		**ND**	1	ug/l
Dibromomethane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene (CCC/MS)		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
trans-1,4-Dichloro-2-butene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l
Chlorobenzene (SPCC/MS)		**ND**	1	ug/l
1,1,1,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene (CCC)		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform (SPCC)		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		**ND**	1	ug/l
1,2,3-Trichloropropane		**ND**	1	ug/l
n-Propylbenzene		**ND**	1	ug/l
Bromobenzene		**ND**	1	ug/l
2-Chlorotoluene		**ND**	1	ug/l
1,3,5-Trimethylbenzene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
tert-Butylbenzene		**ND**	1	ug/l
1,2,4-Trimethylbenzene		**ND**	1	ug/l
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**82.72**	75.1	135.9	**1.5**	30.0
Diethyl ether		**91.92**	67.4	121.2	**0.8**	30.0
Acetone		**82.94**	29.9	161.5	**8.5**	30.0
Methyl iodide		**97.06**	68.8	116.4	**0.0**	30.0
Carbon disulfide		**92.48**	63.8	137.4	**0.8**	30.0
Methyl acetate		**90.84**	64.7	125.4	**1.6**	30.0
tert-Methyl butyl ether		**92.18**	73.2	122.4	**0.1**	30.0
Acrylonitrile		**88.32**	69.9	128.9	**6.6**	30.0
2-Butanone		**92.88**	44.0	134.4	**1.2**	30.0
Dichlorodifluoromethane		**112.48**	10.0	222.8	**0.7**	30.0
Chloromethane		**92.16**	23.8	166.5	**1.6**	30.0
Vinyl Chloride		**92.88**	43.5	149.1	**5.3**	30.0
Bromomethane		**82.22**	56.8	151.3	**2.7**	30.0
Chloroethane		**82.18**	53.4	149.4	**3.2**	30.0
Trichlorofluoromethane		**74.50**	59.7	151.8	**1.1**	30.0
1,1-Dichloroethene		**94.26**	69.6	139.4	**1.6**	30.0
Methylene Chloride		**96.86**	73.3	121.1	**0.8**	30.0
trans-1,2-Dichloroethene		**92.96**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**95.06**	71.5	126.2	**0.3**	30.0
cis-1,2-Dichloroethene		**98.70**	76.6	122.1	**0.3**	30.0
Tetrahydrofuran		**85.80**	59.0	117.9	**3.9**	30.0
Chloroform		**98.84**	78.4	124.0	**1.1**	30.0
Bromochloromethane		**96.64**	78.2	120.8	**0.8**	30.0
1,1,1-Trichloroethane		**99.44**	79.4	130.9	**1.9**	30.0
Cyclohexane		**89.84**	10.0	169.1	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Methyl-2-pentanone		**109.94**	71.6	125.2	**3.8**	30.0
2-Hexanone		**105.12**	55.4	136.9	**5.6**	30.0
2-Chloroethylvinyl ether	*	**3.10**	70.0	130.0	**8.1**	30.0
Carbon Tetrachloride		**104.40**	72.6	133.0	**1.3**	30.0
Benzene		**101.46**	79.9	124.9	**0.9**	30.0
1,2-Dichloroethane		**90.96**	76.0	126.3	**0.1**	30.0
Trichloroethene		**102.00**	79.7	124.2	**1.7**	30.0
1,2-Dichloropropane		**97.52**	78.6	126.4	**0.1**	30.0
Bromodichloromethane		**103.68**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**93.26**	76.6	131.3	**1.8**	30.0
Dibromomethane		**105.20**	76.9	122.1	**0.4**	30.0
cis-1,3-Dichloropropene		**103.74**	79.8	129.9	**2.1**	30.0
Toluene		**104.26**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**104.36**	74.0	131.3	**1.9**	30.0
1,1,2-Trichloroethane		**102.86**	78.7	123.1	**0.4**	30.0
Tetrachloroethene		**101.60**	74.5	124.5	**6.8**	30.0
trans-1,4-Dichloro-2-butene		**104.12**	68.6	135.4	**5.7**	30.0
Dibromochloromethane		**106.14**	74.6	127.2	**0.1**	30.0
1,2-Dibromoethane		**106.78**	70.3	133.7	**0.1**	30.0
Chlorobenzene		**100.64**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**100.74**	80.3	128.2	**2.5**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**105.79**	79.4	132.2	**1.1**	30.0
o-Xylene		**87.50**	80.2	131.0	**2.2**	30.0
Styrene		**95.40**	69.5	126.7	**1.6**	30.0
Isopropylbenzene		**106.70**	74.4	121.5	**1.8**	30.0
Bromoform		**108.70**	69.4	128.0	**0.6**	30.0
1,1,2,2-Tetrachloroethane		**107.68**	79.8	126.3	**3.0**	30.0
1,2,3-Trichloropropane		**102.70**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**107.86**	82.0	130.7	**3.2**	30.0
Bromobenzene		**100.68**	78.7	124.6	**4.4**	30.0
1,3,5-Trimethylbenzene		**103.26**	81.3	128.9	**2.4**	30.0
tert-Butylbenzene		**101.54**	80.7	128.9	**1.6**	30.0
1,2,4-Trimethylbenzene		**102.26**	81.4	130.8	**3.0**	30.0
sec-Butylbenzene		**105.88**	77.4	129.8	**3.5**	30.0
p-Isopropyltoluene		**85.66**	79.8	137.5	**5.0**	30.0
1,3-Dichlorobenzene		**99.36**	77.0	131.3	**5.5**	30.0
1,4-Dichlorobenzene		**97.84**	20.7	137.7	**4.0**	30.0
1,2-Dichlorobenzene		**99.76**	10.0	166.2	**3.8**	30.0
1,2,3-Trimethylbenzene		**100.28**	76.3	124.2	**5.0**	30.0
n-Butylbenzene		**103.28**	80.0	133.3	**3.6**	30.0
Hexachloroethane		**99.38**	23.8	138.1	**2.9**	30.0
1,2-Dibromo-3-Chloropropane		**102.84**	21.2	189.4	**11.9**	30.0
1,2,4-Trichlorobenzene		**105.04**	27.4	143.4	**3.5**	30.0
1,2,3-Trichlorobenzene		**106.18**	75.4	131.4	**5.2**	30.0
Naphthalene		**108.16**	32.9	135.8	**7.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
2-Methylnaphthalene		**116.18**	25.5	165.5	**6.4**	30.0
2-Chlorotoluene		**109.80**	70.0	130.0	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VS151208W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 15:58, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**111.22**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208a3.blkw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208a3.lcsw08b, Parent Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:16, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**115.82**	70.0	130.0	**4.1**	30.0

Merit Laboratories, Inc.

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C.O.C. PAGE # 1 OF 1

78754

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alex Villhauer
COMPANY: Arcadis
ADDRESS: 28530 Cabot Dr Suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO: 616 780 3277 FAX NO: 248 994-2241
E-MAIL ADDRESS: Alex.Villhauer@arcadis-us.com
P.O. NO.:
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Kaiser Parkway P2 B00644892015 0003
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Willis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. *FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	ANALYSIS: VOC	1,4 Dioxane	Geochem	Diss Geochem		Total Select Metals	SVOC				Special Instructions
700808.01	12215	700	TB_0002_120215	L	1		1						X										
.02	12215	1200	EB_0002_120215	L	5	1	3	1					X	X				X	X				
.03	12215	1305	MW-14-56_120215	GW	5	1	3	1					X	X	X								
.04	12215	1500	MW-12-09_120215	GW	6	1	3	2					X	X	X	X							
.05	12215	1635	P2-SB-20_120215	GW	3		3						X	X									

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
		12 2 15	1800
RECEIVED BY: SIGNATURE/ORGANIZATION	PME Stevens	12 2 15	1800
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PME Stevens	12/3/15	1100
RECEIVED BY: SIGNATURE/ORGANIZATION		12/3/15	1400

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	12/3/15	11:50

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.3

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70009.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70009.01-S70009.06
Project: RACER Lansing Q4 GWS / B0064480.2015.00603
Submitted Date/Time: 12/03/2015 11:50
Sampled by: J. Ness
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Page 8)
Surrogates per Lab Sample (Pages 9-14)
Surrogates per QC Sample (Pages 15-17)
Batch QC Results (Pages 18-24)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70009.01
Sample Tag: MW-12-20_120215
Collected Date/Time: 12/02/2015 08:30
Matrix: Groundwater
COC Reference: 92798

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 00:29	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 00:29	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 21:23	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 00:29	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70009.02
Sample Tag: MW-91-5_120215
Collected Date/Time: 12/02/2015 09:55
Matrix: Groundwater
COC Reference: 92798

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 00:51	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 00:51	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 21:41	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 00:51	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70009.03
Sample Tag: MW-13-24_120215
Collected Date/Time: 12/02/2015 11:35
Matrix: Groundwater
COC Reference: 92798

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 01:13	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 01:13	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 21:59	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 01:13	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70009.04
Sample Tag: MW-14-64_120215
Collected Date/Time: 12/02/2015 13:25
Matrix: Groundwater
COC Reference: 92798

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 01:35	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 01:35	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/08/15 22:17	151208A3	VS151208W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 01:35	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70009.05
Sample Tag: PW-14-03_120215
Collected Date/Time: 12/02/2015 15:45
Matrix: Groundwater
COC Reference: 92798

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 01:57	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 01:57	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 19:29	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 01:57	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70009.06
Sample Tag: TB_0004_120215
Collected Date/Time: 12/02/2015 07:00
Matrix: Liquid
COC Reference: 92798

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 02:18	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 02:18	151208B7	VF151208W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 02:18	151208B7	VF151208W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70009.01	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 00:29	151208B7
S70009.01	1,2-Dibromoethane	SW8260B	12/09/15 00:29	151208B7
S70009.01	TCL Volatile Organics 8260	SW8260C	12/09/15 00:29	151208B7
S70009.02	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 00:51	151208B7
S70009.02	1,2-Dibromoethane	SW8260B	12/09/15 00:51	151208B7
S70009.02	TCL Volatile Organics 8260	SW8260C	12/09/15 00:51	151208B7
S70009.03	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 01:13	151208B7
S70009.03	1,2-Dibromoethane	SW8260B	12/09/15 01:13	151208B7
S70009.03	TCL Volatile Organics 8260	SW8260C	12/09/15 01:13	151208B7
S70009.04	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 01:35	151208B7
S70009.04	1,2-Dibromoethane	SW8260B	12/09/15 01:35	151208B7
S70009.04	TCL Volatile Organics 8260	SW8260C	12/09/15 01:35	151208B7
S70009.05	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 01:57	151208B7
S70009.05	1,2-Dibromoethane	SW8260B	12/09/15 01:57	151208B7
S70009.05	TCL Volatile Organics 8260	SW8260C	12/09/15 01:57	151208B7
S70009.06	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 02:18	151208B7
S70009.06	1,2-Dibromoethane	SW8260B	12/09/15 02:18	151208B7
S70009.06	TCL Volatile Organics 8260	SW8260C	12/09/15 02:18	151208B7

Organics - Volatiles, Prep Batch ID: VS151208W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70009.01	1,4-Dioxane	SW8260B - SIM	12/08/15 21:23	151208A3
S70009.02	1,4-Dioxane	SW8260B - SIM	12/08/15 21:41	151208A3
S70009.03	1,4-Dioxane	SW8260B - SIM	12/08/15 21:59	151208A3
S70009.04	1,4-Dioxane	SW8260B - SIM	12/08/15 22:17	151208A3

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70009.05	1,4-Dioxane	SW8260B - SIM	12/09/15 19:29	151209A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70009.01
Sample Tag: MW-12-20_120215
Collected Date/Time: 12/02/2015 08:30
Matrix: Groundwater
COC Reference: 92798

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 00:29, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.20**	83.0	119.0
1,2-Dichloroethane-D4		**114.80**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70009.02
Sample Tag: MW-91-5_120215
Collected Date/Time: 12/02/2015 09:55
Matrix: Groundwater
COC Reference: 92798

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 00:51, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene	*	**81.80**	83.0	119.0
1,2-Dichloroethane-D4		**113.00**	77.0	121.0
Toluene-D8		**98.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70009.03
Sample Tag: MW-13-24_120215
Collected Date/Time: 12/02/2015 11:35
Matrix: Groundwater
COC Reference: 92798

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 01:13, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.60**	83.0	119.0
1,2-Dichloroethane-D4	*	**123.00**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70009.04
Sample Tag: MW-14-64_120215
Collected Date/Time: 12/02/2015 13:25
Matrix: Groundwater
COC Reference: 92798

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 01:35, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.40**	83.0	119.0
1,2-Dichloroethane-D4		**115.80**	77.0	121.0
Toluene-D8		**99.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70009.05
Sample Tag: PW-14-03_120215
Collected Date/Time: 12/02/2015 15:45
Matrix: Groundwater
COC Reference: 92798

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 01:57, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene	*	**82.20**	83.0	119.0
1,2-Dichloroethane-D4		**120.80**	77.0	121.0
Toluene-D8		**102.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70009.06
Sample Tag: TB_0004_120215
Collected Date/Time: 12/02/2015 07:00
Matrix: Liquid
COC Reference: 92798

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151208B7, Run Date: 12/09/2015 02:18, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene	*	**81.60**	83.0	119.0
1,2-Dichloroethane-D4		**117.40**	77.0	121.0
Toluene-D8		**99.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151208W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**104.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.60**	83.0	119.0
1,2-Dichloroethane-D4		**96.00**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151208W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 15:58, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151208a3.blkw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208a3.lcsw08b, Parent Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:16, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151208W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**81.46**	75.1	135.9
Diethyl ether		**91.20**	67.4	121.2
Acetone		**90.28**	29.9	161.5
Methyl iodide		**97.06**	68.8	116.4
Carbon disulfide		**93.24**	63.8	137.4
Methyl acetate		**89.36**	64.7	125.4
tert-Methyl butyl ether		**92.10**	73.2	122.4
Acrylonitrile		**94.34**	69.9	128.9
2-Butanone		**91.80**	44.0	134.4
Dichlorodifluoromethane		**113.30**	10.0	222.8
Chloromethane		**93.62**	23.8	166.5
Vinyl Chloride		**97.96**	43.5	149.1
Bromomethane		**84.44**	56.8	151.3
Chloroethane		**84.84**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**92.80**	69.6	139.4
Methylene Chloride		**97.66**	73.3	121.1
trans-1,2-Dichloroethene		**93.70**	73.6	129.3
1,1-Dichloroethane		**95.36**	71.5	126.2
cis-1,2-Dichloroethene		**98.98**	76.6	122.1
Tetrahydrofuran		**89.18**	59.0	117.9
Chloroform		**97.80**	78.4	124.0
Bromochloromethane		**95.86**	78.2	120.8
1,1,1-Trichloroethane		**97.52**	79.4	130.9
Cyclohexane		**87.24**	10.0	169.1
4-Methyl-2-pentanone		**105.86**	71.6	125.2
2-Hexanone		**99.42**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.86**	70.0	130.0
Carbon Tetrachloride		**103.10**	72.6	133.0
Benzene		**100.60**	79.9	124.9
1,2-Dichloroethane		**91.06**	76.0	126.3
Trichloroethene		**100.28**	79.7	124.2
1,2-Dichloropropane		**97.40**	78.6	126.4
Bromodichloromethane		**100.94**	80.4	128.2
Methyl cyclohexane		**95.00**	76.6	131.3
Dibromomethane		**105.58**	76.9	122.1
cis-1,3-Dichloropropene		**101.58**	79.8	129.9
Toluene		**103.98**	79.8	124.5
trans-1,3-Dichloropropene		**102.42**	74.0	131.3
1,1,2-Trichloroethane		**102.42**	78.7	123.1
Tetrachloroethene		**94.94**	74.5	124.5
trans-1,4-Dichloro-2-butene		**110.28**	68.6	135.4
Dibromochloromethane		**106.04**	74.6	127.2
1,2-Dibromoethane		**106.84**	70.3	133.7
Chlorobenzene		**103.02**	79.2	122.7
1,1,1,2-Tetrachloroethane		**103.24**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 17:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**108.24**	79.5	129.1
p,m-Xylene		**106.93**	79.4	132.2
o-Xylene		**89.46**	80.2	131.0
Styrene		**93.92**	69.5	126.7
Isopropylbenzene		**108.60**	74.4	121.5
Bromoform		**108.08**	69.4	128.0
1,1,2,2-Tetrachloroethane		**104.52**	79.8	126.3
1,2,3-Trichloropropane		**101.96**	78.3	138.8
n-Propylbenzene		**111.42**	82.0	130.7
Bromobenzene		**105.26**	78.7	124.6
1,3,5-Trimethylbenzene		**105.82**	81.3	128.9
tert-Butylbenzene		**103.14**	80.7	128.9
1,2,4-Trimethylbenzene		**105.36**	81.4	130.8
sec-Butylbenzene		**102.26**	77.4	129.8
p-Isopropyltoluene		**81.48**	79.8	137.5
1,3-Dichlorobenzene		**94.06**	77.0	131.3
1,4-Dichlorobenzene		**94.04**	20.7	137.7
1,2-Dichlorobenzene		**96.04**	10.0	166.2
1,2,3-Trimethylbenzene		**95.40**	76.3	124.2
n-Butylbenzene		**99.58**	80.0	133.3
Hexachloroethane		**96.50**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**91.28**	21.2	189.4
1,2,4-Trichlorobenzene		**101.42**	27.4	143.4
1,2,3-Trichlorobenzene		**100.76**	75.4	131.4
Naphthalene		**100.86**	32.9	135.8
2-Methylnaphthalene		**108.94**	25.5	165.5
2-Chlorotoluene		**109.90**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151208b7.blkw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 19:43, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**82.72**	75.1	135.9	**1.5**	30.0
Diethyl ether		**91.92**	67.4	121.2	**0.8**	30.0
Acetone		**82.94**	29.9	161.5	**8.5**	30.0
Methyl iodide		**97.06**	68.8	116.4	**0.0**	30.0
Carbon disulfide		**92.48**	63.8	137.4	**0.8**	30.0
Methyl acetate		**90.84**	64.7	125.4	**1.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**92.18**	73.2	122.4	**0.1**	30.0
Acrylonitrile		**88.32**	69.9	128.9	**6.6**	30.0
2-Butanone		**92.88**	44.0	134.4	**1.2**	30.0
Dichlorodifluoromethane		**112.48**	10.0	222.8	**0.7**	30.0
Chloromethane		**92.16**	23.8	166.5	**1.6**	30.0
Vinyl Chloride		**92.88**	43.5	149.1	**5.3**	30.0
Bromomethane		**82.22**	56.8	151.3	**2.7**	30.0
Chloroethane		**82.18**	53.4	149.4	**3.2**	30.0
Trichlorofluoromethane		**74.50**	59.7	151.8	**1.1**	30.0
1,1-Dichloroethene		**94.26**	69.6	139.4	**1.6**	30.0
Methylene Chloride		**96.86**	73.3	121.1	**0.8**	30.0
trans-1,2-Dichloroethene		**92.96**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**95.06**	71.5	126.2	**0.3**	30.0
cis-1,2-Dichloroethene		**98.70**	76.6	122.1	**0.3**	30.0
Tetrahydrofuran		**85.80**	59.0	117.9	**3.9**	30.0
Chloroform		**98.84**	78.4	124.0	**1.1**	30.0
Bromochloromethane		**96.64**	78.2	120.8	**0.8**	30.0
1,1,1-Trichloroethane		**99.44**	79.4	130.9	**1.9**	30.0
Cyclohexane		**89.84**	10.0	169.1	**2.9**	30.0
4-Methyl-2-pentanone		**109.94**	71.6	125.2	**3.8**	30.0
2-Hexanone		**105.12**	55.4	136.9	**5.6**	30.0
2-Chloroethylvinyl ether	*	**3.10**	70.0	130.0	**8.1**	30.0
Carbon Tetrachloride		**104.40**	72.6	133.0	**1.3**	30.0
Benzene		**101.46**	79.9	124.9	**0.9**	30.0
1,2-Dichloroethane		**90.96**	76.0	126.3	**0.1**	30.0
Trichloroethene		**102.00**	79.7	124.2	**1.7**	30.0
1,2-Dichloropropane		**97.52**	78.6	126.4	**0.1**	30.0
Bromodichloromethane		**103.68**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**93.26**	76.6	131.3	**1.8**	30.0
Dibromomethane		**105.20**	76.9	122.1	**0.4**	30.0
cis-1,3-Dichloropropene		**103.74**	79.8	129.9	**2.1**	30.0
Toluene		**104.26**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**104.36**	74.0	131.3	**1.9**	30.0
1,1,2-Trichloroethane		**102.86**	78.7	123.1	**0.4**	30.0
Tetrachloroethene		**101.60**	74.5	124.5	**6.8**	30.0
trans-1,4-Dichloro-2-butene		**104.12**	68.6	135.4	**5.7**	30.0
Dibromochloromethane		**106.14**	74.6	127.2	**0.1**	30.0
1,2-Dibromoethane		**106.78**	70.3	133.7	**0.1**	30.0
Chlorobenzene		**100.64**	79.2	122.7	**2.3**	30.0
1,1,1,2-Tetrachloroethane		**100.74**	80.3	128.2	**2.5**	30.0
Ethylbenzene		**107.08**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**105.79**	79.4	132.2	**1.1**	30.0
o-Xylene		**87.50**	80.2	131.0	**2.2**	30.0
Styrene		**95.40**	69.5	126.7	**1.6**	30.0
Isopropylbenzene		**106.70**	74.4	121.5	**1.8**	30.0
Bromoform		**108.70**	69.4	128.0	**0.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151208W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151208b7.lcsw08b, Parent Sample ID: 151208b7.lcsw08a

Run in Batch: 151208B7, Run Date: 12/08/2015 18:15, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**107.68**	79.8	126.3	**3.0**	30.0
1,2,3-Trichloropropane		**102.70**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**107.86**	82.0	130.7	**3.2**	30.0
Bromobenzene		**100.68**	78.7	124.6	**4.4**	30.0
1,3,5-Trimethylbenzene		**103.26**	81.3	128.9	**2.4**	30.0
tert-Butylbenzene		**101.54**	80.7	128.9	**1.6**	30.0
1,2,4-Trimethylbenzene		**102.26**	81.4	130.8	**3.0**	30.0
sec-Butylbenzene		**105.88**	77.4	129.8	**3.5**	30.0
p-Isopropyltoluene		**85.66**	79.8	137.5	**5.0**	30.0
1,3-Dichlorobenzene		**99.36**	77.0	131.3	**5.5**	30.0
1,4-Dichlorobenzene		**97.84**	20.7	137.7	**4.0**	30.0
1,2-Dichlorobenzene		**99.76**	10.0	166.2	**3.8**	30.0
1,2,3-Trimethylbenzene		**100.28**	76.3	124.2	**5.0**	30.0
n-Butylbenzene		**103.28**	80.0	133.3	**3.6**	30.0
Hexachloroethane		**99.38**	23.8	138.1	**2.9**	30.0
1,2-Dibromo-3-Chloropropane		**102.84**	21.2	189.4	**11.9**	30.0
1,2,4-Trichlorobenzene		**105.04**	27.4	143.4	**3.5**	30.0
1,2,3-Trichlorobenzene		**106.18**	75.4	131.4	**5.2**	30.0
Naphthalene		**108.16**	32.9	135.8	**7.0**	30.0
2-Methylnaphthalene		**116.18**	25.5	165.5	**6.4**	30.0
2-Chlorotoluene		**109.80**	70.0	130.0	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VS151208W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 15:58, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**111.22**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151208a3.blkw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:53, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151208a3.lcsw08b, Parent Sample ID: 151208a3.lcsw08a

Run in Batch: 151208A3, Run Date: 12/08/2015 16:16, Prep Date: 12/08/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**115.82**	70.0	130.0	**4.1**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

92798

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alex Villhauer
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Dr, Suite 500
CITY: Novi | STATE: MI | ZIP CODE: 48377
PHONE NO.: (616) 780-3277 | FAX NO.: (248) 994-2241 | P.O. NO.: NA
E-MAIL ADDRESS: alex.villhauer@arcadis.com | QUOTE NO.: NA

INVOICE TO

CONTACT NAME | ☐ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: RACER Lansing Q4 GWS / B006480.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: J. Ness

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☑ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☑ Other Lansing, MI

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4-Dioxane	Special Instructions
760609.01	12/2/15	0830	MW-12-20_120215	GW	3			3					✓	✓	All samples
.02		0955	MW-91-5_120285					3					✓	✓	immediately
.03		1135	MW-13-24_120215					3					✓	✓	packed on ice
.04		1325	MW-14-64_120215					3					✓	✓	
.05		1545	PW-14-03_120215					3					✓	✓	
.06		700	TB-0004_120215	L	1		1						X		

RELINQUISHED BY: J. Ness / ARCADIS ☑ Sampler	DATE 12/2/15	TIME 1600	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE 12/3/15	TIME 1100	
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE 12/3/15	TIME 11:50	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL 5.5
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70010.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70010.01-S70010.06
Project: RACER Plant 6 B0064481.2015.00603
Submitted Date/Time: 12/03/2015 11:50
Sampled by: Doug Spencer
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Page 8)
Surrogates per Lab Sample (Pages 9-12)
Surrogates per QC Sample (Page 13)
Batch QC Results (Pages 14-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70010.01
Sample Tag: TB-0001_120215
Collected Date/Time: 12/02/2015 08:00
Matrix: Liquid
COC Reference: 75745

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 14:14	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 14:14	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 14:14	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70010.02
Sample Tag: MW-13-35_120215
Collected Date/Time: 12/02/2015 10:27
Matrix: Groundwater
COC Reference: 75745

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:28	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:28	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:28	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:28	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:28	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:28	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S70010.03
Sample Tag: MW-12-16_120215
Collected Date/Time: 12/02/2015 12:03
Matrix: Groundwater
COC Reference: 75745

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:30	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:30	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:30	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:30	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:30	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:30	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 19:10	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 19:10	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 19:10	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

QC Report - Analysis Summary

Lab Sample ID: S70010.04
Sample Tag: MWBP-12A-UST1-4_120215
Collected Date/Time: 12/02/2015 14:05
Matrix: Groundwater
COC Reference: 75745

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:32	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:32	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:32	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:32	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:32	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:32	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 19:32	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 19:32	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 19:32	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70010.05
Sample Tag: MW-13-36R_120215
Collected Date/Time: 12/02/2015 15:53
Matrix: Groundwater
COC Reference: 75745

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:33	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:33	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:33	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:33	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:33	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:33	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S70010.06
Sample Tag: FB0001_120215
Collected Date/Time: 12/02/2015 14:15
Matrix: Liquid
COC Reference: 75745

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 14:36	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 14:36	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 14:36	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70010.02	Arsenic	SW6020A	12/09/15 12:28	MT2-15-1209B
S70010.02	Chromium	SW6020A	12/09/15 12:28	MT2-15-1209B
S70010.02	Copper	SW6020A	12/09/15 12:28	MT2-15-1209B
S70010.02	Lead	SW6020A	12/09/15 12:28	MT2-15-1209B
S70010.02	Nickel	SW6020A	12/09/15 12:28	MT2-15-1209B
S70010.02	Vanadium	SW6020A	12/09/15 12:28	MT2-15-1209B
S70010.03	Arsenic	SW6020A	12/09/15 12:30	MT2-15-1209B
S70010.03	Chromium	SW6020A	12/09/15 12:30	MT2-15-1209B
S70010.03	Copper	SW6020A	12/09/15 12:30	MT2-15-1209B
S70010.03	Lead	SW6020A	12/09/15 12:30	MT2-15-1209B
S70010.03	Nickel	SW6020A	12/09/15 12:30	MT2-15-1209B
S70010.03	Vanadium	SW6020A	12/09/15 12:30	MT2-15-1209B
S70010.04	Arsenic	SW6020A	12/09/15 12:32	MT2-15-1209B
S70010.04	Chromium	SW6020A	12/09/15 12:32	MT2-15-1209B
S70010.04	Copper	SW6020A	12/09/15 12:32	MT2-15-1209B
S70010.04	Lead	SW6020A	12/09/15 12:32	MT2-15-1209B
S70010.04	Nickel	SW6020A	12/09/15 12:32	MT2-15-1209B
S70010.04	Vanadium	SW6020A	12/09/15 12:32	MT2-15-1209B
S70010.05	Arsenic	SW6020A	12/09/15 12:33	MT2-15-1209B
S70010.05	Chromium	SW6020A	12/09/15 12:33	MT2-15-1209B
S70010.05	Copper	SW6020A	12/09/15 12:33	MT2-15-1209B
S70010.05	Lead	SW6020A	12/09/15 12:33	MT2-15-1209B
S70010.05	Nickel	SW6020A	12/09/15 12:33	MT2-15-1209B
S70010.05	Vanadium	SW6020A	12/09/15 12:33	MT2-15-1209B

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70010.01	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 14:14	151209A7
S70010.01	1,2-Dibromoethane	SW8260B	12/09/15 14:14	151209A7
S70010.01	TCL Volatile Organics 8260	SW8260C	12/09/15 14:14	151209A7
S70010.03	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 19:10	151209A7
S70010.03	1,2-Dibromoethane	SW8260B	12/09/15 19:10	151209A7
S70010.03	TCL Volatile Organics 8260	SW8260C	12/09/15 19:10	151209A7
S70010.04	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 19:32	151209A7
S70010.04	1,2-Dibromoethane	SW8260B	12/09/15 19:32	151209A7
S70010.04	TCL Volatile Organics 8260	SW8260C	12/09/15 19:32	151209A7
S70010.06	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 14:36	151209A7
S70010.06	1,2-Dibromoethane	SW8260B	12/09/15 14:36	151209A7
S70010.06	TCL Volatile Organics 8260	SW8260C	12/09/15 14:36	151209A7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70010.01
Sample Tag: TB-0001_120215
Collected Date/Time: 12/02/2015 08:00
Matrix: Liquid
COC Reference: 75745

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 14:14, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.20**	83.0	119.0
1,2-Dichloroethane-D4		**110.20**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70010.03
Sample Tag: MW-12-16_120215
Collected Date/Time: 12/02/2015 12:03
Matrix: Groundwater
COC Reference: 75745

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 19:10, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.80**	77.0	121.0
Toluene-D8		**97.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70010.04
Sample Tag: MWBP-12A-UST1-4_120215
Collected Date/Time: 12/02/2015 14:05
Matrix: Groundwater
COC Reference: 75745

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 19:32, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.00**	83.0	119.0
1,2-Dichloroethane-D4		**118.20**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70010.06
Sample Tag: FB0001_120215
Collected Date/Time: 12/02/2015 14:15
Matrix: Liquid
COC Reference: 75745

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 14:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.20**	83.0	119.0
1,2-Dichloroethane-D4		**107.60**	77.0	121.0
Toluene-D8		**97.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**87.80**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**109.80**	77.0	121.0
Toluene-D8		**93.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.40**	77.0	121.0
Toluene-D8		**102.40**	86.0	118.0

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.019.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:55, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**99**	85	115
Chromium		**100**	85	115
Copper		**101**	85	115
Nickel		**103**	85	115
Lead		**103**	85	115
Vanadium		**98**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.020.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:58, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.032.MS, Parent Sample ID: S70007.05

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:18, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**102**	75	125
Chromium		**96**	75	125
Copper		**92**	75	125
Nickel		**91**	75	125
Lead		**95**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.046.MS, Parent Sample ID: S70050.04

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:39, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	75	125
Chromium		**97**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**98**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**102**	75	125	**0**	20
Chromium		**98**	75	125	**2**	20

Metals, Prep Batch ID: MTD-120915-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		**92**	75	125	**1**	20
Nickel		**94**	75	125	**3**	20
Lead		**97**	75	125	**2**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.047.MSD, Parent Sample ID: MT2-15-1209B.046.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:40, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**102**	75	125	**1**	20
Chromium		**99**	75	125	**2**	20
Copper		**91**	75	125	**0**	20
Nickel		**92**	75	125	**1**	20
Lead		**100**	75	125	**1**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**71.92**	75.1	135.9
Diethyl ether		**77.02**	67.4	121.2
Acetone		**72.08**	29.9	161.5
Methyl iodide		**82.38**	68.8	116.4
Carbon disulfide		**80.36**	63.8	137.4
Methyl acetate		**72.82**	64.7	125.4
tert-Methyl butyl ether		**75.54**	73.2	122.4
Acrylonitrile		**78.44**	69.9	128.9
2-Butanone		**74.52**	44.0	134.4
Dichlorodifluoromethane		**100.86**	10.0	222.8
Chloromethane		**85.92**	23.8	166.5
Vinyl Chloride		**87.22**	43.5	149.1
Bromomethane		**74.30**	56.8	151.3
Chloroethane		**74.68**	53.4	149.4
Trichlorofluoromethane		**71.04**	59.7	151.8
1,1-Dichloroethene		**85.04**	69.6	139.4
Methylene Chloride		**88.78**	73.3	121.1
trans-1,2-Dichloroethene		**85.12**	73.6	129.3
1,1-Dichloroethane		**87.94**	71.5	126.2
cis-1,2-Dichloroethene		**88.20**	76.6	122.1
Tetrahydrofuran		**70.88**	59.0	117.9
Chloroform		**89.94**	78.4	124.0
Bromochloromethane		**87.84**	78.2	120.8
1,1,1-Trichloroethane		**88.98**	79.4	130.9
Cyclohexane		**76.52**	10.0	169.1
4-Methyl-2-pentanone		**87.66**	71.6	125.2
2-Hexanone		**83.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.50**	70.0	130.0
Carbon Tetrachloride		**98.34**	72.6	133.0
Benzene		**96.28**	79.9	124.9
1,2-Dichloroethane		**86.12**	76.0	126.3
Trichloroethene		**94.62**	79.7	124.2
1,2-Dichloropropane		**92.78**	78.6	126.4
Bromodichloromethane		**96.72**	80.4	128.2
Methyl cyclohexane		**85.10**	76.6	131.3
Dibromomethane		**97.54**	76.9	122.1
cis-1,3-Dichloropropene		**95.38**	79.8	129.9
Toluene		**96.72**	79.8	124.5
trans-1,3-Dichloropropene		**96.82**	74.0	131.3
1,1,2-Trichloroethane		**95.42**	78.7	123.1
Tetrachloroethene		**87.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**91.94**	68.6	135.4
Dibromochloromethane		**93.38**	74.6	127.2
1,2-Dibromoethane		**93.08**	70.3	133.7
Chlorobenzene		**92.36**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.94**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**97.34**	79.5	129.1
p,m-Xylene		**95.52**	79.4	132.2
o-Xylene	*	**78.88**	80.2	131.0
Styrene		**85.80**	69.5	126.7
Isopropylbenzene		**97.94**	74.4	121.5
Bromoform		**96.60**	69.4	128.0
1,1,2,2-Tetrachloroethane		**91.74**	79.8	126.3
1,2,3-Trichloropropane		**88.10**	78.3	138.8
n-Propylbenzene		**99.78**	82.0	130.7
Bromobenzene		**91.98**	78.7	124.6
1,3,5-Trimethylbenzene		**96.36**	81.3	128.9
tert-Butylbenzene		**91.84**	80.7	128.9
1,2,4-Trimethylbenzene		**95.80**	81.4	130.8
sec-Butylbenzene		**95.94**	77.4	129.8
p-Isopropyltoluene	*	**76.92**	79.8	137.5
1,3-Dichlorobenzene		**87.86**	77.0	131.3
1,4-Dichlorobenzene		**86.38**	20.7	137.7
1,2-Dichlorobenzene		**90.36**	10.0	166.2
1,2,3-Trimethylbenzene		**85.02**	76.3	124.2
n-Butylbenzene		**94.46**	80.0	133.3
Hexachloroethane		**84.58**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**84.24**	21.2	189.4
1,2,4-Trichlorobenzene		**90.84**	27.4	143.4
1,2,3-Trichlorobenzene		**91.94**	75.4	131.4
Naphthalene		**89.72**	32.9	135.8
2-Methylnaphthalene		**89.50**	25.5	165.5
2-Chlorotoluene		**100.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**78.68**	75.1	135.9	**9.0**	30.0
Diethyl ether		**87.26**	67.4	121.2	**12.5**	30.0
Acetone	*	**100.92**	29.9	161.5	**33.3**	30.0
Methyl iodide		**90.98**	68.8	116.4	**9.9**	30.0
Carbon disulfide		**86.82**	63.8	137.4	**7.7**	30.0
Methyl acetate		**85.48**	64.7	125.4	**16.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.78**	73.2	122.4	**13.8**	30.0
Acrylonitrile		**93.66**	69.9	128.9	**17.7**	30.0
2-Butanone		**97.40**	44.0	134.4	**26.6**	30.0
Dichlorodifluoromethane		**106.98**	10.0	222.8	**5.9**	30.0
Chloromethane		**91.32**	23.8	166.5	**6.1**	30.0
Vinyl Chloride		**95.66**	43.5	149.1	**9.2**	30.0
Bromomethane		**82.68**	56.8	151.3	**10.7**	30.0
Chloroethane		**82.68**	53.4	149.4	**10.2**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**4.2**	30.0
1,1-Dichloroethene		**92.18**	69.6	139.4	**8.1**	30.0
Methylene Chloride		**98.90**	73.3	121.1	**10.8**	30.0
trans-1,2-Dichloroethene		**91.22**	73.6	129.3	**6.9**	30.0
1,1-Dichloroethane		**92.80**	71.5	126.2	**5.4**	30.0
cis-1,2-Dichloroethene		**97.22**	76.6	122.1	**9.7**	30.0
Tetrahydrofuran		**90.24**	59.0	117.9	**24.0**	30.0
Chloroform		**97.22**	78.4	124.0	**7.8**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**6.9**	30.0
1,1,1-Trichloroethane		**95.96**	79.4	130.9	**7.5**	30.0
Cyclohexane		**81.72**	10.0	169.1	**6.6**	30.0
4-Methyl-2-pentanone		**108.36**	71.6	125.2	**21.1**	30.0
2-Hexanone		**104.62**	55.4	136.9	**22.6**	30.0
2-Chloroethylvinyl ether	*	**2.98**	70.0	130.0	**17.5**	30.0
Carbon Tetrachloride		**102.94**	72.6	133.0	**4.6**	30.0
Benzene		**100.94**	79.9	124.9	**4.7**	30.0
1,2-Dichloroethane		**91.82**	76.0	126.3	**6.4**	30.0
Trichloroethene		**100.58**	79.7	124.2	**6.1**	30.0
1,2-Dichloropropane		**96.26**	78.6	126.4	**3.7**	30.0
Bromodichloromethane		**101.42**	80.4	128.2	**4.7**	30.0
Methyl cyclohexane		**87.76**	76.6	131.3	**3.1**	30.0
Dibromomethane		**109.20**	76.9	122.1	**11.3**	30.0
cis-1,3-Dichloropropene		**100.72**	79.8	129.9	**5.4**	30.0
Toluene		**101.74**	79.8	124.5	**5.1**	30.0
trans-1,3-Dichloropropene		**102.64**	74.0	131.3	**5.8**	30.0
1,1,2-Trichloroethane		**104.40**	78.7	123.1	**9.0**	30.0
Tetrachloroethene		**94.94**	74.5	124.5	**8.7**	30.0
trans-1,4-Dichloro-2-butene		**101.78**	68.6	135.4	**10.2**	30.0
Dibromochloromethane		**104.76**	74.6	127.2	**11.5**	30.0
1,2-Dibromoethane		**104.16**	70.3	133.7	**11.2**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**3.5**	30.0
1,1,1,2-Tetrachloroethane		**100.16**	80.3	128.2	**8.6**	30.0
Ethylbenzene		**102.08**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**99.56**	79.4	132.2	**4.1**	30.0
o-Xylene		**82.94**	80.2	131.0	**5.0**	30.0
Styrene		**89.60**	69.5	126.7	**4.3**	30.0
Isopropylbenzene		**102.80**	74.4	121.5	**4.8**	30.0
Bromoform		**109.26**	69.4	128.0	**12.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**104.42**	79.8	126.3	**12.9**	30.0
1,2,3-Trichloropropane		**98.30**	78.3	138.8	**10.9**	30.0
n-Propylbenzene		**103.38**	82.0	130.7	**3.5**	30.0
Bromobenzene		**98.46**	78.7	124.6	**6.8**	30.0
1,3,5-Trimethylbenzene		**98.92**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**96.96**	80.7	128.9	**5.4**	30.0
1,2,4-Trimethylbenzene		**99.54**	81.4	130.8	**3.8**	30.0
sec-Butylbenzene		**104.86**	77.4	129.8	**8.9**	30.0
p-Isopropyltoluene		**84.76**	79.8	137.5	**9.7**	30.0
1,3-Dichlorobenzene		**97.48**	77.0	131.3	**10.4**	30.0
1,4-Dichlorobenzene		**96.02**	20.7	137.7	**10.6**	30.0
1,2-Dichlorobenzene		**99.94**	10.0	166.2	**10.1**	30.0
1,2,3-Trimethylbenzene		**95.86**	76.3	124.2	**12.0**	30.0
n-Butylbenzene		**101.36**	80.0	133.3	**7.0**	30.0
Hexachloroethane		**95.50**	23.8	138.1	**12.1**	30.0
1,2-Dibromo-3-Chloropropane		**106.62**	21.2	189.4	**23.5**	30.0
1,2,4-Trichlorobenzene		**102.14**	27.4	143.4	**11.7**	30.0
1,2,3-Trichlorobenzene		**106.86**	75.4	131.4	**15.0**	30.0
Naphthalene		**107.64**	32.9	135.8	**18.2**	30.0
2-Methylnaphthalene		**111.00**	25.5	165.5	**21.4**	30.0
2-Chlorotoluene		**102.88**	70.0	130.0	**2.2**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

75745

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: (810) 225.1990 FAX NO.:
P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis.com
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Doug Spencer

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals	SVOC	Special Instructions
806010.01	12/2/15	08:00	TB0001_120215	L	1		1						X				Select Metals:
.02	12/2/15	10:27	MW-13-35_120215	GW	1			1							X		Arsenic, Nickel, lead,
.03	12/2/15	12:03	MW-12-16_120215	GW	4		3	1					X		X		vanadium, chromium, and
.04	12/2/15	14:45	MWBP-12A-UST1-4_120215	GW	4		3	1					X		X		Copper,
.05	12/2/15	15:53	MW-13-36R_120215	GW	1			1							X		
.06	12/2/15	14:15	FB0001_120215	G	4		3	1					X	X	X	X	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE 12/3/15	TIME 17:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/3/15	TIME 17:00
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12/3/15	TIME 11:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/3/15	TIME 11:00

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12/3/15	TIME 11:50
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

NOTES: TEMP. ON ARRIVAL 5.5

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70050.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70050.01-S70050.04
Project: RACER Plant 6 / B0064481.2015.00630
Submitted Date/Time: 12/04/2015 09:30
Sampled by: Doug Spencer
P.O. #: B0064481.2015.00630

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Page 6)
Surrogates per Lab Sample (Pages 7-8)
Surrogates per QC Sample (Pages 9-10)
Batch QC Results (Pages 11-18)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70050.01
Sample Tag: TB0001_120315
Collected Date/Time: 12/03/2015 08:00
Matrix: Liquid
COC Reference: 88609

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 13:52	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 13:52	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 13:52	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70050.02
Sample Tag: P6-SB-35_120315
Collected Date/Time: 12/03/2015 10:20
Matrix: Groundwater
COC Reference: 88609

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:34	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:34	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:34	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:34	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:34	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:34	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD

Lab Sample ID: S70050.03
Sample Tag: P6-SB-37_120315
Collected Date/Time: 12/03/2015 12:12
Matrix: Groundwater
COC Reference: 88609

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:36	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:36	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:36	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:36	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:36	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:36	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD

QC Report - Analysis Summary

Lab Sample ID: S70050.04
Sample Tag: MW-14-67_120315
Collected Date/Time: 12/03/2015 13:29
Matrix: Groundwater
COC Reference: 88609

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 12:37	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 12:37	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 12:37	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 12:37	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 12:37	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 12:37	MT2-15-1209B	MTD-120915-4	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 18:48	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 18:48	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 17:41	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 18:48	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70050.02	Arsenic	SW6020A	12/09/15 12:34	MT2-15-1209B
S70050.02	Chromium	SW6020A	12/09/15 12:34	MT2-15-1209B
S70050.02	Copper	SW6020A	12/09/15 12:34	MT2-15-1209B
S70050.02	Lead	SW6020A	12/09/15 12:34	MT2-15-1209B
S70050.02	Nickel	SW6020A	12/09/15 12:34	MT2-15-1209B
S70050.02	Vanadium	SW6020A	12/09/15 12:34	MT2-15-1209B
S70050.03	Arsenic	SW6020A	12/09/15 12:36	MT2-15-1209B
S70050.03	Chromium	SW6020A	12/09/15 12:36	MT2-15-1209B
S70050.03	Copper	SW6020A	12/09/15 12:36	MT2-15-1209B
S70050.03	Lead	SW6020A	12/09/15 12:36	MT2-15-1209B
S70050.03	Nickel	SW6020A	12/09/15 12:36	MT2-15-1209B
S70050.03	Vanadium	SW6020A	12/09/15 12:36	MT2-15-1209B
S70050.04	Arsenic	SW6020A	12/09/15 12:37	MT2-15-1209B
S70050.04	Chromium	SW6020A	12/09/15 12:37	MT2-15-1209B
S70050.04	Copper	SW6020A	12/09/15 12:37	MT2-15-1209B
S70050.04	Lead	SW6020A	12/09/15 12:37	MT2-15-1209B
S70050.04	Nickel	SW6020A	12/09/15 12:37	MT2-15-1209B
S70050.04	Vanadium	SW6020A	12/09/15 12:37	MT2-15-1209B

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70050.01	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 13:52	151209A7
S70050.01	1,2-Dibromoethane	SW8260B	12/09/15 13:52	151209A7
S70050.01	TCL Volatile Organics 8260	SW8260C	12/09/15 13:52	151209A7
S70050.04	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 18:48	151209A7
S70050.04	1,2-Dibromoethane	SW8260B	12/09/15 18:48	151209A7
S70050.04	TCL Volatile Organics 8260	SW8260C	12/09/15 18:48	151209A7

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70050.04	1,4-Dioxane	SW8260B - SIM	12/09/15 17:41	151209A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70050.01
Sample Tag: TB0001_120315
Collected Date/Time: 12/03/2015 08:00
Matrix: Liquid
COC Reference: 88609

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 13:52, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.00**	83.0	119.0
1,2-Dichloroethane-D4		**109.60**	77.0	121.0
Toluene-D8		**101.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70050.04
Sample Tag: MW-14-67_120315
Collected Date/Time: 12/03/2015 13:29
Matrix: Groundwater
COC Reference: 88609

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 18:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.40**	83.0	119.0
1,2-Dichloroethane-D4		**112.20**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**87.80**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**109.80**	77.0	121.0
Toluene-D8		**93.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.40**	77.0	121.0
Toluene-D8		**102.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-120915-4

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.019.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:55, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**99**	85	115
Chromium		**100**	85	115
Copper		**101**	85	115
Nickel		**103**	85	115
Lead		**103**	85	115
Vanadium		**98**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.020.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 11:58, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.032.MS, Parent Sample ID: S70007.05

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:18, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**102**	75	125
Chromium		**96**	75	125
Copper		**92**	75	125
Nickel		**91**	75	125
Lead		**95**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.046.MS, Parent Sample ID: S70050.04

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:39, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	75	125
Chromium		**97**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**98**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**102**	75	125	**0**	20
Chromium		**98**	75	125	**2**	20

Metals, Prep Batch ID: MTD-120915-4 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.033.MSD, Parent Sample ID: MT2-15-1209B.032.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:19, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		**92**	75	125	**1**	20
Nickel		**94**	75	125	**3**	20
Lead		**97**	75	125	**2**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.047.MSD, Parent Sample ID: MT2-15-1209B.046.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 12:40, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**102**	75	125	**1**	20
Chromium		**99**	75	125	**2**	20
Copper		**91**	75	125	**0**	20
Nickel		**92**	75	125	**1**	20
Lead		**100**	75	125	**1**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**71.92**	75.1	135.9
Diethyl ether		**77.02**	67.4	121.2
Acetone		**72.08**	29.9	161.5
Methyl iodide		**82.38**	68.8	116.4
Carbon disulfide		**80.36**	63.8	137.4
Methyl acetate		**72.82**	64.7	125.4
tert-Methyl butyl ether		**75.54**	73.2	122.4
Acrylonitrile		**78.44**	69.9	128.9
2-Butanone		**74.52**	44.0	134.4
Dichlorodifluoromethane		**100.86**	10.0	222.8
Chloromethane		**85.92**	23.8	166.5
Vinyl Chloride		**87.22**	43.5	149.1
Bromomethane		**74.30**	56.8	151.3
Chloroethane		**74.68**	53.4	149.4
Trichlorofluoromethane		**71.04**	59.7	151.8
1,1-Dichloroethene		**85.04**	69.6	139.4
Methylene Chloride		**88.78**	73.3	121.1
trans-1,2-Dichloroethene		**85.12**	73.6	129.3
1,1-Dichloroethane		**87.94**	71.5	126.2
cis-1,2-Dichloroethene		**88.20**	76.6	122.1
Tetrahydrofuran		**70.88**	59.0	117.9
Chloroform		**89.94**	78.4	124.0
Bromochloromethane		**87.84**	78.2	120.8
1,1,1-Trichloroethane		**88.98**	79.4	130.9
Cyclohexane		**76.52**	10.0	169.1
4-Methyl-2-pentanone		**87.66**	71.6	125.2
2-Hexanone		**83.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.50**	70.0	130.0
Carbon Tetrachloride		**98.34**	72.6	133.0
Benzene		**96.28**	79.9	124.9
1,2-Dichloroethane		**86.12**	76.0	126.3
Trichloroethene		**94.62**	79.7	124.2
1,2-Dichloropropane		**92.78**	78.6	126.4
Bromodichloromethane		**96.72**	80.4	128.2
Methyl cyclohexane		**85.10**	76.6	131.3
Dibromomethane		**97.54**	76.9	122.1
cis-1,3-Dichloropropene		**95.38**	79.8	129.9
Toluene		**96.72**	79.8	124.5
trans-1,3-Dichloropropene		**96.82**	74.0	131.3
1,1,2-Trichloroethane		**95.42**	78.7	123.1
Tetrachloroethene		**87.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**91.94**	68.6	135.4
Dibromochloromethane		**93.38**	74.6	127.2
1,2-Dibromoethane		**93.08**	70.3	133.7
Chlorobenzene		**92.36**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.94**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**97.34**	79.5	129.1
p,m-Xylene		**95.52**	79.4	132.2
o-Xylene	*	**78.88**	80.2	131.0
Styrene		**85.80**	69.5	126.7
Isopropylbenzene		**97.94**	74.4	121.5
Bromoform		**96.60**	69.4	128.0
1,1,2,2-Tetrachloroethane		**91.74**	79.8	126.3
1,2,3-Trichloropropane		**88.10**	78.3	138.8
n-Propylbenzene		**99.78**	82.0	130.7
Bromobenzene		**91.98**	78.7	124.6
1,3,5-Trimethylbenzene		**96.36**	81.3	128.9
tert-Butylbenzene		**91.84**	80.7	128.9
1,2,4-Trimethylbenzene		**95.80**	81.4	130.8
sec-Butylbenzene		**95.94**	77.4	129.8
p-Isopropyltoluene	*	**76.92**	79.8	137.5
1,3-Dichlorobenzene		**87.86**	77.0	131.3
1,4-Dichlorobenzene		**86.38**	20.7	137.7
1,2-Dichlorobenzene		**90.36**	10.0	166.2
1,2,3-Trimethylbenzene		**85.02**	76.3	124.2
n-Butylbenzene		**94.46**	80.0	133.3
Hexachloroethane		**84.58**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**84.24**	21.2	189.4
1,2,4-Trichlorobenzene		**90.84**	27.4	143.4
1,2,3-Trichlorobenzene		**91.94**	75.4	131.4
Naphthalene		**89.72**	32.9	135.8
2-Methylnaphthalene		**89.50**	25.5	165.5
2-Chlorotoluene		**100.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**78.68**	75.1	135.9	**9.0**	30.0
Diethyl ether		**87.26**	67.4	121.2	**12.5**	30.0
Acetone	*	**100.92**	29.9	161.5	**33.3**	30.0
Methyl iodide		**90.98**	68.8	116.4	**9.9**	30.0
Carbon disulfide		**86.82**	63.8	137.4	**7.7**	30.0
Methyl acetate		**85.48**	64.7	125.4	**16.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.78**	73.2	122.4	**13.8**	30.0
Acrylonitrile		**93.66**	69.9	128.9	**17.7**	30.0
2-Butanone		**97.40**	44.0	134.4	**26.6**	30.0
Dichlorodifluoromethane		**106.98**	10.0	222.8	**5.9**	30.0
Chloromethane		**91.32**	23.8	166.5	**6.1**	30.0
Vinyl Chloride		**95.66**	43.5	149.1	**9.2**	30.0
Bromomethane		**82.68**	56.8	151.3	**10.7**	30.0
Chloroethane		**82.68**	53.4	149.4	**10.2**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**4.2**	30.0
1,1-Dichloroethene		**92.18**	69.6	139.4	**8.1**	30.0
Methylene Chloride		**98.90**	73.3	121.1	**10.8**	30.0
trans-1,2-Dichloroethene		**91.22**	73.6	129.3	**6.9**	30.0
1,1-Dichloroethane		**92.80**	71.5	126.2	**5.4**	30.0
cis-1,2-Dichloroethene		**97.22**	76.6	122.1	**9.7**	30.0
Tetrahydrofuran		**90.24**	59.0	117.9	**24.0**	30.0
Chloroform		**97.22**	78.4	124.0	**7.8**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**6.9**	30.0
1,1,1-Trichloroethane		**95.96**	79.4	130.9	**7.5**	30.0
Cyclohexane		**81.72**	10.0	169.1	**6.6**	30.0
4-Methyl-2-pentanone		**108.36**	71.6	125.2	**21.1**	30.0
2-Hexanone		**104.62**	55.4	136.9	**22.6**	30.0
2-Chloroethylvinyl ether	*	**2.98**	70.0	130.0	**17.5**	30.0
Carbon Tetrachloride		**102.94**	72.6	133.0	**4.6**	30.0
Benzene		**100.94**	79.9	124.9	**4.7**	30.0
1,2-Dichloroethane		**91.82**	76.0	126.3	**6.4**	30.0
Trichloroethene		**100.58**	79.7	124.2	**6.1**	30.0
1,2-Dichloropropane		**96.26**	78.6	126.4	**3.7**	30.0
Bromodichloromethane		**101.42**	80.4	128.2	**4.7**	30.0
Methyl cyclohexane		**87.76**	76.6	131.3	**3.1**	30.0
Dibromomethane		**109.20**	76.9	122.1	**11.3**	30.0
cis-1,3-Dichloropropene		**100.72**	79.8	129.9	**5.4**	30.0
Toluene		**101.74**	79.8	124.5	**5.1**	30.0
trans-1,3-Dichloropropene		**102.64**	74.0	131.3	**5.8**	30.0
1,1,2-Trichloroethane		**104.40**	78.7	123.1	**9.0**	30.0
Tetrachloroethene		**94.94**	74.5	124.5	**8.7**	30.0
trans-1,4-Dichloro-2-butene		**101.78**	68.6	135.4	**10.2**	30.0
Dibromochloromethane		**104.76**	74.6	127.2	**11.5**	30.0
1,2-Dibromoethane		**104.16**	70.3	133.7	**11.2**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**3.5**	30.0
1,1,1,2-Tetrachloroethane		**100.16**	80.3	128.2	**8.6**	30.0
Ethylbenzene		**102.08**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**99.56**	79.4	132.2	**4.1**	30.0
o-Xylene		**82.94**	80.2	131.0	**5.0**	30.0
Styrene		**89.60**	69.5	126.7	**4.3**	30.0
Isopropylbenzene		**102.80**	74.4	121.5	**4.8**	30.0
Bromoform		**109.26**	69.4	128.0	**12.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**104.42**	79.8	126.3	**12.9**	30.0
1,2,3-Trichloropropane		**98.30**	78.3	138.8	**10.9**	30.0
n-Propylbenzene		**103.38**	82.0	130.7	**3.5**	30.0
Bromobenzene		**98.46**	78.7	124.6	**6.8**	30.0
1,3,5-Trimethylbenzene		**98.92**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**96.96**	80.7	128.9	**5.4**	30.0
1,2,4-Trimethylbenzene		**99.54**	81.4	130.8	**3.8**	30.0
sec-Butylbenzene		**104.86**	77.4	129.8	**8.9**	30.0
p-Isopropyltoluene		**84.76**	79.8	137.5	**9.7**	30.0
1,3-Dichlorobenzene		**97.48**	77.0	131.3	**10.4**	30.0
1,4-Dichlorobenzene		**96.02**	20.7	137.7	**10.6**	30.0
1,2-Dichlorobenzene		**99.94**	10.0	166.2	**10.1**	30.0
1,2,3-Trimethylbenzene		**95.86**	76.3	124.2	**12.0**	30.0
n-Butylbenzene		**101.36**	80.0	133.3	**7.0**	30.0
Hexachloroethane		**95.50**	23.8	138.1	**12.1**	30.0
1,2-Dibromo-3-Chloropropane		**106.62**	21.2	189.4	**23.5**	30.0
1,2,4-Trichlorobenzene		**102.14**	27.4	143.4	**11.7**	30.0
1,2,3-Trichlorobenzene		**106.86**	75.4	131.4	**15.0**	30.0
Naphthalene		**107.64**	32.9	135.8	**18.2**	30.0
2-Methylnaphthalene		**111.00**	25.5	165.5	**21.4**	30.0
2-Chlorotoluene		**102.88**	70.0	130.0	**2.2**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

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C.O.C. PAGE # 1 OF 1

88609

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis.com
P.O. NO.:
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 6
SAMPLER(S) PLEASE PRINT/SIGN NAME: Doug Spencer

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals
70050.01	12/3/15	08:00	TB0001_120315	L	1		1						X		
.02	12/3/15	10:20	P6-SB-35_120315	GW	1			1							X
.03	12/2/15	12:12	P6-SB-37_120315	GW	1			1							X
.04	12/2/15	13:29	MW-14-67_120315	GW	4		3	1					X	X	X

Select Metals: Arsenic, nickel, lead, vanadium, chromium, and copper.

RELINQUISHED BY: SIGNATURE/ORGANIZATION ☐ Sampler DATE 12/3/15 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION PM Storage DATE 12/3/15 TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION PM Storage DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12.4.15 TIME 9—

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE 12-4-15 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12-4-15 TIME 9:30

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70051.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70051.01-S70051.08
Project: RACER Lansing Q4 GWS-P2 / B0064480.2015.00603
Submitted Date/Time: 12/04/2015 09:30
Sampled by: J. Ness
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Page 10)
Surrogates per Lab Sample (Pages 11-18)
Surrogates per QC Sample (Pages 19-21)
Batch QC Results (Pages 22-28)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70051.01
Sample Tag: MW-13-22_120315
Collected Date/Time: 12/03/2015 09:40
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 16:26	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 16:26	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 16:11	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 16:26	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.02
Sample Tag: MW-12-21_120315
Collected Date/Time: 12/03/2015 11:35
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 16:48	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 16:48	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 17:57	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 16:48	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.03
Sample Tag: MW-13-28_120315
Collected Date/Time: 12/03/2015 13:25
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 17:20	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 17:20	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 14:02	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 17:20	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.04
Sample Tag: MW-13-23_120315
Collected Date/Time: 12/03/2015 15:00
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 17:42	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 17:42	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 14:20	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 17:42	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.05
Sample Tag: MW-13-30_120315
Collected Date/Time: 12/03/2015 16:40
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 18:04	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 18:04	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 17:23	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 18:04	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.06
Sample Tag: Dup-08_120315
Collected Date/Time: 12/03/2015 00:01
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 18:26	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 18:26	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 18:26	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.07
Sample Tag: EB0003_120315
Collected Date/Time: 12/03/2015 09:55
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 13:08	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 13:08	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 13:08	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70051.08
Sample Tag: TB0003_120315
Collected Date/Time: 12/03/2015 00:01
Matrix: Groundwater
COC Reference: 92797

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 13:30	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 13:30	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 13:30	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70051.01	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 16:26	151209A7
S70051.01	1,2-Dibromoethane	SW8260B	12/09/15 16:26	151209A7
S70051.01	TCL Volatile Organics 8260	SW8260C	12/09/15 16:26	151209A7
S70051.02	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 16:48	151209A7
S70051.02	1,2-Dibromoethane	SW8260B	12/09/15 16:48	151209A7
S70051.02	TCL Volatile Organics 8260	SW8260C	12/09/15 16:48	151209A7
S70051.03	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 17:20	151209A7
S70051.03	1,2-Dibromoethane	SW8260B	12/09/15 17:20	151209A7
S70051.03	TCL Volatile Organics 8260	SW8260C	12/09/15 17:20	151209A7
S70051.04	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 17:42	151209A7
S70051.04	1,2-Dibromoethane	SW8260B	12/09/15 17:42	151209A7
S70051.04	TCL Volatile Organics 8260	SW8260C	12/09/15 17:42	151209A7
S70051.05	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 18:04	151209A7
S70051.05	1,2-Dibromoethane	SW8260B	12/09/15 18:04	151209A7
S70051.05	TCL Volatile Organics 8260	SW8260C	12/09/15 18:04	151209A7
S70051.06	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 18:26	151209A7
S70051.06	1,2-Dibromoethane	SW8260B	12/09/15 18:26	151209A7
S70051.06	TCL Volatile Organics 8260	SW8260C	12/09/15 18:26	151209A7
S70051.07	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 13:08	151209A7
S70051.07	1,2-Dibromoethane	SW8260B	12/09/15 13:08	151209A7
S70051.07	TCL Volatile Organics 8260	SW8260C	12/09/15 13:08	151209A7
S70051.08	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 13:30	151209A7
S70051.08	1,2-Dibromoethane	SW8260B	12/09/15 13:30	151209A7
S70051.08	TCL Volatile Organics 8260	SW8260C	12/09/15 13:30	151209A7

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70051.01	1,4-Dioxane	SW8260B - SIM	12/09/15 16:11	151209A3
S70051.05	1,4-Dioxane	SW8260B - SIM	12/09/15 17:23	151209A3

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70051.02	1,4-Dioxane	SW8260B - SIM	12/10/15 17:57	151210A3
S70051.03	1,4-Dioxane	SW8260B - SIM	12/10/15 14:02	151210A3
S70051.04	1,4-Dioxane	SW8260B - SIM	12/10/15 14:20	151210A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.01
Sample Tag: MW-13-22_120315
Collected Date/Time: 12/03/2015 09:40
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 16:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**83.20**	83.0	119.0
1,2-Dichloroethane-D4		**106.80**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.02
Sample Tag: MW-12-21_120315
Collected Date/Time: 12/03/2015 11:35
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 16:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.40**	83.0	119.0
1,2-Dichloroethane-D4		**113.20**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.03
Sample Tag: MW-13-28_120315
Collected Date/Time: 12/03/2015 13:25
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 17:20, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**83.80**	83.0	119.0
1,2-Dichloroethane-D4		**111.40**	77.0	121.0
Toluene-D8		**103.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.04
Sample Tag: MW-13-23_120315
Collected Date/Time: 12/03/2015 15:00
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 17:42, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.20**	83.0	119.0
1,2-Dichloroethane-D4		**115.60**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.05
Sample Tag: MW-13-30_120315
Collected Date/Time: 12/03/2015 16:40
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 18:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.60**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.06
Sample Tag: Dup-08_120315
Collected Date/Time: 12/03/2015 00:01
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 18:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.80**	77.0	121.0
Toluene-D8		**102.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.07
Sample Tag: EB0003_120315
Collected Date/Time: 12/03/2015 09:55
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 13:08, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.20**	83.0	119.0
1,2-Dichloroethane-D4		**108.80**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70051.08
Sample Tag: TB0003_120315
Collected Date/Time: 12/03/2015 00:01
Matrix: Groundwater
COC Reference: 92797

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 13:30, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.80**	83.0	119.0
1,2-Dichloroethane-D4		**112.20**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**87.80**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**109.80**	77.0	121.0
Toluene-D8		**93.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.40**	77.0	121.0
Toluene-D8		**102.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**71.92**	75.1	135.9
Diethyl ether		**77.02**	67.4	121.2
Acetone		**72.08**	29.9	161.5
Methyl iodide		**82.38**	68.8	116.4
Carbon disulfide		**80.36**	63.8	137.4
Methyl acetate		**72.82**	64.7	125.4
tert-Methyl butyl ether		**75.54**	73.2	122.4
Acrylonitrile		**78.44**	69.9	128.9
2-Butanone		**74.52**	44.0	134.4
Dichlorodifluoromethane		**100.86**	10.0	222.8
Chloromethane		**85.92**	23.8	166.5
Vinyl Chloride		**87.22**	43.5	149.1
Bromomethane		**74.30**	56.8	151.3
Chloroethane		**74.68**	53.4	149.4
Trichlorofluoromethane		**71.04**	59.7	151.8
1,1-Dichloroethene		**85.04**	69.6	139.4
Methylene Chloride		**88.78**	73.3	121.1
trans-1,2-Dichloroethene		**85.12**	73.6	129.3
1,1-Dichloroethane		**87.94**	71.5	126.2
cis-1,2-Dichloroethene		**88.20**	76.6	122.1
Tetrahydrofuran		**70.88**	59.0	117.9
Chloroform		**89.94**	78.4	124.0
Bromochloromethane		**87.84**	78.2	120.8
1,1,1-Trichloroethane		**88.98**	79.4	130.9
Cyclohexane		**76.52**	10.0	169.1
4-Methyl-2-pentanone		**87.66**	71.6	125.2
2-Hexanone		**83.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.50**	70.0	130.0
Carbon Tetrachloride		**98.34**	72.6	133.0
Benzene		**96.28**	79.9	124.9
1,2-Dichloroethane		**86.12**	76.0	126.3
Trichloroethene		**94.62**	79.7	124.2
1,2-Dichloropropane		**92.78**	78.6	126.4
Bromodichloromethane		**96.72**	80.4	128.2
Methyl cyclohexane		**85.10**	76.6	131.3
Dibromomethane		**97.54**	76.9	122.1
cis-1,3-Dichloropropene		**95.38**	79.8	129.9
Toluene		**96.72**	79.8	124.5
trans-1,3-Dichloropropene		**96.82**	74.0	131.3
1,1,2-Trichloroethane		**95.42**	78.7	123.1
Tetrachloroethene		**87.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**91.94**	68.6	135.4
Dibromochloromethane		**93.38**	74.6	127.2
1,2-Dibromoethane		**93.08**	70.3	133.7
Chlorobenzene		**92.36**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.94**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**97.34**	79.5	129.1
p,m-Xylene		**95.52**	79.4	132.2
o-Xylene	*	**78.88**	80.2	131.0
Styrene		**85.80**	69.5	126.7
Isopropylbenzene		**97.94**	74.4	121.5
Bromoform		**96.60**	69.4	128.0
1,1,2,2-Tetrachloroethane		**91.74**	79.8	126.3
1,2,3-Trichloropropane		**88.10**	78.3	138.8
n-Propylbenzene		**99.78**	82.0	130.7
Bromobenzene		**91.98**	78.7	124.6
1,3,5-Trimethylbenzene		**96.36**	81.3	128.9
tert-Butylbenzene		**91.84**	80.7	128.9
1,2,4-Trimethylbenzene		**95.80**	81.4	130.8
sec-Butylbenzene		**95.94**	77.4	129.8
p-Isopropyltoluene	*	**76.92**	79.8	137.5
1,3-Dichlorobenzene		**87.86**	77.0	131.3
1,4-Dichlorobenzene		**86.38**	20.7	137.7
1,2-Dichlorobenzene		**90.36**	10.0	166.2
1,2,3-Trimethylbenzene		**85.02**	76.3	124.2
n-Butylbenzene		**94.46**	80.0	133.3
Hexachloroethane		**84.58**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**84.24**	21.2	189.4
1,2,4-Trichlorobenzene		**90.84**	27.4	143.4
1,2,3-Trichlorobenzene		**91.94**	75.4	131.4
Naphthalene		**89.72**	32.9	135.8
2-Methylnaphthalene		**89.50**	25.5	165.5
2-Chlorotoluene		**100.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**78.68**	75.1	135.9	**9.0**	30.0
Diethyl ether		**87.26**	67.4	121.2	**12.5**	30.0
Acetone	*	**100.92**	29.9	161.5	**33.3**	30.0
Methyl iodide		**90.98**	68.8	116.4	**9.9**	30.0
Carbon disulfide		**86.82**	63.8	137.4	**7.7**	30.0
Methyl acetate		**85.48**	64.7	125.4	**16.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.78**	73.2	122.4	**13.8**	30.0
Acrylonitrile		**93.66**	69.9	128.9	**17.7**	30.0
2-Butanone		**97.40**	44.0	134.4	**26.6**	30.0
Dichlorodifluoromethane		**106.98**	10.0	222.8	**5.9**	30.0
Chloromethane		**91.32**	23.8	166.5	**6.1**	30.0
Vinyl Chloride		**95.66**	43.5	149.1	**9.2**	30.0
Bromomethane		**82.68**	56.8	151.3	**10.7**	30.0
Chloroethane		**82.68**	53.4	149.4	**10.2**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**4.2**	30.0
1,1-Dichloroethene		**92.18**	69.6	139.4	**8.1**	30.0
Methylene Chloride		**98.90**	73.3	121.1	**10.8**	30.0
trans-1,2-Dichloroethene		**91.22**	73.6	129.3	**6.9**	30.0
1,1-Dichloroethane		**92.80**	71.5	126.2	**5.4**	30.0
cis-1,2-Dichloroethene		**97.22**	76.6	122.1	**9.7**	30.0
Tetrahydrofuran		**90.24**	59.0	117.9	**24.0**	30.0
Chloroform		**97.22**	78.4	124.0	**7.8**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**6.9**	30.0
1,1,1-Trichloroethane		**95.96**	79.4	130.9	**7.5**	30.0
Cyclohexane		**81.72**	10.0	169.1	**6.6**	30.0
4-Methyl-2-pentanone		**108.36**	71.6	125.2	**21.1**	30.0
2-Hexanone		**104.62**	55.4	136.9	**22.6**	30.0
2-Chloroethylvinyl ether	*	**2.98**	70.0	130.0	**17.5**	30.0
Carbon Tetrachloride		**102.94**	72.6	133.0	**4.6**	30.0
Benzene		**100.94**	79.9	124.9	**4.7**	30.0
1,2-Dichloroethane		**91.82**	76.0	126.3	**6.4**	30.0
Trichloroethene		**100.58**	79.7	124.2	**6.1**	30.0
1,2-Dichloropropane		**96.26**	78.6	126.4	**3.7**	30.0
Bromodichloromethane		**101.42**	80.4	128.2	**4.7**	30.0
Methyl cyclohexane		**87.76**	76.6	131.3	**3.1**	30.0
Dibromomethane		**109.20**	76.9	122.1	**11.3**	30.0
cis-1,3-Dichloropropene		**100.72**	79.8	129.9	**5.4**	30.0
Toluene		**101.74**	79.8	124.5	**5.1**	30.0
trans-1,3-Dichloropropene		**102.64**	74.0	131.3	**5.8**	30.0
1,1,2-Trichloroethane		**104.40**	78.7	123.1	**9.0**	30.0
Tetrachloroethene		**94.94**	74.5	124.5	**8.7**	30.0
trans-1,4-Dichloro-2-butene		**101.78**	68.6	135.4	**10.2**	30.0
Dibromochloromethane		**104.76**	74.6	127.2	**11.5**	30.0
1,2-Dibromoethane		**104.16**	70.3	133.7	**11.2**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**3.5**	30.0
1,1,1,2-Tetrachloroethane		**100.16**	80.3	128.2	**8.6**	30.0
Ethylbenzene		**102.08**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**99.56**	79.4	132.2	**4.1**	30.0
o-Xylene		**82.94**	80.2	131.0	**5.0**	30.0
Styrene		**89.60**	69.5	126.7	**4.3**	30.0
Isopropylbenzene		**102.80**	74.4	121.5	**4.8**	30.0
Bromoform		**109.26**	69.4	128.0	**12.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**104.42**	79.8	126.3	**12.9**	30.0
1,2,3-Trichloropropane		**98.30**	78.3	138.8	**10.9**	30.0
n-Propylbenzene		**103.38**	82.0	130.7	**3.5**	30.0
Bromobenzene		**98.46**	78.7	124.6	**6.8**	30.0
1,3,5-Trimethylbenzene		**98.92**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**96.96**	80.7	128.9	**5.4**	30.0
1,2,4-Trimethylbenzene		**99.54**	81.4	130.8	**3.8**	30.0
sec-Butylbenzene		**104.86**	77.4	129.8	**8.9**	30.0
p-Isopropyltoluene		**84.76**	79.8	137.5	**9.7**	30.0
1,3-Dichlorobenzene		**97.48**	77.0	131.3	**10.4**	30.0
1,4-Dichlorobenzene		**96.02**	20.7	137.7	**10.6**	30.0
1,2-Dichlorobenzene		**99.94**	10.0	166.2	**10.1**	30.0
1,2,3-Trimethylbenzene		**95.86**	76.3	124.2	**12.0**	30.0
n-Butylbenzene		**101.36**	80.0	133.3	**7.0**	30.0
Hexachloroethane		**95.50**	23.8	138.1	**12.1**	30.0
1,2-Dibromo-3-Chloropropane		**106.62**	21.2	189.4	**23.5**	30.0
1,2,4-Trichlorobenzene		**102.14**	27.4	143.4	**11.7**	30.0
1,2,3-Trichlorobenzene		**106.86**	75.4	131.4	**15.0**	30.0
Naphthalene		**107.64**	32.9	135.8	**18.2**	30.0
2-Methylnaphthalene		**111.00**	25.5	165.5	**21.4**	30.0
2-Chlorotoluene		**102.88**	70.0	130.0	**2.2**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

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www.meritlabs.com

C.O.C. PAGE # 1 OF 1

92797

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alex Villhauer
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Dr, Suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO.: (616) 780-3277 FAX NO.: 248-994-2241 P.O. NO.: NA
E-MAIL ADDRESS: alex.villhauer@arcadis.com QUOTE NO.: NA

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: B006480.2015.00003 RACER Lansing Q4 GWS - P2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: J. Ness

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO3	H2SO4	NaOH	MeOH	OTHER	VOCs	1,4-Dioxane
700510.01	12/3/15	0940	MW-13-22-120315	GW	3		3						✓	✓
.02		1135	MW-12-21_120315	GW	3		3						✓	✓
.03		1325	MW-13-28_120315	GW	3		3						✓	✓
.04		1500	MW-13-23_120315	GW	3		3						✓	✓
.05	↓	1640	MW-13-30_120315	GW	3		3						✓	✓
.06	—	—	DUP-08_120315	GW	3		3						✓	
.07	12/3/15	0955	EB0003_120315	GW	3		3						✓	
.08	—	—	TB0003_120315	GW	1		1						✓	

RELINQUISHED BY: J. Ness SIGNATURE/ORGANIZATION ☐ Sampler ARCADIS DATE 12/3/15 TIME 1645
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12.4.15 TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE 12-4-15 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12-4-15 TIME 9:30

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70053.01(01)
Generated on 01/07/2016

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70053.01-S70053.08
Project: RACER Lansing Plant 2 / B0064479.2015
Submitted Date/Time: 12/04/2015 09:30
Sampled by: Cliff Walls
P.O. #: B0064479.2015

QC Report Sections

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Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70053.01
Sample Tag: TB_0002_120315
Collected Date/Time: 12/03/2015 07:00
Matrix: Liquid
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 14:58	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 14:58	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 14:58	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.02
Sample Tag: MW-13-45_120315
Collected Date/Time: 12/03/2015 09:25
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 15:20	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 15:20	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 14:04	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 15:20	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.03
Sample Tag: MW-13-45_120315 MS
Collected Date/Time: 12/03/2015 09:25
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 10:54	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 10:54	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 12:52	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 10:54	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.04
Sample Tag: MW-13-45_120315 MSD
Collected Date/Time: 12/03/2015 09:25
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 11:16	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 11:16	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 13:10	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/09/15 11:16	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.05
Sample Tag: MW-13-43_120315
Collected Date/Time: 12/03/2015 10:55
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 14:50	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/04/15 12:08	CL151204-W1	CL151204-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/04/15 14:03	SFT151204-W1	SFT151204-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium	SW6020A	12/17/15 13:17	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:17	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:17	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:17	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 15:41	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 15:41	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 18:15	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 15:41	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.06
Sample Tag: MW-13-44_120315
Collected Date/Time: 12/03/2015 12:04
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 16:04	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 16:04	151209A7	VF151209W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 14:38	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 16:04	151209A7	VF151209W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.07
Sample Tag: PW-14-02_120315
Collected Date/Time: 12/03/2015 13:55
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 14:55	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/04/15 12:20	CL151204-W1	CL151204-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/04/15 12:20	SFT151204-W1	SFT151204-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium	SW6020A	12/17/15 13:18	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:18	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:18	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:18	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 23:54	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/09/15 23:54	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 18:33	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/09/15 23:54	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70053.08
Sample Tag: MW-14-58_120315
Collected Date/Time: 12/03/2015 15:05
Matrix: Groundwater
COC Reference: 88608

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 15:00	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/04/15 14:16	CL151204-W1	CL151204-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/04/15 12:33	SFT151204-W1	SFT151204-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	12/09/15 13:05	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:20	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:05	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:05	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:05	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:20	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:05	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:20	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:20	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:05	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 00:16	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 00:16	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 15:17	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 00:16	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.05	Alkalinity as CaCO3	SM2320B	12/07/15 14:50	ALK151207-W2
S70053.07	Alkalinity as CaCO3	SM2320B	12/07/15 14:55	ALK151207-W2
S70053.08	Alkalinity as CaCO3	SM2320B	12/07/15 15:00	ALK151207-W2

Inorganics, Prep Batch ID: CL151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.05	Chloride	E300.0	12/04/15 12:08	CL151204-W1
S70053.07	Chloride	E300.0	12/04/15 12:20	CL151204-W1
S70053.08	Chloride	E300.0	12/04/15 14:16	CL151204-W1

Inorganics, Prep Batch ID: SFT151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.05	Sulfate	E300.0	12/04/15 14:03	SFT151204-W1
S70053.07	Sulfate	E300.0	12/04/15 12:20	SFT151204-W1
S70053.08	Sulfate	E300.0	12/04/15 12:33	SFT151204-W1

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.08	Arsenic	SW6020A	12/09/15 13:05	MT2-15-1209B
S70053.08	Chromium	SW6020A	12/09/15 13:05	MT2-15-1209B
S70053.08	Copper	SW6020A	12/09/15 13:05	MT2-15-1209B
S70053.08	Lead	SW6020A	12/09/15 13:05	MT2-15-1209B
S70053.08	Nickel	SW6020A	12/09/15 13:05	MT2-15-1209B
S70053.08	Vanadium	SW6020A	12/09/15 13:05	MT2-15-1209B

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.05	Calcium	SW6020A	12/17/15 13:17	MT2-15-1217B
S70053.05	Magnesium	SW6020A	12/17/15 13:17	MT2-15-1217B
S70053.05	Potassium	SW6020A	12/17/15 13:17	MT2-15-1217B
S70053.05	Sodium	SW6020A	12/17/15 13:17	MT2-15-1217B
S70053.07	Calcium	SW6020A	12/17/15 13:18	MT2-15-1217B
S70053.07	Magnesium	SW6020A	12/17/15 13:18	MT2-15-1217B
S70053.07	Potassium	SW6020A	12/17/15 13:18	MT2-15-1217B
S70053.07	Sodium	SW6020A	12/17/15 13:18	MT2-15-1217B
S70053.08	Calcium	SW6020A	12/17/15 13:20	MT2-15-1217B
S70053.08	Magnesium	SW6020A	12/17/15 13:20	MT2-15-1217B
S70053.08	Potassium	SW6020A	12/17/15 13:20	MT2-15-1217B
S70053.08	Sodium	SW6020A	12/17/15 13:20	MT2-15-1217B

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.01	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 14:58	151209A7
S70053.01	1,2-Dibromoethane	SW8260B	12/09/15 14:58	151209A7
S70053.01	TCL Volatile Organics 8260	SW8260C	12/09/15 14:58	151209A7

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.02	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 15:20	151209A7
S70053.02	1,2-Dibromoethane	SW8260B	12/09/15 15:20	151209A7
S70053.02	TCL Volatile Organics 8260	SW8260C	12/09/15 15:20	151209A7
S70053.03	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 10:54	151209A7
S70053.03	1,2-Dibromoethane	SW8260B	12/09/15 10:54	151209A7
S70053.03	TCL Volatile Organics 8260	SW8260C	12/09/15 10:54	151209A7
S70053.04	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 11:16	151209A7
S70053.04	1,2-Dibromoethane	SW8260B	12/09/15 11:16	151209A7
S70053.04	TCL Volatile Organics 8260	SW8260C	12/09/15 11:16	151209A7
S70053.05	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 15:41	151209A7
S70053.05	1,2-Dibromoethane	SW8260B	12/09/15 15:41	151209A7
S70053.05	TCL Volatile Organics 8260	SW8260C	12/09/15 15:41	151209A7
S70053.06	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 16:04	151209A7
S70053.06	1,2-Dibromoethane	SW8260B	12/09/15 16:04	151209A7
S70053.06	TCL Volatile Organics 8260	SW8260C	12/09/15 16:04	151209A7

Organics - Volatiles, Prep Batch ID: VF151209W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.07	1,2-Dibromo-3-chloropropane	SW8260C	12/09/15 23:54	151209B7
S70053.07	1,2-Dibromoethane	SW8260B	12/09/15 23:54	151209B7
S70053.07	TCL Volatile Organics 8260	SW8260C	12/09/15 23:54	151209B7
S70053.08	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 00:16	151209B7
S70053.08	1,2-Dibromoethane	SW8260B	12/10/15 00:16	151209B7
S70053.08	TCL Volatile Organics 8260	SW8260C	12/10/15 00:16	151209B7

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.02	1,4-Dioxane	SW8260B - SIM	12/09/15 14:04	151209A3
S70053.03	1,4-Dioxane	SW8260B - SIM	12/09/15 12:52	151209A3
S70053.04	1,4-Dioxane	SW8260B - SIM	12/09/15 13:10	151209A3
S70053.08	1,4-Dioxane	SW8260B - SIM	12/09/15 15:17	151209A3

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70053.05	1,4-Dioxane	SW8260B - SIM	12/10/15 18:15	151210A3
S70053.06	1,4-Dioxane	SW8260B - SIM	12/10/15 14:38	151210A3
S70053.07	1,4-Dioxane	SW8260B - SIM	12/10/15 18:33	151210A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70053.01
Sample Tag: TB_0002_120315
Collected Date/Time: 12/03/2015 07:00
Matrix: Liquid
COC Reference: 88608

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 14:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.40**	83.0	119.0
1,2-Dichloroethane-D4		**107.60**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

Lab Sample ID: S70053.02
Sample Tag: MW-13-45_120315
Collected Date/Time: 12/03/2015 09:25
Matrix: Groundwater
COC Reference: 88608

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 15:20, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.40**	83.0	119.0
1,2-Dichloroethane-D4		**115.20**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Lab Sample ID: S70053.05
Sample Tag: MW-13-43_120315
Collected Date/Time: 12/03/2015 10:55
Matrix: Groundwater
COC Reference: 88608

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 15:41, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.60**	83.0	119.0
1,2-Dichloroethane-D4		**116.60**	77.0	121.0
Toluene-D8		**101.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70053.06
Sample Tag: MW-13-44_120315
Collected Date/Time: 12/03/2015 12:04
Matrix: Groundwater
COC Reference: 88608

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209A7, Run Date: 12/09/2015 16:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.20**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**97.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70053.07
Sample Tag: PW-14-02_120315
Collected Date/Time: 12/03/2015 13:55
Matrix: Groundwater
COC Reference: 88608

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/09/2015 23:54, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

Lab Sample ID: S70053.08
Sample Tag: MW-14-58_120315
Collected Date/Time: 12/03/2015 15:05
Matrix: Groundwater
COC Reference: 88608

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 00:16, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.60**	83.0	119.0
1,2-Dichloroethane-D4		**110.00**	77.0	121.0
Toluene-D8		**99.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**87.80**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**109.80**	77.0	121.0
Toluene-D8		**93.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**94.40**	77.0	121.0
Toluene-D8		**102.40**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF151209W3

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.20**	83.0	119.0
1,2-Dichloroethane-D4		**89.40**	77.0	121.0
Toluene-D8		**102.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**83.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.40**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.60**	83.0	119.0
1,2-Dichloroethane-D4		**94.20**	77.0	121.0
Toluene-D8		**105.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151207-W2.LRB1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:00, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151207-W2.LCS1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:15, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**92**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151207-W2.MS1, Parent Sample ID: S69983.03

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:35, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**92**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151207-W2.DP1, Parent Sample ID: S69934.06

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:25, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 2

Analyte	Flags	**RPD**	RPD CL
Alkalinity as CaCO3		**<1**	15

Inorganics, Prep Batch ID: CL151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151204-W1.LRB1

Run in Batch: CL151204-W1, Run Date: 12/04/2015 10:00, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151204-W1.LCS1

Run in Batch: CL151204-W1, Run Date: 12/04/2015 10:25, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**98**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151204-W1.MS1, Parent Sample ID: S70008.04

Run in Batch: CL151204-W1, Run Date: 12/04/2015 14:28, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**98**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151204-W1.MSD1, Parent Sample ID: CL151204-W1.MS1

Run in Batch: CL151204-W1, Run Date: 12/04/2015 14:41, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**98**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151204-W1.DP1, Parent Sample ID: S70008.04

Run in Batch: CL151204-W1, Run Date: 12/04/2015 13:24, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**RPD**	RPD CL
Chloride		**<1**	15

Inorganics, Prep Batch ID: SFT151204-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151204-W1.LRB1

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 10:00, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151204-W1.LCS1

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 10:25, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**101**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151204-W1.MS1, Parent Sample ID: S70008.04

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 14:28, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**104**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151204-W1.MSD1, Parent Sample ID: SFT151204-W1.MS1

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 14:41, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT151204-W1.DP1, Parent Sample ID: S70008.04

Run in Batch: SFT151204-W1, Run Date: 12/04/2015 13:24, Prep Date: 12/04/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.060.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:01, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**98**	85	115
Chromium		**98**	85	115
Copper		**99**	85	115
Nickel		**99**	85	115
Lead		**100**	85	115
Vanadium		**96**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.061.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:02, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.066.MS, Parent Sample ID: S70054.06

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:13, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**100**	75	125
Chromium		**102**	75	125
Copper		**99**	75	125
Nickel		**104**	75	125
Lead		**97**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.086.MS, Parent Sample ID: S70115.03

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:49, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**98**	75	125
Chromium		**101**	75	125
Copper		**92**	75	125
Nickel		**98**	75	125
Lead		**96**	75	125
Vanadium		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**100**	75	125	**0**	20
Chromium		**96**	75	125	**5**	20

Metals, Prep Batch ID: MTD-120915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Copper		**96**	75	125	**3**	20
Nickel		**99**	75	125	**4**	20
Lead		**97**	75	125	**0**	20
Vanadium		**96**	75	125	**5**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.087.MSD, Parent Sample ID: MT2-15-1209B.086.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:51, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Arsenic		**98**	75	125	**0**	20
Chromium		**98**	75	125	**3**	20
Copper		**92**	75	125	**0**	20
Nickel		**99**	75	125	**1**	20
Lead		**95**	75	125	**0**	20
Vanadium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Calcium		**105**	85	115
Potassium		**103**	85	115
Magnesium		**104**	85	115
Sodium		**109**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Calcium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Sodium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Calcium		**100**	75	125
Potassium		**102**	75	125
Magnesium		**109**	75	125
Sodium		**106**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Calcium		**99**	75	125
Potassium		**100**	75	125
Magnesium		**103**	75	125
Sodium		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		**115**	75	125	**2**	20
Potassium		**102**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Sodium		**105**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Calcium		**98**	75	125	**1**	20
Potassium		**98**	75	125	**1**	20
Magnesium		**101**	75	125	**2**	20
Sodium		**101**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF151209W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**71.92**	75.1	135.9
Diethyl ether		**77.02**	67.4	121.2
Acetone		**72.08**	29.9	161.5
Methyl iodide		**82.38**	68.8	116.4
Carbon disulfide		**80.36**	63.8	137.4
Methyl acetate		**72.82**	64.7	125.4
tert-Methyl butyl ether		**75.54**	73.2	122.4
Acrylonitrile		**78.44**	69.9	128.9
2-Butanone		**74.52**	44.0	134.4
Dichlorodifluoromethane		**100.86**	10.0	222.8
Chloromethane		**85.92**	23.8	166.5
Vinyl Chloride		**87.22**	43.5	149.1
Bromomethane		**74.30**	56.8	151.3
Chloroethane		**74.68**	53.4	149.4
Trichlorofluoromethane		**71.04**	59.7	151.8
1,1-Dichloroethene		**85.04**	69.6	139.4
Methylene Chloride		**88.78**	73.3	121.1
trans-1,2-Dichloroethene		**85.12**	73.6	129.3
1,1-Dichloroethane		**87.94**	71.5	126.2
cis-1,2-Dichloroethene		**88.20**	76.6	122.1
Tetrahydrofuran		**70.88**	59.0	117.9
Chloroform		**89.94**	78.4	124.0
Bromochloromethane		**87.84**	78.2	120.8
1,1,1-Trichloroethane		**88.98**	79.4	130.9
Cyclohexane		**76.52**	10.0	169.1
4-Methyl-2-pentanone		**87.66**	71.6	125.2
2-Hexanone		**83.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.50**	70.0	130.0
Carbon Tetrachloride		**98.34**	72.6	133.0
Benzene		**96.28**	79.9	124.9
1,2-Dichloroethane		**86.12**	76.0	126.3
Trichloroethene		**94.62**	79.7	124.2
1,2-Dichloropropane		**92.78**	78.6	126.4
Bromodichloromethane		**96.72**	80.4	128.2
Methyl cyclohexane		**85.10**	76.6	131.3
Dibromomethane		**97.54**	76.9	122.1
cis-1,3-Dichloropropene		**95.38**	79.8	129.9
Toluene		**96.72**	79.8	124.5
trans-1,3-Dichloropropene		**96.82**	74.0	131.3
1,1,2-Trichloroethane		**95.42**	78.7	123.1
Tetrachloroethene		**87.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**91.94**	68.6	135.4
Dibromochloromethane		**93.38**	74.6	127.2
1,2-Dibromoethane		**93.08**	70.3	133.7
Chlorobenzene		**92.36**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.94**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**97.34**	79.5	129.1
p,m-Xylene		**95.52**	79.4	132.2
o-Xylene	*	**78.88**	80.2	131.0
Styrene		**85.80**	69.5	126.7
Isopropylbenzene		**97.94**	74.4	121.5
Bromoform		**96.60**	69.4	128.0
1,1,2,2-Tetrachloroethane		**91.74**	79.8	126.3
1,2,3-Trichloropropane		**88.10**	78.3	138.8
n-Propylbenzene		**99.78**	82.0	130.7
Bromobenzene		**91.98**	78.7	124.6
1,3,5-Trimethylbenzene		**96.36**	81.3	128.9
tert-Butylbenzene		**91.84**	80.7	128.9
1,2,4-Trimethylbenzene		**95.80**	81.4	130.8
sec-Butylbenzene		**95.94**	77.4	129.8
p-Isopropyltoluene	*	**76.92**	79.8	137.5
1,3-Dichlorobenzene		**87.86**	77.0	131.3
1,4-Dichlorobenzene		**86.38**	20.7	137.7
1,2-Dichlorobenzene		**90.36**	10.0	166.2
1,2,3-Trimethylbenzene		**85.02**	76.3	124.2
n-Butylbenzene		**94.46**	80.0	133.3
Hexachloroethane		**84.58**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**84.24**	21.2	189.4
1,2,4-Trichlorobenzene		**90.84**	27.4	143.4
1,2,3-Trichlorobenzene		**91.94**	75.4	131.4
Naphthalene		**89.72**	32.9	135.8
2-Methylnaphthalene		**89.50**	25.5	165.5
2-Chlorotoluene		**100.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209a7.blkw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 12:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**78.68**	75.1	135.9	**9.0**	30.0
Diethyl ether		**87.26**	67.4	121.2	**12.5**	30.0
Acetone	*	**100.92**	29.9	161.5	**33.3**	30.0
Methyl iodide		**90.98**	68.8	116.4	**9.9**	30.0
Carbon disulfide		**86.82**	63.8	137.4	**7.7**	30.0
Methyl acetate		**85.48**	64.7	125.4	**16.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.78**	73.2	122.4	**13.8**	30.0
Acrylonitrile		**93.66**	69.9	128.9	**17.7**	30.0
2-Butanone		**97.40**	44.0	134.4	**26.6**	30.0
Dichlorodifluoromethane		**106.98**	10.0	222.8	**5.9**	30.0
Chloromethane		**91.32**	23.8	166.5	**6.1**	30.0
Vinyl Chloride		**95.66**	43.5	149.1	**9.2**	30.0
Bromomethane		**82.68**	56.8	151.3	**10.7**	30.0
Chloroethane		**82.68**	53.4	149.4	**10.2**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**4.2**	30.0
1,1-Dichloroethene		**92.18**	69.6	139.4	**8.1**	30.0
Methylene Chloride		**98.90**	73.3	121.1	**10.8**	30.0
trans-1,2-Dichloroethene		**91.22**	73.6	129.3	**6.9**	30.0
1,1-Dichloroethane		**92.80**	71.5	126.2	**5.4**	30.0
cis-1,2-Dichloroethene		**97.22**	76.6	122.1	**9.7**	30.0
Tetrahydrofuran		**90.24**	59.0	117.9	**24.0**	30.0
Chloroform		**97.22**	78.4	124.0	**7.8**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**6.9**	30.0
1,1,1-Trichloroethane		**95.96**	79.4	130.9	**7.5**	30.0
Cyclohexane		**81.72**	10.0	169.1	**6.6**	30.0
4-Methyl-2-pentanone		**108.36**	71.6	125.2	**21.1**	30.0
2-Hexanone		**104.62**	55.4	136.9	**22.6**	30.0
2-Chloroethylvinyl ether	*	**2.98**	70.0	130.0	**17.5**	30.0
Carbon Tetrachloride		**102.94**	72.6	133.0	**4.6**	30.0
Benzene		**100.94**	79.9	124.9	**4.7**	30.0
1,2-Dichloroethane		**91.82**	76.0	126.3	**6.4**	30.0
Trichloroethene		**100.58**	79.7	124.2	**6.1**	30.0
1,2-Dichloropropane		**96.26**	78.6	126.4	**3.7**	30.0
Bromodichloromethane		**101.42**	80.4	128.2	**4.7**	30.0
Methyl cyclohexane		**87.76**	76.6	131.3	**3.1**	30.0
Dibromomethane		**109.20**	76.9	122.1	**11.3**	30.0
cis-1,3-Dichloropropene		**100.72**	79.8	129.9	**5.4**	30.0
Toluene		**101.74**	79.8	124.5	**5.1**	30.0
trans-1,3-Dichloropropene		**102.64**	74.0	131.3	**5.8**	30.0
1,1,2-Trichloroethane		**104.40**	78.7	123.1	**9.0**	30.0
Tetrachloroethene		**94.94**	74.5	124.5	**8.7**	30.0
trans-1,4-Dichloro-2-butene		**101.78**	68.6	135.4	**10.2**	30.0
Dibromochloromethane		**104.76**	74.6	127.2	**11.5**	30.0
1,2-Dibromoethane		**104.16**	70.3	133.7	**11.2**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**3.5**	30.0
1,1,1,2-Tetrachloroethane		**100.16**	80.3	128.2	**8.6**	30.0
Ethylbenzene		**102.08**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**99.56**	79.4	132.2	**4.1**	30.0
o-Xylene		**82.94**	80.2	131.0	**5.0**	30.0
Styrene		**89.60**	69.5	126.7	**4.3**	30.0
Isopropylbenzene		**102.80**	74.4	121.5	**4.8**	30.0
Bromoform		**109.26**	69.4	128.0	**12.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209a7.lcsw09b, Parent Sample ID: 151209a7.lcsw09a

Run in Batch: 151209A7, Run Date: 12/09/2015 10:32, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**104.42**	79.8	126.3	**12.9**	30.0
1,2,3-Trichloropropane		**98.30**	78.3	138.8	**10.9**	30.0
n-Propylbenzene		**103.38**	82.0	130.7	**3.5**	30.0
Bromobenzene		**98.46**	78.7	124.6	**6.8**	30.0
1,3,5-Trimethylbenzene		**98.92**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**96.96**	80.7	128.9	**5.4**	30.0
1,2,4-Trimethylbenzene		**99.54**	81.4	130.8	**3.8**	30.0
sec-Butylbenzene		**104.86**	77.4	129.8	**8.9**	30.0
p-Isopropyltoluene		**84.76**	79.8	137.5	**9.7**	30.0
1,3-Dichlorobenzene		**97.48**	77.0	131.3	**10.4**	30.0
1,4-Dichlorobenzene		**96.02**	20.7	137.7	**10.6**	30.0
1,2-Dichlorobenzene		**99.94**	10.0	166.2	**10.1**	30.0
1,2,3-Trimethylbenzene		**95.86**	76.3	124.2	**12.0**	30.0
n-Butylbenzene		**101.36**	80.0	133.3	**7.0**	30.0
Hexachloroethane		**95.50**	23.8	138.1	**12.1**	30.0
1,2-Dibromo-3-Chloropropane		**106.62**	21.2	189.4	**23.5**	30.0
1,2,4-Trichlorobenzene		**102.14**	27.4	143.4	**11.7**	30.0
1,2,3-Trichlorobenzene		**106.86**	75.4	131.4	**15.0**	30.0
Naphthalene		**107.64**	32.9	135.8	**18.2**	30.0
2-Methylnaphthalene		**111.00**	25.5	165.5	**21.4**	30.0
2-Chlorotoluene		**102.88**	70.0	130.0	**2.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.48**	75.1	135.9
Diethyl ether		**86.00**	67.4	121.2
Acetone		**83.86**	29.9	161.5
Methyl iodide		**92.00**	68.8	116.4
Carbon disulfide		**86.66**	63.8	137.4
Methyl acetate		**84.46**	64.7	125.4
tert-Methyl butyl ether		**85.64**	73.2	122.4
Acrylonitrile		**90.16**	69.9	128.9
2-Butanone		**94.26**	44.0	134.4
Dichlorodifluoromethane		**102.50**	10.0	222.8
Chloromethane		**87.50**	23.8	166.5
Vinyl Chloride		**87.18**	43.5	149.1
Bromomethane		**76.46**	56.8	151.3
Chloroethane		**77.58**	53.4	149.4
Trichlorofluoromethane		**67.48**	59.7	151.8
1,1-Dichloroethene		**88.58**	69.6	139.4
Methylene Chloride		**95.72**	73.3	121.1
trans-1,2-Dichloroethene		**88.88**	73.6	129.3
1,1-Dichloroethane		**89.44**	71.5	126.2
cis-1,2-Dichloroethene		**93.54**	76.6	122.1
Tetrahydrofuran		**85.52**	59.0	117.9
Chloroform		**94.26**	78.4	124.0
Bromochloromethane		**92.46**	78.2	120.8
1,1,1-Trichloroethane		**93.66**	79.4	130.9
Cyclohexane		**82.62**	10.0	169.1
4-Methyl-2-pentanone		**99.54**	71.6	125.2
2-Hexanone		**102.78**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.22**	70.0	130.0
Carbon Tetrachloride		**97.08**	72.6	133.0
Benzene		**93.50**	79.9	124.9
1,2-Dichloroethane		**84.28**	76.0	126.3
Trichloroethene		**96.04**	79.7	124.2
1,2-Dichloropropane		**91.14**	78.6	126.4
Bromodichloromethane		**93.72**	80.4	128.2
Methyl cyclohexane		**86.22**	76.6	131.3
Dibromomethane		**99.82**	76.9	122.1
cis-1,3-Dichloropropene		**92.92**	79.8	129.9
Toluene		**96.44**	79.8	124.5
trans-1,3-Dichloropropene		**94.28**	74.0	131.3
1,1,2-Trichloroethane		**96.42**	78.7	123.1
Tetrachloroethene		**121.42**	74.5	124.5
trans-1,4-Dichloro-2-butene		**98.10**	68.6	135.4
Dibromochloromethane		**101.24**	74.6	127.2
1,2-Dibromoethane		**102.24**	70.3	133.7
Chlorobenzene		**96.26**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.16**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**102.22**	79.5	129.1
p,m-Xylene		**100.07**	79.4	132.2
o-Xylene		**83.38**	80.2	131.0
Styrene		**91.10**	69.5	126.7
Isopropylbenzene		**102.48**	74.4	121.5
Bromoform		**103.78**	69.4	128.0
1,1,2,2-Tetrachloroethane		**101.70**	79.8	126.3
1,2,3-Trichloropropane		**99.44**	78.3	138.8
n-Propylbenzene		**103.70**	82.0	130.7
Bromobenzene		**98.14**	78.7	124.6
1,3,5-Trimethylbenzene		**100.90**	81.3	128.9
tert-Butylbenzene		**96.56**	80.7	128.9
1,2,4-Trimethylbenzene		**98.88**	81.4	130.8
sec-Butylbenzene		**97.40**	77.4	129.8
p-Isopropyltoluene	*	**76.86**	79.8	137.5
1,3-Dichlorobenzene		**87.46**	77.0	131.3
1,4-Dichlorobenzene		**89.14**	20.7	137.7
1,2-Dichlorobenzene		**92.40**	10.0	166.2
1,2,3-Trimethylbenzene		**89.86**	76.3	124.2
n-Butylbenzene		**92.04**	80.0	133.3
Hexachloroethane		**89.66**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**90.58**	21.2	189.4
1,2,4-Trichlorobenzene		**91.96**	27.4	143.4
1,2,3-Trichlorobenzene		**94.78**	75.4	131.4
Naphthalene		**97.08**	32.9	135.8
2-Methylnaphthalene		**103.40**	25.5	165.5
2-Chlorotoluene		**104.54**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.80**	75.1	135.9	**0.4**	30.0
Diethyl ether		**86.88**	67.4	121.2	**1.0**	30.0
Acetone		**102.28**	29.9	161.5	**19.8**	30.0
Methyl iodide		**93.08**	68.8	116.4	**1.2**	30.0
Carbon disulfide		**85.94**	63.8	137.4	**0.8**	30.0
Methyl acetate		**86.96**	64.7	125.4	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.20**	73.2	122.4	**0.7**	30.0
Acrylonitrile		**92.06**	69.9	128.9	**2.1**	30.0
2-Butanone		**96.06**	44.0	134.4	**1.9**	30.0
Dichlorodifluoromethane		**96.40**	10.0	222.8	**6.1**	30.0
Chloromethane		**83.56**	23.8	166.5	**4.6**	30.0
Vinyl Chloride		**86.08**	43.5	149.1	**1.3**	30.0
Bromomethane		**77.36**	56.8	151.3	**1.2**	30.0
Chloroethane		**74.66**	53.4	149.4	**3.8**	30.0
Trichlorofluoromethane	*	**51.96**	59.7	151.8	**26.0**	30.0
1,1-Dichloroethene		**88.02**	69.6	139.4	**0.6**	30.0
Methylene Chloride		**94.90**	73.3	121.1	**0.9**	30.0
trans-1,2-Dichloroethene		**87.52**	73.6	129.3	**1.5**	30.0
1,1-Dichloroethane		**88.64**	71.5	126.2	**0.9**	30.0
cis-1,2-Dichloroethene		**93.10**	76.6	122.1	**0.5**	30.0
Tetrahydrofuran		**88.88**	59.0	117.9	**3.9**	30.0
Chloroform		**94.86**	78.4	124.0	**0.6**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**1.8**	30.0
1,1,1-Trichloroethane		**93.78**	79.4	130.9	**0.1**	30.0
Cyclohexane		**80.16**	10.0	169.1	**3.0**	30.0
4-Methyl-2-pentanone		**99.68**	71.6	125.2	**0.1**	30.0
2-Hexanone		**101.82**	55.4	136.9	**0.9**	30.0
2-Chloroethylvinyl ether	*	**2.36**	70.0	130.0	**6.1**	30.0
Carbon Tetrachloride		**97.54**	72.6	133.0	**0.5**	30.0
Benzene		**93.62**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**85.42**	76.0	126.3	**1.3**	30.0
Trichloroethene		**96.70**	79.7	124.2	**0.7**	30.0
1,2-Dichloropropane		**90.74**	78.6	126.4	**0.4**	30.0
Bromodichloromethane		**96.32**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**85.06**	76.6	131.3	**1.4**	30.0
Dibromomethane		**102.42**	76.9	122.1	**2.6**	30.0
cis-1,3-Dichloropropene		**95.60**	79.8	129.9	**2.8**	30.0
Toluene		**95.52**	79.8	124.5	**1.0**	30.0
trans-1,3-Dichloropropene		**94.94**	74.0	131.3	**0.7**	30.0
1,1,2-Trichloroethane		**98.94**	78.7	123.1	**2.6**	30.0
Tetrachloroethene		**121.88**	74.5	124.5	**0.4**	30.0
trans-1,4-Dichloro-2-butene		**103.00**	68.6	135.4	**4.9**	30.0
Dibromochloromethane		**104.12**	74.6	127.2	**2.8**	30.0
1,2-Dibromoethane		**107.10**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**99.48**	79.2	122.7	**3.3**	30.0
1,1,1,2-Tetrachloroethane		**103.20**	80.3	128.2	**4.0**	30.0
Ethylbenzene		**106.44**	79.5	129.1	**4.0**	30.0
p,m-Xylene		**102.48**	79.4	132.2	**2.4**	30.0
o-Xylene		**86.18**	80.2	131.0	**3.3**	30.0
Styrene		**92.98**	69.5	126.7	**2.0**	30.0
Isopropylbenzene		**105.28**	74.4	121.5	**2.7**	30.0
Bromoform		**109.34**	69.4	128.0	**5.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**107.02**	79.8	126.3	**5.1**	30.0
1,2,3-Trichloropropane		**103.26**	78.3	138.8	**3.8**	30.0
n-Propylbenzene		**106.96**	82.0	130.7	**3.1**	30.0
Bromobenzene		**101.60**	78.7	124.6	**3.5**	30.0
1,3,5-Trimethylbenzene		**103.58**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**97.78**	80.7	128.9	**1.3**	30.0
1,2,4-Trimethylbenzene		**101.14**	81.4	130.8	**2.3**	30.0
sec-Butylbenzene		**95.20**	77.4	129.8	**2.3**	30.0
p-Isopropyltoluene	*	**76.52**	79.8	137.5	**0.4**	30.0
1,3-Dichlorobenzene		**87.60**	77.0	131.3	**0.2**	30.0
1,4-Dichlorobenzene		**88.24**	20.7	137.7	**1.0**	30.0
1,2-Dichlorobenzene		**91.70**	10.0	166.2	**0.8**	30.0
1,2,3-Trimethylbenzene		**89.74**	76.3	124.2	**0.1**	30.0
n-Butylbenzene		**92.12**	80.0	133.3	**0.1**	30.0
Hexachloroethane		**88.56**	23.8	138.1	**1.2**	30.0
1,2-Dibromo-3-Chloropropane		**99.30**	21.2	189.4	**9.2**	30.0
1,2,4-Trichlorobenzene		**93.40**	27.4	143.4	**1.6**	30.0
1,2,3-Trichlorobenzene		**95.26**	75.4	131.4	**0.5**	30.0
Naphthalene		**98.32**	32.9	135.8	**1.3**	30.0
2-Methylnaphthalene		**105.96**	25.5	165.5	**2.4**	30.0
2-Chlorotoluene		**106.70**	70.0	130.0	**2.0**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

88608

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 616 780 3277 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@Arcadis-US.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Kacer Clasing Plant 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Jeff Lewis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other _____

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Total Select Metals	Total Geochem Metals	Geochem		MS/MSD				Special Instructions
70053.01	12/03/15	700	TB-0002-120315	L	1		1						X										Select Metals
.02	12/03/15	925	MW-13-45-120315	GW									X	X					X				Arsenic, Nickel,
.03		1055	MW-13-43-120315	GW									X	X		X	X						Lead, Manganese
.06		1240	MW-13-44-120315	GW									X	X									Chromium, Copper
.07		1355	RW-14 OD-120315	GW									X	X		X	X						
.08	↓	1505	MW-14-58-120315	GW									X	X	X	X	X						Geochem Metals:
																							Magnesium, Sodium
																							Potassium, Calcium
																							Geochem: Chloride
																							Sulfate, Total
																							Alkalinity

RELINQUISHED BY: SIGNATURE/ORGANIZATION ☐ Sampler DATE 120315 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION VME Storage DATE 120315 TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION VME Storage DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE 12-4-15 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12-4-15 TIME 9:30

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70054.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70054.01-S70054.10
Project: RACER Lansing Plant-3 / B0064480.2015
Submitted Date/Time: 12/04/2015 09:30
Sampled by: Billy J. Cobern
P.O. #: B0064480.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-11)
Prep Batch Summary (Pages 12-13)
Surrogates per Lab Sample (Pages 14-20)
Surrogates per QC Sample (Pages 21-23)
Batch QC Results (Pages 24-32)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70054.01
Sample Tag: MW-23_120315
Collected Date/Time: 12/03/2015 09:15
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 00:38	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 00:38	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 14:56	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 00:38	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

QC Report - Analysis Summary

Lab Sample ID: S70054.02
Sample Tag: MW-05(3)_120315
Collected Date/Time: 12/03/2015 10:10
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:10	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:10	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:10	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:10	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:10	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:10	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:00	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 01:00	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 01:00	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70054.03
Sample Tag: UNK-11_120315
Collected Date/Time: 12/03/2015 11:00
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:22	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 01:22	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 01:22	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70054.04
Sample Tag: MW-06(3)_120315
Collected Date/Time: 12/03/2015 11:55
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:44	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 01:44	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 01:44	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70054.05
Sample Tag: MW-19_120315
Collected Date/Time: 12/03/2015 13:55
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:06	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 02:06	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 15:53	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 02:06	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70054.06
Sample Tag: UNK-9_120315
Collected Date/Time: 12/03/2015 14:55
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:12	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:12	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:12	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:12	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:12	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:12	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S70054.07
Sample Tag: UNK-9_120315 MS
Collected Date/Time: 12/03/2015 14:55
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:13	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:13	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:13	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:13	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:13	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:13	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S70054.08
Sample Tag: UNK-9_120315 MSD
Collected Date/Time: 12/03/2015 14:55
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:14	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:14	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:14	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:14	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:14	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:14	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD

Lab Sample ID: S70054.09
Sample Tag: UNK-10_120315
Collected Date/Time: 12/03/2015 15:45
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:18	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:18	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:18	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:18	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:18	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:18	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:27	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 02:27	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 02:27	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70054.10
Sample Tag: Trip Blank_120315
Collected Date/Time: 12/03/2015 00:01
Matrix: Groundwater
COC Reference: 88279

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:49	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 02:49	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 02:49	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70054.02	Arsenic	SW6020A	12/09/15 13:10	MT2-15-1209B
S70054.02	Chromium	SW6020A	12/09/15 13:10	MT2-15-1209B
S70054.02	Copper	SW6020A	12/09/15 13:10	MT2-15-1209B
S70054.02	Lead	SW6020A	12/09/15 13:10	MT2-15-1209B
S70054.02	Nickel	SW6020A	12/09/15 13:10	MT2-15-1209B
S70054.02	Vanadium	SW6020A	12/09/15 13:10	MT2-15-1209B
S70054.06	Arsenic	SW6020A	12/09/15 13:12	MT2-15-1209B
S70054.06	Chromium	SW6020A	12/09/15 13:12	MT2-15-1209B
S70054.06	Copper	SW6020A	12/09/15 13:12	MT2-15-1209B
S70054.06	Lead	SW6020A	12/09/15 13:12	MT2-15-1209B
S70054.06	Nickel	SW6020A	12/09/15 13:12	MT2-15-1209B
S70054.06	Vanadium	SW6020A	12/09/15 13:12	MT2-15-1209B
S70054.07	Arsenic	SW6020A	12/09/15 13:13	MT2-15-1209B
S70054.07	Chromium	SW6020A	12/09/15 13:13	MT2-15-1209B
S70054.07	Copper	SW6020A	12/09/15 13:13	MT2-15-1209B
S70054.07	Lead	SW6020A	12/09/15 13:13	MT2-15-1209B
S70054.07	Nickel	SW6020A	12/09/15 13:13	MT2-15-1209B
S70054.07	Vanadium	SW6020A	12/09/15 13:13	MT2-15-1209B
S70054.08	Arsenic	SW6020A	12/09/15 13:14	MT2-15-1209B
S70054.08	Chromium	SW6020A	12/09/15 13:14	MT2-15-1209B
S70054.08	Copper	SW6020A	12/09/15 13:14	MT2-15-1209B
S70054.08	Lead	SW6020A	12/09/15 13:14	MT2-15-1209B
S70054.08	Nickel	SW6020A	12/09/15 13:14	MT2-15-1209B
S70054.08	Vanadium	SW6020A	12/09/15 13:14	MT2-15-1209B
S70054.09	Arsenic	SW6020A	12/09/15 13:18	MT2-15-1209B
S70054.09	Chromium	SW6020A	12/09/15 13:18	MT2-15-1209B
S70054.09	Copper	SW6020A	12/09/15 13:18	MT2-15-1209B
S70054.09	Lead	SW6020A	12/09/15 13:18	MT2-15-1209B
S70054.09	Nickel	SW6020A	12/09/15 13:18	MT2-15-1209B
S70054.09	Vanadium	SW6020A	12/09/15 13:18	MT2-15-1209B

Organics - Volatiles, Prep Batch ID: VF151209W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70054.01	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 00:38	151209B7
S70054.01	1,2-Dibromoethane	SW8260B	12/10/15 00:38	151209B7
S70054.01	TCL Volatile Organics 8260	SW8260C	12/10/15 00:38	151209B7
S70054.02	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:00	151209B7
S70054.02	1,2-Dibromoethane	SW8260B	12/10/15 01:00	151209B7
S70054.02	TCL Volatile Organics 8260	SW8260C	12/10/15 01:00	151209B7
S70054.03	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:22	151209B7
S70054.03	1,2-Dibromoethane	SW8260B	12/10/15 01:22	151209B7
S70054.03	TCL Volatile Organics 8260	SW8260C	12/10/15 01:22	151209B7
S70054.04	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:44	151209B7
S70054.04	1,2-Dibromoethane	SW8260B	12/10/15 01:44	151209B7
S70054.04	TCL Volatile Organics 8260	SW8260C	12/10/15 01:44	151209B7
S70054.05	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:06	151209B7
S70054.05	1,2-Dibromoethane	SW8260B	12/10/15 02:06	151209B7
S70054.05	TCL Volatile Organics 8260	SW8260C	12/10/15 02:06	151209B7
S70054.09	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:27	151209B7

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70054.09	1,2-Dibromoethane	SW8260B	12/10/15 02:27	151209B7
S70054.09	TCL Volatile Organics 8260	SW8260C	12/10/15 02:27	151209B7
S70054.10	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:49	151209B7
S70054.10	1,2-Dibromoethane	SW8260B	12/10/15 02:49	151209B7
S70054.10	TCL Volatile Organics 8260	SW8260C	12/10/15 02:49	151209B7

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70054.05	1,4-Dioxane	SW8260B - SIM	12/09/15 15:53	151209A3

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70054.01	1,4-Dioxane	SW8260B - SIM	12/10/15 14:56	151210A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.01
Sample Tag: MW-23_120315
Collected Date/Time: 12/03/2015 09:15
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 00:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.80**	83.0	119.0
1,2-Dichloroethane-D4		**110.40**	77.0	121.0
Toluene-D8		**104.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.02
Sample Tag: MW-05(3)_120315
Collected Date/Time: 12/03/2015 10:10
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 01:00, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.40**	83.0	119.0
1,2-Dichloroethane-D4		**112.40**	77.0	121.0
Toluene-D8		**97.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.03
Sample Tag: UNK-11_120315
Collected Date/Time: 12/03/2015 11:00
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 01:22, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.80**	83.0	119.0
1,2-Dichloroethane-D4		**108.00**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.04
Sample Tag: MW-06(3)_120315
Collected Date/Time: 12/03/2015 11:55
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 01:44, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.40**	83.0	119.0
1,2-Dichloroethane-D4		**111.60**	77.0	121.0
Toluene-D8		**100.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.05
Sample Tag: MW-19_120315
Collected Date/Time: 12/03/2015 13:55
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 02:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.20**	83.0	119.0
1,2-Dichloroethane-D4		**109.80**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.09
Sample Tag: UNK-10_120315
Collected Date/Time: 12/03/2015 15:45
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 02:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.20**	83.0	119.0
1,2-Dichloroethane-D4		**108.60**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70054.10
Sample Tag: Trip Blank_120315
Collected Date/Time: 12/03/2015 00:01
Matrix: Groundwater
COC Reference: 88279

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 02:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.80**	83.0	119.0
1,2-Dichloroethane-D4		**112.60**	77.0	121.0
Toluene-D8		**103.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W3

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.20**	83.0	119.0
1,2-Dichloroethane-D4		**89.40**	77.0	121.0
Toluene-D8		**102.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**83.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.40**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.60**	83.0	119.0
1,2-Dichloroethane-D4		**94.20**	77.0	121.0
Toluene-D8		**105.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.060.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:01, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**98**	85	115
Chromium		**98**	85	115
Copper		**99**	85	115
Nickel		**99**	85	115
Lead		**100**	85	115
Vanadium		**96**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.061.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:02, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.066.MS, Parent Sample ID: S70054.06

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:13, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**100**	75	125
Chromium		**102**	75	125
Copper		**99**	75	125
Nickel		**104**	75	125
Lead		**97**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.086.MS, Parent Sample ID: S70115.03

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:49, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**98**	75	125
Chromium		**101**	75	125
Copper		**92**	75	125
Nickel		**98**	75	125
Lead		**96**	75	125
Vanadium		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**100**	75	125	**0**	20
Chromium		**96**	75	125	**5**	20

Metals, Prep Batch ID: MTD-120915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		**96**	75	125	**3**	20
Nickel		**99**	75	125	**4**	20
Lead		**97**	75	125	**0**	20
Vanadium		**96**	75	125	**5**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.087.MSD, Parent Sample ID: MT2-15-1209B.086.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:51, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**98**	75	125	**0**	20
Chromium		**98**	75	125	**3**	20
Copper		**92**	75	125	**0**	20
Nickel		**99**	75	125	**1**	20
Lead		**95**	75	125	**0**	20
Vanadium		**100**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF151209W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.48**	75.1	135.9
Diethyl ether		**86.00**	67.4	121.2
Acetone		**83.86**	29.9	161.5
Methyl iodide		**92.00**	68.8	116.4
Carbon disulfide		**86.66**	63.8	137.4
Methyl acetate		**84.46**	64.7	125.4
tert-Methyl butyl ether		**85.64**	73.2	122.4
Acrylonitrile		**90.16**	69.9	128.9
2-Butanone		**94.26**	44.0	134.4
Dichlorodifluoromethane		**102.50**	10.0	222.8
Chloromethane		**87.50**	23.8	166.5
Vinyl Chloride		**87.18**	43.5	149.1
Bromomethane		**76.46**	56.8	151.3
Chloroethane		**77.58**	53.4	149.4
Trichlorofluoromethane		**67.48**	59.7	151.8
1,1-Dichloroethene		**88.58**	69.6	139.4
Methylene Chloride		**95.72**	73.3	121.1
trans-1,2-Dichloroethene		**88.88**	73.6	129.3
1,1-Dichloroethane		**89.44**	71.5	126.2
cis-1,2-Dichloroethene		**93.54**	76.6	122.1
Tetrahydrofuran		**85.52**	59.0	117.9
Chloroform		**94.26**	78.4	124.0
Bromochloromethane		**92.46**	78.2	120.8
1,1,1-Trichloroethane		**93.66**	79.4	130.9
Cyclohexane		**82.62**	10.0	169.1
4-Methyl-2-pentanone		**99.54**	71.6	125.2
2-Hexanone		**102.78**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.22**	70.0	130.0
Carbon Tetrachloride		**97.08**	72.6	133.0
Benzene		**93.50**	79.9	124.9
1,2-Dichloroethane		**84.28**	76.0	126.3
Trichloroethene		**96.04**	79.7	124.2
1,2-Dichloropropane		**91.14**	78.6	126.4
Bromodichloromethane		**93.72**	80.4	128.2
Methyl cyclohexane		**86.22**	76.6	131.3
Dibromomethane		**99.82**	76.9	122.1
cis-1,3-Dichloropropene		**92.92**	79.8	129.9
Toluene		**96.44**	79.8	124.5
trans-1,3-Dichloropropene		**94.28**	74.0	131.3
1,1,2-Trichloroethane		**96.42**	78.7	123.1
Tetrachloroethene		**121.42**	74.5	124.5
trans-1,4-Dichloro-2-butene		**98.10**	68.6	135.4
Dibromochloromethane		**101.24**	74.6	127.2
1,2-Dibromoethane		**102.24**	70.3	133.7
Chlorobenzene		**96.26**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.16**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**102.22**	79.5	129.1
p,m-Xylene		**100.07**	79.4	132.2
o-Xylene		**83.38**	80.2	131.0
Styrene		**91.10**	69.5	126.7
Isopropylbenzene		**102.48**	74.4	121.5
Bromoform		**103.78**	69.4	128.0
1,1,2,2-Tetrachloroethane		**101.70**	79.8	126.3
1,2,3-Trichloropropane		**99.44**	78.3	138.8
n-Propylbenzene		**103.70**	82.0	130.7
Bromobenzene		**98.14**	78.7	124.6
1,3,5-Trimethylbenzene		**100.90**	81.3	128.9
tert-Butylbenzene		**96.56**	80.7	128.9
1,2,4-Trimethylbenzene		**98.88**	81.4	130.8
sec-Butylbenzene		**97.40**	77.4	129.8
p-Isopropyltoluene	*	**76.86**	79.8	137.5
1,3-Dichlorobenzene		**87.46**	77.0	131.3
1,4-Dichlorobenzene		**89.14**	20.7	137.7
1,2-Dichlorobenzene		**92.40**	10.0	166.2
1,2,3-Trimethylbenzene		**89.86**	76.3	124.2
n-Butylbenzene		**92.04**	80.0	133.3
Hexachloroethane		**89.66**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**90.58**	21.2	189.4
1,2,4-Trichlorobenzene		**91.96**	27.4	143.4
1,2,3-Trichlorobenzene		**94.78**	75.4	131.4
Naphthalene		**97.08**	32.9	135.8
2-Methylnaphthalene		**103.40**	25.5	165.5
2-Chlorotoluene		**104.54**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.80**	75.1	135.9	**0.4**	30.0
Diethyl ether		**86.88**	67.4	121.2	**1.0**	30.0
Acetone		**102.28**	29.9	161.5	**19.8**	30.0
Methyl iodide		**93.08**	68.8	116.4	**1.2**	30.0
Carbon disulfide		**85.94**	63.8	137.4	**0.8**	30.0
Methyl acetate		**86.96**	64.7	125.4	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.20**	73.2	122.4	**0.7**	30.0
Acrylonitrile		**92.06**	69.9	128.9	**2.1**	30.0
2-Butanone		**96.06**	44.0	134.4	**1.9**	30.0
Dichlorodifluoromethane		**96.40**	10.0	222.8	**6.1**	30.0
Chloromethane		**83.56**	23.8	166.5	**4.6**	30.0
Vinyl Chloride		**86.08**	43.5	149.1	**1.3**	30.0
Bromomethane		**77.36**	56.8	151.3	**1.2**	30.0
Chloroethane		**74.66**	53.4	149.4	**3.8**	30.0
Trichlorofluoromethane	*	**51.96**	59.7	151.8	**26.0**	30.0
1,1-Dichloroethene		**88.02**	69.6	139.4	**0.6**	30.0
Methylene Chloride		**94.90**	73.3	121.1	**0.9**	30.0
trans-1,2-Dichloroethene		**87.52**	73.6	129.3	**1.5**	30.0
1,1-Dichloroethane		**88.64**	71.5	126.2	**0.9**	30.0
cis-1,2-Dichloroethene		**93.10**	76.6	122.1	**0.5**	30.0
Tetrahydrofuran		**88.88**	59.0	117.9	**3.9**	30.0
Chloroform		**94.86**	78.4	124.0	**0.6**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**1.8**	30.0
1,1,1-Trichloroethane		**93.78**	79.4	130.9	**0.1**	30.0
Cyclohexane		**80.16**	10.0	169.1	**3.0**	30.0
4-Methyl-2-pentanone		**99.68**	71.6	125.2	**0.1**	30.0
2-Hexanone		**101.82**	55.4	136.9	**0.9**	30.0
2-Chloroethylvinyl ether	*	**2.36**	70.0	130.0	**6.1**	30.0
Carbon Tetrachloride		**97.54**	72.6	133.0	**0.5**	30.0
Benzene		**93.62**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**85.42**	76.0	126.3	**1.3**	30.0
Trichloroethene		**96.70**	79.7	124.2	**0.7**	30.0
1,2-Dichloropropane		**90.74**	78.6	126.4	**0.4**	30.0
Bromodichloromethane		**96.32**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**85.06**	76.6	131.3	**1.4**	30.0
Dibromomethane		**102.42**	76.9	122.1	**2.6**	30.0
cis-1,3-Dichloropropene		**95.60**	79.8	129.9	**2.8**	30.0
Toluene		**95.52**	79.8	124.5	**1.0**	30.0
trans-1,3-Dichloropropene		**94.94**	74.0	131.3	**0.7**	30.0
1,1,2-Trichloroethane		**98.94**	78.7	123.1	**2.6**	30.0
Tetrachloroethene		**121.88**	74.5	124.5	**0.4**	30.0
trans-1,4-Dichloro-2-butene		**103.00**	68.6	135.4	**4.9**	30.0
Dibromochloromethane		**104.12**	74.6	127.2	**2.8**	30.0
1,2-Dibromoethane		**107.10**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**99.48**	79.2	122.7	**3.3**	30.0
1,1,1,2-Tetrachloroethane		**103.20**	80.3	128.2	**4.0**	30.0
Ethylbenzene		**106.44**	79.5	129.1	**4.0**	30.0
p,m-Xylene		**102.48**	79.4	132.2	**2.4**	30.0
o-Xylene		**86.18**	80.2	131.0	**3.3**	30.0
Styrene		**92.98**	69.5	126.7	**2.0**	30.0
Isopropylbenzene		**105.28**	74.4	121.5	**2.7**	30.0
Bromoform		**109.34**	69.4	128.0	**5.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**107.02**	79.8	126.3	**5.1**	30.0
1,2,3-Trichloropropane		**103.26**	78.3	138.8	**3.8**	30.0
n-Propylbenzene		**106.96**	82.0	130.7	**3.1**	30.0
Bromobenzene		**101.60**	78.7	124.6	**3.5**	30.0
1,3,5-Trimethylbenzene		**103.58**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**97.78**	80.7	128.9	**1.3**	30.0
1,2,4-Trimethylbenzene		**101.14**	81.4	130.8	**2.3**	30.0
sec-Butylbenzene		**95.20**	77.4	129.8	**2.3**	30.0
p-Isopropyltoluene	*	**76.52**	79.8	137.5	**0.4**	30.0
1,3-Dichlorobenzene		**87.60**	77.0	131.3	**0.2**	30.0
1,4-Dichlorobenzene		**88.24**	20.7	137.7	**1.0**	30.0
1,2-Dichlorobenzene		**91.70**	10.0	166.2	**0.8**	30.0
1,2,3-Trimethylbenzene		**89.74**	76.3	124.2	**0.1**	30.0
n-Butylbenzene		**92.12**	80.0	133.3	**0.1**	30.0
Hexachloroethane		**88.56**	23.8	138.1	**1.2**	30.0
1,2-Dibromo-3-Chloropropane		**99.30**	21.2	189.4	**9.2**	30.0
1,2,4-Trichlorobenzene		**93.40**	27.4	143.4	**1.6**	30.0
1,2,3-Trichlorobenzene		**95.26**	75.4	131.4	**0.5**	30.0
Naphthalene		**98.32**	32.9	135.8	**1.3**	30.0
2-Methylnaphthalene		**105.96**	25.5	165.5	**2.4**	30.0
2-Chlorotoluene		**106.70**	70.0	130.0	**2.0**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

88279

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Dr. Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO: 810-229-8594 FAX NO: 810-229-8837 P.O. NO.: B00644802015
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: Racer Lansing Plan-3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Ricky J. Cooke

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260 1,4 Dioxane	VOC-8260	Select Metals	Special Instructions
70654.01	12/3/15	9:15	MW-23_120315	GW	3		3						X			Select Metals =
.02	12/3/15	10:10	MW-05(3)_120315	GW	4		3	1						X	X	As, Cr, Cu, Pb, Ni,
.03	12/3/15	11:00	UNK-11_120315	GW	3		3							X		V
.04	12/3/15	11:55	MW-06(3)_120315	GW	3		3							X		
.05	12/3/15	13:55	MW-19_120315	GW	3		3						X			
.06,.07,.08	12/3/15	14:55	UNK-9_120315	GW	3			3							X	MSMSD
.09	12/3/15	15:45	UNK-10_120315	GW	4		3	1						X	X	
.10	~~.06~~	—	Trip Blank_120315	GW	1		1							X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Arcadis ☒ Sampler DATE: 12-3-15 TIME: 16:30
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE: 12-4-15 TIME: 9:30

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.4

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70103.01(01)
Generated on 12/23/2015

Report to
Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by
Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70103.01-S70103.04
Project: RACER Lansing Q4 GWS / B0064480.2015.00603
Submitted Date/Time: 12/04/2015 16:30
Sampled by: J. Ness
P.O. #: B0064480.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Page 6)
Surrogates per Lab Sample (Pages 7-10)
Surrogates per QC Sample (Pages 11-12)
Batch QC Results (Pages 13-18)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70103.01
Sample Tag: MW-13-26_120415
Collected Date/Time: 12/04/2015 10:35
Matrix: Groundwater
COC Reference: 92783

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:17	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 04:17	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 17:59	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 04:17	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70103.02
Sample Tag: MW-13-25_120415
Collected Date/Time: 12/04/2015 12:30
Matrix: Groundwater
COC Reference: 92783

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:39	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 04:39	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 18:17	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 04:39	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70103.03
Sample Tag: MW-13-29_120415
Collected Date/Time: 12/04/2015 14:05
Matrix: Groundwater
COC Reference: 92783

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:01	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 05:01	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 18:35	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 05:01	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

Lab Sample ID: S70103.04
Sample Tag: TB-0003_120415
Collected Date/Time: 12/04/2015 00:01
Matrix: Liquid
COC Reference: 92783

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:23	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 05:23	151209B7	VF151209W3	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 05:23	151209B7	VF151209W3	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151209W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70103.01	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:17	151209B7
S70103.01	1,2-Dibromoethane	SW8260B	12/10/15 04:17	151209B7
S70103.01	TCL Volatile Organics 8260	SW8260C	12/10/15 04:17	151209B7
S70103.02	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:39	151209B7
S70103.02	1,2-Dibromoethane	SW8260B	12/10/15 04:39	151209B7
S70103.02	TCL Volatile Organics 8260	SW8260C	12/10/15 04:39	151209B7
S70103.03	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:01	151209B7
S70103.03	1,2-Dibromoethane	SW8260B	12/10/15 05:01	151209B7
S70103.03	TCL Volatile Organics 8260	SW8260C	12/10/15 05:01	151209B7
S70103.04	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:23	151209B7
S70103.04	1,2-Dibromoethane	SW8260B	12/10/15 05:23	151209B7
S70103.04	TCL Volatile Organics 8260	SW8260C	12/10/15 05:23	151209B7

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70103.01	1,4-Dioxane	SW8260B - SIM	12/09/15 17:59	151209A3
S70103.02	1,4-Dioxane	SW8260B - SIM	12/09/15 18:17	151209A3
S70103.03	1,4-Dioxane	SW8260B - SIM	12/09/15 18:35	151209A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70103.01
Sample Tag: MW-13-26_120415
Collected Date/Time: 12/04/2015 10:35
Matrix: Groundwater
COC Reference: 92783

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 04:17, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**92.60**	83.0	119.0
1,2-Dichloroethane-D4		**116.20**	77.0	121.0
Toluene-D8		**104.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70103.02
Sample Tag: MW-13-25_120415
Collected Date/Time: 12/04/2015 12:30
Matrix: Groundwater
COC Reference: 92783

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 04:39, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.60**	83.0	119.0
1,2-Dichloroethane-D4		**111.60**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70103.03
Sample Tag: MW-13-29_120415
Collected Date/Time: 12/04/2015 14:05
Matrix: Groundwater
COC Reference: 92783

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 05:01, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.80**	83.0	119.0
1,2-Dichloroethane-D4		**113.80**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70103.04
Sample Tag: TB-0003_120415
Collected Date/Time: 12/04/2015 00:01
Matrix: Liquid
COC Reference: 92783

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B7, Run Date: 12/10/2015 05:23, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.80**	83.0	119.0
1,2-Dichloroethane-D4		**114.40**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W3

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.20**	83.0	119.0
1,2-Dichloroethane-D4		**89.40**	77.0	121.0
Toluene-D8		**102.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**83.20**	83.0	119.0
1,2-Dichloroethane-D4		**112.40**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.60**	83.0	119.0
1,2-Dichloroethane-D4		**94.20**	77.0	121.0
Toluene-D8		**105.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151209W3

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.48**	75.1	135.9
Diethyl ether		**86.00**	67.4	121.2
Acetone		**83.86**	29.9	161.5
Methyl iodide		**92.00**	68.8	116.4
Carbon disulfide		**86.66**	63.8	137.4
Methyl acetate		**84.46**	64.7	125.4
tert-Methyl butyl ether		**85.64**	73.2	122.4
Acrylonitrile		**90.16**	69.9	128.9
2-Butanone		**94.26**	44.0	134.4
Dichlorodifluoromethane		**102.50**	10.0	222.8
Chloromethane		**87.50**	23.8	166.5
Vinyl Chloride		**87.18**	43.5	149.1
Bromomethane		**76.46**	56.8	151.3
Chloroethane		**77.58**	53.4	149.4
Trichlorofluoromethane		**67.48**	59.7	151.8
1,1-Dichloroethene		**88.58**	69.6	139.4
Methylene Chloride		**95.72**	73.3	121.1
trans-1,2-Dichloroethene		**88.88**	73.6	129.3
1,1-Dichloroethane		**89.44**	71.5	126.2
cis-1,2-Dichloroethene		**93.54**	76.6	122.1
Tetrahydrofuran		**85.52**	59.0	117.9
Chloroform		**94.26**	78.4	124.0
Bromochloromethane		**92.46**	78.2	120.8
1,1,1-Trichloroethane		**93.66**	79.4	130.9
Cyclohexane		**82.62**	10.0	169.1
4-Methyl-2-pentanone		**99.54**	71.6	125.2
2-Hexanone		**102.78**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.22**	70.0	130.0
Carbon Tetrachloride		**97.08**	72.6	133.0
Benzene		**93.50**	79.9	124.9
1,2-Dichloroethane		**84.28**	76.0	126.3
Trichloroethene		**96.04**	79.7	124.2
1,2-Dichloropropane		**91.14**	78.6	126.4
Bromodichloromethane		**93.72**	80.4	128.2
Methyl cyclohexane		**86.22**	76.6	131.3
Dibromomethane		**99.82**	76.9	122.1
cis-1,3-Dichloropropene		**92.92**	79.8	129.9
Toluene		**96.44**	79.8	124.5
trans-1,3-Dichloropropene		**94.28**	74.0	131.3
1,1,2-Trichloroethane		**96.42**	78.7	123.1
Tetrachloroethene		**121.42**	74.5	124.5
trans-1,4-Dichloro-2-butene		**98.10**	68.6	135.4
Dibromochloromethane		**101.24**	74.6	127.2
1,2-Dibromoethane		**102.24**	70.3	133.7
Chlorobenzene		**96.26**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.16**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:22, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**102.22**	79.5	129.1
p,m-Xylene		**100.07**	79.4	132.2
o-Xylene		**83.38**	80.2	131.0
Styrene		**91.10**	69.5	126.7
Isopropylbenzene		**102.48**	74.4	121.5
Bromoform		**103.78**	69.4	128.0
1,1,2,2-Tetrachloroethane		**101.70**	79.8	126.3
1,2,3-Trichloropropane		**99.44**	78.3	138.8
n-Propylbenzene		**103.70**	82.0	130.7
Bromobenzene		**98.14**	78.7	124.6
1,3,5-Trimethylbenzene		**100.90**	81.3	128.9
tert-Butylbenzene		**96.56**	80.7	128.9
1,2,4-Trimethylbenzene		**98.88**	81.4	130.8
sec-Butylbenzene		**97.40**	77.4	129.8
p-Isopropyltoluene	*	**76.86**	79.8	137.5
1,3-Dichlorobenzene		**87.46**	77.0	131.3
1,4-Dichlorobenzene		**89.14**	20.7	137.7
1,2-Dichlorobenzene		**92.40**	10.0	166.2
1,2,3-Trimethylbenzene		**89.86**	76.3	124.2
n-Butylbenzene		**92.04**	80.0	133.3
Hexachloroethane		**89.66**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**90.58**	21.2	189.4
1,2,4-Trichlorobenzene		**91.96**	27.4	143.4
1,2,3-Trichlorobenzene		**94.78**	75.4	131.4
Naphthalene		**97.08**	32.9	135.8
2-Methylnaphthalene		**103.40**	25.5	165.5
2-Chlorotoluene		**104.54**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b7.blkw09b

Run in Batch: 151209B7, Run Date: 12/09/2015 23:11, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**79.80**	75.1	135.9	**0.4**	30.0
Diethyl ether		**86.88**	67.4	121.2	**1.0**	30.0
Acetone		**102.28**	29.9	161.5	**19.8**	30.0
Methyl iodide		**93.08**	68.8	116.4	**1.2**	30.0
Carbon disulfide		**85.94**	63.8	137.4	**0.8**	30.0
Methyl acetate		**86.96**	64.7	125.4	**2.9**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**86.20**	73.2	122.4	**0.7**	30.0
Acrylonitrile		**92.06**	69.9	128.9	**2.1**	30.0
2-Butanone		**96.06**	44.0	134.4	**1.9**	30.0
Dichlorodifluoromethane		**96.40**	10.0	222.8	**6.1**	30.0
Chloromethane		**83.56**	23.8	166.5	**4.6**	30.0
Vinyl Chloride		**86.08**	43.5	149.1	**1.3**	30.0
Bromomethane		**77.36**	56.8	151.3	**1.2**	30.0
Chloroethane		**74.66**	53.4	149.4	**3.8**	30.0
Trichlorofluoromethane	*	**51.96**	59.7	151.8	**26.0**	30.0
1,1-Dichloroethene		**88.02**	69.6	139.4	**0.6**	30.0
Methylene Chloride		**94.90**	73.3	121.1	**0.9**	30.0
trans-1,2-Dichloroethene		**87.52**	73.6	129.3	**1.5**	30.0
1,1-Dichloroethane		**88.64**	71.5	126.2	**0.9**	30.0
cis-1,2-Dichloroethene		**93.10**	76.6	122.1	**0.5**	30.0
Tetrahydrofuran		**88.88**	59.0	117.9	**3.9**	30.0
Chloroform		**94.86**	78.4	124.0	**0.6**	30.0
Bromochloromethane		**94.14**	78.2	120.8	**1.8**	30.0
1,1,1-Trichloroethane		**93.78**	79.4	130.9	**0.1**	30.0
Cyclohexane		**80.16**	10.0	169.1	**3.0**	30.0
4-Methyl-2-pentanone		**99.68**	71.6	125.2	**0.1**	30.0
2-Hexanone		**101.82**	55.4	136.9	**0.9**	30.0
2-Chloroethylvinyl ether	*	**2.36**	70.0	130.0	**6.1**	30.0
Carbon Tetrachloride		**97.54**	72.6	133.0	**0.5**	30.0
Benzene		**93.62**	79.9	124.9	**0.1**	30.0
1,2-Dichloroethane		**85.42**	76.0	126.3	**1.3**	30.0
Trichloroethene		**96.70**	79.7	124.2	**0.7**	30.0
1,2-Dichloropropane		**90.74**	78.6	126.4	**0.4**	30.0
Bromodichloromethane		**96.32**	80.4	128.2	**2.7**	30.0
Methyl cyclohexane		**85.06**	76.6	131.3	**1.4**	30.0
Dibromomethane		**102.42**	76.9	122.1	**2.6**	30.0
cis-1,3-Dichloropropene		**95.60**	79.8	129.9	**2.8**	30.0
Toluene		**95.52**	79.8	124.5	**1.0**	30.0
trans-1,3-Dichloropropene		**94.94**	74.0	131.3	**0.7**	30.0
1,1,2-Trichloroethane		**98.94**	78.7	123.1	**2.6**	30.0
Tetrachloroethene		**121.88**	74.5	124.5	**0.4**	30.0
trans-1,4-Dichloro-2-butene		**103.00**	68.6	135.4	**4.9**	30.0
Dibromochloromethane		**104.12**	74.6	127.2	**2.8**	30.0
1,2-Dibromoethane		**107.10**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**99.48**	79.2	122.7	**3.3**	30.0
1,1,1,2-Tetrachloroethane		**103.20**	80.3	128.2	**4.0**	30.0
Ethylbenzene		**106.44**	79.5	129.1	**4.0**	30.0
p,m-Xylene		**102.48**	79.4	132.2	**2.4**	30.0
o-Xylene		**86.18**	80.2	131.0	**3.3**	30.0
Styrene		**92.98**	69.5	126.7	**2.0**	30.0
Isopropylbenzene		**105.28**	74.4	121.5	**2.7**	30.0
Bromoform		**109.34**	69.4	128.0	**5.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b7.lcsw09d, Parent Sample ID: 151209b7.lcsw09c

Run in Batch: 151209B7, Run Date: 12/09/2015 21:44, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2,2-Tetrachloroethane		**107.02**	79.8	126.3	**5.1**	30.0
1,2,3-Trichloropropane		**103.26**	78.3	138.8	**3.8**	30.0
n-Propylbenzene		**106.96**	82.0	130.7	**3.1**	30.0
Bromobenzene		**101.60**	78.7	124.6	**3.5**	30.0
1,3,5-Trimethylbenzene		**103.58**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**97.78**	80.7	128.9	**1.3**	30.0
1,2,4-Trimethylbenzene		**101.14**	81.4	130.8	**2.3**	30.0
sec-Butylbenzene		**95.20**	77.4	129.8	**2.3**	30.0
p-Isopropyltoluene	*	**76.52**	79.8	137.5	**0.4**	30.0
1,3-Dichlorobenzene		**87.60**	77.0	131.3	**0.2**	30.0
1,4-Dichlorobenzene		**88.24**	20.7	137.7	**1.0**	30.0
1,2-Dichlorobenzene		**91.70**	10.0	166.2	**0.8**	30.0
1,2,3-Trimethylbenzene		**89.74**	76.3	124.2	**0.1**	30.0
n-Butylbenzene		**92.12**	80.0	133.3	**0.1**	30.0
Hexachloroethane		**88.56**	23.8	138.1	**1.2**	30.0
1,2-Dibromo-3-Chloropropane		**99.30**	21.2	189.4	**9.2**	30.0
1,2,4-Trichlorobenzene		**93.40**	27.4	143.4	**1.6**	30.0
1,2,3-Trichlorobenzene		**95.26**	75.4	131.4	**0.5**	30.0
Naphthalene		**98.32**	32.9	135.8	**1.3**	30.0
2-Methylnaphthalene		**105.96**	25.5	165.5	**2.4**	30.0
2-Chlorotoluene		**106.70**	70.0	130.0	**2.0**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

92783

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alex Villhauer
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Dr., Suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO.: (616) 780-3277 FAX NO.: NA P.O. NO.: NA
E-MAIL ADDRESS: alex.villhauer@arcadis.com QUOTE NO.: NA

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: RACER Lansing Q4 GWS / 60064480.2015.00003
SAMPLER(S) - PLEASE PRINT/SIGN NAME: J. Ness

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☒ Other Lansing

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1,4-Dioxane	Special Instructions
70103.01	12/4/15	1035	MW-13-26_120415	GW	3		3						✓	✓	All samples immediately
.02	↓	1230	MW-13-25_120415	GW	3		3						✓	✓	packed on ice.
.03	↓	1405	MW-13-29_120415	GW	3		3						✓	✓	
.04	12/4	—	EB-0003_120415	DI	1		1						✓		TRIP BLANK

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE	TIME
ARCADIS		12/4/15	1502
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		12/4/15	1502
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-4-15	16:30

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 4.2

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70114.01(01)
Generated on 12/23/2015

Report to
Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by
Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70114.01-S70114.05
Project: RACER Lansing P2 / B0064479.2015.00603
Submitted Date/Time: 12/07/2015 09:50
Sampled by: Cliff Walls
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Pages 7-8)
Surrogates per Lab Sample (Pages 9-13)
Surrogates per QC Sample (Pages 14-16)
Batch QC Results (Pages 17-30)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.



Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70114.01
Sample Tag: MW-14-57_120415
Collected Date/Time: 12/04/2015 09:35
Matrix: Groundwater
COC Reference: 88606

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:39	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:39	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:39	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:39	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:39	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:39	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 01:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 18:53	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 01:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70114.02
Sample Tag: MW-14-55_120415
Collected Date/Time: 12/04/2015 12:10
Matrix: Groundwater
COC Reference: 88606

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:40	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:40	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:40	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:40	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:40	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:40	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 01:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 01:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70114.03
Sample Tag: MW-14-59_120415
Collected Date/Time: 12/04/2015 14:20
Matrix: Groundwater
COC Reference: 88606

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/07/15 15:05	ALK151207-W2	ALK151207-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/08/15 13:01	CL151208-W1	CL151208-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/08/15 13:01	SFT151208-W1	SFT151208-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium	SW6020A	12/17/15 13:21	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:21	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:21	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:21	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 02:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/11/15 19:28	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 02:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70114.04
Sample Tag: TB_0002_120415
Collected Date/Time: 12/04/2015 07:00
Matrix: Liquid
COC Reference: 88606

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 02:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 02:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70114.05
Sample Tag: Dup_03_120415
Collected Date/Time: 12/04/2015 00:01
Matrix: Groundwater
COC Reference: 88606

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/09/15 13:42	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:42	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:42	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:42	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:42	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:42	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 02:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/09/15 19:11	151209A3	VS151209W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/10/15 02:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.03	Alkalinity as CaCO3	SM2320B	12/07/15 15:05	ALK151207-W2

Inorganics, Prep Batch ID: CL151208-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.03	Chloride	E300.0	12/08/15 13:01	CL151208-W1

Inorganics, Prep Batch ID: SFT151208-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.03	Sulfate	E300.0	12/08/15 13:01	SFT151208-W1

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.01	Arsenic	SW6020A	12/09/15 13:39	MT2-15-1209B
S70114.01	Chromium	SW6020A	12/09/15 13:39	MT2-15-1209B
S70114.01	Copper	SW6020A	12/09/15 13:39	MT2-15-1209B
S70114.01	Lead	SW6020A	12/09/15 13:39	MT2-15-1209B
S70114.01	Nickel	SW6020A	12/09/15 13:39	MT2-15-1209B
S70114.01	Vanadium	SW6020A	12/09/15 13:39	MT2-15-1209B
S70114.02	Arsenic	SW6020A	12/09/15 13:40	MT2-15-1209B
S70114.02	Chromium	SW6020A	12/09/15 13:40	MT2-15-1209B
S70114.02	Copper	SW6020A	12/09/15 13:40	MT2-15-1209B
S70114.02	Lead	SW6020A	12/09/15 13:40	MT2-15-1209B
S70114.02	Nickel	SW6020A	12/09/15 13:40	MT2-15-1209B
S70114.02	Vanadium	SW6020A	12/09/15 13:40	MT2-15-1209B
S70114.05	Arsenic	SW6020A	12/09/15 13:42	MT2-15-1209B
S70114.05	Chromium	SW6020A	12/09/15 13:42	MT2-15-1209B
S70114.05	Copper	SW6020A	12/09/15 13:42	MT2-15-1209B
S70114.05	Lead	SW6020A	12/09/15 13:42	MT2-15-1209B
S70114.05	Nickel	SW6020A	12/09/15 13:42	MT2-15-1209B
S70114.05	Vanadium	SW6020A	12/09/15 13:42	MT2-15-1209B

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.03	Calcium	SW6020A	12/17/15 13:21	MT2-15-1217B
S70114.03	Magnesium	SW6020A	12/17/15 13:21	MT2-15-1217B
S70114.03	Potassium	SW6020A	12/17/15 13:21	MT2-15-1217B
S70114.03	Sodium	SW6020A	12/17/15 13:21	MT2-15-1217B

Organics - Volatiles, Prep Batch ID: VF151209W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.01	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:26	151209B6
S70114.01	1,2-Dibromoethane	SW8260B	12/10/15 01:26	151209B6
S70114.01	TCL Volatile Organics 8260	SW8260C	12/10/15 01:26	151209B6
S70114.02	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 01:46	151209B6
S70114.02	1,2-Dibromoethane	SW8260B	12/10/15 01:46	151209B6

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.02	TCL Volatile Organics 8260	SW8260C	12/10/15 01:46	151209B6
S70114.03	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:06	151209B6
S70114.03	1,2-Dibromoethane	SW8260B	12/10/15 02:06	151209B6
S70114.03	TCL Volatile Organics 8260	SW8260C	12/10/15 02:06	151209B6
S70114.04	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:26	151209B6
S70114.04	1,2-Dibromoethane	SW8260B	12/10/15 02:26	151209B6
S70114.04	TCL Volatile Organics 8260	SW8260C	12/10/15 02:26	151209B6
S70114.05	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 02:46	151209B6
S70114.05	1,2-Dibromoethane	SW8260B	12/10/15 02:46	151209B6
S70114.05	TCL Volatile Organics 8260	SW8260C	12/10/15 02:46	151209B6

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.01	1,4-Dioxane	SW8260B - SIM	12/09/15 18:53	151209A3
S70114.05	1,4-Dioxane	SW8260B - SIM	12/09/15 19:11	151209A3

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70114.03	1,4-Dioxane	SW8260C	12/11/15 19:28	151211A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70114.01
Sample Tag: MW-14-57_120415
Collected Date/Time: 12/04/2015 09:35
Matrix: Groundwater
COC Reference: 88606

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 01:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.00**	83.0	119.0
1,2-Dichloroethane-D4		**103.80**	77.0	121.0
Toluene-D8		**99.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70114.02
Sample Tag: MW-14-55_120415
Collected Date/Time: 12/04/2015 12:10
Matrix: Groundwater
COC Reference: 88606

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 01:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.00**	83.0	119.0
1,2-Dichloroethane-D4		**103.40**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70114.03
Sample Tag: MW-14-59_120415
Collected Date/Time: 12/04/2015 14:20
Matrix: Groundwater
COC Reference: 88606

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 02:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**105.80**	77.0	121.0
Toluene-D8		**102.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70114.04
Sample Tag: TB_0002_120415
Collected Date/Time: 12/04/2015 07:00
Matrix: Liquid
COC Reference: 88606

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 02:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.00**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

Lab Sample ID: S70114.05
Sample Tag: Dup_03_120415
Collected Date/Time: 12/04/2015 00:01
Matrix: Groundwater
COC Reference: 88606

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 02:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.80**	83.0	119.0
1,2-Dichloroethane-D4		**108.60**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W4

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**114.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**105.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.00**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**102.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.00**	83.0	119.0
1,2-Dichloroethane-D4		**95.20**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151209W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151211W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: ALK151207-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151207-W2.LRB1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:00, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151207-W2.LCS1

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:15, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**92**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151207-W2.MS1, Parent Sample ID: S69983.03

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:35, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**92**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151207-W2.DP1, Parent Sample ID: S69934.06

Run in Batch: ALK151207-W2, Run Date: 12/07/2015 14:25, Prep Date: 12/07/2015, Matrix: Liquid, Dilution: 2

Analyte	Flags	**RPD**	RPD CL
Alkalinity as CaCO3		**<1**	15

Inorganics, Prep Batch ID: CL151208-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151208-W1.LRB1

Run in Batch: CL151208-W1, Run Date: 12/08/2015 10:01, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151208-W1.LCS1

Run in Batch: CL151208-W1, Run Date: 12/08/2015 10:26, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**106**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151208-W1.MS1, Parent Sample ID: S70114.03

Run in Batch: CL151208-W1, Run Date: 12/08/2015 13:27, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**110**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151208-W1.MSD1, Parent Sample ID: CL151208-W1.MS1

Run in Batch: CL151208-W1, Run Date: 12/08/2015 13:39, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**110**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151208-W1.DP1, Parent Sample ID: S70114.03

Run in Batch: CL151208-W1, Run Date: 12/08/2015 13:14, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Chloride		**<1**	15

Inorganics, Prep Batch ID: SFT151208-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151208-W1.LRB1

Run in Batch: SFT151208-W1, Run Date: 12/08/2015 10:01, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151208-W1.LCS1

Run in Batch: SFT151208-W1, Run Date: 12/08/2015 10:26, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**105**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151208-W1.MS1, Parent Sample ID: S70114.03

Run in Batch: SFT151208-W1, Run Date: 12/08/2015 13:27, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**111**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151208-W1.MSD1, Parent Sample ID: SFT151208-W1.MS1

Run in Batch: SFT151208-W1, Run Date: 12/08/2015 13:39, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**112**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT151208-W1.DP1, Parent Sample ID: S70114.03

Run in Batch: SFT151208-W1, Run Date: 12/08/2015 13:14, Prep Date: 12/08/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Sulfate		**1**	15

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.060.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:01, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**98**	85	115
Chromium		**98**	85	115
Copper		**99**	85	115
Nickel		**99**	85	115
Lead		**100**	85	115
Vanadium		**96**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.061.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:02, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.066.MS, Parent Sample ID: S70054.06

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:13, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**100**	75	125
Chromium		**102**	75	125
Copper		**99**	75	125
Nickel		**104**	75	125
Lead		**97**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.086.MS, Parent Sample ID: S70115.03

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:49, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**98**	75	125
Chromium		**101**	75	125
Copper		**92**	75	125
Nickel		**98**	75	125
Lead		**96**	75	125
Vanadium		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**100**	75	125	**0**	20
Chromium		**96**	75	125	**5**	20

Metals, Prep Batch ID: MTD-120915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		**96**	75	125	**3**	20
Nickel		**99**	75	125	**4**	20
Lead		**97**	75	125	**0**	20
Vanadium		**96**	75	125	**5**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.087.MSD, Parent Sample ID: MT2-15-1209B.086.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:51, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**98**	75	125	**0**	20
Chromium		**98**	75	125	**3**	20
Copper		**92**	75	125	**0**	20
Nickel		**99**	75	125	**1**	20
Lead		**95**	75	125	**0**	20
Vanadium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Calcium		**105**	85	115
Potassium		**103**	85	115
Magnesium		**104**	85	115
Sodium		**109**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Calcium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Sodium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Calcium		**100**	75	125
Potassium		**102**	75	125
Magnesium		**109**	75	125
Sodium		**106**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Calcium		**99**	75	125
Potassium		**100**	75	125
Magnesium		**103**	75	125
Sodium		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		**115**	75	125	**2**	20
Potassium		**102**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Sodium		**105**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Calcium		**98**	75	125	**1**	20
Potassium		**98**	75	125	**1**	20
Magnesium		**101**	75	125	**2**	20
Sodium		**101**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF151209W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**86.98**	75.1	135.9
Diethyl ether		**98.28**	67.4	121.2
Acetone	*	**293.68**	29.9	161.5
Methyl iodide		**106.00**	68.8	116.4
Carbon disulfide		**96.60**	63.8	137.4
Methyl acetate		**101.60**	64.7	125.4
tert-Methyl butyl ether		**92.76**	73.2	122.4
Acrylonitrile		**109.16**	69.9	128.9
2-Butanone	*	**195.12**	44.0	134.4
Dichlorodifluoromethane		**97.34**	10.0	222.8
Chloromethane		**87.50**	23.8	166.5
Vinyl Chloride		**89.12**	43.5	149.1
Bromomethane		**96.58**	56.8	151.3
Chloroethane		**91.64**	53.4	149.4
Trichlorofluoromethane		**101.88**	59.7	151.8
1,1-Dichloroethene		**100.86**	69.6	139.4
Methylene Chloride		**102.52**	73.3	121.1
trans-1,2-Dichloroethene		**99.12**	73.6	129.3
1,1-Dichloroethane		**97.64**	71.5	126.2
cis-1,2-Dichloroethene		**101.06**	76.6	122.1
Tetrahydrofuran		**104.96**	59.0	117.9
Chloroform		**101.26**	78.4	124.0
Bromochloromethane		**107.42**	78.2	120.8
1,1,1-Trichloroethane		**96.18**	79.4	130.9
Cyclohexane		**54.52**	10.0	169.1
4-Methyl-2-pentanone		**117.36**	71.6	125.2
2-Hexanone	*	**166.06**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.02**	70.0	130.0
Carbon Tetrachloride		**101.66**	72.6	133.0
Benzene		**97.82**	79.9	124.9
1,2-Dichloroethane		**98.74**	76.0	126.3
Trichloroethene		**101.66**	79.7	124.2
1,2-Dichloropropane		**99.44**	78.6	126.4
Bromodichloromethane		**97.82**	80.4	128.2
Methyl cyclohexane		**86.32**	76.6	131.3
Dibromomethane		**112.26**	76.9	122.1
cis-1,3-Dichloropropene		**101.08**	79.8	129.9
Toluene		**98.86**	79.8	124.5
trans-1,3-Dichloropropene		**90.62**	74.0	131.3
1,1,2-Trichloroethane		**107.06**	78.7	123.1
Tetrachloroethene	*	**140.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**72.04**	68.6	135.4
Dibromochloromethane		**100.62**	74.6	127.2
1,2-Dibromoethane		**104.52**	70.3	133.7
Chlorobenzene		**97.38**	79.2	122.7
1,1,1,2-Tetrachloroethane		**98.12**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**94.86**	79.5	129.1
p,m-Xylene		**96.31**	79.4	132.2
o-Xylene		**94.40**	80.2	131.0
Styrene		**94.80**	69.5	126.7
Isopropylbenzene		**93.44**	74.4	121.5
Bromoform		**89.84**	69.4	128.0
1,1,2,2-Tetrachloroethane		**105.30**	79.8	126.3
1,2,3-Trichloropropane		**107.14**	78.3	138.8
n-Propylbenzene		**93.76**	82.0	130.7
Bromobenzene		**100.66**	78.7	124.6
1,3,5-Trimethylbenzene		**94.72**	81.3	128.9
tert-Butylbenzene		**92.78**	80.7	128.9
1,2,4-Trimethylbenzene		**96.74**	81.4	130.8
sec-Butylbenzene		**83.52**	77.4	129.8
p-Isopropyltoluene		**85.22**	79.8	137.5
1,3-Dichlorobenzene		**88.60**	77.0	131.3
1,4-Dichlorobenzene		**87.92**	20.7	137.7
1,2-Dichlorobenzene		**88.24**	10.0	166.2
1,2,3-Trimethylbenzene		**83.16**	76.3	124.2
n-Butylbenzene		**82.26**	80.0	133.3
Hexachloroethane		**70.80**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.66**	21.2	189.4
1,2,4-Trichlorobenzene		**88.16**	27.4	143.4
1,2,3-Trichlorobenzene		**91.34**	75.4	131.4
Naphthalene		**93.22**	32.9	135.8
2-Methylnaphthalene		**101.88**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**89.24**	75.1	135.9	**2.6**	30.0
Diethyl ether		**98.68**	67.4	121.2	**0.4**	30.0
Acetone	*	**294.60**	29.9	161.5	**0.3**	30.0
Methyl iodide		**106.94**	68.8	116.4	**0.9**	30.0
Carbon disulfide		**97.64**	63.8	137.4	**1.1**	30.0
Methyl acetate		**103.64**	64.7	125.4	**2.0**	30.0
tert-Methyl butyl ether		**93.80**	73.2	122.4	**1.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acrylonitrile		**111.30**	69.9	128.9	**1.9**	30.0
2-Butanone	*	**197.64**	44.0	134.4	**1.3**	30.0
Dichlorodifluoromethane		**99.54**	10.0	222.8	**2.2**	30.0
Chloromethane		**86.02**	23.8	166.5	**1.7**	30.0
Vinyl Chloride		**90.66**	43.5	149.1	**1.7**	30.0
Bromomethane		**97.68**	56.8	151.3	**1.1**	30.0
Chloroethane		**94.40**	53.4	149.4	**3.0**	30.0
Trichlorofluoromethane		**102.72**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**101.38**	69.6	139.4	**0.5**	30.0
Methylene Chloride		**103.84**	73.3	121.1	**1.3**	30.0
trans-1,2-Dichloroethene		**100.04**	73.6	129.3	**0.9**	30.0
1,1-Dichloroethane		**98.22**	71.5	126.2	**0.6**	30.0
cis-1,2-Dichloroethene		**101.42**	76.6	122.1	**0.4**	30.0
Tetrahydrofuran		**107.42**	59.0	117.9	**2.3**	30.0
Chloroform		**101.62**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**108.70**	78.2	120.8	**1.2**	30.0
1,1,1-Trichloroethane		**97.30**	79.4	130.9	**1.2**	30.0
Cyclohexane		**54.38**	10.0	169.1	**0.3**	30.0
4-Methyl-2-pentanone		**121.22**	71.6	125.2	**3.2**	30.0
2-Hexanone	*	**170.40**	55.4	136.9	**2.6**	30.0
2-Chloroethylvinyl ether	*	**2.14**	70.0	130.0	**5.8**	30.0
Carbon Tetrachloride		**103.68**	72.6	133.0	**2.0**	30.0
Benzene		**100.08**	79.9	124.9	**2.3**	30.0
1,2-Dichloroethane		**100.32**	76.0	126.3	**1.6**	30.0
Trichloroethene		**103.58**	79.7	124.2	**1.9**	30.0
1,2-Dichloropropane		**101.48**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**100.98**	80.4	128.2	**3.2**	30.0
Methyl cyclohexane		**90.70**	76.6	131.3	**4.9**	30.0
Dibromomethane		**115.30**	76.9	122.1	**2.7**	30.0
cis-1,3-Dichloropropene		**103.20**	79.8	129.9	**2.1**	30.0
Toluene		**101.28**	79.8	124.5	**2.4**	30.0
trans-1,3-Dichloropropene		**92.28**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**109.30**	78.7	123.1	**2.1**	30.0
Tetrachloroethene	*	**141.98**	74.5	124.5	**1.4**	30.0
trans-1,4-Dichloro-2-butene		**72.50**	68.6	135.4	**0.6**	30.0
Dibromochloromethane		**99.94**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**103.54**	70.3	133.7	**0.9**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**1.8**	30.0
1,1,1,2-Tetrachloroethane		**97.46**	80.3	128.2	**0.7**	30.0
Ethylbenzene		**93.82**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**95.15**	79.4	132.2	**1.2**	30.0
o-Xylene		**92.86**	80.2	131.0	**1.6**	30.0
Styrene		**93.48**	69.5	126.7	**1.4**	30.0
Isopropylbenzene		**92.80**	74.4	121.5	**0.7**	30.0
Bromoform		**89.10**	69.4	128.0	**0.8**	30.0
1,1,2,2-Tetrachloroethane		**104.22**	79.8	126.3	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**106.34**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**92.62**	82.0	130.7	**1.2**	30.0
Bromobenzene		**98.82**	78.7	124.6	**1.8**	30.0
1,3,5-Trimethylbenzene		**94.86**	81.3	128.9	**0.1**	30.0
tert-Butylbenzene	*	**79.86**	80.7	128.9	**15.0**	30.0
1,2,4-Trimethylbenzene	*	**81.36**	81.4	130.8	**17.3**	30.0
sec-Butylbenzene		**85.72**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene		**87.98**	79.8	137.5	**3.2**	30.0
1,3-Dichlorobenzene		**91.08**	77.0	131.3	**2.8**	30.0
1,4-Dichlorobenzene		**90.78**	20.7	137.7	**3.2**	30.0
1,2-Dichlorobenzene		**90.92**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**85.24**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**84.54**	80.0	133.3	**2.7**	30.0
Hexachloroethane		**73.44**	23.8	138.1	**3.7**	30.0
1,2-Dibromo-3-Chloropropane		**88.40**	21.2	189.4	**3.1**	30.0
1,2,4-Trichlorobenzene		**90.70**	27.4	143.4	**2.8**	30.0
1,2,3-Trichlorobenzene		**95.38**	75.4	131.4	**4.3**	30.0
Naphthalene		**96.42**	32.9	135.8	**3.4**	30.0
2-Methylnaphthalene		**106.28**	25.5	165.5	**4.2**	30.0

Organics - Volatiles, Prep Batch ID: VS151209W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:16, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**103.78**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151209a3.blkw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 13:46, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.3**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151209a3.7005303m, Parent Sample ID: S70053.02

Run in Batch: 151209A3, Run Date: 12/09/2015 12:52, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**94.86**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151209a3.7005304n, Parent Sample ID: 151209a3.7005303m

Run in Batch: 151209A3, Run Date: 12/09/2015 13:10, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.18**	70.0	130.0	**1.4**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209a3.lcsw09b, Parent Sample ID: 151209a3.lcsw09a

Run in Batch: 151209A3, Run Date: 12/09/2015 12:34, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**105.30**	70.0	130.0	**1.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.12**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**111.36**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**117.02**	70.0	130.0	**2.8**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**113.22**	70.0	130.0	**0.8**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

88606

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE:
PHONE NO.: FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Kreer Lansing PO KS0064479.2015.00005
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Wills

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Total Select Metals	Tot. Geochem Metals	Geochem	Special Instructions
70114.01	12/4/15	935	MW-14-59_120415	GW	4		3	1					X	X	Y			Select Metals: Arsenic
.02		1010	MW-14-55_120415	GW									X	[redacted]	X			Nickel, Lead Vanadium,
.03		1420	MW-14-59_120415	GW									X	X		X	X	Chromium, Copper
.04		700	TB_0000_120415	L									X					Geochem Metals:
.05	↓		Dup-03_120415	GW									X	X	X			Magnesium, Sodium
																		Potassium, Calcium
																		Geochem: Chloride,
																		Sulfate, Total
																		Alkalinity

RELINQUISHED BY: SIGNATURE/ORGANIZATION ☑ Sampler DATE 12-4 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION PME Storage DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION PME Storage DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12-7-15 TIME 8:45

RELINQUISHED BY: SIGNATURE/ORGANIZATION DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION DATE 12-7-15 TIME 9:50

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5-7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70115.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70115.01-S70115.04
Project: RACER Plant 6 / B0064481.2015.00603
Submitted Date/Time: 12/07/2015 09:50
Sampled by: Doug Spencer
P.O. #: B0064481.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Pages 6-7)
Surrogates per Lab Sample (Pages 8-11)
Surrogates per QC Sample (Pages 12-13)
Batch QC Results (Pages 14-22)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70115.01
Sample Tag: MW-12-11_120415
Collected Date/Time: 12/04/2015 11:05
Matrix: Groundwater
COC Reference: 89593

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/09/15 13:43	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:43	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:43	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:43	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:43	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:43	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 03:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 03:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 03:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70115.02
Sample Tag: MW-12-12_120415
Collected Date/Time: 12/04/2015 13:35
Matrix: Groundwater
COC Reference: 89593

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/09/15 13:46	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:46	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:46	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:46	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:46	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:46	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 03:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 03:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 03:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70115.03
Sample Tag: MW-12-13_120415
Collected Date/Time: 12/04/2015 16:20
Matrix: Groundwater
COC Reference: 89593

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/09/15 13:48	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/09/15 13:48	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/09/15 13:48	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/09/15 13:48	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/09/15 13:48	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B	MTD-120915-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/09/15 13:48	MT2-15-1209B	MTD-120915-5	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 03:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 03:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260C	12/16/15 17:58	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 03:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70115.04
Sample Tag: TB0001_120415
Collected Date/Time: 12/04/2015 00:01
Matrix: Liquid
COC Reference: 89593

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 04:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 04:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70115.01	Arsenic	SW6020A	12/09/15 13:43	MT2-15-1209B
S70115.01	Chromium	SW6020A	12/09/15 13:43	MT2-15-1209B
S70115.01	Copper	SW6020A	12/09/15 13:43	MT2-15-1209B
S70115.01	Lead	SW6020A	12/09/15 13:43	MT2-15-1209B
S70115.01	Nickel	SW6020A	12/09/15 13:43	MT2-15-1209B
S70115.01	Vanadium	SW6020A	12/09/15 13:43	MT2-15-1209B
S70115.02	Arsenic	SW6020A	12/09/15 13:46	MT2-15-1209B
S70115.02	Chromium	SW6020A	12/09/15 13:46	MT2-15-1209B
S70115.02	Copper	SW6020A	12/09/15 13:46	MT2-15-1209B
S70115.02	Lead	SW6020A	12/09/15 13:46	MT2-15-1209B
S70115.02	Nickel	SW6020A	12/09/15 13:46	MT2-15-1209B
S70115.02	Vanadium	SW6020A	12/09/15 13:46	MT2-15-1209B
S70115.03	Arsenic	SW6020A	12/09/15 13:48	MT2-15-1209B
S70115.03	Chromium	SW6020A	12/09/15 13:48	MT2-15-1209B
S70115.03	Copper	SW6020A	12/09/15 13:48	MT2-15-1209B
S70115.03	Lead	SW6020A	12/09/15 13:48	MT2-15-1209B
S70115.03	Nickel	SW6020A	12/09/15 13:48	MT2-15-1209B
S70115.03	Vanadium	SW6020A	12/09/15 13:48	MT2-15-1209B

Metals, Prep Batch ID: MTD-120915-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70115.01	Arsenic, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B
S70115.01	Chromium, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B
S70115.01	Copper, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B
S70115.01	Lead, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B
S70115.01	Nickel, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B
S70115.01	Vanadium, Dissolved	SW6020A	12/09/15 13:58	MT2-15-1209B
S70115.02	Arsenic, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B
S70115.02	Chromium, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B
S70115.02	Copper, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B
S70115.02	Lead, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B
S70115.02	Nickel, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B
S70115.02	Vanadium, Dissolved	SW6020A	12/09/15 14:01	MT2-15-1209B
S70115.03	Arsenic, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B
S70115.03	Chromium, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B
S70115.03	Copper, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B
S70115.03	Lead, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B
S70115.03	Nickel, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B
S70115.03	Vanadium, Dissolved	SW6020A	12/09/15 14:02	MT2-15-1209B

Organics - Volatiles, Prep Batch ID: VF151209W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70115.01	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 03:06	151209B6
S70115.01	1,2-Dibromoethane	SW8260B	12/10/15 03:06	151209B6
S70115.01	TCL Volatile Organics 8260	SW8260C	12/10/15 03:06	151209B6
S70115.02	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 03:26	151209B6
S70115.02	1,2-Dibromoethane	SW8260B	12/10/15 03:26	151209B6
S70115.02	TCL Volatile Organics 8260	SW8260C	12/10/15 03:26	151209B6

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70115.03	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 03:46	151209B6
S70115.03	1,2-Dibromoethane	SW8260B	12/10/15 03:46	151209B6
S70115.03	TCL Volatile Organics 8260	SW8260C	12/10/15 03:46	151209B6
S70115.04	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:06	151209B6
S70115.04	1,2-Dibromoethane	SW8260B	12/10/15 04:06	151209B6
S70115.04	TCL Volatile Organics 8260	SW8260C	12/10/15 04:06	151209B6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70115.03	1,4-Dioxane	SW8260C	12/16/15 17:58	151216A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70115.01
Sample Tag: MW-12-11_120415
Collected Date/Time: 12/04/2015 11:05
Matrix: Groundwater
COC Reference: 89593

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 03:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.80**	83.0	119.0
1,2-Dichloroethane-D4		**109.60**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70115.02
Sample Tag: MW-12-12_120415
Collected Date/Time: 12/04/2015 13:35
Matrix: Groundwater
COC Reference: 89593

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 03:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.00**	83.0	119.0
1,2-Dichloroethane-D4		**108.20**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70115.03
Sample Tag: MW-12-13_120415
Collected Date/Time: 12/04/2015 16:20
Matrix: Groundwater
COC Reference: 89593

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 03:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.00**	83.0	119.0
1,2-Dichloroethane-D4		**106.40**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70115.04
Sample Tag: TB0001_120415
Collected Date/Time: 12/04/2015 00:01
Matrix: Liquid
COC Reference: 89593

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 04:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.00**	83.0	119.0
1,2-Dichloroethane-D4		**106.60**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W4

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**114.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**105.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.00**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**102.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.00**	83.0	119.0
1,2-Dichloroethane-D4		**95.20**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Metals, Prep Batch ID: MTD-120915-5

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.060.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:01, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**96**	85	115
Chromium		**98**	85	115
Nickel		**99**	85	115
Copper		**99**	85	115
Arsenic		**98**	85	115
Lead		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.061.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:02, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.066.MS, Parent Sample ID: S70054.06

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:13, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**102**	75	125
Nickel		**104**	75	125
Copper		**99**	75	125
Arsenic		**100**	75	125
Lead		**97**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.086.MS, Parent Sample ID: S70115.03

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:49, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**99**	75	125
Chromium		**101**	75	125
Nickel		**98**	75	125
Copper		**92**	75	125
Arsenic		**98**	75	125
Lead		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**96**	75	125	**5**	20
Chromium		**96**	75	125	**5**	20

Metals, Prep Batch ID: MTD-120915-5 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1209B.067.MSD, Parent Sample ID: MT2-15-1209B.066.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:14, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nickel		**99**	75	125	**4**	20
Copper		**96**	75	125	**3**	20
Arsenic		**100**	75	125	**0**	20
Lead		**97**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.087.MSD, Parent Sample ID: MT2-15-1209B.086.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:51, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**100**	75	125	**0**	20
Chromium		**98**	75	125	**3**	20
Nickel		**99**	75	125	**1**	20
Copper		**92**	75	125	**0**	20
Arsenic		**98**	75	125	**0**	20
Lead		**95**	75	125	**0**	20

Metals, Prep Batch ID: MTD-120915-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1209B.090.LCS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:55, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**97**	85	115
Chromium		**100**	85	115
Nickel		**97**	85	115
Copper		**96**	85	115
Arsenic		**97**	85	115
Lead		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1209B.091.LRB

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 13:57, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1209B.096.MS, Parent Sample ID: S70115.03

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 14:04, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium, Dissolved		**98**	75	125
Chromium, Dissolved		**96**	75	125
Nickel, Dissolved		**96**	75	125
Copper, Dissolved		**92**	75	125
Arsenic, Dissolved		**105**	75	125
Lead, Dissolved		**96**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1209B.097.MSD, Parent Sample ID: MT2-15-1209B.096.MS

Run in Batch: MT2-15-1209B, Run Date: 12/09/2015 14:05, Prep Date: 12/09/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium, Dissolved		**97**	75	125	**0**	20
Chromium, Dissolved		**98**	75	125	**2**	20
Nickel, Dissolved		**96**	75	125	**0**	20
Copper, Dissolved		**92**	75	125	**0**	20
Arsenic, Dissolved		**105**	75	125	**0**	20
Lead, Dissolved		**94**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151209W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**86.98**	75.1	135.9
Diethyl ether		**98.28**	67.4	121.2
Acetone	*	**293.68**	29.9	161.5
Methyl iodide		**106.00**	68.8	116.4
Carbon disulfide		**96.60**	63.8	137.4
Methyl acetate		**101.60**	64.7	125.4
tert-Methyl butyl ether		**92.76**	73.2	122.4
Acrylonitrile		**109.16**	69.9	128.9
2-Butanone	*	**195.12**	44.0	134.4
Dichlorodifluoromethane		**97.34**	10.0	222.8
Chloromethane		**87.50**	23.8	166.5
Vinyl Chloride		**89.12**	43.5	149.1
Bromomethane		**96.58**	56.8	151.3
Chloroethane		**91.64**	53.4	149.4
Trichlorofluoromethane		**101.88**	59.7	151.8
1,1-Dichloroethene		**100.86**	69.6	139.4
Methylene Chloride		**102.52**	73.3	121.1
trans-1,2-Dichloroethene		**99.12**	73.6	129.3
1,1-Dichloroethane		**97.64**	71.5	126.2
cis-1,2-Dichloroethene		**101.06**	76.6	122.1
Tetrahydrofuran		**104.96**	59.0	117.9
Chloroform		**101.26**	78.4	124.0
Bromochloromethane		**107.42**	78.2	120.8
1,1,1-Trichloroethane		**96.18**	79.4	130.9
Cyclohexane		**54.52**	10.0	169.1
4-Methyl-2-pentanone		**117.36**	71.6	125.2
2-Hexanone	*	**166.06**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.02**	70.0	130.0
Carbon Tetrachloride		**101.66**	72.6	133.0
Benzene		**97.82**	79.9	124.9
1,2-Dichloroethane		**98.74**	76.0	126.3
Trichloroethene		**101.66**	79.7	124.2
1,2-Dichloropropane		**99.44**	78.6	126.4
Bromodichloromethane		**97.82**	80.4	128.2
Methyl cyclohexane		**86.32**	76.6	131.3
Dibromomethane		**112.26**	76.9	122.1
cis-1,3-Dichloropropene		**101.08**	79.8	129.9
Toluene		**98.86**	79.8	124.5
trans-1,3-Dichloropropene		**90.62**	74.0	131.3
1,1,2-Trichloroethane		**107.06**	78.7	123.1
Tetrachloroethene	*	**140.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**72.04**	68.6	135.4
Dibromochloromethane		**100.62**	74.6	127.2
1,2-Dibromoethane		**104.52**	70.3	133.7
Chlorobenzene		**97.38**	79.2	122.7
1,1,1,2-Tetrachloroethane		**98.12**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**94.86**	79.5	129.1
p,m-Xylene		**96.31**	79.4	132.2
o-Xylene		**94.40**	80.2	131.0
Styrene		**94.80**	69.5	126.7
Isopropylbenzene		**93.44**	74.4	121.5
Bromoform		**89.84**	69.4	128.0
1,1,2,2-Tetrachloroethane		**105.30**	79.8	126.3
1,2,3-Trichloropropane		**107.14**	78.3	138.8
n-Propylbenzene		**93.76**	82.0	130.7
Bromobenzene		**100.66**	78.7	124.6
1,3,5-Trimethylbenzene		**94.72**	81.3	128.9
tert-Butylbenzene		**92.78**	80.7	128.9
1,2,4-Trimethylbenzene		**96.74**	81.4	130.8
sec-Butylbenzene		**83.52**	77.4	129.8
p-Isopropyltoluene		**85.22**	79.8	137.5
1,3-Dichlorobenzene		**88.60**	77.0	131.3
1,4-Dichlorobenzene		**87.92**	20.7	137.7
1,2-Dichlorobenzene		**88.24**	10.0	166.2
1,2,3-Trimethylbenzene		**83.16**	76.3	124.2
n-Butylbenzene		**82.26**	80.0	133.3
Hexachloroethane		**70.80**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.66**	21.2	189.4
1,2,4-Trichlorobenzene		**88.16**	27.4	143.4
1,2,3-Trichlorobenzene		**91.34**	75.4	131.4
Naphthalene		**93.22**	32.9	135.8
2-Methylnaphthalene		**101.88**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Trichlorofluoromethane		ND	1	ug/l
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	1	ug/l
2-Hexanone (*)		ND	1	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**89.24**	75.1	135.9	**2.6**	30.0
Diethyl ether		**98.68**	67.4	121.2	**0.4**	30.0
Acetone	*	**294.60**	29.9	161.5	**0.3**	30.0
Methyl iodide		**106.94**	68.8	116.4	**0.9**	30.0
Carbon disulfide		**97.64**	63.8	137.4	**1.1**	30.0
Methyl acetate		**103.64**	64.7	125.4	**2.0**	30.0
tert-Methyl butyl ether		**93.80**	73.2	122.4	**1.1**	30.0
Acrylonitrile		**111.30**	69.9	128.9	**1.9**	30.0
2-Butanone	*	**197.64**	44.0	134.4	**1.3**	30.0
Dichlorodifluoromethane		**99.54**	10.0	222.8	**2.2**	30.0
Chloromethane		**86.02**	23.8	166.5	**1.7**	30.0
Vinyl Chloride		**90.66**	43.5	149.1	**1.7**	30.0
Bromomethane		**97.68**	56.8	151.3	**1.1**	30.0
Chloroethane		**94.40**	53.4	149.4	**3.0**	30.0
Trichlorofluoromethane		**102.72**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**101.38**	69.6	139.4	**0.5**	30.0
Methylene Chloride		**103.84**	73.3	121.1	**1.3**	30.0
trans-1,2-Dichloroethene		**100.04**	73.6	129.3	**0.9**	30.0
1,1-Dichloroethane		**98.22**	71.5	126.2	**0.6**	30.0
cis-1,2-Dichloroethene		**101.42**	76.6	122.1	**0.4**	30.0
Tetrahydrofuran		**107.42**	59.0	117.9	**2.3**	30.0
Chloroform		**101.62**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**108.70**	78.2	120.8	**1.2**	30.0
1,1,1-Trichloroethane		**97.30**	79.4	130.9	**1.2**	30.0
Cyclohexane		**54.38**	10.0	169.1	**0.3**	30.0
4-Methyl-2-pentanone		**121.22**	71.6	125.2	**3.2**	30.0
2-Hexanone	*	**170.40**	55.4	136.9	**2.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Chloroethylvinyl ether	*	**2.14**	70.0	130.0	**5.8**	30.0
Carbon Tetrachloride		**103.68**	72.6	133.0	**2.0**	30.0
Benzene		**100.08**	79.9	124.9	**2.3**	30.0
1,2-Dichloroethane		**100.32**	76.0	126.3	**1.6**	30.0
Trichloroethene		**103.58**	79.7	124.2	**1.9**	30.0
1,2-Dichloropropane		**101.48**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**100.98**	80.4	128.2	**3.2**	30.0
Methyl cyclohexane		**90.70**	76.6	131.3	**4.9**	30.0
Dibromomethane		**115.30**	76.9	122.1	**2.7**	30.0
cis-1,3-Dichloropropene		**103.20**	79.8	129.9	**2.1**	30.0
Toluene		**101.28**	79.8	124.5	**2.4**	30.0
trans-1,3-Dichloropropene		**92.28**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**109.30**	78.7	123.1	**2.1**	30.0
Tetrachloroethene	*	**141.98**	74.5	124.5	**1.4**	30.0
trans-1,4-Dichloro-2-butene		**72.50**	68.6	135.4	**0.6**	30.0
Dibromochloromethane		**99.94**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**103.54**	70.3	133.7	**0.9**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**1.8**	30.0
1,1,1,2-Tetrachloroethane		**97.46**	80.3	128.2	**0.7**	30.0
Ethylbenzene		**93.82**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**95.15**	79.4	132.2	**1.2**	30.0
o-Xylene		**92.86**	80.2	131.0	**1.6**	30.0
Styrene		**93.48**	69.5	126.7	**1.4**	30.0
Isopropylbenzene		**92.80**	74.4	121.5	**0.7**	30.0
Bromoform		**89.10**	69.4	128.0	**0.8**	30.0
1,1,2,2-Tetrachloroethane		**104.22**	79.8	126.3	**1.0**	30.0
1,2,3-Trichloropropane		**106.34**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**92.62**	82.0	130.7	**1.2**	30.0
Bromobenzene		**98.82**	78.7	124.6	**1.8**	30.0
1,3,5-Trimethylbenzene		**94.86**	81.3	128.9	**0.1**	30.0
tert-Butylbenzene	*	**79.86**	80.7	128.9	**15.0**	30.0
1,2,4-Trimethylbenzene	*	**81.36**	81.4	130.8	**17.3**	30.0
sec-Butylbenzene		**85.72**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene		**87.98**	79.8	137.5	**3.2**	30.0
1,3-Dichlorobenzene		**91.08**	77.0	131.3	**2.8**	30.0
1,4-Dichlorobenzene		**90.78**	20.7	137.7	**3.2**	30.0
1,2-Dichlorobenzene		**90.92**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**85.24**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**84.54**	80.0	133.3	**2.7**	30.0
Hexachloroethane		**73.44**	23.8	138.1	**3.7**	30.0
1,2-Dibromo-3-Chloropropane		**88.40**	21.2	189.4	**3.1**	30.0
1,2,4-Trichlorobenzene		**90.70**	27.4	143.4	**2.8**	30.0
1,2,3-Trichlorobenzene		**95.38**	75.4	131.4	**4.3**	30.0
Naphthalene		**96.42**	32.9	135.8	**3.4**	30.0
2-Methylnaphthalene		**106.28**	25.5	165.5	**4.2**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.4**	1	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89593

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: PM Environmental
ADDRESS: 3340 Ranger Road
CITY: Brighton STATE: MI ZIP CODE:
PHONE NO.: FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☒ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Doug Spencer

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals	Special Instructions
70115.01	12/4/15	11:05	MW-12-11_120415	GW	5		3	2					X		X	Select Metals:
.02	12/4/15	13:35	MW-12-12_120415	GW	5		3	2					X		X	Arsenic, nickel,
.03	12/4/15	16:20	MW-12-13_120415	GW	5		3	2					X	X	X	lead, chromium
.04	12/4/15		TB0001_120415	L	1		1						X			vanadium, copper

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	PM Env. ☐ Sampler	12/4/15	10:00
RECEIVED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Storage	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		12-7-15	845

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-7	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-7-15	9:50

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.7

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70129.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70129.01-S70129.05
Project: Racer Plant 6 / GWS:B0064481.2015.00603
Submitted Date/Time: 12/08/2015 10:00
Sampled by: Doug Spencer
P.O. #: B0064481.2015.006

QC Report Sections

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Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70129.01
Sample Tag: TB0001_120715
Collected Date/Time: 12/07/2015 08:00
Matrix: Liquid
COC Reference: 88610

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 04:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 04:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70129.02
Sample Tag: MW-14-70_120715
Collected Date/Time: 12/07/2015 11:16
Matrix: Groundwater
COC Reference: 88610

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 13:51	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 13:51	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 13:51	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 13:51	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 13:51	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 13:51	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 04:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 15:32	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 04:46	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70129.03
Sample Tag: P6-SB-18_120715
Collected Date/Time: 12/07/2015 13:19
Matrix: Groundwater
COC Reference: 88610

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 13:53	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 13:53	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 13:53	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 13:53	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 13:53	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 13:53	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD

Lab Sample ID: S70129.04
Sample Tag: MW-14-66_120715
Collected Date/Time: 12/07/2015 14:55
Matrix: Groundwater
COC Reference: 88610

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 13:55	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 13:55	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 13:55	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 13:55	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 13:55	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 13:55	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 05:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 15:51	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 05:06	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70129.05
Sample Tag: FB0001_120715
Collected Date/Time: 12/07/2015 15:30
Matrix: Liquid
COC Reference: 88610

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/10/15 05:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/10/15 05:26	151209B6	VF151209W4	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70129.02	Arsenic	SW6020A	12/18/15 13:51	MT2-15-1218A
S70129.02	Chromium	SW6020A	12/18/15 13:51	MT2-15-1218A
S70129.02	Copper	SW6020A	12/18/15 13:51	MT2-15-1218A
S70129.02	Lead	SW6020A	12/18/15 13:51	MT2-15-1218A
S70129.02	Nickel	SW6020A	12/18/15 13:51	MT2-15-1218A
S70129.02	Vanadium	SW6020A	12/18/15 13:51	MT2-15-1218A
S70129.03	Arsenic	SW6020A	12/18/15 13:53	MT2-15-1218A
S70129.03	Chromium	SW6020A	12/18/15 13:53	MT2-15-1218A
S70129.03	Copper	SW6020A	12/18/15 13:53	MT2-15-1218A
S70129.03	Lead	SW6020A	12/18/15 13:53	MT2-15-1218A
S70129.03	Nickel	SW6020A	12/18/15 13:53	MT2-15-1218A
S70129.03	Vanadium	SW6020A	12/18/15 13:53	MT2-15-1218A
S70129.04	Arsenic	SW6020A	12/18/15 13:55	MT2-15-1218A
S70129.04	Chromium	SW6020A	12/18/15 13:55	MT2-15-1218A
S70129.04	Copper	SW6020A	12/18/15 13:55	MT2-15-1218A
S70129.04	Lead	SW6020A	12/18/15 13:55	MT2-15-1218A
S70129.04	Nickel	SW6020A	12/18/15 13:55	MT2-15-1218A
S70129.04	Vanadium	SW6020A	12/18/15 13:55	MT2-15-1218A

Organics - Volatiles, Prep Batch ID: VF151209W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70129.01	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:26	151209B6
S70129.01	1,2-Dibromoethane	SW8260B	12/10/15 04:26	151209B6
S70129.01	TCL Volatile Organics 8260	SW8260C	12/10/15 04:26	151209B6
S70129.02	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 04:46	151209B6
S70129.02	1,2-Dibromoethane	SW8260B	12/10/15 04:46	151209B6
S70129.02	TCL Volatile Organics 8260	SW8260C	12/10/15 04:46	151209B6
S70129.04	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:06	151209B6
S70129.04	1,2-Dibromoethane	SW8260B	12/10/15 05:06	151209B6
S70129.04	TCL Volatile Organics 8260	SW8260C	12/10/15 05:06	151209B6
S70129.05	1,2-Dibromo-3-chloropropane	SW8260C	12/10/15 05:26	151209B6
S70129.05	1,2-Dibromoethane	SW8260B	12/10/15 05:26	151209B6
S70129.05	TCL Volatile Organics 8260	SW8260C	12/10/15 05:26	151209B6

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70129.02	1,4-Dioxane	SW8260B - SIM	12/10/15 15:32	151210A3
S70129.04	1,4-Dioxane	SW8260B - SIM	12/10/15 15:51	151210A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70129.01
Sample Tag: TB0001_120715
Collected Date/Time: 12/07/2015 08:00
Matrix: Liquid
COC Reference: 88610

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 04:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.00**	83.0	119.0
1,2-Dichloroethane-D4		**107.20**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70129.02
Sample Tag: MW-14-70_120715
Collected Date/Time: 12/07/2015 11:16
Matrix: Groundwater
COC Reference: 88610

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 04:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**108.60**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70129.04
Sample Tag: MW-14-66_120715
Collected Date/Time: 12/07/2015 14:55
Matrix: Groundwater
COC Reference: 88610

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 05:06, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**102.40**	83.0	119.0
1,2-Dichloroethane-D4		**107.60**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70129.05
Sample Tag: FB0001_120715
Collected Date/Time: 12/07/2015 15:30
Matrix: Liquid
COC Reference: 88610

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151209B6, Run Date: 12/10/2015 05:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**107.40**	77.0	121.0
Toluene-D8		**101.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151209W4

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**114.00**	83.0	119.0
1,2-Dichloroethane-D4		**97.60**	77.0	121.0
Toluene-D8		**105.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.00**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**102.20**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.00**	83.0	119.0
1,2-Dichloroethane-D4		**95.20**	77.0	121.0
Toluene-D8		**105.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	85	115
Chromium		**99**	85	115
Copper		**104**	85	115
Nickel		**101**	85	115
Lead		**98**	85	115
Vanadium		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**96**	75	125
Chromium		**100**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**89**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**92**	75	125
Chromium		**99**	75	125
Copper		**87**	75	125
Nickel		**88**	75	125
Lead		**92**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**94**	75	125	**2**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Copper		**88**	75	125	**4**	20
Nickel		**88**	75	125	**3**	20
Lead		**90**	75	125	**0**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Arsenic		**92**	75	125	**0**	20
Chromium		**103**	75	125	**4**	20
Copper		**88**	75	125	**1**	20
Nickel		**94**	75	125	**5**	20
Lead		**91**	75	125	**0**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151209W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**86.98**	75.1	135.9
Diethyl ether		**98.28**	67.4	121.2
Acetone	*	**293.68**	29.9	161.5
Methyl iodide		**106.00**	68.8	116.4
Carbon disulfide		**96.60**	63.8	137.4
Methyl acetate		**101.60**	64.7	125.4
tert-Methyl butyl ether		**92.76**	73.2	122.4
Acrylonitrile		**109.16**	69.9	128.9
2-Butanone	*	**195.12**	44.0	134.4
Dichlorodifluoromethane		**97.34**	10.0	222.8
Chloromethane		**87.50**	23.8	166.5
Vinyl Chloride		**89.12**	43.5	149.1
Bromomethane		**96.58**	56.8	151.3
Chloroethane		**91.64**	53.4	149.4
Trichlorofluoromethane		**101.88**	59.7	151.8
1,1-Dichloroethene		**100.86**	69.6	139.4
Methylene Chloride		**102.52**	73.3	121.1
trans-1,2-Dichloroethene		**99.12**	73.6	129.3
1,1-Dichloroethane		**97.64**	71.5	126.2
cis-1,2-Dichloroethene		**101.06**	76.6	122.1
Tetrahydrofuran		**104.96**	59.0	117.9
Chloroform		**101.26**	78.4	124.0
Bromochloromethane		**107.42**	78.2	120.8
1,1,1-Trichloroethane		**96.18**	79.4	130.9
Cyclohexane		**54.52**	10.0	169.1
4-Methyl-2-pentanone		**117.36**	71.6	125.2
2-Hexanone	*	**166.06**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.02**	70.0	130.0
Carbon Tetrachloride		**101.66**	72.6	133.0
Benzene		**97.82**	79.9	124.9
1,2-Dichloroethane		**98.74**	76.0	126.3
Trichloroethene		**101.66**	79.7	124.2
1,2-Dichloropropane		**99.44**	78.6	126.4
Bromodichloromethane		**97.82**	80.4	128.2
Methyl cyclohexane		**86.32**	76.6	131.3
Dibromomethane		**112.26**	76.9	122.1
cis-1,3-Dichloropropene		**101.08**	79.8	129.9
Toluene		**98.86**	79.8	124.5
trans-1,3-Dichloropropene		**90.62**	74.0	131.3
1,1,2-Trichloroethane		**107.06**	78.7	123.1
Tetrachloroethene	*	**140.00**	74.5	124.5
trans-1,4-Dichloro-2-butene		**72.04**	68.6	135.4
Dibromochloromethane		**100.62**	74.6	127.2
1,2-Dibromoethane		**104.52**	70.3	133.7
Chlorobenzene		**97.38**	79.2	122.7
1,1,1,2-Tetrachloroethane		**98.12**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:24, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**94.86**	79.5	129.1
p,m-Xylene		**96.31**	79.4	132.2
o-Xylene		**94.40**	80.2	131.0
Styrene		**94.80**	69.5	126.7
Isopropylbenzene		**93.44**	74.4	121.5
Bromoform		**89.84**	69.4	128.0
1,1,2,2-Tetrachloroethane		**105.30**	79.8	126.3
1,2,3-Trichloropropane		**107.14**	78.3	138.8
n-Propylbenzene		**93.76**	82.0	130.7
Bromobenzene		**100.66**	78.7	124.6
1,3,5-Trimethylbenzene		**94.72**	81.3	128.9
tert-Butylbenzene		**92.78**	80.7	128.9
1,2,4-Trimethylbenzene		**96.74**	81.4	130.8
sec-Butylbenzene		**83.52**	77.4	129.8
p-Isopropyltoluene		**85.22**	79.8	137.5
1,3-Dichlorobenzene		**88.60**	77.0	131.3
1,4-Dichlorobenzene		**87.92**	20.7	137.7
1,2-Dichlorobenzene		**88.24**	10.0	166.2
1,2,3-Trimethylbenzene		**83.16**	76.3	124.2
n-Butylbenzene		**82.26**	80.0	133.3
Hexachloroethane		**70.80**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**85.66**	21.2	189.4
1,2,4-Trichlorobenzene		**88.16**	27.4	143.4
1,2,3-Trichlorobenzene		**91.34**	75.4	131.4
Naphthalene		**93.22**	32.9	135.8
2-Methylnaphthalene		**101.88**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151209b6.blkw09b

Run in Batch: 151209B6, Run Date: 12/09/2015 23:05, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**89.24**	75.1	135.9	**2.6**	30.0
Diethyl ether		**98.68**	67.4	121.2	**0.4**	30.0
Acetone	*	**294.60**	29.9	161.5	**0.3**	30.0
Methyl iodide		**106.94**	68.8	116.4	**0.9**	30.0
Carbon disulfide		**97.64**	63.8	137.4	**1.1**	30.0
Methyl acetate		**103.64**	64.7	125.4	**2.0**	30.0
tert-Methyl butyl ether		**93.80**	73.2	122.4	**1.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acrylonitrile		**111.30**	69.9	128.9	**1.9**	30.0
2-Butanone	*	**197.64**	44.0	134.4	**1.3**	30.0
Dichlorodifluoromethane		**99.54**	10.0	222.8	**2.2**	30.0
Chloromethane		**86.02**	23.8	166.5	**1.7**	30.0
Vinyl Chloride		**90.66**	43.5	149.1	**1.7**	30.0
Bromomethane		**97.68**	56.8	151.3	**1.1**	30.0
Chloroethane		**94.40**	53.4	149.4	**3.0**	30.0
Trichlorofluoromethane		**102.72**	59.7	151.8	**0.8**	30.0
1,1-Dichloroethene		**101.38**	69.6	139.4	**0.5**	30.0
Methylene Chloride		**103.84**	73.3	121.1	**1.3**	30.0
trans-1,2-Dichloroethene		**100.04**	73.6	129.3	**0.9**	30.0
1,1-Dichloroethane		**98.22**	71.5	126.2	**0.6**	30.0
cis-1,2-Dichloroethene		**101.42**	76.6	122.1	**0.4**	30.0
Tetrahydrofuran		**107.42**	59.0	117.9	**2.3**	30.0
Chloroform		**101.62**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**108.70**	78.2	120.8	**1.2**	30.0
1,1,1-Trichloroethane		**97.30**	79.4	130.9	**1.2**	30.0
Cyclohexane		**54.38**	10.0	169.1	**0.3**	30.0
4-Methyl-2-pentanone		**121.22**	71.6	125.2	**3.2**	30.0
2-Hexanone	*	**170.40**	55.4	136.9	**2.6**	30.0
2-Chloroethylvinyl ether	*	**2.14**	70.0	130.0	**5.8**	30.0
Carbon Tetrachloride		**103.68**	72.6	133.0	**2.0**	30.0
Benzene		**100.08**	79.9	124.9	**2.3**	30.0
1,2-Dichloroethane		**100.32**	76.0	126.3	**1.6**	30.0
Trichloroethene		**103.58**	79.7	124.2	**1.9**	30.0
1,2-Dichloropropane		**101.48**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**100.98**	80.4	128.2	**3.2**	30.0
Methyl cyclohexane		**90.70**	76.6	131.3	**4.9**	30.0
Dibromomethane		**115.30**	76.9	122.1	**2.7**	30.0
cis-1,3-Dichloropropene		**103.20**	79.8	129.9	**2.1**	30.0
Toluene		**101.28**	79.8	124.5	**2.4**	30.0
trans-1,3-Dichloropropene		**92.28**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**109.30**	78.7	123.1	**2.1**	30.0
Tetrachloroethene	*	**141.98**	74.5	124.5	**1.4**	30.0
trans-1,4-Dichloro-2-butene		**72.50**	68.6	135.4	**0.6**	30.0
Dibromochloromethane		**99.94**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**103.54**	70.3	133.7	**0.9**	30.0
Chlorobenzene		**95.66**	79.2	122.7	**1.8**	30.0
1,1,1,2-Tetrachloroethane		**97.46**	80.3	128.2	**0.7**	30.0
Ethylbenzene		**93.82**	79.5	129.1	**1.1**	30.0
p,m-Xylene		**95.15**	79.4	132.2	**1.2**	30.0
o-Xylene		**92.86**	80.2	131.0	**1.6**	30.0
Styrene		**93.48**	69.5	126.7	**1.4**	30.0
Isopropylbenzene		**92.80**	74.4	121.5	**0.7**	30.0
Bromoform		**89.10**	69.4	128.0	**0.8**	30.0
1,1,2,2-Tetrachloroethane		**104.22**	79.8	126.3	**1.0**	30.0

Organics - Volatiles, Prep Batch ID: VF151209W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151209b6.lcsw09d, Parent Sample ID: 151209b6.lcsw09c

Run in Batch: 151209B6, Run Date: 12/09/2015 21:45, Prep Date: 12/09/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**106.34**	78.3	138.8	**0.7**	30.0
n-Propylbenzene		**92.62**	82.0	130.7	**1.2**	30.0
Bromobenzene		**98.82**	78.7	124.6	**1.8**	30.0
1,3,5-Trimethylbenzene		**94.86**	81.3	128.9	**0.1**	30.0
tert-Butylbenzene	*	**79.86**	80.7	128.9	**15.0**	30.0
1,2,4-Trimethylbenzene	*	**81.36**	81.4	130.8	**17.3**	30.0
sec-Butylbenzene		**85.72**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene		**87.98**	79.8	137.5	**3.2**	30.0
1,3-Dichlorobenzene		**91.08**	77.0	131.3	**2.8**	30.0
1,4-Dichlorobenzene		**90.78**	20.7	137.7	**3.2**	30.0
1,2-Dichlorobenzene		**90.92**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**85.24**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**84.54**	80.0	133.3	**2.7**	30.0
Hexachloroethane		**73.44**	23.8	138.1	**3.7**	30.0
1,2-Dibromo-3-Chloropropane		**88.40**	21.2	189.4	**3.1**	30.0
1,2,4-Trichlorobenzene		**90.70**	27.4	143.4	**2.8**	30.0
1,2,3-Trichlorobenzene		**95.38**	75.4	131.4	**4.3**	30.0
Naphthalene		**96.42**	32.9	135.8	**3.4**	30.0
2-Methylnaphthalene		**106.28**	25.5	165.5	**4.2**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
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C.O.C. PAGE # 1 OF 1

88610

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: Randy Christen FAX NO.: 810-229-8594 P.O. NO.: Fax: 810-229-8837
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 6 / GWS: B0064481.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Doug Spencer /
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals (Total)	Special Instructions
70129.01	12/7/15	08:00	TB0001_120715	L	1		1						X			Select Metals: Arsenic, nickel, lead, vanadium, chromium, copper
.02	12/7/15	11:16	MW-14-70_120715	GW	4		3	1					X	X	X	
.03	12/7/15	13:19	P6-SB-18_120715	GW	1			1							X	
.04	12/7/15	14:55	MW-14-66_120715	GW	4		3	1					X	X	X	
.05	12/7/15	15:30	FB0001_120715	L	3		3						X			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM Env.	☑ Sampler	12/7/15	17:00
RECEIVED BY: SIGNATURE/ORGANIZATION	PM storage		DATE	TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	PM storage		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			12-8-15	9:30

RELINQUISHED BY: SIGNATURE/ORGANIZATION			12-8-15	DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			12-8-15	DATE TIME 10:00
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES:	TEMP. ON ARRIVAL 5.2
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70130.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70130.01-S70130.03
Project: RACER Lansing Plant-6 / B0064481.2015
Submitted Date/Time: 12/08/2015 10:00
Sampled by: Billy J. Cobern
P.O. #: B0064481.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Page 5)
Surrogates per Lab Sample (Pages 6-8)
Surrogates per QC Sample (Pages 9-10)
Batch QC Results (Pages 11-18)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70130.01
Sample Tag: MW-04-05(6)_120715
Collected Date/Time: 12/07/2015 14:25
Matrix: Water
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 13:57	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 13:57	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 13:57	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 13:57	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 13:57	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 13:57	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 17:04	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/11/15 17:04	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/11/15 17:04	151211A7	VF151211W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70130.02
Sample Tag: MW-03-01_120715
Collected Date/Time: 12/07/2015 15:20
Matrix: Water
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 13:58	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 13:58	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 13:58	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 13:58	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 13:58	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 13:58	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 17:26	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/11/15 17:26	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 16:09	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/11/15 17:26	151211A7	VF151211W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70130.03
Sample Tag: Dup-09_120715
Collected Date/Time: 12/07/2015 00:01
Matrix: Water
COC Reference:

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 14:00	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:00	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:00	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:00	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:00	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:00	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 17:48	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/11/15 17:48	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 16:27	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/11/15 17:48	151211A7	VF151211W2	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70130.01	Arsenic	SW6020A	12/18/15 13:57	MT2-15-1218A
S70130.01	Chromium	SW6020A	12/18/15 13:57	MT2-15-1218A
S70130.01	Copper	SW6020A	12/18/15 13:57	MT2-15-1218A
S70130.01	Lead	SW6020A	12/18/15 13:57	MT2-15-1218A
S70130.01	Nickel	SW6020A	12/18/15 13:57	MT2-15-1218A
S70130.01	Vanadium	SW6020A	12/18/15 13:57	MT2-15-1218A
S70130.02	Arsenic	SW6020A	12/18/15 13:58	MT2-15-1218A
S70130.02	Chromium	SW6020A	12/18/15 13:58	MT2-15-1218A
S70130.02	Copper	SW6020A	12/18/15 13:58	MT2-15-1218A
S70130.02	Lead	SW6020A	12/18/15 13:58	MT2-15-1218A
S70130.02	Nickel	SW6020A	12/18/15 13:58	MT2-15-1218A
S70130.02	Vanadium	SW6020A	12/18/15 13:58	MT2-15-1218A
S70130.03	Arsenic	SW6020A	12/18/15 14:00	MT2-15-1218A
S70130.03	Chromium	SW6020A	12/18/15 14:00	MT2-15-1218A
S70130.03	Copper	SW6020A	12/18/15 14:00	MT2-15-1218A
S70130.03	Lead	SW6020A	12/18/15 14:00	MT2-15-1218A
S70130.03	Nickel	SW6020A	12/18/15 14:00	MT2-15-1218A
S70130.03	Vanadium	SW6020A	12/18/15 14:00	MT2-15-1218A

Organics - Volatiles, Prep Batch ID: VF151211W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70130.01	1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 17:04	151211A7
S70130.01	1,2-Dibromoethane	SW8260B	12/11/15 17:04	151211A7
S70130.01	TCL Volatile Organics 8260	SW8260C	12/11/15 17:04	151211A7
S70130.02	1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 17:26	151211A7
S70130.02	1,2-Dibromoethane	SW8260B	12/11/15 17:26	151211A7
S70130.02	TCL Volatile Organics 8260	SW8260C	12/11/15 17:26	151211A7
S70130.03	1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 17:48	151211A7
S70130.03	1,2-Dibromoethane	SW8260B	12/11/15 17:48	151211A7
S70130.03	TCL Volatile Organics 8260	SW8260C	12/11/15 17:48	151211A7

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70130.02	1,4-Dioxane	SW8260B - SIM	12/10/15 16:09	151210A3
S70130.03	1,4-Dioxane	SW8260B - SIM	12/10/15 16:27	151210A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70130.01
Sample Tag: MW-04-05(6)_120715
Collected Date/Time: 12/07/2015 14:25
Matrix: Water
COC Reference:

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211A7, Run Date: 12/11/2015 17:04, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.60**	83.0	119.0
1,2-Dichloroethane-D4		**109.20**	77.0	121.0
Toluene-D8		**98.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70130.02
Sample Tag: MW-03-01_120715
Collected Date/Time: 12/07/2015 15:20
Matrix: Water
COC Reference:

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211A7, Run Date: 12/11/2015 17:26, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**83.00**	83.0	119.0
1,2-Dichloroethane-D4		**104.20**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70130.03
Sample Tag: Dup-09_120715
Collected Date/Time: 12/07/2015 00:01
Matrix: Water
COC Reference:

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211A7, Run Date: 12/11/2015 17:48, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.20**	83.0	119.0
1,2-Dichloroethane-D4		**110.00**	77.0	121.0
Toluene-D8		**98.20**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VF151211W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:11, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**91.60**	77.0	121.0
Toluene-D8		**105.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211a7.blkw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 14:01, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.00**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.20**	83.0	119.0
1,2-Dichloroethane-D4		**94.40**	77.0	121.0
Toluene-D8		**103.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	85	115
Chromium		**99**	85	115
Copper		**104**	85	115
Nickel		**101**	85	115
Lead		**98**	85	115
Vanadium		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**96**	75	125
Chromium		**100**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**89**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**92**	75	125
Chromium		**99**	75	125
Copper		**87**	75	125
Nickel		**88**	75	125
Lead		**92**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**94**	75	125	**2**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Copper		**88**	75	125	**4**	20
Nickel		**88**	75	125	**3**	20
Lead		**90**	75	125	**0**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Arsenic		**92**	75	125	**0**	20
Chromium		**103**	75	125	**4**	20
Copper		**88**	75	125	**1**	20
Nickel		**94**	75	125	**5**	20
Lead		**91**	75	125	**0**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151211W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:11, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**76.60**	75.1	135.9
Diethyl ether		**84.74**	67.4	121.2
Acetone		**80.70**	29.9	161.5
Methyl iodide		**89.68**	68.8	116.4
Carbon disulfide		**84.60**	63.8	137.4
Methyl acetate		**81.56**	64.7	125.4
tert-Methyl butyl ether		**80.82**	73.2	122.4
Acrylonitrile		**88.82**	69.9	128.9
2-Butanone		**78.86**	44.0	134.4
Dichlorodifluoromethane		**88.32**	10.0	222.8
Chloromethane		**79.30**	23.8	166.5
Vinyl Chloride		**81.98**	43.5	149.1
Bromomethane		**80.60**	56.8	151.3
Chloroethane		**79.08**	53.4	149.4
Acrolein		**82.24**	70.0	130.0
Trichlorofluoromethane		**74.74**	59.7	151.8
1,1-Dichloroethene		**86.26**	69.6	139.4
Methylene Chloride		**92.78**	73.3	121.1
trans-1,2-Dichloroethene		**85.02**	73.6	129.3
1,1-Dichloroethane		**89.20**	71.5	126.2
cis-1,2-Dichloroethene		**91.86**	76.6	122.1
Tetrahydrofuran		**79.94**	59.0	117.9
Chloroform		**91.34**	78.4	124.0
Bromochloromethane		**89.70**	78.2	120.8
1,1,1-Trichloroethane		**89.82**	79.4	130.9
Cyclohexane		**77.72**	10.0	169.1
4-Methyl-2-pentanone		**91.12**	71.6	125.2
2-Hexanone		**79.74**	55.4	136.9
2-Chloroethylvinyl ether		**81.08**	70.0	130.0
Carbon Tetrachloride		**97.90**	72.6	133.0
Benzene		**96.14**	79.9	124.9
1,2-Dichloroethane		**85.24**	76.0	126.3
Trichloroethene		**95.46**	79.7	124.2
1,2-Dichloropropane		**93.72**	78.6	126.4
Bromodichloromethane		**95.72**	80.4	128.2
Methyl cyclohexane		**88.66**	76.6	131.3
Dibromomethane		**100.18**	76.9	122.1
cis-1,3-Dichloropropene		**95.30**	79.8	129.9
Toluene		**100.08**	79.8	124.5
trans-1,3-Dichloropropene		**95.28**	74.0	131.3
1,1,2-Trichloroethane		**98.72**	78.7	123.1
Tetrachloroethene		**90.96**	74.5	124.5
trans-1,4-Dichloro-2-butene		**96.12**	68.6	135.4
Dibromochloromethane		**95.60**	74.6	127.2
1,2-Dibromoethane		**97.80**	70.3	133.7
Chlorobenzene		**94.46**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:11, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**96.34**	80.3	128.2
Ethylbenzene		**101.52**	79.5	129.1
p,m-Xylene		**99.36**	79.4	132.2
o-Xylene	*	**80.08**	80.2	131.0
Styrene		**87.58**	69.5	126.7
Isopropylbenzene		**101.32**	74.4	121.5
Bromoform		**98.48**	69.4	128.0
1,1,2,2-Tetrachloroethane		**95.08**	79.8	126.3
1,2,3-Trichloropropane		**93.26**	78.3	138.8
n-Propylbenzene		**103.20**	82.0	130.7
Bromobenzene		**96.26**	78.7	124.6
1,3,5-Trimethylbenzene		**100.16**	81.3	128.9
tert-Butylbenzene		**94.52**	80.7	128.9
1,2,4-Trimethylbenzene		**97.68**	81.4	130.8
sec-Butylbenzene		**97.42**	77.4	129.8
p-Isopropyltoluene	*	**76.78**	79.8	137.5
1,3-Dichlorobenzene		**89.82**	77.0	131.3
1,4-Dichlorobenzene		**90.40**	20.7	137.7
1,2-Dichlorobenzene		**92.80**	10.0	166.2
1,2,3-Trimethylbenzene		**92.44**	76.3	124.2
n-Butylbenzene		**94.12**	80.0	133.3
Hexachloroethane		**92.16**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**89.52**	21.2	189.4
1,2,4-Trichlorobenzene		**92.70**	27.4	143.4
1,2,3-Trichlorobenzene		**93.72**	75.4	131.4
Naphthalene		**91.62**	32.9	135.8
2-Methylnaphthalene		**101.60**	25.5	165.5
2-Chlorotoluene		**101.70**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211a7.blkw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 14:01, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211a7.blkw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 14:01, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**78.98**	75.1	135.9	**3.1**	30.0
Diethyl ether		**91.78**	67.4	121.2	**8.0**	30.0
Acetone		**90.26**	29.9	161.5	**11.2**	30.0
Methyl iodide		**93.32**	68.8	116.4	**4.0**	30.0
Carbon disulfide		**85.60**	63.8	137.4	**1.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methyl acetate		**89.92**	64.7	125.4	**9.8**	30.0
tert-Methyl butyl ether		**88.28**	73.2	122.4	**8.8**	30.0
Acrylonitrile		**97.08**	69.9	128.9	**8.9**	30.0
2-Butanone		**87.22**	44.0	134.4	**10.1**	30.0
Dichlorodifluoromethane		**87.60**	10.0	222.8	**0.8**	30.0
Chloromethane		**80.98**	23.8	166.5	**2.1**	30.0
Vinyl Chloride		**81.56**	43.5	149.1	**0.5**	30.0
Bromomethane		**80.64**	56.8	151.3	**0.0**	30.0
Chloroethane		**79.34**	53.4	149.4	**0.3**	30.0
Acrolein		**88.94**	70.0	130.0	**7.8**	30.0
Trichlorofluoromethane		**70.10**	59.7	151.8	**6.4**	30.0
1,1-Dichloroethene		**87.46**	69.6	139.4	**1.4**	30.0
Methylene Chloride		**94.76**	73.3	121.1	**2.1**	30.0
trans-1,2-Dichloroethene		**87.76**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**88.60**	71.5	126.2	**0.7**	30.0
cis-1,2-Dichloroethene		**92.66**	76.6	122.1	**0.9**	30.0
Tetrahydrofuran		**92.56**	59.0	117.9	**14.6**	30.0
Chloroform		**92.50**	78.4	124.0	**1.3**	30.0
Bromochloromethane		**93.88**	78.2	120.8	**4.6**	30.0
1,1,1-Trichloroethane		**91.82**	79.4	130.9	**2.2**	30.0
Cyclohexane		**81.08**	10.0	169.1	**4.2**	30.0
4-Methyl-2-pentanone		**101.44**	71.6	125.2	**10.7**	30.0
2-Hexanone		**85.64**	55.4	136.9	**7.1**	30.0
2-Chloroethylvinyl ether		**92.44**	70.0	130.0	**13.1**	30.0
Carbon Tetrachloride		**96.88**	72.6	133.0	**1.0**	30.0
Benzene		**94.66**	79.9	124.9	**1.6**	30.0
1,2-Dichloroethane		**83.64**	76.0	126.3	**1.9**	30.0
Trichloroethene		**95.20**	79.7	124.2	**0.3**	30.0
1,2-Dichloropropane		**91.00**	78.6	126.4	**2.9**	30.0
Bromodichloromethane		**94.12**	80.4	128.2	**1.7**	30.0
Methyl cyclohexane		**86.16**	76.6	131.3	**2.9**	30.0
Dibromomethane		**100.22**	76.9	122.1	**0.0**	30.0
cis-1,3-Dichloropropene		**96.50**	79.8	129.9	**1.3**	30.0
Toluene		**97.02**	79.8	124.5	**3.1**	30.0
trans-1,3-Dichloropropene		**95.80**	74.0	131.3	**0.5**	30.0
1,1,2-Trichloroethane		**99.92**	78.7	123.1	**1.2**	30.0
Tetrachloroethene		**89.68**	74.5	124.5	**1.4**	30.0
trans-1,4-Dichloro-2-butene		**104.28**	68.6	135.4	**8.1**	30.0
Dibromochloromethane		**98.60**	74.6	127.2	**3.1**	30.0
1,2-Dibromoethane		**101.24**	70.3	133.7	**3.5**	30.0
Chlorobenzene		**97.58**	79.2	122.7	**3.2**	30.0
1,1,1,2-Tetrachloroethane		**98.24**	80.3	128.2	**2.0**	30.0
Ethylbenzene		**100.90**	79.5	129.1	**0.6**	30.0
p,m-Xylene		**98.74**	79.4	132.2	**0.6**	30.0
o-Xylene		**81.98**	80.2	131.0	**2.3**	30.0
Styrene		**90.76**	69.5	126.7	**3.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		**103.02**	74.4	121.5	**1.7**	30.0
Bromoform		**106.18**	69.4	128.0	**7.5**	30.0
1,1,2,2-Tetrachloroethane		**102.82**	79.8	126.3	**7.8**	30.0
1,2,3-Trichloropropane		**98.22**	78.3	138.8	**5.2**	30.0
n-Propylbenzene		**103.32**	82.0	130.7	**0.1**	30.0
Bromobenzene		**98.40**	78.7	124.6	**2.2**	30.0
1,3,5-Trimethylbenzene		**100.72**	81.3	128.9	**0.6**	30.0
tert-Butylbenzene		**95.26**	80.7	128.9	**0.8**	30.0
1,2,4-Trimethylbenzene		**98.66**	81.4	130.8	**1.0**	30.0
sec-Butylbenzene		**94.90**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene	*	**76.08**	79.8	137.5	**0.9**	30.0
1,3-Dichlorobenzene		**88.66**	77.0	131.3	**1.3**	30.0
1,4-Dichlorobenzene		**87.20**	20.7	137.7	**3.6**	30.0
1,2-Dichlorobenzene		**92.86**	10.0	166.2	**0.1**	30.0
1,2,3-Trimethylbenzene		**90.80**	76.3	124.2	**1.8**	30.0
n-Butylbenzene		**92.64**	80.0	133.3	**1.6**	30.0
Hexachloroethane		**91.08**	23.8	138.1	**1.2**	30.0
1,2-Dibromo-3-Chloropropane		**100.24**	21.2	189.4	**11.3**	30.0
1,2,4-Trichlorobenzene		**95.28**	27.4	143.4	**2.7**	30.0
1,2,3-Trichlorobenzene		**96.82**	75.4	131.4	**3.3**	30.0
Naphthalene		**100.46**	32.9	135.8	**9.2**	30.0
2-Methylnaphthalene		**110.04**	25.5	165.5	**8.0**	30.0
2-Chlorotoluene		**103.14**	70.0	130.0	**1.4**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

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ID#:

CHAIN OF CUSTODY & LABORATORY ANALYSIS REQUEST FORM

Page ___ of ___

Lab Work Order #

Send Results to:

Contact & Company Name: RANDY / ARCADIS	Telephone: 810-229-8594
Address: 10559 CITATION DR.	Fax: 810-229-8837
City: BRIGHTON, State: MI, Zip: 48116	E-mail Address: RANDY.CHRISTENSEN@ARCADIS
Project Name/Location (City, State): RACER LANSING PLANT-6	Project #: B00644481-2015.
Sampler's Printed Name: BILLY J. COGEN	Sampler's Signature:

Preservative	HCl	HNO3					
Filtered (✓)	NO	NO					
# of Containers	3	1					
Container Information	40ml	125 plastic					

PARAMETER ANALYSIS & METHOD

Keys

Preservation Key:
A. H_2SO_4
B. HCL
C. HNO_3
D. NaOH
E. None
F. Other: _____
G. Other: _____
H. Other: _____

Container Information Key:
1. 40 ml Vial
2. 1 L Amber
3. 250 ml Plastic
4. 500 ml Plastic
5. Encore
6. 2 oz. Glass
7. 4 oz. Glass
8. 8 oz. Glass
9. Other: _____
10. Other: _____

Matrix Key:
SO - Soil, SE - Sediment, NL - NAPL/Oil
W - Water, SL - Sludge, SW - Sample Wipe
T - Tissue, A - Air, Other: _____

	Sample ID	Collection Date	Collection Time	Type (✓) Comp	Type (✓) Grab	Matrix	VOC-8260	Select Metals	VOC-8260 1,4 Dioxane	REMARKS
70130.01	MW-04-05(6)_120715	12/7/15	14:25		✓	W	X	X		Select metals = As, Cr, Cu,
.02	MW-03-01_120715	12/7/15	15:20		✓	W		X	X	Pb, Ni, V
.03	DUP-09_120715	12/7/15	—		✓	W		X	X	

Special Instructions/Comments:

☐ **Special QA/QC Instructions(✓):**

Laboratory Information and Receipt		Relinquished By	Received By	Relinquished By	Laboratory Received By
Lab Name:	Cooler Custody Seal (✓) ☐ Intact ☐ Not Intact	Printed Name: BILLY J. COGEN	Printed Name:	Printed Name:	Printed Name:
☐ Cooler packed with ice (✓)		Signature:	Signature:	Signature:	Signature:
Specify Turnaround Requirements:	Sample Receipt:	Firm: ARCADIS	Firm/Courier: Merit	Firm/Courier:	Firm:
Shipping Tracking #:	Condition/Cooler Temp: 5.2	Date/Time: 12-7-15 16:00	Date/Time: 12-8-15 9:30	Date/Time:	Date/Time: 12-8-15 10:00

Distribution: WHITE – Laboratory returns with results YELLOW – Lab copy PINK – Retained by ARCADIS

Quality Control Report

Report ID: QC-S70131.01(01)
Generated on 01/07/2016

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70131.01-S70131.04
Project: RACER Lansing P2 / B0064479.2015
Submitted Date/Time: 12/08/2015 10:00
Sampled by: Cliff Walls
P.O. #: B0064479.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Pages 6-7)
Surrogates per Lab Sample (Pages 8-11)
Surrogates per QC Sample (Pages 12-15)
Batch QC Results (Pages 16-33)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70131.01
Sample Tag: TB_0002_120715
Collected Date/Time: 12/07/2015 07:00
Matrix: Liquid
COC Reference: 88611

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 19:23	151214A7	VF151214W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/14/15 19:23	151214A7	VF151214W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/14/15 19:23	151214A7	VF151214W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70131.02
Sample Tag: MW-14-60_120715
Collected Date/Time: 12/07/2015 11:10
Matrix: Groundwater
COC Reference: 88611

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/16/15 12:50	ALK151216-W2	ALK151216-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/11/15 10:16	CL151211-W5	CL151211-W5	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/11/15 11:20	SFT151211-W2	SFT151211-W2	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium	SW6020A	12/17/15 13:22	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:22	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/21/15 12:10	MT3-15-1221A	MTD-122115-1	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:22	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:22	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 19:46	151214A7	VF151214W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/14/15 19:46	151214A7	VF151214W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 16:45	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/14/15 19:46	151214A7	VF151214W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70131.03
Sample Tag: MW-14-61_120715
Collected Date/Time: 12/07/2015 13:30
Matrix: Groundwater
COC Reference: 88611

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/16/15 13:00	ALK151216-W2	ALK151216-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/11/15 10:29	CL151211-W5	CL151211-W5	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/11/15 10:29	SFT151211-W2	SFT151211-W2	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:24	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:24	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:24	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:24	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 18:55	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/11/15 18:55	151211A7	VF151211W2	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/11/15 14:03	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/11/15 18:55	151211A7	VF151211W2	Yes	LCS/BLK/LCSD

Lab Sample ID: S70131.04
Sample Tag: MW-12-06_120715
Collected Date/Time: 12/07/2015 15:35
Matrix: Groundwater
COC Reference: 88611

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 20:08	151214A7	VF151214W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/14/15 20:08	151214A7	VF151214W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 17:21	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/14/15 20:08	151214A7	VF151214W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	Alkalinity as CaCO3	SM2320B	12/16/15 12:50	ALK151216-W2
S70131.03	Alkalinity as CaCO3	SM2320B	12/16/15 13:00	ALK151216-W2

Inorganics, Prep Batch ID: CL151211-W5

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	Chloride	E300.0	12/11/15 10:16	CL151211-W5
S70131.03	Chloride	E300.0	12/11/15 10:29	CL151211-W5

Inorganics, Prep Batch ID: SFT151211-W2

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	Sulfate	E300.0	12/11/15 11:20	SFT151211-W2
S70131.03	Sulfate	E300.0	12/11/15 10:29	SFT151211-W2

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	Calcium	SW6020A	12/17/15 13:22	MT2-15-1217B
S70131.02	Magnesium	SW6020A	12/17/15 13:22	MT2-15-1217B
S70131.02	Potassium	SW6020A	12/17/15 13:22	MT2-15-1217B
S70131.02	Sodium	SW6020A	12/17/15 13:22	MT2-15-1217B
S70131.03	Calcium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B
S70131.03	Calcium	SW6020A	12/17/15 13:24	MT2-15-1217B
S70131.03	Magnesium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B
S70131.03	Magnesium	SW6020A	12/17/15 13:24	MT2-15-1217B
S70131.03	Potassium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B
S70131.03	Potassium	SW6020A	12/17/15 13:24	MT2-15-1217B
S70131.03	Sodium, Dissolved	SW6020A	12/17/15 13:32	MT2-15-1217B
S70131.03	Sodium	SW6020A	12/17/15 13:24	MT2-15-1217B

Metals, Prep Batch ID: MTD-122115-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	Manganese	SW6020A	12/21/15 12:10	MT3-15-1221A

Organics - Volatiles, Prep Batch ID: VF151211W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.03	1,2-Dibromo-3-chloropropane	SW8260C	12/11/15 18:55	151211A7
S70131.03	1,2-Dibromoethane	SW8260B	12/11/15 18:55	151211A7
S70131.03	TCL Volatile Organics 8260	SW8260C	12/11/15 18:55	151211A7

Organics - Volatiles, Prep Batch ID: VF151214W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.01	1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 19:23	151214A7
S70131.01	1,2-Dibromoethane	SW8260B	12/14/15 19:23	151214A7
S70131.01	TCL Volatile Organics 8260	SW8260C	12/14/15 19:23	151214A7
S70131.02	1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 19:46	151214A7

Organics - Volatiles, Prep Batch ID: VF151214W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	1,2-Dibromoethane	SW8260B	12/14/15 19:46	151214A7
S70131.02	TCL Volatile Organics 8260	SW8260C	12/14/15 19:46	151214A7
S70131.04	1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 20:08	151214A7
S70131.04	1,2-Dibromoethane	SW8260B	12/14/15 20:08	151214A7
S70131.04	TCL Volatile Organics 8260	SW8260C	12/14/15 20:08	151214A7

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.02	1,4-Dioxane	SW8260B - SIM	12/10/15 16:45	151210A3
S70131.04	1,4-Dioxane	SW8260B - SIM	12/10/15 17:21	151210A3

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70131.03	1,4-Dioxane	SW8260B - SIM	12/11/15 14:03	151211A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70131.01
Sample Tag: TB_0002_120715
Collected Date/Time: 12/07/2015 07:00
Matrix: Liquid
COC Reference: 88611

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151214A7, Run Date: 12/14/2015 19:23, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**107.40**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70131.02
Sample Tag: MW-14-60_120715
Collected Date/Time: 12/07/2015 11:10
Matrix: Groundwater
COC Reference: 88611

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151214A7, Run Date: 12/14/2015 19:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.80**	83.0	119.0
1,2-Dichloroethane-D4		**118.80**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

Lab Sample ID: S70131.03
Sample Tag: MW-14-61_120715
Collected Date/Time: 12/07/2015 13:30
Matrix: Groundwater
COC Reference: 88611

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211A7, Run Date: 12/11/2015 18:55, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.20**	83.0	119.0
1,2-Dichloroethane-D4		**116.00**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70131.04
Sample Tag: MW-12-06_120715
Collected Date/Time: 12/07/2015 15:35
Matrix: Groundwater
COC Reference: 88611

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151214A7, Run Date: 12/14/2015 20:08, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.00**	83.0	119.0
1,2-Dichloroethane-D4		**114.40**	77.0	121.0
Toluene-D8		**97.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W2

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:11, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**91.60**	77.0	121.0
Toluene-D8		**105.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211a7.blkw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 14:01, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**84.00**	83.0	119.0
1,2-Dichloroethane-D4		**106.20**	77.0	121.0
Toluene-D8		**99.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.20**	83.0	119.0
1,2-Dichloroethane-D4		**94.40**	77.0	121.0
Toluene-D8		**103.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151214W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:03, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.80**	83.0	119.0
1,2-Dichloroethane-D4		**87.60**	77.0	121.0
Toluene-D8		**102.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151214a7.blkw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 14:52, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.80**	83.0	119.0
1,2-Dichloroethane-D4		**106.40**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151214a7.lcsw14b, Parent Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:25, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.60**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**102.80**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151211W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151216-W2.LRB1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:30, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151216-W2.LCS1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:45, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**104**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151216-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 13:05, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**104**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151216-W2.DP1, Parent Sample ID: S70131.02

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:55, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**RPD**	RPD CL
Alkalinity as CaCO3		**2**	15

Inorganics, Prep Batch ID: CL151211-W5

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151211-W5.LRB1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 09:38, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151211-W5.LCS1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 10:03, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**102**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151211-W5.MS1, Parent Sample ID: S70131.03

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:46, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**113**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151211-W5.MSD1, Parent Sample ID: CL151211-W5.MS1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:59, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**113**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151211-W5.DP1, Parent Sample ID: S70131.03

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:33, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Chloride		**2**	15

Inorganics, Prep Batch ID: SFT151211-W2

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151211-W2.LRB1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 09:38, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151211-W2.LCS1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 10:03, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**103**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151211-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:46, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151211-W2.MSD1, Parent Sample ID: SFT151211-W2.MS1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:59, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT151211-W2.DP1, Parent Sample ID: S70131.03

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:33, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Sulfate		**2**	15

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Calcium		**105**	85	115
Potassium		**103**	85	115
Magnesium		**104**	85	115
Sodium		**109**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Calcium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Sodium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Calcium		**100**	75	125
Potassium		**102**	75	125
Magnesium		**109**	75	125
Sodium		**106**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Calcium		**99**	75	125
Potassium		**100**	75	125
Magnesium		**103**	75	125
Sodium		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		**115**	75	125	**2**	20
Potassium		**102**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Sodium		**105**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Calcium		**98**	75	125	**1**	20
Potassium		**98**	75	125	**1**	20
Magnesium		**101**	75	125	**2**	20
Sodium		**101**	75	125	**0**	20

Metals, Prep Batch ID: MTD-122115-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-1221A.022.LCS

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 11:35, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**102**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-1221A.024.LRB

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 11:44, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Manganese		**ND**	0.001	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-1221A.037.MS, Parent Sample ID: S70189.01

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 12:49, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**95**	70	130

Matrix Spike (MS)

Lab Sample ID: MT3-15-1221A.052.MS, Parent Sample ID: S70396.06

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 13:57, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**98**	70	130

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1221A.038.MSD, Parent Sample ID: MT3-15-1221A.037.MS

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 12:52, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese		**96**	70	130	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1221A.053.MSD, Parent Sample ID: MT3-15-1221A.052.MS

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 14:01, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese		**96**	70	130	**1**	20

Organics - Volatiles, Prep Batch ID: VF151211W2

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:11, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**76.60**	75.1	135.9
Diethyl ether		**84.74**	67.4	121.2
Acetone		**80.70**	29.9	161.5
Methyl iodide		**89.68**	68.8	116.4
Carbon disulfide		**84.60**	63.8	137.4
Methyl acetate		**81.56**	64.7	125.4
tert-Methyl butyl ether		**80.82**	73.2	122.4
Acrylonitrile		**88.82**	69.9	128.9
2-Butanone		**78.86**	44.0	134.4
Dichlorodifluoromethane		**88.32**	10.0	222.8
Chloromethane		**79.30**	23.8	166.5
Vinyl Chloride		**81.98**	43.5	149.1
Bromomethane		**80.60**	56.8	151.3
Chloroethane		**79.08**	53.4	149.4
Acrolein		**82.24**	70.0	130.0
Trichlorofluoromethane		**74.74**	59.7	151.8
1,1-Dichloroethene		**86.26**	69.6	139.4
Methylene Chloride		**92.78**	73.3	121.1
trans-1,2-Dichloroethene		**85.02**	73.6	129.3
1,1-Dichloroethane		**89.20**	71.5	126.2
cis-1,2-Dichloroethene		**91.86**	76.6	122.1
Tetrahydrofuran		**79.94**	59.0	117.9
Chloroform		**91.34**	78.4	124.0
Bromochloromethane		**89.70**	78.2	120.8
1,1,1-Trichloroethane		**89.82**	79.4	130.9
Cyclohexane		**77.72**	10.0	169.1
4-Methyl-2-pentanone		**91.12**	71.6	125.2
2-Hexanone		**79.74**	55.4	136.9
2-Chloroethylvinyl ether		**81.08**	70.0	130.0
Carbon Tetrachloride		**97.90**	72.6	133.0
Benzene		**96.14**	79.9	124.9
1,2-Dichloroethane		**85.24**	76.0	126.3
Trichloroethene		**95.46**	79.7	124.2
1,2-Dichloropropane		**93.72**	78.6	126.4
Bromodichloromethane		**95.72**	80.4	128.2
Methyl cyclohexane		**88.66**	76.6	131.3
Dibromomethane		**100.18**	76.9	122.1
cis-1,3-Dichloropropene		**95.30**	79.8	129.9
Toluene		**100.08**	79.8	124.5
trans-1,3-Dichloropropene		**95.28**	74.0	131.3
1,1,2-Trichloroethane		**98.72**	78.7	123.1
Tetrachloroethene		**90.96**	74.5	124.5
trans-1,4-Dichloro-2-butene		**96.12**	68.6	135.4
Dibromochloromethane		**95.60**	74.6	127.2
1,2-Dibromoethane		**97.80**	70.3	133.7
Chlorobenzene		**94.46**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:11, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**96.34**	80.3	128.2
Ethylbenzene		**101.52**	79.5	129.1
p,m-Xylene		**99.36**	79.4	132.2
o-Xylene	*	**80.08**	80.2	131.0
Styrene		**87.58**	69.5	126.7
Isopropylbenzene		**101.32**	74.4	121.5
Bromoform		**98.48**	69.4	128.0
1,1,2,2-Tetrachloroethane		**95.08**	79.8	126.3
1,2,3-Trichloropropane		**93.26**	78.3	138.8
n-Propylbenzene		**103.20**	82.0	130.7
Bromobenzene		**96.26**	78.7	124.6
1,3,5-Trimethylbenzene		**100.16**	81.3	128.9
tert-Butylbenzene		**94.52**	80.7	128.9
1,2,4-Trimethylbenzene		**97.68**	81.4	130.8
sec-Butylbenzene		**97.42**	77.4	129.8
p-Isopropyltoluene	*	**76.78**	79.8	137.5
1,3-Dichlorobenzene		**89.82**	77.0	131.3
1,4-Dichlorobenzene		**90.40**	20.7	137.7
1,2-Dichlorobenzene		**92.80**	10.0	166.2
1,2,3-Trimethylbenzene		**92.44**	76.3	124.2
n-Butylbenzene		**94.12**	80.0	133.3
Hexachloroethane		**92.16**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**89.52**	21.2	189.4
1,2,4-Trichlorobenzene		**92.70**	27.4	143.4
1,2,3-Trichlorobenzene		**93.72**	75.4	131.4
Naphthalene		**91.62**	32.9	135.8
2-Methylnaphthalene		**101.60**	25.5	165.5
2-Chlorotoluene		**101.70**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211a7.blkw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 14:01, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211a7.blkw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 14:01, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**78.98**	75.1	135.9	**3.1**	30.0
Diethyl ether		**91.78**	67.4	121.2	**8.0**	30.0
Acetone		**90.26**	29.9	161.5	**11.2**	30.0
Methyl iodide		**93.32**	68.8	116.4	**4.0**	30.0
Carbon disulfide		**85.60**	63.8	137.4	**1.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methyl acetate		**89.92**	64.7	125.4	**9.8**	30.0
tert-Methyl butyl ether		**88.28**	73.2	122.4	**8.8**	30.0
Acrylonitrile		**97.08**	69.9	128.9	**8.9**	30.0
2-Butanone		**87.22**	44.0	134.4	**10.1**	30.0
Dichlorodifluoromethane		**87.60**	10.0	222.8	**0.8**	30.0
Chloromethane		**80.98**	23.8	166.5	**2.1**	30.0
Vinyl Chloride		**81.56**	43.5	149.1	**0.5**	30.0
Bromomethane		**80.64**	56.8	151.3	**0.0**	30.0
Chloroethane		**79.34**	53.4	149.4	**0.3**	30.0
Acrolein		**88.94**	70.0	130.0	**7.8**	30.0
Trichlorofluoromethane		**70.10**	59.7	151.8	**6.4**	30.0
1,1-Dichloroethene		**87.46**	69.6	139.4	**1.4**	30.0
Methylene Chloride		**94.76**	73.3	121.1	**2.1**	30.0
trans-1,2-Dichloroethene		**87.76**	73.6	129.3	**3.2**	30.0
1,1-Dichloroethane		**88.60**	71.5	126.2	**0.7**	30.0
cis-1,2-Dichloroethene		**92.66**	76.6	122.1	**0.9**	30.0
Tetrahydrofuran		**92.56**	59.0	117.9	**14.6**	30.0
Chloroform		**92.50**	78.4	124.0	**1.3**	30.0
Bromochloromethane		**93.88**	78.2	120.8	**4.6**	30.0
1,1,1-Trichloroethane		**91.82**	79.4	130.9	**2.2**	30.0
Cyclohexane		**81.08**	10.0	169.1	**4.2**	30.0
4-Methyl-2-pentanone		**101.44**	71.6	125.2	**10.7**	30.0
2-Hexanone		**85.64**	55.4	136.9	**7.1**	30.0
2-Chloroethylvinyl ether		**92.44**	70.0	130.0	**13.1**	30.0
Carbon Tetrachloride		**96.88**	72.6	133.0	**1.0**	30.0
Benzene		**94.66**	79.9	124.9	**1.6**	30.0
1,2-Dichloroethane		**83.64**	76.0	126.3	**1.9**	30.0
Trichloroethene		**95.20**	79.7	124.2	**0.3**	30.0
1,2-Dichloropropane		**91.00**	78.6	126.4	**2.9**	30.0
Bromodichloromethane		**94.12**	80.4	128.2	**1.7**	30.0
Methyl cyclohexane		**86.16**	76.6	131.3	**2.9**	30.0
Dibromomethane		**100.22**	76.9	122.1	**0.0**	30.0
cis-1,3-Dichloropropene		**96.50**	79.8	129.9	**1.3**	30.0
Toluene		**97.02**	79.8	124.5	**3.1**	30.0
trans-1,3-Dichloropropene		**95.80**	74.0	131.3	**0.5**	30.0
1,1,2-Trichloroethane		**99.92**	78.7	123.1	**1.2**	30.0
Tetrachloroethene		**89.68**	74.5	124.5	**1.4**	30.0
trans-1,4-Dichloro-2-butene		**104.28**	68.6	135.4	**8.1**	30.0
Dibromochloromethane		**98.60**	74.6	127.2	**3.1**	30.0
1,2-Dibromoethane		**101.24**	70.3	133.7	**3.5**	30.0
Chlorobenzene		**97.58**	79.2	122.7	**3.2**	30.0
1,1,1,2-Tetrachloroethane		**98.24**	80.3	128.2	**2.0**	30.0
Ethylbenzene		**100.90**	79.5	129.1	**0.6**	30.0
p,m-Xylene		**98.74**	79.4	132.2	**0.6**	30.0
o-Xylene		**81.98**	80.2	131.0	**2.3**	30.0
Styrene		**90.76**	69.5	126.7	**3.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211a7.lcsw11b, Parent Sample ID: 151211a7.lcsw11a

Run in Batch: 151211A7, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		**103.02**	74.4	121.5	**1.7**	30.0
Bromoform		**106.18**	69.4	128.0	**7.5**	30.0
1,1,2,2-Tetrachloroethane		**102.82**	79.8	126.3	**7.8**	30.0
1,2,3-Trichloropropane		**98.22**	78.3	138.8	**5.2**	30.0
n-Propylbenzene		**103.32**	82.0	130.7	**0.1**	30.0
Bromobenzene		**98.40**	78.7	124.6	**2.2**	30.0
1,3,5-Trimethylbenzene		**100.72**	81.3	128.9	**0.6**	30.0
tert-Butylbenzene		**95.26**	80.7	128.9	**0.8**	30.0
1,2,4-Trimethylbenzene		**98.66**	81.4	130.8	**1.0**	30.0
sec-Butylbenzene		**94.90**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene	*	**76.08**	79.8	137.5	**0.9**	30.0
1,3-Dichlorobenzene		**88.66**	77.0	131.3	**1.3**	30.0
1,4-Dichlorobenzene		**87.20**	20.7	137.7	**3.6**	30.0
1,2-Dichlorobenzene		**92.86**	10.0	166.2	**0.1**	30.0
1,2,3-Trimethylbenzene		**90.80**	76.3	124.2	**1.8**	30.0
n-Butylbenzene		**92.64**	80.0	133.3	**1.6**	30.0
Hexachloroethane		**91.08**	23.8	138.1	**1.2**	30.0
1,2-Dibromo-3-Chloropropane		**100.24**	21.2	189.4	**11.3**	30.0
1,2,4-Trichlorobenzene		**95.28**	27.4	143.4	**2.7**	30.0
1,2,3-Trichlorobenzene		**96.82**	75.4	131.4	**3.3**	30.0
Naphthalene		**100.46**	32.9	135.8	**9.2**	30.0
2-Methylnaphthalene		**110.04**	25.5	165.5	**8.0**	30.0
2-Chlorotoluene		**103.14**	70.0	130.0	**1.4**	30.0

Organics - Volatiles, Prep Batch ID: VF151214W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:03, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**82.62**	75.1	135.9
Diethyl ether		**92.88**	67.4	121.2
Acetone	*	**19.46**	29.9	161.5
Methyl iodide		**97.20**	68.8	116.4
Carbon disulfide		**89.86**	63.8	137.4
Methyl acetate		**82.82**	64.7	125.4
tert-Methyl butyl ether		**88.72**	73.2	122.4
Acrylonitrile		**85.68**	69.9	128.9
2-Butanone		**54.18**	44.0	134.4
Dichlorodifluoromethane		**121.60**	10.0	222.8
Chloromethane		**97.86**	23.8	166.5
Vinyl Chloride		**96.70**	43.5	149.1
Bromomethane		**85.94**	56.8	151.3
Chloroethane		**82.40**	53.4	149.4
Acrolein		**72.44**	70.0	130.0
Trichlorofluoromethane		**87.48**	59.7	151.8
1,1-Dichloroethene		**96.38**	69.6	139.4
Methylene Chloride		**100.80**	73.3	121.1
trans-1,2-Dichloroethene		**95.22**	73.6	129.3
1,1-Dichloroethane		**95.72**	71.5	126.2
cis-1,2-Dichloroethene		**100.72**	76.6	122.1
Tetrahydrofuran		**80.20**	59.0	117.9
Chloroform		**99.02**	78.4	124.0
Bromochloromethane		**100.96**	78.2	120.8
1,1,1-Trichloroethane		**101.42**	79.4	130.9
Cyclohexane		**84.70**	10.0	169.1
4-Methyl-2-pentanone		**91.62**	71.6	125.2
2-Hexanone		**58.92**	55.4	136.9
2-Chloroethylvinyl ether	*	**42.48**	70.0	130.0
Carbon Tetrachloride		**106.42**	72.6	133.0
Benzene		**101.54**	79.9	124.9
1,2-Dichloroethane		**87.38**	76.0	126.3
Trichloroethene		**103.66**	79.7	124.2
1,2-Dichloropropane		**96.26**	78.6	126.4
Bromodichloromethane		**102.10**	80.4	128.2
Methyl cyclohexane		**92.80**	76.6	131.3
Dibromomethane		**108.18**	76.9	122.1
cis-1,3-Dichloropropene		**103.16**	79.8	129.9
Toluene		**104.68**	79.8	124.5
trans-1,3-Dichloropropene		**102.14**	74.0	131.3
1,1,2-Trichloroethane		**102.90**	78.7	123.1
Tetrachloroethene		**96.36**	74.5	124.5
trans-1,4-Dichloro-2-butene		**100.72**	68.6	135.4
Dibromochloromethane		**106.04**	74.6	127.2
1,2-Dibromoethane		**105.76**	70.3	133.7
Chlorobenzene		**101.84**	79.2	122.7

Organics - Volatiles, Prep Batch ID: VF151214W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:03, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,1,2-Tetrachloroethane		**103.68**	80.3	128.2
Ethylbenzene		**105.94**	79.5	129.1
p,m-Xylene		**103.37**	79.4	132.2
o-Xylene		**86.26**	80.2	131.0
Styrene		**93.56**	69.5	126.7
Isopropylbenzene		**106.70**	74.4	121.5
Bromoform		**110.22**	69.4	128.0
1,1,2,2-Tetrachloroethane		**100.02**	79.8	126.3
1,2,3-Trichloropropane		**97.50**	78.3	138.8
n-Propylbenzene		**107.92**	82.0	130.7
Bromobenzene		**104.86**	78.7	124.6
1,3,5-Trimethylbenzene		**103.62**	81.3	128.9
tert-Butylbenzene		**101.78**	80.7	128.9
1,2,4-Trimethylbenzene		**103.66**	81.4	130.8
sec-Butylbenzene		**100.04**	77.4	129.8
p-Isopropyltoluene		**80.38**	79.8	137.5
1,3-Dichlorobenzene		**93.36**	77.0	131.3
1,4-Dichlorobenzene		**92.56**	20.7	137.7
1,2-Dichlorobenzene		**96.76**	10.0	166.2
1,2,3-Trimethylbenzene		**91.90**	76.3	124.2
n-Butylbenzene		**98.28**	80.0	133.3
Hexachloroethane		**95.56**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**95.20**	21.2	189.4
1,2,4-Trichlorobenzene		**98.68**	27.4	143.4
1,2,3-Trichlorobenzene		**100.86**	75.4	131.4
Naphthalene		**97.84**	32.9	135.8
2-Methylnaphthalene		**106.50**	25.5	165.5
2-Chlorotoluene		**108.52**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151214a7.blkw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 14:52, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151214W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151214a7.blkw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 14:52, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151214a7.lcsw14b, Parent Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:25, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**84.88**	75.1	135.9	**2.7**	30.0
Diethyl ether		**96.92**	67.4	121.2	**4.3**	30.0
Acetone	*	**22.40**	29.9	161.5	**14.0**	30.0
Methyl iodide		**101.32**	68.8	116.4	**4.2**	30.0
Carbon disulfide		**92.36**	63.8	137.4	**2.7**	30.0

Organics - Volatiles, Prep Batch ID: VF151214W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151214a7.lcsw14b, Parent Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:25, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Methyl acetate		**91.32**	64.7	125.4	**9.8**	30.0
tert-Methyl butyl ether		**95.06**	73.2	122.4	**6.9**	30.0
Acrylonitrile		**87.80**	69.9	128.9	**2.4**	30.0
2-Butanone		**54.54**	44.0	134.4	**0.7**	30.0
Dichlorodifluoromethane		**123.58**	10.0	222.8	**1.6**	30.0
Chloromethane		**99.48**	23.8	166.5	**1.6**	30.0
Vinyl Chloride		**94.70**	43.5	149.1	**2.1**	30.0
Bromomethane		**86.78**	56.8	151.3	**1.0**	30.0
Chloroethane		**84.84**	53.4	149.4	**2.9**	30.0
Acrolein		**79.96**	70.0	130.0	**9.9**	30.0
Trichlorofluoromethane		**80.30**	59.7	151.8	**8.6**	30.0
1,1-Dichloroethene		**97.78**	69.6	139.4	**1.4**	30.0
Methylene Chloride		**104.38**	73.3	121.1	**3.5**	30.0
trans-1,2-Dichloroethene		**96.02**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**97.58**	71.5	126.2	**1.9**	30.0
cis-1,2-Dichloroethene		**105.14**	76.6	122.1	**4.3**	30.0
Tetrahydrofuran		**91.58**	59.0	117.9	**13.2**	30.0
Chloroform		**102.18**	78.4	124.0	**3.1**	30.0
Bromochloromethane		**105.20**	78.2	120.8	**4.1**	30.0
1,1,1-Trichloroethane		**104.00**	79.4	130.9	**2.5**	30.0
Cyclohexane		**86.32**	10.0	169.1	**1.9**	30.0
4-Methyl-2-pentanone		**104.56**	71.6	125.2	**13.2**	30.0
2-Hexanone		**67.04**	55.4	136.9	**12.9**	30.0
2-Chloroethylvinyl ether	*	**10.86**	70.0	130.0	**118.6**	30.0
Carbon Tetrachloride		**108.92**	72.6	133.0	**2.3**	30.0
Benzene		**104.32**	79.9	124.9	**2.7**	30.0
1,2-Dichloroethane		**92.34**	76.0	126.3	**5.5**	30.0
Trichloroethene		**105.04**	79.7	124.2	**1.3**	30.0
1,2-Dichloropropane		**98.78**	78.6	126.4	**2.6**	30.0
Bromodichloromethane		**104.08**	80.4	128.2	**1.9**	30.0
Methyl cyclohexane		**93.76**	76.6	131.3	**1.0**	30.0
Dibromomethane		**114.06**	76.9	122.1	**5.3**	30.0
cis-1,3-Dichloropropene		**104.02**	79.8	129.9	**0.8**	30.0
Toluene		**107.56**	79.8	124.5	**2.7**	30.0
trans-1,3-Dichloropropene		**107.12**	74.0	131.3	**4.8**	30.0
1,1,2-Trichloroethane		**108.60**	78.7	123.1	**5.4**	30.0
Tetrachloroethene		**98.94**	74.5	124.5	**2.6**	30.0
trans-1,4-Dichloro-2-butene		**103.58**	68.6	135.4	**2.8**	30.0
Dibromochloromethane		**105.34**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**106.64**	70.3	133.7	**0.8**	30.0
Chlorobenzene		**98.62**	79.2	122.7	**3.2**	30.0
1,1,1,2-Tetrachloroethane		**99.86**	80.3	128.2	**3.8**	30.0
Ethylbenzene		**101.98**	79.5	129.1	**3.8**	30.0
p,m-Xylene		**99.33**	79.4	132.2	**4.0**	30.0
o-Xylene		**82.76**	80.2	131.0	**4.1**	30.0
Styrene		**90.26**	69.5	126.7	**3.6**	30.0

Organics - Volatiles, Prep Batch ID: VF151214W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151214a7.lcsw14b, Parent Sample ID: 151214a7.lcsw14a

Run in Batch: 151214A7, Run Date: 12/14/2015 13:25, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Isopropylbenzene		**103.10**	74.4	121.5	**3.4**	30.0
Bromoform		**112.54**	69.4	128.0	**2.1**	30.0
1,1,2,2-Tetrachloroethane		**102.64**	79.8	126.3	**2.6**	30.0
1,2,3-Trichloropropane		**101.12**	78.3	138.8	**3.6**	30.0
n-Propylbenzene		**105.02**	82.0	130.7	**2.7**	30.0
Bromobenzene		**100.54**	78.7	124.6	**4.2**	30.0
1,3,5-Trimethylbenzene		**100.66**	81.3	128.9	**2.9**	30.0
tert-Butylbenzene		**95.62**	80.7	128.9	**6.2**	30.0
1,2,4-Trimethylbenzene		**100.56**	81.4	130.8	**3.0**	30.0
sec-Butylbenzene		**102.28**	77.4	129.8	**2.2**	30.0
p-Isopropyltoluene		**82.28**	79.8	137.5	**2.3**	30.0
1,3-Dichlorobenzene		**93.44**	77.0	131.3	**0.1**	30.0
1,4-Dichlorobenzene		**96.20**	20.7	137.7	**3.9**	30.0
1,2-Dichlorobenzene		**97.76**	10.0	166.2	**1.0**	30.0
1,2,3-Trimethylbenzene		**92.88**	76.3	124.2	**1.1**	30.0
n-Butylbenzene		**99.36**	80.0	133.3	**1.1**	30.0
Hexachloroethane		**97.96**	23.8	138.1	**2.5**	30.0
1,2-Dibromo-3-Chloropropane		**108.86**	21.2	189.4	**13.4**	30.0
1,2,4-Trichlorobenzene		**101.94**	27.4	143.4	**3.2**	30.0
1,2,3-Trichlorobenzene		**102.62**	75.4	131.4	**1.7**	30.0
Naphthalene		**108.50**	32.9	135.8	**10.3**	30.0
2-Methylnaphthalene		**118.72**	25.5	165.5	**10.9**	30.0
2-Chlorotoluene		**103.64**	70.0	130.0	**4.6**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.12**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**111.36**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**117.02**	70.0	130.0	**2.8**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**113.22**	70.0	130.0	**0.8**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

88611

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810 229 8594 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@Arcadis-US.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Fiber Lansing P2 B00644479.2015
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Clif Willis / Clif Willis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES

Project Locations: ☐ Detroit ☐ New York ☐ Other

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Total Manganese	Total Geochem Metals	Diss Geochem Metals	Geochem	Special Instructions
70131.01	12/7/15	700	TB_0002_120715	L	1		1						X						Geochem Metal:
.02	↓	1110	MW-14-60_120715	GW	5	1	3	1					X	X	X	X		X	Magnesium
.03		1330	MW-14-61_120715	GW	6	1	3	2					X	X		X	X	X	Sodium
.04	↓	1535	MW-12-06_120715	GW	3		3						X	X					Potassium
																			Calcium
																			Geochem:
																			Chloride
																			Sulfate
																			Total Alkalinity

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Clif Willis ☐ Sampler	DATE: 120715	TIME: 1700	
RECEIVED BY: SIGNATURE/ORGANIZATION: PME Storage	DATE: 120715	TIME: 1700	
RELINQUISHED BY: SIGNATURE/ORGANIZATION: PME Storage	DATE:	TIME:	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 12.8.15	TIME: 930	

RELINQUISHED BY: SIGNATURE/ORGANIZATION:	DATE: 12-9-15	TIME:	
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 12-8-15	TIME: 10:00	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	NOTES: TEMP. ON ARRIVAL: 5.2
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70164.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70164.01-S70164.03
Project: Racer Plant 6 / B0064481.2015.00630
Submitted Date/Time: 12/09/2015 10:20
Sampled by: Doug Spencer
P.O. #: B0064481.2015.00630

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Page 5)
Surrogates per Lab Sample (Pages 6-8)
Surrogates per QC Sample (Pages 9-11)
Batch QC Results (Pages 12-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70164.01
Sample Tag: TB0001_120815
Collected Date/Time: 12/08/2015 08:00
Matrix: Liquid
COC Reference: 89594

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:07	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 04:07	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 04:07	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70164.02
Sample Tag: MW-03-06_120815
Collected Date/Time: 12/08/2015 10:35
Matrix: Groundwater
COC Reference: 89594

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 14:06	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:06	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:06	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:06	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:06	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:06	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:28	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 04:28	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/10/15 17:39	151210A3	VS151210W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 04:28	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70164.03
Sample Tag: MW-03-08_120815
Collected Date/Time: 12/08/2015 14:50
Matrix: Groundwater
COC Reference: 89594

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:48	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 04:48	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/11/15 14:21	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 04:48	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70164.02	Arsenic	SW6020A	12/18/15 14:06	MT2-15-1218A
S70164.02	Chromium	SW6020A	12/18/15 14:06	MT2-15-1218A
S70164.02	Copper	SW6020A	12/18/15 14:06	MT2-15-1218A
S70164.02	Lead	SW6020A	12/18/15 14:06	MT2-15-1218A
S70164.02	Nickel	SW6020A	12/18/15 14:06	MT2-15-1218A
S70164.02	Vanadium	SW6020A	12/18/15 14:06	MT2-15-1218A

Organics - Volatiles, Prep Batch ID: VF151211W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70164.01	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:07	151211B6
S70164.01	1,2-Dibromoethane	SW8260B	12/12/15 04:07	151211B6
S70164.01	TCL Volatile Organics 8260	SW8260C	12/12/15 04:07	151211B6
S70164.02	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:28	151211B6
S70164.02	1,2-Dibromoethane	SW8260B	12/12/15 04:28	151211B6
S70164.02	TCL Volatile Organics 8260	SW8260C	12/12/15 04:28	151211B6
S70164.03	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:48	151211B6
S70164.03	1,2-Dibromoethane	SW8260B	12/12/15 04:48	151211B6
S70164.03	TCL Volatile Organics 8260	SW8260C	12/12/15 04:48	151211B6

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70164.02	1,4-Dioxane	SW8260B - SIM	12/10/15 17:39	151210A3

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70164.03	1,4-Dioxane	SW8260B - SIM	12/11/15 14:21	151211A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70164.01
Sample Tag: TB0001_120815
Collected Date/Time: 12/08/2015 08:00
Matrix: Liquid
COC Reference: 89594

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 04:07, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.60**	77.0	121.0
Toluene-D8		**104.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70164.02
Sample Tag: MW-03-06_120815
Collected Date/Time: 12/08/2015 10:35
Matrix: Groundwater
COC Reference: 89594

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 04:28, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.40**	83.0	119.0
1,2-Dichloroethane-D4		**112.00**	77.0	121.0
Toluene-D8		**103.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70164.03
Sample Tag: MW-03-08_120815
Collected Date/Time: 12/08/2015 14:50
Matrix: Groundwater
COC Reference: 89594

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 04:48, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL
4-Bromofluorobenzene		**102.20**	83.0	119.0
1,2-Dichloroethane-D4		**111.20**	77.0	121.0
Toluene-D8		**102.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W4

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.00**	83.0	119.0
1,2-Dichloroethane-D4		**103.80**	77.0	121.0
Toluene-D8		**108.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.20**	83.0	119.0
1,2-Dichloroethane-D4		**106.60**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**109.40**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151210W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151211W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	85	115
Chromium		**99**	85	115
Copper		**104**	85	115
Nickel		**101**	85	115
Lead		**98**	85	115
Vanadium		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**96**	75	125
Chromium		**100**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**89**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**92**	75	125
Chromium		**99**	75	125
Copper		**87**	75	125
Nickel		**88**	75	125
Lead		**92**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**94**	75	125	**2**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Copper		**88**	75	125	**4**	20
Nickel		**88**	75	125	**3**	20
Lead		**90**	75	125	**0**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**92**	75	125	**0**	20
Chromium		**103**	75	125	**4**	20
Copper		**88**	75	125	**1**	20
Nickel		**94**	75	125	**5**	20
Lead		**91**	75	125	**0**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151211W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.56**	75.1	135.9
Diethyl ether		**104.56**	67.4	121.2
Acetone	*	**271.82**	29.9	161.5
Methyl iodide		**113.04**	68.8	116.4
Carbon disulfide		**100.54**	63.8	137.4
Methyl acetate		**110.44**	64.7	125.4
tert-Methyl butyl ether		**98.40**	73.2	122.4
Acrylonitrile		**120.08**	69.9	128.9
2-Butanone	*	**179.98**	44.0	134.4
Dichlorodifluoromethane		**94.76**	10.0	222.8
Chloromethane		**87.44**	23.8	166.5
Vinyl Chloride		**91.52**	43.5	149.1
Bromomethane		**95.16**	56.8	151.3
Chloroethane		**94.50**	53.4	149.4
Trichlorofluoromethane		**109.76**	59.7	151.8
1,1-Dichloroethene		**108.28**	69.6	139.4
Methylene Chloride		**111.80**	73.3	121.1
trans-1,2-Dichloroethene		**107.32**	73.6	129.3
1,1-Dichloroethane		**105.16**	71.5	126.2
cis-1,2-Dichloroethene		**107.58**	76.6	122.1
Tetrahydrofuran		**115.42**	59.0	117.9
Chloroform		**110.44**	78.4	124.0
Bromochloromethane		**115.78**	78.2	120.8
1,1,1-Trichloroethane		**102.76**	79.4	130.9
Cyclohexane		**59.60**	10.0	169.1
4-Methyl-2-pentanone		**113.48**	71.6	125.2
2-Hexanone	*	**139.26**	55.4	136.9
Carbon Tetrachloride		**105.98**	72.6	133.0
Benzene		**103.36**	79.9	124.9
1,2-Dichloroethane		**105.02**	76.0	126.3
Trichloroethene		**108.00**	79.7	124.2
1,2-Dichloropropane		**103.84**	78.6	126.4
Bromodichloromethane		**102.32**	80.4	128.2
Methyl cyclohexane		**94.20**	76.6	131.3
Dibromomethane		**118.80**	76.9	122.1
cis-1,3-Dichloropropene		**103.94**	79.8	129.9
Toluene		**103.72**	79.8	124.5
trans-1,3-Dichloropropene		**91.88**	74.0	131.3
1,1,2-Trichloroethane		**111.30**	78.7	123.1
Tetrachloroethene	*	**163.12**	74.5	124.5
trans-1,4-Dichloro-2-butene		**81.18**	68.6	135.4
Dibromochloromethane		**92.70**	74.6	127.2
1,2-Dibromoethane		**97.18**	70.3	133.7
Chlorobenzene		**90.24**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.88**	80.3	128.2
Ethylbenzene		**89.42**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**90.25**	79.4	132.2
o-Xylene		**89.12**	80.2	131.0
Styrene		**89.72**	69.5	126.7
Isopropylbenzene		**88.42**	74.4	121.5
Bromoform		**80.82**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.84**	79.8	126.3
1,2,3-Trichloropropane		**100.88**	78.3	138.8
n-Propylbenzene		**88.40**	82.0	130.7
Bromobenzene		**94.68**	78.7	124.6
1,3,5-Trimethylbenzene		**89.20**	81.3	128.9
tert-Butylbenzene		**89.04**	80.7	128.9
1,2,4-Trimethylbenzene		**91.34**	81.4	130.8
sec-Butylbenzene		**81.26**	77.4	129.8
p-Isopropyltoluene		**82.08**	79.8	137.5
1,3-Dichlorobenzene		**85.16**	77.0	131.3
1,4-Dichlorobenzene		**84.92**	20.7	137.7
1,2-Dichlorobenzene		**84.72**	10.0	166.2
1,2,3-Trimethylbenzene		**79.98**	76.3	124.2
n-Butylbenzene	*	**79.54**	80.0	133.3
Hexachloroethane		**68.04**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**80.44**	21.2	189.4
1,2,4-Trichlorobenzene		**84.34**	27.4	143.4
1,2,3-Trichlorobenzene		**88.72**	75.4	131.4
Naphthalene		**90.58**	32.9	135.8
2-Methylnaphthalene		**98.98**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone	*	**3.0**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.48**	75.1	135.9	**0.1**	30.0
Diethyl ether		**106.28**	67.4	121.2	**1.6**	30.0
Acetone	*	**268.34**	29.9	161.5	**1.3**	30.0
Methyl iodide		**113.14**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**100.74**	63.8	137.4	**0.2**	30.0
Methyl acetate		**108.84**	64.7	125.4	**1.5**	30.0
tert-Methyl butyl ether		**99.70**	73.2	122.4	**1.3**	30.0
Acrylonitrile		**119.14**	69.9	128.9	**0.8**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Butanone	*	**178.74**	44.0	134.4	**0.7**	30.0
Dichlorodifluoromethane		**93.68**	10.0	222.8	**1.1**	30.0
Chloromethane		**86.96**	23.8	166.5	**0.6**	30.0
Vinyl Chloride		**91.62**	43.5	149.1	**0.1**	30.0
Bromomethane		**94.90**	56.8	151.3	**0.3**	30.0
Chloroethane		**89.10**	53.4	149.4	**5.9**	30.0
Trichlorofluoromethane		**109.76**	59.7	151.8	**0.0**	30.0
1,1-Dichloroethene		**107.34**	69.6	139.4	**0.9**	30.0
Methylene Chloride		**111.30**	73.3	121.1	**0.4**	30.0
trans-1,2-Dichloroethene		**106.50**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**105.06**	71.5	126.2	**0.1**	30.0
cis-1,2-Dichloroethene		**107.78**	76.6	122.1	**0.2**	30.0
Tetrahydrofuran		**115.78**	59.0	117.9	**0.3**	30.0
Chloroform		**110.90**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**115.74**	78.2	120.8	**0.0**	30.0
1,1,1-Trichloroethane		**104.26**	79.4	130.9	**1.4**	30.0
Cyclohexane		**59.92**	10.0	169.1	**0.5**	30.0
4-Methyl-2-pentanone		**115.02**	71.6	125.2	**1.3**	30.0
2-Hexanone	*	**141.46**	55.4	136.9	**1.6**	30.0
Carbon Tetrachloride		**105.54**	72.6	133.0	**0.4**	30.0
Benzene		**102.22**	79.9	124.9	**1.1**	30.0
1,2-Dichloroethane		**104.18**	76.0	126.3	**0.8**	30.0
Trichloroethene		**109.42**	79.7	124.2	**1.3**	30.0
1,2-Dichloropropane		**104.08**	78.6	126.4	**0.2**	30.0
Bromodichloromethane		**101.58**	80.4	128.2	**0.7**	30.0
Methyl cyclohexane		**93.36**	76.6	131.3	**0.9**	30.0
Dibromomethane		**117.96**	76.9	122.1	**0.7**	30.0
cis-1,3-Dichloropropene		**104.86**	79.8	129.9	**0.9**	30.0
Toluene		**104.30**	79.8	124.5	**0.6**	30.0
trans-1,3-Dichloropropene		**94.14**	74.0	131.3	**2.4**	30.0
1,1,2-Trichloroethane		**112.54**	78.7	123.1	**1.1**	30.0
Tetrachloroethene	*	**180.24**	74.5	124.5	**10.0**	30.0
trans-1,4-Dichloro-2-butene		**82.40**	68.6	135.4	**1.5**	30.0
Dibromochloromethane		**93.38**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**99.42**	70.3	133.7	**2.3**	30.0
Chlorobenzene		**91.72**	79.2	122.7	**1.6**	30.0
1,1,1,2-Tetrachloroethane		**91.56**	80.3	128.2	**0.3**	30.0
Ethylbenzene		**89.48**	79.5	129.1	**0.1**	30.0
p,m-Xylene		**90.47**	79.4	132.2	**0.2**	30.0
o-Xylene		**89.02**	80.2	131.0	**0.1**	30.0
Styrene		**90.10**	69.5	126.7	**0.4**	30.0
Isopropylbenzene		**88.02**	74.4	121.5	**0.5**	30.0
Bromoform		**82.32**	69.4	128.0	**1.8**	30.0
1,1,2,2-Tetrachloroethane		**96.58**	79.8	126.3	**0.3**	30.0
1,2,3-Trichloropropane		**101.92**	78.3	138.8	**1.0**	30.0
n-Propylbenzene		**88.46**	82.0	130.7	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromobenzene		**95.40**	78.7	124.6	**0.8**	30.0
1,3,5-Trimethylbenzene		**89.68**	81.3	128.9	**0.5**	30.0
tert-Butylbenzene		**87.74**	80.7	128.9	**1.5**	30.0
1,2,4-Trimethylbenzene		**91.50**	81.4	130.8	**0.2**	30.0
sec-Butylbenzene		**79.84**	77.4	129.8	**1.8**	30.0
p-Isopropyltoluene		**81.10**	79.8	137.5	**1.2**	30.0
1,3-Dichlorobenzene		**84.10**	77.0	131.3	**1.3**	30.0
1,4-Dichlorobenzene		**83.62**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**84.30**	10.0	166.2	**0.5**	30.0
1,2,3-Trimethylbenzene		**79.20**	76.3	124.2	**1.0**	30.0
n-Butylbenzene	*	**77.94**	80.0	133.3	**2.0**	30.0
Hexachloroethane		**66.42**	23.8	138.1	**2.4**	30.0
1,2-Dibromo-3-Chloropropane		**80.00**	21.2	189.4	**0.5**	30.0
1,2,4-Trichlorobenzene		**83.66**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**87.62**	75.4	131.4	**1.2**	30.0
Naphthalene		**89.76**	32.9	135.8	**0.9**	30.0
2-Methylnaphthalene		**101.52**	25.5	165.5	**2.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151210W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:20, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**118.92**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151210a3.blkw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 12:14, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151210a3.lcsw10b, Parent Sample ID: 151210a3.lcsw10a

Run in Batch: 151210A3, Run Date: 12/10/2015 11:38, Prep Date: 12/10/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**104.86**	70.0	130.0	**12.6**	30.0

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.12**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**111.36**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**117.02**	70.0	130.0	**2.8**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**113.22**	70.0	130.0	**0.8**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

89594

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE:
PHONE NO.: (810) FAX NO.: (810)
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com
P.O. NO.:
QUOTE NO.:

INVOICE TO

☑ SAME

CONTACT NAME:
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Doug Spencer

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals Total	Special Instructions
701649.01	12/8/15	08:00	TB0001_12	L	1		1						X	X	X	Select Metals: Arsenic, nickel, lead, vanadium, chromium, copper
.02	12/8/15	10:35	MW-03-06_120815	GW	4		3	1					X	X	X	
.03	12/8/15	14:50	MW-03-08_120815	GW	3		3						X	X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION: PM GWV ☑ Sampler DATE: 12/8/15 TIME: 17:00
RECEIVED BY: SIGNATURE/ORGANIZATION: PM Storage DATE: 12/8/15 TIME: 18:00
RELINQUISHED BY: SIGNATURE/ORGANIZATION: PM Storage DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: 12-9-15 DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: 12-9-15 DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: 12/9/15 TIME: 1020

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70165.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70165.01-S70165.05
Project: RACER Lansing Q4 GWS, Plant 2 / B0064479.2015.00603
Submitted Date/Time: 12/09/2015 10:20
Sampled by: J. Ness
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Page 7)
Surrogates per Lab Sample (Pages 8-12)
Surrogates per QC Sample (Pages 13-14)
Batch QC Results (Pages 15-20)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70165.01
Sample Tag: PW-14-01_120815
Collected Date/Time: 12/08/2015 11:05
Matrix: Groundwater
COC Reference: 74953

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:08	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 05:08	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 21:53	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 05:08	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70165.02
Sample Tag: MW-12-01_120815
Collected Date/Time: 12/08/2015 15:00
Matrix: Groundwater
COC Reference: 74953

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:28	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 05:28	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 18:16	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 05:28	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70165.03
Sample Tag: TB0003_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Water
COC Reference: 74953

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:49	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 05:49	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 05:49	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70165.04
Sample Tag: EB0003_120815
Collected Date/Time: 12/08/2015 08:15
Matrix: Water
COC Reference: 74953

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:09	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 06:09	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 06:09	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70165.05
Sample Tag: FB0003_120815
Collected Date/Time: 12/08/2015 08:20
Matrix: Water
COC Reference: 74953

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:29	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 06:29	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 06:29	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151211W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70165.01	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:08	151211B6
S70165.01	1,2-Dibromoethane	SW8260B	12/12/15 05:08	151211B6
S70165.01	TCL Volatile Organics 8260	SW8260C	12/12/15 05:08	151211B6
S70165.02	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:28	151211B6
S70165.02	1,2-Dibromoethane	SW8260B	12/12/15 05:28	151211B6
S70165.02	TCL Volatile Organics 8260	SW8260C	12/12/15 05:28	151211B6
S70165.03	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:49	151211B6
S70165.03	1,2-Dibromoethane	SW8260B	12/12/15 05:49	151211B6
S70165.03	TCL Volatile Organics 8260	SW8260C	12/12/15 05:49	151211B6
S70165.04	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:09	151211B6
S70165.04	1,2-Dibromoethane	SW8260B	12/12/15 06:09	151211B6
S70165.04	TCL Volatile Organics 8260	SW8260C	12/12/15 06:09	151211B6
S70165.05	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:29	151211B6
S70165.05	1,2-Dibromoethane	SW8260B	12/12/15 06:29	151211B6
S70165.05	TCL Volatile Organics 8260	SW8260C	12/12/15 06:29	151211B6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70165.01	1,4-Dioxane	SW8260B - SIM	12/16/15 21:53	151216A3
S70165.02	1,4-Dioxane	SW8260B - SIM	12/16/15 18:16	151216A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70165.01
Sample Tag: PW-14-01_120815
Collected Date/Time: 12/08/2015 11:05
Matrix: Groundwater
COC Reference: 74953

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 05:08, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.40**	83.0	119.0
1,2-Dichloroethane-D4		**109.20**	77.0	121.0
Toluene-D8		**105.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70165.02
Sample Tag: MW-12-01_120815
Collected Date/Time: 12/08/2015 15:00
Matrix: Groundwater
COC Reference: 74953

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 05:28, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.20**	83.0	119.0
1,2-Dichloroethane-D4		**110.80**	77.0	121.0
Toluene-D8		**101.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70165.03
Sample Tag: TB0003_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Water
COC Reference: 74953

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 05:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.60**	83.0	119.0
1,2-Dichloroethane-D4		**109.00**	77.0	121.0
Toluene-D8		**103.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70165.04
Sample Tag: EB0003_120815
Collected Date/Time: 12/08/2015 08:15
Matrix: Water
COC Reference: 74953

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 06:09, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**101.20**	83.0	119.0
1,2-Dichloroethane-D4		**113.60**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70165.05
Sample Tag: FB0003_120815
Collected Date/Time: 12/08/2015 08:20
Matrix: Water
COC Reference: 74953

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 06:29, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.80**	83.0	119.0
1,2-Dichloroethane-D4		**110.40**	77.0	121.0
Toluene-D8		**105.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W4

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.00**	83.0	119.0
1,2-Dichloroethane-D4		**103.80**	77.0	121.0
Toluene-D8		**108.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.20**	83.0	119.0
1,2-Dichloroethane-D4		**106.60**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**109.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151211W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.56**	75.1	135.9
Diethyl ether		**104.56**	67.4	121.2
Acetone	*	**271.82**	29.9	161.5
Methyl iodide		**113.04**	68.8	116.4
Carbon disulfide		**100.54**	63.8	137.4
Methyl acetate		**110.44**	64.7	125.4
tert-Methyl butyl ether		**98.40**	73.2	122.4
Acrylonitrile		**120.08**	69.9	128.9
2-Butanone	*	**179.98**	44.0	134.4
Dichlorodifluoromethane		**94.76**	10.0	222.8
Chloromethane		**87.44**	23.8	166.5
Vinyl Chloride		**91.52**	43.5	149.1
Bromomethane		**95.16**	56.8	151.3
Chloroethane		**94.50**	53.4	149.4
Trichlorofluoromethane		**109.76**	59.7	151.8
1,1-Dichloroethene		**108.28**	69.6	139.4
Methylene Chloride		**111.80**	73.3	121.1
trans-1,2-Dichloroethene		**107.32**	73.6	129.3
1,1-Dichloroethane		**105.16**	71.5	126.2
cis-1,2-Dichloroethene		**107.58**	76.6	122.1
Tetrahydrofuran		**115.42**	59.0	117.9
Chloroform		**110.44**	78.4	124.0
Bromochloromethane		**115.78**	78.2	120.8
1,1,1-Trichloroethane		**102.76**	79.4	130.9
Cyclohexane		**59.60**	10.0	169.1
4-Methyl-2-pentanone		**113.48**	71.6	125.2
2-Hexanone	*	**139.26**	55.4	136.9
Carbon Tetrachloride		**105.98**	72.6	133.0
Benzene		**103.36**	79.9	124.9
1,2-Dichloroethane		**105.02**	76.0	126.3
Trichloroethene		**108.00**	79.7	124.2
1,2-Dichloropropane		**103.84**	78.6	126.4
Bromodichloromethane		**102.32**	80.4	128.2
Methyl cyclohexane		**94.20**	76.6	131.3
Dibromomethane		**118.80**	76.9	122.1
cis-1,3-Dichloropropene		**103.94**	79.8	129.9
Toluene		**103.72**	79.8	124.5
trans-1,3-Dichloropropene		**91.88**	74.0	131.3
1,1,2-Trichloroethane		**111.30**	78.7	123.1
Tetrachloroethene	*	**163.12**	74.5	124.5
trans-1,4-Dichloro-2-butene		**81.18**	68.6	135.4
Dibromochloromethane		**92.70**	74.6	127.2
1,2-Dibromoethane		**97.18**	70.3	133.7
Chlorobenzene		**90.24**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.88**	80.3	128.2
Ethylbenzene		**89.42**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**90.25**	79.4	132.2
o-Xylene		**89.12**	80.2	131.0
Styrene		**89.72**	69.5	126.7
Isopropylbenzene		**88.42**	74.4	121.5
Bromoform		**80.82**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.84**	79.8	126.3
1,2,3-Trichloropropane		**100.88**	78.3	138.8
n-Propylbenzene		**88.40**	82.0	130.7
Bromobenzene		**94.68**	78.7	124.6
1,3,5-Trimethylbenzene		**89.20**	81.3	128.9
tert-Butylbenzene		**89.04**	80.7	128.9
1,2,4-Trimethylbenzene		**91.34**	81.4	130.8
sec-Butylbenzene		**81.26**	77.4	129.8
p-Isopropyltoluene		**82.08**	79.8	137.5
1,3-Dichlorobenzene		**85.16**	77.0	131.3
1,4-Dichlorobenzene		**84.92**	20.7	137.7
1,2-Dichlorobenzene		**84.72**	10.0	166.2
1,2,3-Trimethylbenzene		**79.98**	76.3	124.2
n-Butylbenzene	*	**79.54**	80.0	133.3
Hexachloroethane		**68.04**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**80.44**	21.2	189.4
1,2,4-Trichlorobenzene		**84.34**	27.4	143.4
1,2,3-Trichlorobenzene		**88.72**	75.4	131.4
Naphthalene		**90.58**	32.9	135.8
2-Methylnaphthalene		**98.98**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone	*	**3.0**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.48**	75.1	135.9	**0.1**	30.0
Diethyl ether		**106.28**	67.4	121.2	**1.6**	30.0
Acetone	*	**268.34**	29.9	161.5	**1.3**	30.0
Methyl iodide		**113.14**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**100.74**	63.8	137.4	**0.2**	30.0
Methyl acetate		**108.84**	64.7	125.4	**1.5**	30.0
tert-Methyl butyl ether		**99.70**	73.2	122.4	**1.3**	30.0
Acrylonitrile		**119.14**	69.9	128.9	**0.8**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Butanone	*	**178.74**	44.0	134.4	**0.7**	30.0
Dichlorodifluoromethane		**93.68**	10.0	222.8	**1.1**	30.0
Chloromethane		**86.96**	23.8	166.5	**0.6**	30.0
Vinyl Chloride		**91.62**	43.5	149.1	**0.1**	30.0
Bromomethane		**94.90**	56.8	151.3	**0.3**	30.0
Chloroethane		**89.10**	53.4	149.4	**5.9**	30.0
Trichlorofluoromethane		**109.76**	59.7	151.8	**0.0**	30.0
1,1-Dichloroethene		**107.34**	69.6	139.4	**0.9**	30.0
Methylene Chloride		**111.30**	73.3	121.1	**0.4**	30.0
trans-1,2-Dichloroethene		**106.50**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**105.06**	71.5	126.2	**0.1**	30.0
cis-1,2-Dichloroethene		**107.78**	76.6	122.1	**0.2**	30.0
Tetrahydrofuran		**115.78**	59.0	117.9	**0.3**	30.0
Chloroform		**110.90**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**115.74**	78.2	120.8	**0.0**	30.0
1,1,1-Trichloroethane		**104.26**	79.4	130.9	**1.4**	30.0
Cyclohexane		**59.92**	10.0	169.1	**0.5**	30.0
4-Methyl-2-pentanone		**115.02**	71.6	125.2	**1.3**	30.0
2-Hexanone	*	**141.46**	55.4	136.9	**1.6**	30.0
Carbon Tetrachloride		**105.54**	72.6	133.0	**0.4**	30.0
Benzene		**102.22**	79.9	124.9	**1.1**	30.0
1,2-Dichloroethane		**104.18**	76.0	126.3	**0.8**	30.0
Trichloroethene		**109.42**	79.7	124.2	**1.3**	30.0
1,2-Dichloropropane		**104.08**	78.6	126.4	**0.2**	30.0
Bromodichloromethane		**101.58**	80.4	128.2	**0.7**	30.0
Methyl cyclohexane		**93.36**	76.6	131.3	**0.9**	30.0
Dibromomethane		**117.96**	76.9	122.1	**0.7**	30.0
cis-1,3-Dichloropropene		**104.86**	79.8	129.9	**0.9**	30.0
Toluene		**104.30**	79.8	124.5	**0.6**	30.0
trans-1,3-Dichloropropene		**94.14**	74.0	131.3	**2.4**	30.0
1,1,2-Trichloroethane		**112.54**	78.7	123.1	**1.1**	30.0
Tetrachloroethene	*	**180.24**	74.5	124.5	**10.0**	30.0
trans-1,4-Dichloro-2-butene		**82.40**	68.6	135.4	**1.5**	30.0
Dibromochloromethane		**93.38**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**99.42**	70.3	133.7	**2.3**	30.0
Chlorobenzene		**91.72**	79.2	122.7	**1.6**	30.0
1,1,1,2-Tetrachloroethane		**91.56**	80.3	128.2	**0.3**	30.0
Ethylbenzene		**89.48**	79.5	129.1	**0.1**	30.0
p,m-Xylene		**90.47**	79.4	132.2	**0.2**	30.0
o-Xylene		**89.02**	80.2	131.0	**0.1**	30.0
Styrene		**90.10**	69.5	126.7	**0.4**	30.0
Isopropylbenzene		**88.02**	74.4	121.5	**0.5**	30.0
Bromoform		**82.32**	69.4	128.0	**1.8**	30.0
1,1,2,2-Tetrachloroethane		**96.58**	79.8	126.3	**0.3**	30.0
1,2,3-Trichloropropane		**101.92**	78.3	138.8	**1.0**	30.0
n-Propylbenzene		**88.46**	82.0	130.7	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromobenzene		**95.40**	78.7	124.6	**0.8**	30.0
1,3,5-Trimethylbenzene		**89.68**	81.3	128.9	**0.5**	30.0
tert-Butylbenzene		**87.74**	80.7	128.9	**1.5**	30.0
1,2,4-Trimethylbenzene		**91.50**	81.4	130.8	**0.2**	30.0
sec-Butylbenzene		**79.84**	77.4	129.8	**1.8**	30.0
p-Isopropyltoluene		**81.10**	79.8	137.5	**1.2**	30.0
1,3-Dichlorobenzene		**84.10**	77.0	131.3	**1.3**	30.0
1,4-Dichlorobenzene		**83.62**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**84.30**	10.0	166.2	**0.5**	30.0
1,2,3-Trimethylbenzene		**79.20**	76.3	124.2	**1.0**	30.0
n-Butylbenzene	*	**77.94**	80.0	133.3	**2.0**	30.0
Hexachloroethane		**66.42**	23.8	138.1	**2.4**	30.0
1,2-Dibromo-3-Chloropropane		**80.00**	21.2	189.4	**0.5**	30.0
1,2,4-Trichlorobenzene		**83.66**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**87.62**	75.4	131.4	**1.2**	30.0
Naphthalene		**89.76**	32.9	135.8	**0.9**	30.0
2-Methylnaphthalene		**101.52**	25.5	165.5	**2.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.4**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

74953

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alexander Villhauer
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Drive, Suite 500
CITY: Novi | STATE: MI | ZIP CODE: 48377
PHONE NO.: (616) 780-3277 | FAX NO.: NA | P.O. NO: NA
E-MAIL ADDRESS: Alex.Villhauer@arcadis.com | QUOTE NO.: NA

INVOICE TO

CONTACT NAME | ☒ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: B0064479.2015.00603 RACER Lansing Q4 GWS, Plant 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: J. Ness

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☒ Other Lansing

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1,4-Dioxane
70165.01	12/8	1105	PW-14-01-120815	GW	3		3						✓	✓
.02	12/8	1500	MW-12-01_120815	GW	3		3						✓	✓
.03	12/8	-	TB0003_120815	W	1		1						✓	
.04	12/8	815	EB0003_120815	W	2		2						✓	
.05	12/8	820	FB0003_120815	W	2		2						✓	

All samples Immediately packed on ice

RELINQUISHED BY: J. Ness SIGNATURE/ORGANIZATION: ARCADIS ☒ Sampler DATE: 12/8/15 TIME: 1600
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: 12.9.15 TIME: 10
RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: TIME:

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE: 12-9-15 TIME:
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE: 12/9/15 TIME: 1020

SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: TEMP. ON ARRIVAL 5.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70166.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70166.01-S70166.05
Project: RACER Lansing P2 / B0064479.2015.00603
Submitted Date/Time: 12/09/2015 10:20
Sampled by: Cliff Walls
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-6)
Prep Batch Summary (Page 7)
Surrogates per Lab Sample (Pages 8-12)
Surrogates per QC Sample (Pages 13-16)
Batch QC Results (Pages 17-36)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70166.01
Sample Tag: TB_0002_120815
Collected Date/Time: 12/08/2015 07:00
Matrix: Liquid
COC Reference: 92786

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:49	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 06:49	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 06:49	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70166.02
Sample Tag: MW-01(2)_120815
Collected Date/Time: 12/08/2015 10:15
Matrix: Liquid
COC Reference: 92786

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 14:14	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:14	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:14	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:14	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:14	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:14	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 07:09	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 07:09	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 07:09	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70166.03
Sample Tag: MW-03(2)_120815
Collected Date/Time: 12/08/2015 11:50
Matrix: Liquid
COC Reference: 92786

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 14:16	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:16	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:16	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:16	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:16	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:16	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 07:29	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/12/15 07:29	151211B6	VF151211W4	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 07:29	151211B6	VF151211W4	Yes	LCS/BLK/LCSD

Lab Sample ID: S70166.04
Sample Tag: Dup_01_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Liquid
COC Reference: 92786

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	12/18/15 14:17	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:17	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:17	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:17	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:17	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:17	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 03:43	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 03:43	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 03:43	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70166.05
Sample Tag: MW-12-05_120815
Collected Date/Time: 12/08/2015 15:30
Matrix: Liquid
COC Reference: 92786

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:05	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 04:05	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	12/16/15 18:35	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/12/15 04:05	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70166.02	Arsenic	SW6020A	12/18/15 14:14	MT2-15-1218A
S70166.02	Chromium	SW6020A	12/18/15 14:14	MT2-15-1218A
S70166.02	Copper	SW6020A	12/18/15 14:14	MT2-15-1218A
S70166.02	Lead	SW6020A	12/18/15 14:14	MT2-15-1218A
S70166.02	Nickel	SW6020A	12/18/15 14:14	MT2-15-1218A
S70166.02	Vanadium	SW6020A	12/18/15 14:14	MT2-15-1218A
S70166.03	Arsenic	SW6020A	12/18/15 14:16	MT2-15-1218A
S70166.03	Chromium	SW6020A	12/18/15 14:16	MT2-15-1218A
S70166.03	Copper	SW6020A	12/18/15 14:16	MT2-15-1218A
S70166.03	Lead	SW6020A	12/18/15 14:16	MT2-15-1218A
S70166.03	Nickel	SW6020A	12/18/15 14:16	MT2-15-1218A
S70166.03	Vanadium	SW6020A	12/18/15 14:16	MT2-15-1218A
S70166.04	Arsenic	SW6020A	12/18/15 14:17	MT2-15-1218A
S70166.04	Chromium	SW6020A	12/18/15 14:17	MT2-15-1218A
S70166.04	Copper	SW6020A	12/18/15 14:17	MT2-15-1218A
S70166.04	Lead	SW6020A	12/18/15 14:17	MT2-15-1218A
S70166.04	Nickel	SW6020A	12/18/15 14:17	MT2-15-1218A
S70166.04	Vanadium	SW6020A	12/18/15 14:17	MT2-15-1218A

Organics - Volatiles, Prep Batch ID: VF151211W3

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70166.04	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 03:43	151211B7
S70166.04	1,2-Dibromoethane	SW8260B	12/12/15 03:43	151211B7
S70166.04	TCL Volatile Organics 8260	SW8260C	12/12/15 03:43	151211B7
S70166.05	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:05	151211B7
S70166.05	1,2-Dibromoethane	SW8260B	12/12/15 04:05	151211B7
S70166.05	TCL Volatile Organics 8260	SW8260C	12/12/15 04:05	151211B7

Organics - Volatiles, Prep Batch ID: VF151211W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70166.01	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:49	151211B6
S70166.01	1,2-Dibromoethane	SW8260B	12/12/15 06:49	151211B6
S70166.01	TCL Volatile Organics 8260	SW8260C	12/12/15 06:49	151211B6
S70166.02	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 07:09	151211B6
S70166.02	1,2-Dibromoethane	SW8260B	12/12/15 07:09	151211B6
S70166.02	TCL Volatile Organics 8260	SW8260C	12/12/15 07:09	151211B6
S70166.03	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 07:29	151211B6
S70166.03	1,2-Dibromoethane	SW8260B	12/12/15 07:29	151211B6
S70166.03	TCL Volatile Organics 8260	SW8260C	12/12/15 07:29	151211B6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70166.05	1,4-Dioxane	SW8260B - SIM	12/16/15 18:35	151216A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70166.01
Sample Tag: TB_0002_120815
Collected Date/Time: 12/08/2015 07:00
Matrix: Liquid
COC Reference: 92786

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 06:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**110.00**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70166.02
Sample Tag: MW-01(2)_120815
Collected Date/Time: 12/08/2015 10:15
Matrix: Liquid
COC Reference: 92786

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 07:09, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.20**	83.0	119.0
1,2-Dichloroethane-D4		**108.40**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70166.03
Sample Tag: MW-03(2)_120815
Collected Date/Time: 12/08/2015 11:50
Matrix: Liquid
COC Reference: 92786

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B6, Run Date: 12/12/2015 07:29, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.80**	83.0	119.0
1,2-Dichloroethane-D4		**107.60**	77.0	121.0
Toluene-D8		**102.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70166.04
Sample Tag: Dup_01_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Liquid
COC Reference: 92786

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 03:43, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**85.40**	83.0	119.0
1,2-Dichloroethane-D4		**101.20**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70166.05
Sample Tag: MW-12-05_120815
Collected Date/Time: 12/08/2015 15:30
Matrix: Liquid
COC Reference: 92786

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 04:05, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**92.60**	83.0	119.0
1,2-Dichloroethane-D4		**102.40**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W3

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**106.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.60**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**112.00**	83.0	119.0
1,2-Dichloroethane-D4		**84.40**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**82.40**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**110.80**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**83.20**	77.0	121.0
Toluene-D8		**101.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**91.80**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W4

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**111.00**	83.0	119.0
1,2-Dichloroethane-D4		**103.80**	77.0	121.0
Toluene-D8		**108.00**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**103.20**	83.0	119.0
1,2-Dichloroethane-D4		**106.60**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**109.40**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	85	115
Chromium		**99**	85	115
Copper		**104**	85	115
Nickel		**101**	85	115
Lead		**98**	85	115
Vanadium		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**96**	75	125
Chromium		**100**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**89**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**92**	75	125
Chromium		**99**	75	125
Copper		**87**	75	125
Nickel		**88**	75	125
Lead		**92**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**94**	75	125	**2**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Copper		**88**	75	125	**4**	20
Nickel		**88**	75	125	**3**	20
Lead		**90**	75	125	**0**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Arsenic		**92**	75	125	**0**	20
Chromium		**103**	75	125	**4**	20
Copper		**88**	75	125	**1**	20
Nickel		**94**	75	125	**5**	20
Lead		**91**	75	125	**0**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151211W3

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**74.92**	75.1	135.9
Diethyl ether		**85.68**	67.4	121.2
Acetone		**76.44**	29.9	161.5
Methyl iodide		**90.62**	68.8	116.4
Carbon disulfide		**83.28**	63.8	137.4
Methyl acetate		**76.94**	64.7	125.4
tert-Methyl butyl ether		**83.94**	73.2	122.4
Acrylonitrile		**89.62**	69.9	128.9
2-Butanone		**88.10**	44.0	134.4
Dichlorodifluoromethane		**85.04**	10.0	222.8
Chloromethane		**77.02**	23.8	166.5
Vinyl Chloride		**81.54**	43.5	149.1
Bromomethane		**72.34**	56.8	151.3
Chloroethane		**72.40**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**83.38**	69.6	139.4
Methylene Chloride		**92.06**	73.3	121.1
trans-1,2-Dichloroethene		**85.22**	73.6	129.3
1,1-Dichloroethane		**86.66**	71.5	126.2
cis-1,2-Dichloroethene		**92.04**	76.6	122.1
Tetrahydrofuran		**83.82**	59.0	117.9
Chloroform		**92.56**	78.4	124.0
Bromochloromethane		**92.70**	78.2	120.8
1,1,1-Trichloroethane		**90.08**	79.4	130.9
Cyclohexane		**77.50**	10.0	169.1
4-Methyl-2-pentanone		**100.78**	71.6	125.2
2-Hexanone		**94.76**	55.4	136.9
2-Chloroethylvinyl ether	*	**58.36**	70.0	130.0
Carbon Tetrachloride		**98.36**	72.6	133.0
Benzene		**98.02**	79.9	124.9
1,2-Dichloroethane		**86.58**	76.0	126.3
Trichloroethene		**101.20**	79.7	124.2
1,2-Dichloropropane		**91.82**	78.6	126.4
Bromodichloromethane		**97.20**	80.4	128.2
Methyl cyclohexane		**85.98**	76.6	131.3
Dibromomethane		**105.76**	76.9	122.1
cis-1,3-Dichloropropene		**93.72**	79.8	129.9
Toluene		**99.10**	79.8	124.5
trans-1,3-Dichloropropene		**95.68**	74.0	131.3
1,1,2-Trichloroethane		**100.84**	78.7	123.1
Tetrachloroethene	*	**167.20**	74.5	124.5
trans-1,4-Dichloro-2-butene		**96.96**	68.6	135.4
Dibromochloromethane		**102.66**	74.6	127.2
1,2-Dibromoethane		**104.30**	70.3	133.7
Chlorobenzene		**98.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.02**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**102.96**	79.5	129.1
p,m-Xylene		**101.33**	79.4	132.2
o-Xylene		**83.46**	80.2	131.0
Styrene		**92.12**	69.5	126.7
Isopropylbenzene		**103.48**	74.4	121.5
Bromoform		**103.44**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.36**	79.8	126.3
1,2,3-Trichloropropane		**105.22**	78.3	138.8
n-Propylbenzene		**104.68**	82.0	130.7
Bromobenzene		**102.40**	78.7	124.6
1,3,5-Trimethylbenzene		**102.86**	81.3	128.9
tert-Butylbenzene		**95.60**	80.7	128.9
1,2,4-Trimethylbenzene		**98.18**	81.4	130.8
sec-Butylbenzene		**97.62**	77.4	129.8
p-Isopropyltoluene	*	**78.98**	79.8	137.5
1,3-Dichlorobenzene		**91.30**	77.0	131.3
1,4-Dichlorobenzene		**92.18**	20.7	137.7
1,2-Dichlorobenzene		**94.72**	10.0	166.2
1,2,3-Trimethylbenzene		**91.56**	76.3	124.2
n-Butylbenzene		**93.50**	80.0	133.3
Hexachloroethane		**92.54**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**95.76**	21.2	189.4
1,2,4-Trichlorobenzene		**94.78**	27.4	143.4
1,2,3-Trichlorobenzene		**99.68**	75.4	131.4
Naphthalene		**100.46**	32.9	135.8
2-Methylnaphthalene		**108.74**	25.5	165.5
2-Chlorotoluene		**104.60**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**70.38**	75.1	135.9
Diethyl ether		**77.68**	67.4	121.2
Acetone	*	**16.14**	29.9	161.5
Methyl iodide		**82.92**	68.8	116.4
Carbon disulfide		**74.80**	63.8	137.4
Methyl acetate		**65.58**	64.7	125.4

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
tert-Methyl butyl ether		**78.10**	73.2	122.4
Acrylonitrile		**70.30**	69.9	128.9
2-Butanone		**51.32**	44.0	134.4
Dichlorodifluoromethane		**77.90**	10.0	222.8
Chloromethane		**70.62**	23.8	166.5
Vinyl Chloride		**73.38**	43.5	149.1
Bromomethane		**65.12**	56.8	151.3
Chloroethane		**65.84**	53.4	149.4
Trichlorofluoromethane	*	**57.82**	59.7	151.8
1,1-Dichloroethene		**77.16**	69.6	139.4
Methylene Chloride		**85.18**	73.3	121.1
trans-1,2-Dichloroethene		**77.28**	73.6	129.3
1,1-Dichloroethane		**80.30**	71.5	126.2
cis-1,2-Dichloroethene		**85.00**	76.6	122.1
Tetrahydrofuran		**75.30**	59.0	117.9
Chloroform		**83.54**	78.4	124.0
Bromochloromethane		**85.92**	78.2	120.8
1,1,1-Trichloroethane		**84.68**	79.4	130.9
Cyclohexane		**71.28**	10.0	169.1
4-Methyl-2-pentanone		**92.88**	71.6	125.2
2-Hexanone		**60.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.54**	70.0	130.0
Carbon Tetrachloride		**93.48**	72.6	133.0
Benzene		**90.04**	79.9	124.9
1,2-Dichloroethane		**79.76**	76.0	126.3
Trichloroethene		**91.12**	79.7	124.2
1,2-Dichloropropane		**87.24**	78.6	126.4
Bromodichloromethane		**91.40**	80.4	128.2
Methyl cyclohexane		**80.02**	76.6	131.3
Dibromomethane		**99.66**	76.9	122.1
cis-1,3-Dichloropropene		**87.88**	79.8	129.9
Toluene		**93.00**	79.8	124.5
trans-1,3-Dichloropropene		**90.40**	74.0	131.3
1,1,2-Trichloroethane		**93.72**	78.7	123.1
Tetrachloroethene		**84.30**	74.5	124.5
trans-1,4-Dichloro-2-butene		**95.22**	68.6	135.4
Dibromochloromethane		**101.04**	74.6	127.2
1,2-Dibromoethane		**102.14**	70.3	133.7
Chlorobenzene		**96.70**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.32**	80.3	128.2
Ethylbenzene		**100.84**	79.5	129.1
p,m-Xylene		**97.30**	79.4	132.2
o-Xylene		**82.14**	80.2	131.0
Styrene		**89.44**	69.5	126.7
Isopropylbenzene		**101.82**	74.4	121.5
Bromoform		**106.42**	69.4	128.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2,2-Tetrachloroethane		**103.50**	79.8	126.3
1,2,3-Trichloropropane		**96.48**	78.3	138.8
n-Propylbenzene		**101.58**	82.0	130.7
Bromobenzene		**97.30**	78.7	124.6
1,3,5-Trimethylbenzene		**100.04**	81.3	128.9
tert-Butylbenzene		**93.18**	80.7	128.9
1,2,4-Trimethylbenzene		**97.86**	81.4	130.8
sec-Butylbenzene		**94.24**	77.4	129.8
p-Isopropyltoluene	*	**75.80**	79.8	137.5
1,3-Dichlorobenzene		**86.96**	77.0	131.3
1,4-Dichlorobenzene		**88.20**	20.7	137.7
1,2-Dichlorobenzene		**91.32**	10.0	166.2
1,2,3-Trimethylbenzene		**88.52**	76.3	124.2
n-Butylbenzene		**88.22**	80.0	133.3
Hexachloroethane		**88.44**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**99.48**	21.2	189.4
1,2,4-Trichlorobenzene		**92.68**	27.4	143.4
1,2,3-Trichlorobenzene		**96.42**	75.4	131.4
Naphthalene		**96.66**	32.9	135.8
2-Methylnaphthalene		**105.38**	25.5	165.5
2-Chlorotoluene		**101.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**66.74**	75.1	135.9
Diethyl ether		**78.36**	67.4	121.2
Acetone		**35.50**	29.9	161.5
Methyl iodide		**84.72**	68.8	116.4
Carbon disulfide		**74.84**	63.8	137.4
Methyl acetate		**109.96**	64.7	125.4
tert-Methyl butyl ether		**79.98**	73.2	122.4
Acrylonitrile		**79.52**	69.9	128.9
2-Butanone		**48.70**	44.0	134.4
Dichlorodifluoromethane		**70.26**	10.0	222.8
Chloromethane		**73.20**	23.8	166.5
Vinyl Chloride		**73.18**	43.5	149.1
Bromomethane		**64.36**	56.8	151.3
Chloroethane		**64.82**	53.4	149.4
Acrolein	*	**-1.20**	70.0	130.0
Trichlorofluoromethane		**64.92**	59.7	151.8
1,1-Dichloroethene		**75.50**	69.6	139.4
Methylene Chloride		**85.02**	73.3	121.1
trans-1,2-Dichloroethene		**78.84**	73.6	129.3
1,1-Dichloroethane		**81.00**	71.5	126.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
cis-1,2-Dichloroethene		**87.56**	76.6	122.1
Tetrahydrofuran		**75.62**	59.0	117.9
Chloroform		**85.70**	78.4	124.0
Bromochloromethane		**86.76**	78.2	120.8
1,1,1-Trichloroethane		**84.68**	79.4	130.9
Cyclohexane		**67.14**	10.0	169.1
4-Methyl-2-pentanone		**98.40**	71.6	125.2
2-Hexanone		**64.60**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.72**	70.0	130.0
Carbon Tetrachloride		**91.72**	72.6	133.0
Benzene		**82.24**	79.9	124.9
1,2-Dichloroethane		**88.60**	76.0	126.3
Trichloroethene		**91.74**	79.7	124.2
1,2-Dichloropropane		**86.12**	78.6	126.4
Bromodichloromethane		**90.20**	80.4	128.2
Methyl cyclohexane	*	**74.44**	76.6	131.3
Dibromomethane		**98.02**	76.9	122.1
cis-1,3-Dichloropropene		**87.90**	79.8	129.9
Toluene		**93.54**	79.8	124.5
trans-1,3-Dichloropropene		**91.70**	74.0	131.3
1,1,2-Trichloroethane		**93.42**	78.7	123.1
Tetrachloroethene		**83.50**	74.5	124.5
trans-1,4-Dichloro-2-butene		**99.48**	68.6	135.4
Dibromochloromethane		**99.84**	74.6	127.2
1,2-Dibromoethane		**100.44**	70.3	133.7
Chlorobenzene		**95.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.84**	80.3	128.2
Ethylbenzene		**105.56**	79.5	129.1
p,m-Xylene		**103.68**	79.4	132.2
o-Xylene		**85.34**	80.2	131.0
Styrene		**89.50**	69.5	126.7
Isopropylbenzene		**105.74**	74.4	121.5
Bromoform		**105.10**	69.4	128.0
1,1,2,2-Tetrachloroethane		**106.62**	79.8	126.3
1,2,3-Trichloropropane		**98.66**	78.3	138.8
n-Propylbenzene		**100.74**	82.0	130.7
Bromobenzene		**98.28**	78.7	124.6
1,3,5-Trimethylbenzene		**96.30**	81.3	128.9
tert-Butylbenzene		**91.60**	80.7	128.9
1,2,4-Trimethylbenzene	*	**64.30**	81.4	130.8
sec-Butylbenzene		**93.60**	77.4	129.8
p-Isopropyltoluene	*	**79.28**	79.8	137.5
1,3-Dichlorobenzene		**87.06**	77.0	131.3
1,4-Dichlorobenzene		**87.90**	20.7	137.7
1,2-Dichlorobenzene		**93.48**	10.0	166.2
1,2,3-Trimethylbenzene		**91.20**	76.3	124.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		**89.92**	80.0	133.3
Hexachloroethane		**91.54**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**114.02**	21.2	189.4
1,2,4-Trichlorobenzene		**99.42**	27.4	143.4
1,2,3-Trichlorobenzene		**102.74**	75.4	131.4
Naphthalene		**104.12**	32.9	135.8
2-Methylnaphthalene		**134.18**	25.5	165.5
2-Chlorotoluene		**117.76**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**73.04**	75.1	135.9	**3.7**	30.0
Diethyl ether		**86.48**	67.4	121.2	**10.7**	30.0
Acetone	*	**30.46**	29.9	161.5	**61.5**	30.0
Methyl iodide		**90.32**	68.8	116.4	**8.5**	30.0
Carbon disulfide		**80.16**	63.8	137.4	**6.9**	30.0
Methyl acetate		**77.60**	64.7	125.4	**16.8**	30.0
tert-Methyl butyl ether		**85.10**	73.2	122.4	**8.6**	30.0
Acrylonitrile		**90.46**	69.9	128.9	**25.1**	30.0
2-Butanone		**57.26**	44.0	134.4	**10.9**	30.0
Dichlorodifluoromethane		**80.30**	10.0	222.8	**3.0**	30.0
Chloromethane		**74.74**	23.8	166.5	**5.7**	30.0
Vinyl Chloride		**77.04**	43.5	149.1	**4.9**	30.0
Bromomethane		**70.30**	56.8	151.3	**7.7**	30.0
Chloroethane		**70.14**	53.4	149.4	**6.3**	30.0
Trichlorofluoromethane		**67.24**	59.7	151.8	**15.1**	30.0
1,1-Dichloroethene		**82.12**	69.6	139.4	**6.2**	30.0
Methylene Chloride		**92.20**	73.3	121.1	**7.9**	30.0
trans-1,2-Dichloroethene		**83.28**	73.6	129.3	**7.5**	30.0
1,1-Dichloroethane		**85.66**	71.5	126.2	**6.5**	30.0
cis-1,2-Dichloroethene		**92.04**	76.6	122.1	**8.0**	30.0
Tetrahydrofuran		**85.56**	59.0	117.9	**12.8**	30.0
Chloroform		**91.22**	78.4	124.0	**8.8**	30.0
Bromochloromethane		**92.38**	78.2	120.8	**7.2**	30.0
1,1,1-Trichloroethane		**90.14**	79.4	130.9	**6.2**	30.0
Cyclohexane		**76.38**	10.0	169.1	**6.9**	30.0
4-Methyl-2-pentanone		**97.88**	71.6	125.2	**5.2**	30.0
2-Hexanone		**63.46**	55.4	136.9	**5.0**	30.0
2-Chloroethylvinyl ether	*	**2.42**	70.0	130.0	**4.8**	30.0
Carbon Tetrachloride		**95.24**	72.6	133.0	**1.9**	30.0
Benzene		**91.26**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**81.68**	76.0	126.3	**2.4**	30.0
Trichloroethene		**91.48**	79.7	124.2	**0.4**	30.0
1,2-Dichloropropane		**87.62**	78.6	126.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromodichloromethane		**92.38**	80.4	128.2	**1.1**	30.0
Methyl cyclohexane		**79.44**	76.6	131.3	**0.7**	30.0
Dibromomethane		**102.52**	76.9	122.1	**2.8**	30.0
cis-1,3-Dichloropropene		**92.00**	79.8	129.9	**4.6**	30.0
Toluene		**94.10**	79.8	124.5	**1.2**	30.0
trans-1,3-Dichloropropene		**92.04**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**95.98**	78.7	123.1	**2.4**	30.0
Tetrachloroethene		**85.54**	74.5	124.5	**1.5**	30.0
trans-1,4-Dichloro-2-butene		**100.18**	68.6	135.4	**5.1**	30.0
Dibromochloromethane		**102.94**	74.6	127.2	**1.9**	30.0
1,2-Dibromoethane		**106.54**	70.3	133.7	**4.2**	30.0
Chlorobenzene		**97.88**	79.2	122.7	**1.2**	30.0
1,1,1,2-Tetrachloroethane		**98.60**	80.3	128.2	**0.7**	30.0
Ethylbenzene		**100.80**	79.5	129.1	**0.0**	30.0
p,m-Xylene		**100.62**	79.4	132.2	**3.4**	30.0
o-Xylene		**81.32**	80.2	131.0	**1.0**	30.0
Styrene		**89.70**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**100.90**	74.4	121.5	**0.9**	30.0
Bromoform		**110.46**	69.4	128.0	**3.7**	30.0
1,1,2,2-Tetrachloroethane		**103.40**	79.8	126.3	**0.1**	30.0
1,2,3-Trichloropropane		**102.42**	78.3	138.8	**6.0**	30.0
n-Propylbenzene		**102.92**	82.0	130.7	**1.3**	30.0
Bromobenzene		**103.40**	78.7	124.6	**6.1**	30.0
1,3,5-Trimethylbenzene		**101.04**	81.3	128.9	**1.0**	30.0
tert-Butylbenzene		**95.22**	80.7	128.9	**2.2**	30.0
1,2,4-Trimethylbenzene		**98.92**	81.4	130.8	**1.1**	30.0
sec-Butylbenzene		**94.26**	77.4	129.8	**0.0**	30.0
p-Isopropyltoluene	*	**74.90**	79.8	137.5	**1.2**	30.0
1,3-Dichlorobenzene		**87.02**	77.0	131.3	**0.1**	30.0
1,4-Dichlorobenzene		**88.22**	20.7	137.7	**0.0**	30.0
1,2-Dichlorobenzene		**92.82**	10.0	166.2	**1.6**	30.0
1,2,3-Trimethylbenzene		**88.42**	76.3	124.2	**0.1**	30.0
n-Butylbenzene		**88.70**	80.0	133.3	**0.5**	30.0
Hexachloroethane		**89.22**	23.8	138.1	**0.9**	30.0
1,2-Dibromo-3-Chloropropane		**97.10**	21.2	189.4	**2.4**	30.0
1,2,4-Trichlorobenzene		**94.60**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**96.24**	75.4	131.4	**0.2**	30.0
Naphthalene		**100.36**	32.9	135.8	**3.8**	30.0
2-Methylnaphthalene		**108.10**	25.5	165.5	**2.5**	30.0
2-Chlorotoluene		**102.30**	70.0	130.0	**0.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**70.90**	75.1	135.9	**6.0**	30.0
Diethyl ether		**82.00**	67.4	121.2	**4.5**	30.0
Acetone	*	**26.88**	29.9	161.5	**27.6**	30.0
Methyl iodide		**91.40**	68.8	116.4	**7.6**	30.0
Carbon disulfide		**79.40**	63.8	137.4	**5.9**	30.0
Methyl acetate	*	**131.54**	64.7	125.4	**17.9**	30.0
tert-Methyl butyl ether		**84.30**	73.2	122.4	**5.3**	30.0
Acrylonitrile		**81.32**	69.9	128.9	**2.2**	30.0
2-Butanone		**51.06**	44.0	134.4	**4.4**	30.0
Dichlorodifluoromethane		**76.26**	10.0	222.8	**8.2**	30.0
Chloromethane		**72.86**	23.8	166.5	**0.5**	30.0
Vinyl Chloride		**75.20**	43.5	149.1	**2.7**	30.0
Bromomethane		**65.62**	56.8	151.3	**1.9**	30.0
Chloroethane		**65.72**	53.4	149.4	**1.3**	30.0
Acrolein	*	**-1.18**	70.0	130.0	**0.5**	30.0
Trichlorofluoromethane		**67.98**	59.7	151.8	**4.6**	30.0
1,1-Dichloroethene		**79.54**	69.6	139.4	**5.2**	30.0
Methylene Chloride		**90.48**	73.3	121.1	**6.2**	30.0
trans-1,2-Dichloroethene		**79.68**	73.6	129.3	**1.1**	30.0
1,1-Dichloroethane		**83.22**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**91.20**	76.6	122.1	**4.1**	30.0
Tetrahydrofuran		**80.70**	59.0	117.9	**6.5**	30.0
Chloroform		**88.78**	78.4	124.0	**3.5**	30.0
Bromochloromethane		**90.12**	78.2	120.8	**3.8**	30.0
1,1,1-Trichloroethane		**87.54**	79.4	130.9	**3.3**	30.0
Cyclohexane		**69.54**	10.0	169.1	**2.9**	30.0
4-Methyl-2-pentanone		**97.76**	71.6	125.2	**0.7**	30.0
2-Hexanone		**61.90**	55.4	136.9	**3.8**	30.0
2-Chloroethylvinyl ether	*	**2.72**	70.0	130.0	**0.0**	30.0
Carbon Tetrachloride		**92.50**	72.6	133.0	**0.8**	30.0
Benzene		**81.16**	79.9	124.9	**0.3**	30.0
1,2-Dichloroethane		**89.68**	76.0	126.3	**1.2**	30.0
Trichloroethene		**92.66**	79.7	124.2	**1.0**	30.0
1,2-Dichloropropane		**85.88**	78.6	126.4	**0.3**	30.0
Bromodichloromethane		**91.36**	80.4	128.2	**1.3**	30.0
Methyl cyclohexane	*	**76.46**	76.6	131.3	**2.4**	30.0
Dibromomethane		**101.90**	76.9	122.1	**3.9**	30.0
cis-1,3-Dichloropropene		**89.26**	79.8	129.9	**1.5**	30.0
Toluene		**93.84**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**91.56**	74.0	131.3	**0.2**	30.0
1,1,2-Trichloroethane		**93.50**	78.7	123.1	**0.1**	30.0
Tetrachloroethene		**84.00**	74.5	124.5	**0.6**	30.0
trans-1,4-Dichloro-2-butene		**94.96**	68.6	135.4	**4.6**	30.0
Dibromochloromethane		**98.54**	74.6	127.2	**1.3**	30.0
1,2-Dibromoethane		**103.66**	70.3	133.7	**3.2**	30.0
Chlorobenzene		**94.70**	79.2	122.7	**0.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		**103.26**	80.3	128.2	**1.4**	30.0
Ethylbenzene		**107.52**	79.5	129.1	**0.7**	30.0
p,m-Xylene		**101.97**	79.4	132.2	**1.0**	30.0
o-Xylene		**84.06**	80.2	131.0	**1.2**	30.0
Styrene		**90.34**	69.5	126.7	**0.9**	30.0
Isopropylbenzene		**106.92**	74.4	121.5	**0.8**	30.0
Bromoform		**107.08**	69.4	128.0	**1.9**	30.0
1,1,2,2-Tetrachloroethane		**105.58**	79.8	126.3	**1.0**	30.0
1,2,3-Trichloropropane		**105.50**	78.3	138.8	**6.7**	30.0
n-Propylbenzene		**99.64**	82.0	130.7	**0.5**	30.0
Bromobenzene		**107.48**	78.7	124.6	**8.9**	30.0
1,3,5-Trimethylbenzene		**94.38**	81.3	128.9	**1.4**	30.0
tert-Butylbenzene		**80.76**	80.7	128.9	**12.6**	30.0
1,2,4-Trimethylbenzene	*	**59.44**	81.4	130.8	**1.9**	30.0
sec-Butylbenzene		**92.46**	77.4	129.8	**1.0**	30.0
p-Isopropyltoluene	*	**79.62**	79.8	137.5	**0.4**	30.0
1,3-Dichlorobenzene		**87.22**	77.0	131.3	**0.2**	30.0
1,4-Dichlorobenzene		**89.10**	20.7	137.7	**1.4**	30.0
1,2-Dichlorobenzene		**92.84**	10.0	166.2	**0.7**	30.0
1,2,3-Trimethylbenzene		**91.20**	76.3	124.2	**0.0**	30.0
n-Butylbenzene		**88.68**	80.0	133.3	**1.1**	30.0
Hexachloroethane		**90.94**	23.8	138.1	**0.7**	30.0
1,2-Dibromo-3-Chloropropane		**108.62**	21.2	189.4	**4.9**	30.0
1,2,4-Trichlorobenzene		**99.42**	27.4	143.4	**0.0**	30.0
1,2,3-Trichlorobenzene		**97.64**	75.4	131.4	**5.1**	30.0
Naphthalene		**79.58**	32.9	135.8	**6.0**	30.0
2-Methylnaphthalene		**109.00**	25.5	165.5	**11.3**	30.0
2-Chlorotoluene		**116.26**	70.0	130.0	**1.3**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**76.62**	75.1	135.9	**2.2**	30.0
Diethyl ether		**87.04**	67.4	121.2	**1.6**	30.0
Acetone		**101.12**	29.9	161.5	**27.8**	30.0
Methyl iodide		**92.14**	68.8	116.4	**1.7**	30.0
Carbon disulfide		**84.98**	63.8	137.4	**2.0**	30.0
Methyl acetate		**86.16**	64.7	125.4	**11.3**	30.0
tert-Methyl butyl ether		**85.42**	73.2	122.4	**1.7**	30.0
Acrylonitrile		**93.08**	69.9	128.9	**3.8**	30.0
2-Butanone		**91.94**	44.0	134.4	**4.3**	30.0
Dichlorodifluoromethane		**84.90**	10.0	222.8	**0.2**	30.0
Chloromethane		**78.62**	23.8	166.5	**2.1**	30.0
Vinyl Chloride		**82.14**	43.5	149.1	**0.7**	30.0
Bromomethane		**75.04**	56.8	151.3	**3.7**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloroethane		**73.64**	53.4	149.4	**1.7**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**0.6**	30.0
1,1-Dichloroethene		**85.94**	69.6	139.4	**3.0**	30.0
Methylene Chloride		**94.76**	73.3	121.1	**2.9**	30.0
trans-1,2-Dichloroethene		**86.64**	73.6	129.3	**1.7**	30.0
1,1-Dichloroethane		**89.02**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**94.94**	76.6	122.1	**3.1**	30.0
Tetrahydrofuran		**89.64**	59.0	117.9	**6.7**	30.0
Chloroform		**94.22**	78.4	124.0	**1.8**	30.0
Bromochloromethane		**93.56**	78.2	120.8	**0.9**	30.0
1,1,1-Trichloroethane		**92.18**	79.4	130.9	**2.3**	30.0
Cyclohexane		**78.32**	10.0	169.1	**1.1**	30.0
4-Methyl-2-pentanone		**101.06**	71.6	125.2	**0.3**	30.0
2-Hexanone		**93.96**	55.4	136.9	**0.8**	30.0
2-Chloroethylvinyl ether	*	**2.16**	70.0	130.0	**185.7**	30.0
Carbon Tetrachloride		**95.98**	72.6	133.0	**2.4**	30.0
Benzene		**92.38**	79.9	124.9	**5.9**	30.0
1,2-Dichloroethane		**81.40**	76.0	126.3	**6.2**	30.0
Trichloroethene		**96.82**	79.7	124.2	**4.4**	30.0
1,2-Dichloropropane		**89.48**	78.6	126.4	**2.6**	30.0
Bromodichloromethane		**92.36**	80.4	128.2	**5.1**	30.0
Methyl cyclohexane		**82.38**	76.6	131.3	**4.3**	30.0
Dibromomethane		**102.62**	76.9	122.1	**3.0**	30.0
cis-1,3-Dichloropropene		**90.50**	79.8	129.9	**3.5**	30.0
Toluene		**94.98**	79.8	124.5	**4.2**	30.0
trans-1,3-Dichloropropene		**91.76**	74.0	131.3	**4.2**	30.0
1,1,2-Trichloroethane		**95.94**	78.7	123.1	**5.0**	30.0
Tetrachloroethene	*	**159.24**	74.5	124.5	**4.9**	30.0
trans-1,4-Dichloro-2-butene		**95.76**	68.6	135.4	**1.2**	30.0
Dibromochloromethane		**99.44**	74.6	127.2	**3.2**	30.0
1,2-Dibromoethane		**99.82**	70.3	133.7	**4.4**	30.0
Chlorobenzene		**96.14**	79.2	122.7	**2.1**	30.0
1,1,1,2-Tetrachloroethane		**96.80**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**99.16**	79.5	129.1	**3.8**	30.0
p,m-Xylene		**97.95**	79.4	132.2	**3.4**	30.0
o-Xylene	*	**79.80**	80.2	131.0	**4.5**	30.0
Styrene		**87.44**	69.5	126.7	**5.2**	30.0
Isopropylbenzene		**100.58**	74.4	121.5	**2.8**	30.0
Bromoform		**104.24**	69.4	128.0	**0.8**	30.0
1,1,2,2-Tetrachloroethane		**95.68**	79.8	126.3	**0.7**	30.0
1,2,3-Trichloropropane		**95.18**	78.3	138.8	**10.0**	30.0
n-Propylbenzene		**100.04**	82.0	130.7	**4.5**	30.0
Bromobenzene		**97.92**	78.7	124.6	**4.5**	30.0
1,3,5-Trimethylbenzene		**100.20**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**91.64**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**95.76**	81.4	130.8	**2.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
sec-Butylbenzene		**95.98**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene	*	**77.08**	79.8	137.5	**2.4**	30.0
1,3-Dichlorobenzene		**89.12**	77.0	131.3	**2.4**	30.0
1,4-Dichlorobenzene		**90.14**	20.7	137.7	**2.2**	30.0
1,2-Dichlorobenzene		**93.52**	10.0	166.2	**1.3**	30.0
1,2,3-Trimethylbenzene		**89.26**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**88.40**	80.0	133.3	**5.6**	30.0
Hexachloroethane		**89.70**	23.8	138.1	**3.1**	30.0
1,2-Dibromo-3-Chloropropane		**96.20**	21.2	189.4	**0.5**	30.0
1,2,4-Trichlorobenzene		**95.58**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**97.62**	75.4	131.4	**2.1**	30.0
Naphthalene		**100.32**	32.9	135.8	**0.1**	30.0
2-Methylnaphthalene		**109.72**	25.5	165.5	**0.9**	30.0
2-Chlorotoluene		**101.18**	70.0	130.0	**3.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.56**	75.1	135.9
Diethyl ether		**104.56**	67.4	121.2
Acetone	*	**271.82**	29.9	161.5
Methyl iodide		**113.04**	68.8	116.4
Carbon disulfide		**100.54**	63.8	137.4
Methyl acetate		**110.44**	64.7	125.4
tert-Methyl butyl ether		**98.40**	73.2	122.4
Acrylonitrile		**120.08**	69.9	128.9
2-Butanone	*	**179.98**	44.0	134.4
Dichlorodifluoromethane		**94.76**	10.0	222.8
Chloromethane		**87.44**	23.8	166.5
Vinyl Chloride		**91.52**	43.5	149.1
Bromomethane		**95.16**	56.8	151.3
Chloroethane		**94.50**	53.4	149.4
Trichlorofluoromethane		**109.76**	59.7	151.8
1,1-Dichloroethene		**108.28**	69.6	139.4
Methylene Chloride		**111.80**	73.3	121.1
trans-1,2-Dichloroethene		**107.32**	73.6	129.3
1,1-Dichloroethane		**105.16**	71.5	126.2
cis-1,2-Dichloroethene		**107.58**	76.6	122.1
Tetrahydrofuran		**115.42**	59.0	117.9
Chloroform		**110.44**	78.4	124.0
Bromochloromethane		**115.78**	78.2	120.8
1,1,1-Trichloroethane		**102.76**	79.4	130.9
Cyclohexane		**59.60**	10.0	169.1
4-Methyl-2-pentanone		**113.48**	71.6	125.2
2-Hexanone	*	**139.26**	55.4	136.9
Carbon Tetrachloride		**105.98**	72.6	133.0
Benzene		**103.36**	79.9	124.9
1,2-Dichloroethane		**105.02**	76.0	126.3
Trichloroethene		**108.00**	79.7	124.2
1,2-Dichloropropane		**103.84**	78.6	126.4
Bromodichloromethane		**102.32**	80.4	128.2
Methyl cyclohexane		**94.20**	76.6	131.3
Dibromomethane		**118.80**	76.9	122.1
cis-1,3-Dichloropropene		**103.94**	79.8	129.9
Toluene		**103.72**	79.8	124.5
trans-1,3-Dichloropropene		**91.88**	74.0	131.3
1,1,2-Trichloroethane		**111.30**	78.7	123.1
Tetrachloroethene	*	**163.12**	74.5	124.5
trans-1,4-Dichloro-2-butene		**81.18**	68.6	135.4
Dibromochloromethane		**92.70**	74.6	127.2
1,2-Dibromoethane		**97.18**	70.3	133.7
Chlorobenzene		**90.24**	79.2	122.7
1,1,1,2-Tetrachloroethane		**91.88**	80.3	128.2
Ethylbenzene		**89.42**	79.5	129.1

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 00:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
p,m-Xylene		**90.25**	79.4	132.2
o-Xylene		**89.12**	80.2	131.0
Styrene		**89.72**	69.5	126.7
Isopropylbenzene		**88.42**	74.4	121.5
Bromoform		**80.82**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.84**	79.8	126.3
1,2,3-Trichloropropane		**100.88**	78.3	138.8
n-Propylbenzene		**88.40**	82.0	130.7
Bromobenzene		**94.68**	78.7	124.6
1,3,5-Trimethylbenzene		**89.20**	81.3	128.9
tert-Butylbenzene		**89.04**	80.7	128.9
1,2,4-Trimethylbenzene		**91.34**	81.4	130.8
sec-Butylbenzene		**81.26**	77.4	129.8
p-Isopropyltoluene		**82.08**	79.8	137.5
1,3-Dichlorobenzene		**85.16**	77.0	131.3
1,4-Dichlorobenzene		**84.92**	20.7	137.7
1,2-Dichlorobenzene		**84.72**	10.0	166.2
1,2,3-Trimethylbenzene		**79.98**	76.3	124.2
n-Butylbenzene	*	**79.54**	80.0	133.3
Hexachloroethane		**68.04**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**80.44**	21.2	189.4
1,2,4-Trichlorobenzene		**84.34**	27.4	143.4
1,2,3-Trichlorobenzene		**88.72**	75.4	131.4
Naphthalene		**90.58**	32.9	135.8
2-Methylnaphthalene		**98.98**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone	*	**3.0**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211b6.blkw11z

Run in Batch: 151211B6, Run Date: 12/12/2015 02:27, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**95.48**	75.1	135.9	**0.1**	30.0
Diethyl ether		**106.28**	67.4	121.2	**1.6**	30.0
Acetone	*	**268.34**	29.9	161.5	**1.3**	30.0
Methyl iodide		**113.14**	68.8	116.4	**0.1**	30.0
Carbon disulfide		**100.74**	63.8	137.4	**0.2**	30.0
Methyl acetate		**108.84**	64.7	125.4	**1.5**	30.0
tert-Methyl butyl ether		**99.70**	73.2	122.4	**1.3**	30.0
Acrylonitrile		**119.14**	69.9	128.9	**0.8**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Butanone	*	**178.74**	44.0	134.4	**0.7**	30.0
Dichlorodifluoromethane		**93.68**	10.0	222.8	**1.1**	30.0
Chloromethane		**86.96**	23.8	166.5	**0.6**	30.0
Vinyl Chloride		**91.62**	43.5	149.1	**0.1**	30.0
Bromomethane		**94.90**	56.8	151.3	**0.3**	30.0
Chloroethane		**89.10**	53.4	149.4	**5.9**	30.0
Trichlorofluoromethane		**109.76**	59.7	151.8	**0.0**	30.0
1,1-Dichloroethene		**107.34**	69.6	139.4	**0.9**	30.0
Methylene Chloride		**111.30**	73.3	121.1	**0.4**	30.0
trans-1,2-Dichloroethene		**106.50**	73.6	129.3	**0.8**	30.0
1,1-Dichloroethane		**105.06**	71.5	126.2	**0.1**	30.0
cis-1,2-Dichloroethene		**107.78**	76.6	122.1	**0.2**	30.0
Tetrahydrofuran		**115.78**	59.0	117.9	**0.3**	30.0
Chloroform		**110.90**	78.4	124.0	**0.4**	30.0
Bromochloromethane		**115.74**	78.2	120.8	**0.0**	30.0
1,1,1-Trichloroethane		**104.26**	79.4	130.9	**1.4**	30.0
Cyclohexane		**59.92**	10.0	169.1	**0.5**	30.0
4-Methyl-2-pentanone		**115.02**	71.6	125.2	**1.3**	30.0
2-Hexanone	*	**141.46**	55.4	136.9	**1.6**	30.0
Carbon Tetrachloride		**105.54**	72.6	133.0	**0.4**	30.0
Benzene		**102.22**	79.9	124.9	**1.1**	30.0
1,2-Dichloroethane		**104.18**	76.0	126.3	**0.8**	30.0
Trichloroethene		**109.42**	79.7	124.2	**1.3**	30.0
1,2-Dichloropropane		**104.08**	78.6	126.4	**0.2**	30.0
Bromodichloromethane		**101.58**	80.4	128.2	**0.7**	30.0
Methyl cyclohexane		**93.36**	76.6	131.3	**0.9**	30.0
Dibromomethane		**117.96**	76.9	122.1	**0.7**	30.0
cis-1,3-Dichloropropene		**104.86**	79.8	129.9	**0.9**	30.0
Toluene		**104.30**	79.8	124.5	**0.6**	30.0
trans-1,3-Dichloropropene		**94.14**	74.0	131.3	**2.4**	30.0
1,1,2-Trichloroethane		**112.54**	78.7	123.1	**1.1**	30.0
Tetrachloroethene	*	**180.24**	74.5	124.5	**10.0**	30.0
trans-1,4-Dichloro-2-butene		**82.40**	68.6	135.4	**1.5**	30.0
Dibromochloromethane		**93.38**	74.6	127.2	**0.7**	30.0
1,2-Dibromoethane		**99.42**	70.3	133.7	**2.3**	30.0
Chlorobenzene		**91.72**	79.2	122.7	**1.6**	30.0
1,1,1,2-Tetrachloroethane		**91.56**	80.3	128.2	**0.3**	30.0
Ethylbenzene		**89.48**	79.5	129.1	**0.1**	30.0
p,m-Xylene		**90.47**	79.4	132.2	**0.2**	30.0
o-Xylene		**89.02**	80.2	131.0	**0.1**	30.0
Styrene		**90.10**	69.5	126.7	**0.4**	30.0
Isopropylbenzene		**88.02**	74.4	121.5	**0.5**	30.0
Bromoform		**82.32**	69.4	128.0	**1.8**	30.0
1,1,2,2-Tetrachloroethane		**96.58**	79.8	126.3	**0.3**	30.0
1,2,3-Trichloropropane		**101.92**	78.3	138.8	**1.0**	30.0
n-Propylbenzene		**88.46**	82.0	130.7	**0.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W4 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b6.lcsw11d, Parent Sample ID: 151211b6.lcsw11b

Run in Batch: 151211B6, Run Date: 12/12/2015 01:07, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromobenzene		**95.40**	78.7	124.6	**0.8**	30.0
1,3,5-Trimethylbenzene		**89.68**	81.3	128.9	**0.5**	30.0
tert-Butylbenzene		**87.74**	80.7	128.9	**1.5**	30.0
1,2,4-Trimethylbenzene		**91.50**	81.4	130.8	**0.2**	30.0
sec-Butylbenzene		**79.84**	77.4	129.8	**1.8**	30.0
p-Isopropyltoluene		**81.10**	79.8	137.5	**1.2**	30.0
1,3-Dichlorobenzene		**84.10**	77.0	131.3	**1.3**	30.0
1,4-Dichlorobenzene		**83.62**	20.7	137.7	**1.5**	30.0
1,2-Dichlorobenzene		**84.30**	10.0	166.2	**0.5**	30.0
1,2,3-Trimethylbenzene		**79.20**	76.3	124.2	**1.0**	30.0
n-Butylbenzene	*	**77.94**	80.0	133.3	**2.0**	30.0
Hexachloroethane		**66.42**	23.8	138.1	**2.4**	30.0
1,2-Dibromo-3-Chloropropane		**80.00**	21.2	189.4	**0.5**	30.0
1,2,4-Trichlorobenzene		**83.66**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**87.62**	75.4	131.4	**1.2**	30.0
Naphthalene		**89.76**	32.9	135.8	**0.9**	30.0
2-Methylnaphthalene		**101.52**	25.5	165.5	**2.5**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**1.4**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

92786

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Race Rd Lansing 500
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Wallis

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Total Select Metals
70166.01	120815	700	TB_0002_120815	L	1		1						X		
.02	120815	1015	MW-01(2)_120815										X		X
.03	120815	1150	MW-03(2)_120815										X		X
.04	120815		Dup_01_120815										X		X
.05	120815	1530	MW-12-05_120815										X	X	

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Sampler	120815	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Pace Stamford	120815	
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Pace Stamford		
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-9-15	10

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-9-15	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12/9/15	1020

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70167.01(01)
Generated on 01/07/2016

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70167.01-S70167.02
Project: RACER Lansing Plant-2 / B0064480.2015
Submitted Date/Time: 12/09/2015 10:20
Sampled by: Billy J. Cobern
P.O. #: B0064480.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-3)
Prep Batch Summary (Page 4)
Surrogates per Lab Sample (Pages 5-6)
Surrogates per QC Sample (Pages 7-8)
Batch QC Results (Pages 9-27)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70167.01
Sample Tag: MW-14-54_120815
Collected Date/Time: 12/08/2015 14:45
Matrix: Groundwater
COC Reference: 89596

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/16/15 13:10	ALK151216-W2	ALK151216-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/11/15 10:41	CL151211-W1	CL151211-W1	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/11/15 10:41	SFT151211-W1	SFT151211-W1	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic	SW6020A	12/18/15 14:19	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:33	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:19	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:19	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:19	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:33	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:19	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:33	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:33	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:19	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:27	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 04:27	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 04:27	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70167.02
Sample Tag: FB0004_120815
Collected Date/Time: 12/08/2015 15:15
Matrix: Liquid
COC Reference: 89596

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:49	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 04:49	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 04:49	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70167.01	Alkalinity as CaCO3	SM2320B	12/16/15 13:10	ALK151216-W2

Inorganics, Prep Batch ID: CL151211-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70167.01	Chloride	E300.0	12/11/15 10:41	CL151211-W1

Inorganics, Prep Batch ID: SFT151211-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70167.01	Sulfate	E300.0	12/11/15 10:41	SFT151211-W1

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70167.01	Calcium	SW6020A	12/17/15 13:33	MT2-15-1217B
S70167.01	Magnesium	SW6020A	12/17/15 13:33	MT2-15-1217B
S70167.01	Potassium	SW6020A	12/17/15 13:33	MT2-15-1217B
S70167.01	Sodium	SW6020A	12/17/15 13:33	MT2-15-1217B

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70167.01	Arsenic	SW6020A	12/18/15 14:19	MT2-15-1218A
S70167.01	Chromium	SW6020A	12/18/15 14:19	MT2-15-1218A
S70167.01	Copper	SW6020A	12/18/15 14:19	MT2-15-1218A
S70167.01	Lead	SW6020A	12/18/15 14:19	MT2-15-1218A
S70167.01	Nickel	SW6020A	12/18/15 14:19	MT2-15-1218A
S70167.01	Vanadium	SW6020A	12/18/15 14:19	MT2-15-1218A

Organics - Volatiles, Prep Batch ID: VF151211W3

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70167.01	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:27	151211B7
S70167.01	1,2-Dibromoethane	SW8260B	12/12/15 04:27	151211B7
S70167.01	TCL Volatile Organics 8260	SW8260C	12/12/15 04:27	151211B7
S70167.02	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 04:49	151211B7
S70167.02	1,2-Dibromoethane	SW8260B	12/12/15 04:49	151211B7
S70167.02	TCL Volatile Organics 8260	SW8260C	12/12/15 04:49	151211B7

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70167.01
Sample Tag: MW-14-54_120815
Collected Date/Time: 12/08/2015 14:45
Matrix: Groundwater
COC Reference: 89596

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 04:27, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.80**	83.0	119.0
1,2-Dichloroethane-D4		**103.20**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70167.02
Sample Tag: FB0004_120815
Collected Date/Time: 12/08/2015 15:15
Matrix: Liquid
COC Reference: 89596

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 04:49, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**86.80**	83.0	119.0
1,2-Dichloroethane-D4		**100.00**	77.0	121.0
Toluene-D8		**100.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W3

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**106.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.60**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**112.00**	83.0	119.0
1,2-Dichloroethane-D4		**84.40**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**82.40**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**110.80**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**83.20**	77.0	121.0
Toluene-D8		**101.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**91.80**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151216-W2.LRB1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:30, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151216-W2.LCS1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:45, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**104**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151216-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 13:05, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**104**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151216-W2.DP1, Parent Sample ID: S70131.02

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:55, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**RPD**	RPD CL
Alkalinity as CaCO3		**2**	15

Inorganics, Prep Batch ID: CL151211-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151211-W1.LRB1

Run in Batch: CL151211-W1, Run Date: 12/11/2015 09:24, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151211-W1.LCS1

Run in Batch: CL151211-W1, Run Date: 12/11/2015 09:49, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**99**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151211-W1.MS1, Parent Sample ID: S70209.03

Run in Batch: CL151211-W1, Run Date: 12/11/2015 11:19, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**100**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151211-W1.MSD1, Parent Sample ID: CL151211-W1.MS1

Run in Batch: CL151211-W1, Run Date: 12/11/2015 11:32, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**100**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151211-W1.DP1, Parent Sample ID: S70209.03

Run in Batch: CL151211-W1, Run Date: 12/11/2015 11:06, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 100

Analyte	Flags	**RPD**	RPD CL
Chloride		**<1**	15

Inorganics, Prep Batch ID: SFT151211-W1

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151211-W1.LRB1

Run in Batch: SFT151211-W1, Run Date: 12/11/2015 09:24, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151211-W1.LCS1

Run in Batch: SFT151211-W1, Run Date: 12/11/2015 09:49, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151211-W1.MS1, Parent Sample ID: S70209.03

Run in Batch: SFT151211-W1, Run Date: 12/11/2015 11:19, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**106**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151211-W1.MSD1, Parent Sample ID: SFT151211-W1.MS1

Run in Batch: SFT151211-W1, Run Date: 12/11/2015 11:32, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**108**	80	120	**1**	15

Duplicate (DUP)

Lab Sample ID: SFT151211-W1.DP1, Parent Sample ID: S70209.03

Run in Batch: SFT151211-W1, Run Date: 12/11/2015 11:06, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 100

Analyte	Flags	**RPD**	RPD CL
Sulfate		**<1**	15

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Calcium		**105**	85	115
Potassium		**103**	85	115
Magnesium		**104**	85	115
Sodium		**109**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Calcium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Sodium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Calcium		**100**	75	125
Potassium		**102**	75	125
Magnesium		**109**	75	125
Sodium		**106**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Calcium		**99**	75	125
Potassium		**100**	75	125
Magnesium		**103**	75	125
Sodium		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		**115**	75	125	**2**	20
Potassium		**102**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Sodium		**105**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Calcium		**98**	75	125	**1**	20
Potassium		**98**	75	125	**1**	20
Magnesium		**101**	75	125	**2**	20
Sodium		**101**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**103**	85	115
Chromium		**99**	85	115
Copper		**104**	85	115
Nickel		**101**	85	115
Lead		**98**	85	115
Vanadium		**100**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Arsenic		**ND**	0.0004	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Vanadium		**ND**	0.0008	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**96**	75	125
Chromium		**100**	75	125
Copper		**91**	75	125
Nickel		**91**	75	125
Lead		**89**	75	125
Vanadium		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Arsenic		**92**	75	125
Chromium		**99**	75	125
Copper		**87**	75	125
Nickel		**88**	75	125
Lead		**92**	75	125
Vanadium		**101**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Arsenic		**94**	75	125	**2**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Copper		**88**	75	125	**4**	20
Nickel		**88**	75	125	**3**	20
Lead		**90**	75	125	**0**	20
Vanadium		**102**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Arsenic		**92**	75	125	**0**	20
Chromium		**103**	75	125	**4**	20
Copper		**88**	75	125	**1**	20
Nickel		**94**	75	125	**5**	20
Lead		**91**	75	125	**0**	20
Vanadium		**103**	75	125	**2**	20

Organics - Volatiles, Prep Batch ID: VF151211W3

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**74.92**	75.1	135.9
Diethyl ether		**85.68**	67.4	121.2
Acetone		**76.44**	29.9	161.5
Methyl iodide		**90.62**	68.8	116.4
Carbon disulfide		**83.28**	63.8	137.4
Methyl acetate		**76.94**	64.7	125.4
tert-Methyl butyl ether		**83.94**	73.2	122.4
Acrylonitrile		**89.62**	69.9	128.9
2-Butanone		**88.10**	44.0	134.4
Dichlorodifluoromethane		**85.04**	10.0	222.8
Chloromethane		**77.02**	23.8	166.5
Vinyl Chloride		**81.54**	43.5	149.1
Bromomethane		**72.34**	56.8	151.3
Chloroethane		**72.40**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**83.38**	69.6	139.4
Methylene Chloride		**92.06**	73.3	121.1
trans-1,2-Dichloroethene		**85.22**	73.6	129.3
1,1-Dichloroethane		**86.66**	71.5	126.2
cis-1,2-Dichloroethene		**92.04**	76.6	122.1
Tetrahydrofuran		**83.82**	59.0	117.9
Chloroform		**92.56**	78.4	124.0
Bromochloromethane		**92.70**	78.2	120.8
1,1,1-Trichloroethane		**90.08**	79.4	130.9
Cyclohexane		**77.50**	10.0	169.1
4-Methyl-2-pentanone		**100.78**	71.6	125.2
2-Hexanone		**94.76**	55.4	136.9
2-Chloroethylvinyl ether	*	**58.36**	70.0	130.0
Carbon Tetrachloride		**98.36**	72.6	133.0
Benzene		**98.02**	79.9	124.9
1,2-Dichloroethane		**86.58**	76.0	126.3
Trichloroethene		**101.20**	79.7	124.2
1,2-Dichloropropane		**91.82**	78.6	126.4
Bromodichloromethane		**97.20**	80.4	128.2
Methyl cyclohexane		**85.98**	76.6	131.3
Dibromomethane		**105.76**	76.9	122.1
cis-1,3-Dichloropropene		**93.72**	79.8	129.9
Toluene		**99.10**	79.8	124.5
trans-1,3-Dichloropropene		**95.68**	74.0	131.3
1,1,2-Trichloroethane		**100.84**	78.7	123.1
Tetrachloroethene	*	**167.20**	74.5	124.5
trans-1,4-Dichloro-2-butene		**96.96**	68.6	135.4
Dibromochloromethane		**102.66**	74.6	127.2
1,2-Dibromoethane		**104.30**	70.3	133.7
Chlorobenzene		**98.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.02**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**102.96**	79.5	129.1
p,m-Xylene		**101.33**	79.4	132.2
o-Xylene		**83.46**	80.2	131.0
Styrene		**92.12**	69.5	126.7
Isopropylbenzene		**103.48**	74.4	121.5
Bromoform		**103.44**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.36**	79.8	126.3
1,2,3-Trichloropropane		**105.22**	78.3	138.8
n-Propylbenzene		**104.68**	82.0	130.7
Bromobenzene		**102.40**	78.7	124.6
1,3,5-Trimethylbenzene		**102.86**	81.3	128.9
tert-Butylbenzene		**95.60**	80.7	128.9
1,2,4-Trimethylbenzene		**98.18**	81.4	130.8
sec-Butylbenzene		**97.62**	77.4	129.8
p-Isopropyltoluene	*	**78.98**	79.8	137.5
1,3-Dichlorobenzene		**91.30**	77.0	131.3
1,4-Dichlorobenzene		**92.18**	20.7	137.7
1,2-Dichlorobenzene		**94.72**	10.0	166.2
1,2,3-Trimethylbenzene		**91.56**	76.3	124.2
n-Butylbenzene		**93.50**	80.0	133.3
Hexachloroethane		**92.54**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**95.76**	21.2	189.4
1,2,4-Trichlorobenzene		**94.78**	27.4	143.4
1,2,3-Trichlorobenzene		**99.68**	75.4	131.4
Naphthalene		**100.46**	32.9	135.8
2-Methylnaphthalene		**108.74**	25.5	165.5
2-Chlorotoluene		**104.60**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**70.38**	75.1	135.9
Diethyl ether		**77.68**	67.4	121.2
Acetone	*	**16.14**	29.9	161.5
Methyl iodide		**82.92**	68.8	116.4
Carbon disulfide		**74.80**	63.8	137.4
Methyl acetate		**65.58**	64.7	125.4

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
tert-Methyl butyl ether		**78.10**	73.2	122.4
Acrylonitrile		**70.30**	69.9	128.9
2-Butanone		**51.32**	44.0	134.4
Dichlorodifluoromethane		**77.90**	10.0	222.8
Chloromethane		**70.62**	23.8	166.5
Vinyl Chloride		**73.38**	43.5	149.1
Bromomethane		**65.12**	56.8	151.3
Chloroethane		**65.84**	53.4	149.4
Trichlorofluoromethane	*	**57.82**	59.7	151.8
1,1-Dichloroethene		**77.16**	69.6	139.4
Methylene Chloride		**85.18**	73.3	121.1
trans-1,2-Dichloroethene		**77.28**	73.6	129.3
1,1-Dichloroethane		**80.30**	71.5	126.2
cis-1,2-Dichloroethene		**85.00**	76.6	122.1
Tetrahydrofuran		**75.30**	59.0	117.9
Chloroform		**83.54**	78.4	124.0
Bromochloromethane		**85.92**	78.2	120.8
1,1,1-Trichloroethane		**84.68**	79.4	130.9
Cyclohexane		**71.28**	10.0	169.1
4-Methyl-2-pentanone		**92.88**	71.6	125.2
2-Hexanone		**60.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.54**	70.0	130.0
Carbon Tetrachloride		**93.48**	72.6	133.0
Benzene		**90.04**	79.9	124.9
1,2-Dichloroethane		**79.76**	76.0	126.3
Trichloroethene		**91.12**	79.7	124.2
1,2-Dichloropropane		**87.24**	78.6	126.4
Bromodichloromethane		**91.40**	80.4	128.2
Methyl cyclohexane		**80.02**	76.6	131.3
Dibromomethane		**99.66**	76.9	122.1
cis-1,3-Dichloropropene		**87.88**	79.8	129.9
Toluene		**93.00**	79.8	124.5
trans-1,3-Dichloropropene		**90.40**	74.0	131.3
1,1,2-Trichloroethane		**93.72**	78.7	123.1
Tetrachloroethene		**84.30**	74.5	124.5
trans-1,4-Dichloro-2-butene		**95.22**	68.6	135.4
Dibromochloromethane		**101.04**	74.6	127.2
1,2-Dibromoethane		**102.14**	70.3	133.7
Chlorobenzene		**96.70**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.32**	80.3	128.2
Ethylbenzene		**100.84**	79.5	129.1
p,m-Xylene		**97.30**	79.4	132.2
o-Xylene		**82.14**	80.2	131.0
Styrene		**89.44**	69.5	126.7
Isopropylbenzene		**101.82**	74.4	121.5
Bromoform		**106.42**	69.4	128.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2,2-Tetrachloroethane		**103.50**	79.8	126.3
1,2,3-Trichloropropane		**96.48**	78.3	138.8
n-Propylbenzene		**101.58**	82.0	130.7
Bromobenzene		**97.30**	78.7	124.6
1,3,5-Trimethylbenzene		**100.04**	81.3	128.9
tert-Butylbenzene		**93.18**	80.7	128.9
1,2,4-Trimethylbenzene		**97.86**	81.4	130.8
sec-Butylbenzene		**94.24**	77.4	129.8
p-Isopropyltoluene	*	**75.80**	79.8	137.5
1,3-Dichlorobenzene		**86.96**	77.0	131.3
1,4-Dichlorobenzene		**88.20**	20.7	137.7
1,2-Dichlorobenzene		**91.32**	10.0	166.2
1,2,3-Trimethylbenzene		**88.52**	76.3	124.2
n-Butylbenzene		**88.22**	80.0	133.3
Hexachloroethane		**88.44**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**99.48**	21.2	189.4
1,2,4-Trichlorobenzene		**92.68**	27.4	143.4
1,2,3-Trichlorobenzene		**96.42**	75.4	131.4
Naphthalene		**96.66**	32.9	135.8
2-Methylnaphthalene		**105.38**	25.5	165.5
2-Chlorotoluene		**101.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**66.74**	75.1	135.9
Diethyl ether		**78.36**	67.4	121.2
Acetone		**35.50**	29.9	161.5
Methyl iodide		**84.72**	68.8	116.4
Carbon disulfide		**74.84**	63.8	137.4
Methyl acetate		**109.96**	64.7	125.4
tert-Methyl butyl ether		**79.98**	73.2	122.4
Acrylonitrile		**79.52**	69.9	128.9
2-Butanone		**48.70**	44.0	134.4
Dichlorodifluoromethane		**70.26**	10.0	222.8
Chloromethane		**73.20**	23.8	166.5
Vinyl Chloride		**73.18**	43.5	149.1
Bromomethane		**64.36**	56.8	151.3
Chloroethane		**64.82**	53.4	149.4
Acrolein	*	**-1.20**	70.0	130.0
Trichlorofluoromethane		**64.92**	59.7	151.8
1,1-Dichloroethene		**75.50**	69.6	139.4
Methylene Chloride		**85.02**	73.3	121.1
trans-1,2-Dichloroethene		**78.84**	73.6	129.3
1,1-Dichloroethane		**81.00**	71.5	126.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
cis-1,2-Dichloroethene		**87.56**	76.6	122.1
Tetrahydrofuran		**75.62**	59.0	117.9
Chloroform		**85.70**	78.4	124.0
Bromochloromethane		**86.76**	78.2	120.8
1,1,1-Trichloroethane		**84.68**	79.4	130.9
Cyclohexane		**67.14**	10.0	169.1
4-Methyl-2-pentanone		**98.40**	71.6	125.2
2-Hexanone		**64.60**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.72**	70.0	130.0
Carbon Tetrachloride		**91.72**	72.6	133.0
Benzene		**82.24**	79.9	124.9
1,2-Dichloroethane		**88.60**	76.0	126.3
Trichloroethene		**91.74**	79.7	124.2
1,2-Dichloropropane		**86.12**	78.6	126.4
Bromodichloromethane		**90.20**	80.4	128.2
Methyl cyclohexane	*	**74.44**	76.6	131.3
Dibromomethane		**98.02**	76.9	122.1
cis-1,3-Dichloropropene		**87.90**	79.8	129.9
Toluene		**93.54**	79.8	124.5
trans-1,3-Dichloropropene		**91.70**	74.0	131.3
1,1,2-Trichloroethane		**93.42**	78.7	123.1
Tetrachloroethene		**83.50**	74.5	124.5
trans-1,4-Dichloro-2-butene		**99.48**	68.6	135.4
Dibromochloromethane		**99.84**	74.6	127.2
1,2-Dibromoethane		**100.44**	70.3	133.7
Chlorobenzene		**95.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.84**	80.3	128.2
Ethylbenzene		**105.56**	79.5	129.1
p,m-Xylene		**103.68**	79.4	132.2
o-Xylene		**85.34**	80.2	131.0
Styrene		**89.50**	69.5	126.7
Isopropylbenzene		**105.74**	74.4	121.5
Bromoform		**105.10**	69.4	128.0
1,1,2,2-Tetrachloroethane		**106.62**	79.8	126.3
1,2,3-Trichloropropane		**98.66**	78.3	138.8
n-Propylbenzene		**100.74**	82.0	130.7
Bromobenzene		**98.28**	78.7	124.6
1,3,5-Trimethylbenzene		**96.30**	81.3	128.9
tert-Butylbenzene		**91.60**	80.7	128.9
1,2,4-Trimethylbenzene	*	**64.30**	81.4	130.8
sec-Butylbenzene		**93.60**	77.4	129.8
p-Isopropyltoluene	*	**79.28**	79.8	137.5
1,3-Dichlorobenzene		**87.06**	77.0	131.3
1,4-Dichlorobenzene		**87.90**	20.7	137.7
1,2-Dichlorobenzene		**93.48**	10.0	166.2
1,2,3-Trimethylbenzene		**91.20**	76.3	124.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		**89.92**	80.0	133.3
Hexachloroethane		**91.54**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**114.02**	21.2	189.4
1,2,4-Trichlorobenzene		**99.42**	27.4	143.4
1,2,3-Trichlorobenzene		**102.74**	75.4	131.4
Naphthalene		**104.12**	32.9	135.8
2-Methylnaphthalene		**134.18**	25.5	165.5
2-Chlorotoluene		**117.76**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**73.04**	75.1	135.9	**3.7**	30.0
Diethyl ether		**86.48**	67.4	121.2	**10.7**	30.0
Acetone	*	**30.46**	29.9	161.5	**61.5**	30.0
Methyl iodide		**90.32**	68.8	116.4	**8.5**	30.0
Carbon disulfide		**80.16**	63.8	137.4	**6.9**	30.0
Methyl acetate		**77.60**	64.7	125.4	**16.8**	30.0
tert-Methyl butyl ether		**85.10**	73.2	122.4	**8.6**	30.0
Acrylonitrile		**90.46**	69.9	128.9	**25.1**	30.0
2-Butanone		**57.26**	44.0	134.4	**10.9**	30.0
Dichlorodifluoromethane		**80.30**	10.0	222.8	**3.0**	30.0
Chloromethane		**74.74**	23.8	166.5	**5.7**	30.0
Vinyl Chloride		**77.04**	43.5	149.1	**4.9**	30.0
Bromomethane		**70.30**	56.8	151.3	**7.7**	30.0
Chloroethane		**70.14**	53.4	149.4	**6.3**	30.0
Trichlorofluoromethane		**67.24**	59.7	151.8	**15.1**	30.0
1,1-Dichloroethene		**82.12**	69.6	139.4	**6.2**	30.0
Methylene Chloride		**92.20**	73.3	121.1	**7.9**	30.0
trans-1,2-Dichloroethene		**83.28**	73.6	129.3	**7.5**	30.0
1,1-Dichloroethane		**85.66**	71.5	126.2	**6.5**	30.0
cis-1,2-Dichloroethene		**92.04**	76.6	122.1	**8.0**	30.0
Tetrahydrofuran		**85.56**	59.0	117.9	**12.8**	30.0
Chloroform		**91.22**	78.4	124.0	**8.8**	30.0
Bromochloromethane		**92.38**	78.2	120.8	**7.2**	30.0
1,1,1-Trichloroethane		**90.14**	79.4	130.9	**6.2**	30.0
Cyclohexane		**76.38**	10.0	169.1	**6.9**	30.0
4-Methyl-2-pentanone		**97.88**	71.6	125.2	**5.2**	30.0
2-Hexanone		**63.46**	55.4	136.9	**5.0**	30.0
2-Chloroethylvinyl ether	*	**2.42**	70.0	130.0	**4.8**	30.0
Carbon Tetrachloride		**95.24**	72.6	133.0	**1.9**	30.0
Benzene		**91.26**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**81.68**	76.0	126.3	**2.4**	30.0
Trichloroethene		**91.48**	79.7	124.2	**0.4**	30.0
1,2-Dichloropropane		**87.62**	78.6	126.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromodichloromethane		**92.38**	80.4	128.2	**1.1**	30.0
Methyl cyclohexane		**79.44**	76.6	131.3	**0.7**	30.0
Dibromomethane		**102.52**	76.9	122.1	**2.8**	30.0
cis-1,3-Dichloropropene		**92.00**	79.8	129.9	**4.6**	30.0
Toluene		**94.10**	79.8	124.5	**1.2**	30.0
trans-1,3-Dichloropropene		**92.04**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**95.98**	78.7	123.1	**2.4**	30.0
Tetrachloroethene		**85.54**	74.5	124.5	**1.5**	30.0
trans-1,4-Dichloro-2-butene		**100.18**	68.6	135.4	**5.1**	30.0
Dibromochloromethane		**102.94**	74.6	127.2	**1.9**	30.0
1,2-Dibromoethane		**106.54**	70.3	133.7	**4.2**	30.0
Chlorobenzene		**97.88**	79.2	122.7	**1.2**	30.0
1,1,1,2-Tetrachloroethane		**98.60**	80.3	128.2	**0.7**	30.0
Ethylbenzene		**100.80**	79.5	129.1	**0.0**	30.0
p,m-Xylene		**100.62**	79.4	132.2	**3.4**	30.0
o-Xylene		**81.32**	80.2	131.0	**1.0**	30.0
Styrene		**89.70**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**100.90**	74.4	121.5	**0.9**	30.0
Bromoform		**110.46**	69.4	128.0	**3.7**	30.0
1,1,2,2-Tetrachloroethane		**103.40**	79.8	126.3	**0.1**	30.0
1,2,3-Trichloropropane		**102.42**	78.3	138.8	**6.0**	30.0
n-Propylbenzene		**102.92**	82.0	130.7	**1.3**	30.0
Bromobenzene		**103.40**	78.7	124.6	**6.1**	30.0
1,3,5-Trimethylbenzene		**101.04**	81.3	128.9	**1.0**	30.0
tert-Butylbenzene		**95.22**	80.7	128.9	**2.2**	30.0
1,2,4-Trimethylbenzene		**98.92**	81.4	130.8	**1.1**	30.0
sec-Butylbenzene		**94.26**	77.4	129.8	**0.0**	30.0
p-Isopropyltoluene	*	**74.90**	79.8	137.5	**1.2**	30.0
1,3-Dichlorobenzene		**87.02**	77.0	131.3	**0.1**	30.0
1,4-Dichlorobenzene		**88.22**	20.7	137.7	**0.0**	30.0
1,2-Dichlorobenzene		**92.82**	10.0	166.2	**1.6**	30.0
1,2,3-Trimethylbenzene		**88.42**	76.3	124.2	**0.1**	30.0
n-Butylbenzene		**88.70**	80.0	133.3	**0.5**	30.0
Hexachloroethane		**89.22**	23.8	138.1	**0.9**	30.0
1,2-Dibromo-3-Chloropropane		**97.10**	21.2	189.4	**2.4**	30.0
1,2,4-Trichlorobenzene		**94.60**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**96.24**	75.4	131.4	**0.2**	30.0
Naphthalene		**100.36**	32.9	135.8	**3.8**	30.0
2-Methylnaphthalene		**108.10**	25.5	165.5	**2.5**	30.0
2-Chlorotoluene		**102.30**	70.0	130.0	**0.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**70.90**	75.1	135.9	**6.0**	30.0
Diethyl ether		**82.00**	67.4	121.2	**4.5**	30.0
Acetone	*	**26.88**	29.9	161.5	**27.6**	30.0
Methyl iodide		**91.40**	68.8	116.4	**7.6**	30.0
Carbon disulfide		**79.40**	63.8	137.4	**5.9**	30.0
Methyl acetate	*	**131.54**	64.7	125.4	**17.9**	30.0
tert-Methyl butyl ether		**84.30**	73.2	122.4	**5.3**	30.0
Acrylonitrile		**81.32**	69.9	128.9	**2.2**	30.0
2-Butanone		**51.06**	44.0	134.4	**4.4**	30.0
Dichlorodifluoromethane		**76.26**	10.0	222.8	**8.2**	30.0
Chloromethane		**72.86**	23.8	166.5	**0.5**	30.0
Vinyl Chloride		**75.20**	43.5	149.1	**2.7**	30.0
Bromomethane		**65.62**	56.8	151.3	**1.9**	30.0
Chloroethane		**65.72**	53.4	149.4	**1.3**	30.0
Acrolein	*	**-1.18**	70.0	130.0	**0.5**	30.0
Trichlorofluoromethane		**67.98**	59.7	151.8	**4.6**	30.0
1,1-Dichloroethene		**79.54**	69.6	139.4	**5.2**	30.0
Methylene Chloride		**90.48**	73.3	121.1	**6.2**	30.0
trans-1,2-Dichloroethene		**79.68**	73.6	129.3	**1.1**	30.0
1,1-Dichloroethane		**83.22**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**91.20**	76.6	122.1	**4.1**	30.0
Tetrahydrofuran		**80.70**	59.0	117.9	**6.5**	30.0
Chloroform		**88.78**	78.4	124.0	**3.5**	30.0
Bromochloromethane		**90.12**	78.2	120.8	**3.8**	30.0
1,1,1-Trichloroethane		**87.54**	79.4	130.9	**3.3**	30.0
Cyclohexane		**69.54**	10.0	169.1	**2.9**	30.0
4-Methyl-2-pentanone		**97.76**	71.6	125.2	**0.7**	30.0
2-Hexanone		**61.90**	55.4	136.9	**3.8**	30.0
2-Chloroethylvinyl ether	*	**2.72**	70.0	130.0	**0.0**	30.0
Carbon Tetrachloride		**92.50**	72.6	133.0	**0.8**	30.0
Benzene		**81.16**	79.9	124.9	**0.3**	30.0
1,2-Dichloroethane		**89.68**	76.0	126.3	**1.2**	30.0
Trichloroethene		**92.66**	79.7	124.2	**1.0**	30.0
1,2-Dichloropropane		**85.88**	78.6	126.4	**0.3**	30.0
Bromodichloromethane		**91.36**	80.4	128.2	**1.3**	30.0
Methyl cyclohexane	*	**76.46**	76.6	131.3	**2.4**	30.0
Dibromomethane		**101.90**	76.9	122.1	**3.9**	30.0
cis-1,3-Dichloropropene		**89.26**	79.8	129.9	**1.5**	30.0
Toluene		**93.84**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**91.56**	74.0	131.3	**0.2**	30.0
1,1,2-Trichloroethane		**93.50**	78.7	123.1	**0.1**	30.0
Tetrachloroethene		**84.00**	74.5	124.5	**0.6**	30.0
trans-1,4-Dichloro-2-butene		**94.96**	68.6	135.4	**4.6**	30.0
Dibromochloromethane		**98.54**	74.6	127.2	**1.3**	30.0
1,2-Dibromoethane		**103.66**	70.3	133.7	**3.2**	30.0
Chlorobenzene		**94.70**	79.2	122.7	**0.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		**103.26**	80.3	128.2	**1.4**	30.0
Ethylbenzene		**107.52**	79.5	129.1	**0.7**	30.0
p,m-Xylene		**101.97**	79.4	132.2	**1.0**	30.0
o-Xylene		**84.06**	80.2	131.0	**1.2**	30.0
Styrene		**90.34**	69.5	126.7	**0.9**	30.0
Isopropylbenzene		**106.92**	74.4	121.5	**0.8**	30.0
Bromoform		**107.08**	69.4	128.0	**1.9**	30.0
1,1,2,2-Tetrachloroethane		**105.58**	79.8	126.3	**1.0**	30.0
1,2,3-Trichloropropane		**105.50**	78.3	138.8	**6.7**	30.0
n-Propylbenzene		**99.64**	82.0	130.7	**0.5**	30.0
Bromobenzene		**107.48**	78.7	124.6	**8.9**	30.0
1,3,5-Trimethylbenzene		**94.38**	81.3	128.9	**1.4**	30.0
tert-Butylbenzene		**80.76**	80.7	128.9	**12.6**	30.0
1,2,4-Trimethylbenzene	*	**59.44**	81.4	130.8	**1.9**	30.0
sec-Butylbenzene		**92.46**	77.4	129.8	**1.0**	30.0
p-Isopropyltoluene	*	**79.62**	79.8	137.5	**0.4**	30.0
1,3-Dichlorobenzene		**87.22**	77.0	131.3	**0.2**	30.0
1,4-Dichlorobenzene		**89.10**	20.7	137.7	**1.4**	30.0
1,2-Dichlorobenzene		**92.84**	10.0	166.2	**0.7**	30.0
1,2,3-Trimethylbenzene		**91.20**	76.3	124.2	**0.0**	30.0
n-Butylbenzene		**88.68**	80.0	133.3	**1.1**	30.0
Hexachloroethane		**90.94**	23.8	138.1	**0.7**	30.0
1,2-Dibromo-3-Chloropropane		**108.62**	21.2	189.4	**4.9**	30.0
1,2,4-Trichlorobenzene		**99.42**	27.4	143.4	**0.0**	30.0
1,2,3-Trichlorobenzene		**97.64**	75.4	131.4	**5.1**	30.0
Naphthalene		**79.58**	32.9	135.8	**6.0**	30.0
2-Methylnaphthalene		**109.00**	25.5	165.5	**11.3**	30.0
2-Chlorotoluene		**116.26**	70.0	130.0	**1.3**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**76.62**	75.1	135.9	**2.2**	30.0
Diethyl ether		**87.04**	67.4	121.2	**1.6**	30.0
Acetone		**101.12**	29.9	161.5	**27.8**	30.0
Methyl iodide		**92.14**	68.8	116.4	**1.7**	30.0
Carbon disulfide		**84.98**	63.8	137.4	**2.0**	30.0
Methyl acetate		**86.16**	64.7	125.4	**11.3**	30.0
tert-Methyl butyl ether		**85.42**	73.2	122.4	**1.7**	30.0
Acrylonitrile		**93.08**	69.9	128.9	**3.8**	30.0
2-Butanone		**91.94**	44.0	134.4	**4.3**	30.0
Dichlorodifluoromethane		**84.90**	10.0	222.8	**0.2**	30.0
Chloromethane		**78.62**	23.8	166.5	**2.1**	30.0
Vinyl Chloride		**82.14**	43.5	149.1	**0.7**	30.0
Bromomethane		**75.04**	56.8	151.3	**3.7**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloroethane		**73.64**	53.4	149.4	**1.7**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**0.6**	30.0
1,1-Dichloroethene		**85.94**	69.6	139.4	**3.0**	30.0
Methylene Chloride		**94.76**	73.3	121.1	**2.9**	30.0
trans-1,2-Dichloroethene		**86.64**	73.6	129.3	**1.7**	30.0
1,1-Dichloroethane		**89.02**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**94.94**	76.6	122.1	**3.1**	30.0
Tetrahydrofuran		**89.64**	59.0	117.9	**6.7**	30.0
Chloroform		**94.22**	78.4	124.0	**1.8**	30.0
Bromochloromethane		**93.56**	78.2	120.8	**0.9**	30.0
1,1,1-Trichloroethane		**92.18**	79.4	130.9	**2.3**	30.0
Cyclohexane		**78.32**	10.0	169.1	**1.1**	30.0
4-Methyl-2-pentanone		**101.06**	71.6	125.2	**0.3**	30.0
2-Hexanone		**93.96**	55.4	136.9	**0.8**	30.0
2-Chloroethylvinyl ether	*	**2.16**	70.0	130.0	**185.7**	30.0
Carbon Tetrachloride		**95.98**	72.6	133.0	**2.4**	30.0
Benzene		**92.38**	79.9	124.9	**5.9**	30.0
1,2-Dichloroethane		**81.40**	76.0	126.3	**6.2**	30.0
Trichloroethene		**96.82**	79.7	124.2	**4.4**	30.0
1,2-Dichloropropane		**89.48**	78.6	126.4	**2.6**	30.0
Bromodichloromethane		**92.36**	80.4	128.2	**5.1**	30.0
Methyl cyclohexane		**82.38**	76.6	131.3	**4.3**	30.0
Dibromomethane		**102.62**	76.9	122.1	**3.0**	30.0
cis-1,3-Dichloropropene		**90.50**	79.8	129.9	**3.5**	30.0
Toluene		**94.98**	79.8	124.5	**4.2**	30.0
trans-1,3-Dichloropropene		**91.76**	74.0	131.3	**4.2**	30.0
1,1,2-Trichloroethane		**95.94**	78.7	123.1	**5.0**	30.0
Tetrachloroethene	*	**159.24**	74.5	124.5	**4.9**	30.0
trans-1,4-Dichloro-2-butene		**95.76**	68.6	135.4	**1.2**	30.0
Dibromochloromethane		**99.44**	74.6	127.2	**3.2**	30.0
1,2-Dibromoethane		**99.82**	70.3	133.7	**4.4**	30.0
Chlorobenzene		**96.14**	79.2	122.7	**2.1**	30.0
1,1,1,2-Tetrachloroethane		**96.80**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**99.16**	79.5	129.1	**3.8**	30.0
p,m-Xylene		**97.95**	79.4	132.2	**3.4**	30.0
o-Xylene	*	**79.80**	80.2	131.0	**4.5**	30.0
Styrene		**87.44**	69.5	126.7	**5.2**	30.0
Isopropylbenzene		**100.58**	74.4	121.5	**2.8**	30.0
Bromoform		**104.24**	69.4	128.0	**0.8**	30.0
1,1,2,2-Tetrachloroethane		**95.68**	79.8	126.3	**0.7**	30.0
1,2,3-Trichloropropane		**95.18**	78.3	138.8	**10.0**	30.0
n-Propylbenzene		**100.04**	82.0	130.7	**4.5**	30.0
Bromobenzene		**97.92**	78.7	124.6	**4.5**	30.0
1,3,5-Trimethylbenzene		**100.20**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**91.64**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**95.76**	81.4	130.8	**2.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
sec-Butylbenzene		**95.98**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene	*	**77.08**	79.8	137.5	**2.4**	30.0
1,3-Dichlorobenzene		**89.12**	77.0	131.3	**2.4**	30.0
1,4-Dichlorobenzene		**90.14**	20.7	137.7	**2.2**	30.0
1,2-Dichlorobenzene		**93.52**	10.0	166.2	**1.3**	30.0
1,2,3-Trimethylbenzene		**89.26**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**88.40**	80.0	133.3	**5.6**	30.0
Hexachloroethane		**89.70**	23.8	138.1	**3.1**	30.0
1,2-Dibromo-3-Chloropropane		**96.20**	21.2	189.4	**0.5**	30.0
1,2,4-Trichlorobenzene		**95.58**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**97.62**	75.4	131.4	**2.1**	30.0
Naphthalene		**100.32**	32.9	135.8	**0.1**	30.0
2-Methylnaphthalene		**109.72**	25.5	165.5	**0.9**	30.0
2-Chlorotoluene		**101.18**	70.0	130.0	**3.3**	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

89596

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Dr. Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.: 810-229-8837 P.O. NO.: B00644800-2015
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: Racer Lansing Plant-2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cosgrove

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC - 8260	Geo Chem + Select Metals	Geo Chem + Aluminum + Calcium + Sulfate
70167.01	12/8/15	14:45	MW-14-54_120815	GW	5	1	3	1					X	X	X
.02	12/8/15	15:15	FB00004_120815	L	3		3						X		

Special Instructions: Select Metals = As, Cr, Cu, Pb, Ni, V,
Geo Chem = Mg, Na, K, Ca

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Sampler / Arcadis	12-8-15	15:30
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12/9/15	1010
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-9-15	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12/9/15	1010

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70168.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70168.01-S70168.06
Project: RACER Lansing Plant-6 / B0064481.2015
Submitted Date/Time: 12/09/2015 10:20
Sampled by: Billy J. Cobern
P.O. #: B0064481.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-7)
Prep Batch Summary (Page 8)
Surrogates per Lab Sample (Pages 9-12)
Surrogates per QC Sample (Pages 13-15)
Batch QC Results (Pages 16-28)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70168.01
Sample Tag: MW-03-04_120815
Collected Date/Time: 12/08/2015 10:00
Matrix: Groundwater
COC Reference: 89595

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:10	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 05:10	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	12/11/15 15:33	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 05:10	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70168.02
Sample Tag: MW-03-04_120815 MS
Collected Date/Time: 12/08/2015 10:00
Matrix: Groundwater
COC Reference: 89595

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 00:03	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 00:03	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	12/11/15 19:46	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 00:03	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70168.03
Sample Tag: MW-03-04_120815 MSD
Collected Date/Time: 12/08/2015 10:00
Matrix: Groundwater
COC Reference: 89595

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 00:25	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 00:25	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	12/11/15 20:04	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 00:25	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70168.04
Sample Tag: MW-04-01(6)_120815
Collected Date/Time: 12/08/2015 11:05
Matrix: Groundwater
COC Reference: 89595

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:32	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 05:32	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	12/11/15 15:51	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 05:32	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70168.05
Sample Tag: Dup-10_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Groundwater
COC Reference: 89595

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:55	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 05:55	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,4-Dioxane	SW8260B - SIM	12/11/15 16:09	151211A3	VS151211W1	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 05:55	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

Lab Sample ID: S70168.06
Sample Tag: Trip Blank_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Groundwater
COC Reference: 89595

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:16	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
1,2-Dibromoethane	SW8260B	12/12/15 06:16	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS
TCL Volatile Organics 8260	SW8260C	12/12/15 06:16	151211B7	VF151211W3	Yes	LCS/BLK/MS/MSD/LCS

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151211W3

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70168.01	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:10	151211B7
S70168.01	1,2-Dibromoethane	SW8260B	12/12/15 05:10	151211B7
S70168.01	TCL Volatile Organics 8260	SW8260C	12/12/15 05:10	151211B7
S70168.02	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 00:03	151211B7
S70168.02	1,2-Dibromoethane	SW8260B	12/12/15 00:03	151211B7
S70168.02	TCL Volatile Organics 8260	SW8260C	12/12/15 00:03	151211B7
S70168.03	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 00:25	151211B7
S70168.03	1,2-Dibromoethane	SW8260B	12/12/15 00:25	151211B7
S70168.03	TCL Volatile Organics 8260	SW8260C	12/12/15 00:25	151211B7
S70168.04	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:32	151211B7
S70168.04	1,2-Dibromoethane	SW8260B	12/12/15 05:32	151211B7
S70168.04	TCL Volatile Organics 8260	SW8260C	12/12/15 05:32	151211B7
S70168.05	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 05:55	151211B7
S70168.05	1,2-Dibromoethane	SW8260B	12/12/15 05:55	151211B7
S70168.05	TCL Volatile Organics 8260	SW8260C	12/12/15 05:55	151211B7
S70168.06	1,2-Dibromo-3-chloropropane	SW8260C	12/12/15 06:16	151211B7
S70168.06	1,2-Dibromoethane	SW8260B	12/12/15 06:16	151211B7
S70168.06	TCL Volatile Organics 8260	SW8260C	12/12/15 06:16	151211B7

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70168.01	1,4-Dioxane	SW8260B - SIM	12/11/15 15:33	151211A3
S70168.02	1,4-Dioxane	SW8260B - SIM	12/11/15 19:46	151211A3
S70168.03	1,4-Dioxane	SW8260B - SIM	12/11/15 20:04	151211A3
S70168.04	1,4-Dioxane	SW8260B - SIM	12/11/15 15:51	151211A3
S70168.05	1,4-Dioxane	SW8260B - SIM	12/11/15 16:09	151211A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70168.01
Sample Tag: MW-03-04_120815
Collected Date/Time: 12/08/2015 10:00
Matrix: Groundwater
COC Reference: 89595

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 05:10, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.80**	83.0	119.0
1,2-Dichloroethane-D4		**106.40**	77.0	121.0
Toluene-D8		**94.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70168.04
Sample Tag: MW-04-01(6)_120815
Collected Date/Time: 12/08/2015 11:05
Matrix: Groundwater
COC Reference: 89595

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 05:32, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**87.40**	83.0	119.0
1,2-Dichloroethane-D4		**106.60**	77.0	121.0
Toluene-D8		**96.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70168.05
Sample Tag: Dup-10_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Groundwater
COC Reference: 89595

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 05:55, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.80**	83.0	119.0
1,2-Dichloroethane-D4		**109.20**	77.0	121.0
Toluene-D8		**100.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70168.06
Sample Tag: Trip Blank_120815
Collected Date/Time: 12/08/2015 00:01
Matrix: Groundwater
COC Reference: 89595

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151211B7, Run Date: 12/12/2015 06:16, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**92.40**	83.0	119.0
1,2-Dichloroethane-D4		**105.20**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151211W3

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**106.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.60**	83.0	119.0
1,2-Dichloroethane-D4		**107.00**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**112.00**	83.0	119.0
1,2-Dichloroethane-D4		**84.40**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**82.40**	77.0	121.0
Toluene-D8		**98.60**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**110.80**	83.0	119.0
1,2-Dichloroethane-D4		**87.20**	77.0	121.0
Toluene-D8		**99.20**	86.0	118.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**113.20**	83.0	119.0
1,2-Dichloroethane-D4		**83.20**	77.0	121.0
Toluene-D8		**101.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**104.00**	83.0	119.0
1,2-Dichloroethane-D4		**91.80**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151211W1

QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151211W3

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**74.92**	75.1	135.9
Diethyl ether		**85.68**	67.4	121.2
Acetone		**76.44**	29.9	161.5
Methyl iodide		**90.62**	68.8	116.4
Carbon disulfide		**83.28**	63.8	137.4
Methyl acetate		**76.94**	64.7	125.4
tert-Methyl butyl ether		**83.94**	73.2	122.4
Acrylonitrile		**89.62**	69.9	128.9
2-Butanone		**88.10**	44.0	134.4
Dichlorodifluoromethane		**85.04**	10.0	222.8
Chloromethane		**77.02**	23.8	166.5
Vinyl Chloride		**81.54**	43.5	149.1
Bromomethane		**72.34**	56.8	151.3
Chloroethane		**72.40**	53.4	149.4
Trichlorofluoromethane		**73.66**	59.7	151.8
1,1-Dichloroethene		**83.38**	69.6	139.4
Methylene Chloride		**92.06**	73.3	121.1
trans-1,2-Dichloroethene		**85.22**	73.6	129.3
1,1-Dichloroethane		**86.66**	71.5	126.2
cis-1,2-Dichloroethene		**92.04**	76.6	122.1
Tetrahydrofuran		**83.82**	59.0	117.9
Chloroform		**92.56**	78.4	124.0
Bromochloromethane		**92.70**	78.2	120.8
1,1,1-Trichloroethane		**90.08**	79.4	130.9
Cyclohexane		**77.50**	10.0	169.1
4-Methyl-2-pentanone		**100.78**	71.6	125.2
2-Hexanone		**94.76**	55.4	136.9
2-Chloroethylvinyl ether	*	**58.36**	70.0	130.0
Carbon Tetrachloride		**98.36**	72.6	133.0
Benzene		**98.02**	79.9	124.9
1,2-Dichloroethane		**86.58**	76.0	126.3
Trichloroethene		**101.20**	79.7	124.2
1,2-Dichloropropane		**91.82**	78.6	126.4
Bromodichloromethane		**97.20**	80.4	128.2
Methyl cyclohexane		**85.98**	76.6	131.3
Dibromomethane		**105.76**	76.9	122.1
cis-1,3-Dichloropropene		**93.72**	79.8	129.9
Toluene		**99.10**	79.8	124.5
trans-1,3-Dichloropropene		**95.68**	74.0	131.3
1,1,2-Trichloroethane		**100.84**	78.7	123.1
Tetrachloroethene	*	**167.20**	74.5	124.5
trans-1,4-Dichloro-2-butene		**96.96**	68.6	135.4
Dibromochloromethane		**102.66**	74.6	127.2
1,2-Dibromoethane		**104.30**	70.3	133.7
Chlorobenzene		**98.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.02**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:20, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**102.96**	79.5	129.1
p,m-Xylene		**101.33**	79.4	132.2
o-Xylene		**83.46**	80.2	131.0
Styrene		**92.12**	69.5	126.7
Isopropylbenzene		**103.48**	74.4	121.5
Bromoform		**103.44**	69.4	128.0
1,1,2,2-Tetrachloroethane		**96.36**	79.8	126.3
1,2,3-Trichloropropane		**105.22**	78.3	138.8
n-Propylbenzene		**104.68**	82.0	130.7
Bromobenzene		**102.40**	78.7	124.6
1,3,5-Trimethylbenzene		**102.86**	81.3	128.9
tert-Butylbenzene		**95.60**	80.7	128.9
1,2,4-Trimethylbenzene		**98.18**	81.4	130.8
sec-Butylbenzene		**97.62**	77.4	129.8
p-Isopropyltoluene	*	**78.98**	79.8	137.5
1,3-Dichlorobenzene		**91.30**	77.0	131.3
1,4-Dichlorobenzene		**92.18**	20.7	137.7
1,2-Dichlorobenzene		**94.72**	10.0	166.2
1,2,3-Trimethylbenzene		**91.56**	76.3	124.2
n-Butylbenzene		**93.50**	80.0	133.3
Hexachloroethane		**92.54**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**95.76**	21.2	189.4
1,2,4-Trichlorobenzene		**94.78**	27.4	143.4
1,2,3-Trichlorobenzene		**99.68**	75.4	131.4
Naphthalene		**100.46**	32.9	135.8
2-Methylnaphthalene		**108.74**	25.5	165.5
2-Chlorotoluene		**104.60**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151211b7.blkw11b

Run in Batch: 151211B7, Run Date: 12/12/2015 02:37, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**70.38**	75.1	135.9
Diethyl ether		**77.68**	67.4	121.2
Acetone	*	**16.14**	29.9	161.5
Methyl iodide		**82.92**	68.8	116.4
Carbon disulfide		**74.80**	63.8	137.4
Methyl acetate		**65.58**	64.7	125.4

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
tert-Methyl butyl ether		**78.10**	73.2	122.4
Acrylonitrile		**70.30**	69.9	128.9
2-Butanone		**51.32**	44.0	134.4
Dichlorodifluoromethane		**77.90**	10.0	222.8
Chloromethane		**70.62**	23.8	166.5
Vinyl Chloride		**73.38**	43.5	149.1
Bromomethane		**65.12**	56.8	151.3
Chloroethane		**65.84**	53.4	149.4
Trichlorofluoromethane	*	**57.82**	59.7	151.8
1,1-Dichloroethene		**77.16**	69.6	139.4
Methylene Chloride		**85.18**	73.3	121.1
trans-1,2-Dichloroethene		**77.28**	73.6	129.3
1,1-Dichloroethane		**80.30**	71.5	126.2
cis-1,2-Dichloroethene		**85.00**	76.6	122.1
Tetrahydrofuran		**75.30**	59.0	117.9
Chloroform		**83.54**	78.4	124.0
Bromochloromethane		**85.92**	78.2	120.8
1,1,1-Trichloroethane		**84.68**	79.4	130.9
Cyclohexane		**71.28**	10.0	169.1
4-Methyl-2-pentanone		**92.88**	71.6	125.2
2-Hexanone		**60.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.54**	70.0	130.0
Carbon Tetrachloride		**93.48**	72.6	133.0
Benzene		**90.04**	79.9	124.9
1,2-Dichloroethane		**79.76**	76.0	126.3
Trichloroethene		**91.12**	79.7	124.2
1,2-Dichloropropane		**87.24**	78.6	126.4
Bromodichloromethane		**91.40**	80.4	128.2
Methyl cyclohexane		**80.02**	76.6	131.3
Dibromomethane		**99.66**	76.9	122.1
cis-1,3-Dichloropropene		**87.88**	79.8	129.9
Toluene		**93.00**	79.8	124.5
trans-1,3-Dichloropropene		**90.40**	74.0	131.3
1,1,2-Trichloroethane		**93.72**	78.7	123.1
Tetrachloroethene		**84.30**	74.5	124.5
trans-1,4-Dichloro-2-butene		**95.22**	68.6	135.4
Dibromochloromethane		**101.04**	74.6	127.2
1,2-Dibromoethane		**102.14**	70.3	133.7
Chlorobenzene		**96.70**	79.2	122.7
1,1,1,2-Tetrachloroethane		**99.32**	80.3	128.2
Ethylbenzene		**100.84**	79.5	129.1
p,m-Xylene		**97.30**	79.4	132.2
o-Xylene		**82.14**	80.2	131.0
Styrene		**89.44**	69.5	126.7
Isopropylbenzene		**101.82**	74.4	121.5
Bromoform		**106.42**	69.4	128.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211B7, Run Date: 12/12/2015 00:03, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2,2-Tetrachloroethane		**103.50**	79.8	126.3
1,2,3-Trichloropropane		**96.48**	78.3	138.8
n-Propylbenzene		**101.58**	82.0	130.7
Bromobenzene		**97.30**	78.7	124.6
1,3,5-Trimethylbenzene		**100.04**	81.3	128.9
tert-Butylbenzene		**93.18**	80.7	128.9
1,2,4-Trimethylbenzene		**97.86**	81.4	130.8
sec-Butylbenzene		**94.24**	77.4	129.8
p-Isopropyltoluene	*	**75.80**	79.8	137.5
1,3-Dichlorobenzene		**86.96**	77.0	131.3
1,4-Dichlorobenzene		**88.20**	20.7	137.7
1,2-Dichlorobenzene		**91.32**	10.0	166.2
1,2,3-Trimethylbenzene		**88.52**	76.3	124.2
n-Butylbenzene		**88.22**	80.0	133.3
Hexachloroethane		**88.44**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**99.48**	21.2	189.4
1,2,4-Trichlorobenzene		**92.68**	27.4	143.4
1,2,3-Trichlorobenzene		**96.42**	75.4	131.4
Naphthalene		**96.66**	32.9	135.8
2-Methylnaphthalene		**105.38**	25.5	165.5
2-Chlorotoluene		**101.98**	70.0	130.0

Matrix Spike (MS)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**66.74**	75.1	135.9
Diethyl ether		**78.36**	67.4	121.2
Acetone		**35.50**	29.9	161.5
Methyl iodide		**84.72**	68.8	116.4
Carbon disulfide		**74.84**	63.8	137.4
Methyl acetate		**109.96**	64.7	125.4
tert-Methyl butyl ether		**79.98**	73.2	122.4
Acrylonitrile		**79.52**	69.9	128.9
2-Butanone		**48.70**	44.0	134.4
Dichlorodifluoromethane		**70.26**	10.0	222.8
Chloromethane		**73.20**	23.8	166.5
Vinyl Chloride		**73.18**	43.5	149.1
Bromomethane		**64.36**	56.8	151.3
Chloroethane		**64.82**	53.4	149.4
Acrolein	*	**-1.20**	70.0	130.0
Trichlorofluoromethane		**64.92**	59.7	151.8
1,1-Dichloroethene		**75.50**	69.6	139.4
Methylene Chloride		**85.02**	73.3	121.1
trans-1,2-Dichloroethene		**78.84**	73.6	129.3
1,1-Dichloroethane		**81.00**	71.5	126.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
cis-1,2-Dichloroethene		**87.56**	76.6	122.1
Tetrahydrofuran		**75.62**	59.0	117.9
Chloroform		**85.70**	78.4	124.0
Bromochloromethane		**86.76**	78.2	120.8
1,1,1-Trichloroethane		**84.68**	79.4	130.9
Cyclohexane		**67.14**	10.0	169.1
4-Methyl-2-pentanone		**98.40**	71.6	125.2
2-Hexanone		**64.60**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.72**	70.0	130.0
Carbon Tetrachloride		**91.72**	72.6	133.0
Benzene		**82.24**	79.9	124.9
1,2-Dichloroethane		**88.60**	76.0	126.3
Trichloroethene		**91.74**	79.7	124.2
1,2-Dichloropropane		**86.12**	78.6	126.4
Bromodichloromethane		**90.20**	80.4	128.2
Methyl cyclohexane	*	**74.44**	76.6	131.3
Dibromomethane		**98.02**	76.9	122.1
cis-1,3-Dichloropropene		**87.90**	79.8	129.9
Toluene		**93.54**	79.8	124.5
trans-1,3-Dichloropropene		**91.70**	74.0	131.3
1,1,2-Trichloroethane		**93.42**	78.7	123.1
Tetrachloroethene		**83.50**	74.5	124.5
trans-1,4-Dichloro-2-butene		**99.48**	68.6	135.4
Dibromochloromethane		**99.84**	74.6	127.2
1,2-Dibromoethane		**100.44**	70.3	133.7
Chlorobenzene		**95.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**101.84**	80.3	128.2
Ethylbenzene		**105.56**	79.5	129.1
p,m-Xylene		**103.68**	79.4	132.2
o-Xylene		**85.34**	80.2	131.0
Styrene		**89.50**	69.5	126.7
Isopropylbenzene		**105.74**	74.4	121.5
Bromoform		**105.10**	69.4	128.0
1,1,2,2-Tetrachloroethane		**106.62**	79.8	126.3
1,2,3-Trichloropropane		**98.66**	78.3	138.8
n-Propylbenzene		**100.74**	82.0	130.7
Bromobenzene		**98.28**	78.7	124.6
1,3,5-Trimethylbenzene		**96.30**	81.3	128.9
tert-Butylbenzene		**91.60**	80.7	128.9
1,2,4-Trimethylbenzene	*	**64.30**	81.4	130.8
sec-Butylbenzene		**93.60**	77.4	129.8
p-Isopropyltoluene	*	**79.28**	79.8	137.5
1,3-Dichlorobenzene		**87.06**	77.0	131.3
1,4-Dichlorobenzene		**87.90**	20.7	137.7
1,2-Dichlorobenzene		**93.48**	10.0	166.2
1,2,3-Trimethylbenzene		**91.20**	76.3	124.2

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151211b7.7016906m, Parent Sample ID: S70169.05

Run in Batch: 151211B7, Run Date: 12/12/2015 00:47, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
n-Butylbenzene		**89.92**	80.0	133.3
Hexachloroethane		**91.54**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**114.02**	21.2	189.4
1,2,4-Trichlorobenzene		**99.42**	27.4	143.4
1,2,3-Trichlorobenzene		**102.74**	75.4	131.4
Naphthalene		**104.12**	32.9	135.8
2-Methylnaphthalene		**134.18**	25.5	165.5
2-Chlorotoluene		**117.76**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**73.04**	75.1	135.9	**3.7**	30.0
Diethyl ether		**86.48**	67.4	121.2	**10.7**	30.0
Acetone	*	**30.46**	29.9	161.5	**61.5**	30.0
Methyl iodide		**90.32**	68.8	116.4	**8.5**	30.0
Carbon disulfide		**80.16**	63.8	137.4	**6.9**	30.0
Methyl acetate		**77.60**	64.7	125.4	**16.8**	30.0
tert-Methyl butyl ether		**85.10**	73.2	122.4	**8.6**	30.0
Acrylonitrile		**90.46**	69.9	128.9	**25.1**	30.0
2-Butanone		**57.26**	44.0	134.4	**10.9**	30.0
Dichlorodifluoromethane		**80.30**	10.0	222.8	**3.0**	30.0
Chloromethane		**74.74**	23.8	166.5	**5.7**	30.0
Vinyl Chloride		**77.04**	43.5	149.1	**4.9**	30.0
Bromomethane		**70.30**	56.8	151.3	**7.7**	30.0
Chloroethane		**70.14**	53.4	149.4	**6.3**	30.0
Trichlorofluoromethane		**67.24**	59.7	151.8	**15.1**	30.0
1,1-Dichloroethene		**82.12**	69.6	139.4	**6.2**	30.0
Methylene Chloride		**92.20**	73.3	121.1	**7.9**	30.0
trans-1,2-Dichloroethene		**83.28**	73.6	129.3	**7.5**	30.0
1,1-Dichloroethane		**85.66**	71.5	126.2	**6.5**	30.0
cis-1,2-Dichloroethene		**92.04**	76.6	122.1	**8.0**	30.0
Tetrahydrofuran		**85.56**	59.0	117.9	**12.8**	30.0
Chloroform		**91.22**	78.4	124.0	**8.8**	30.0
Bromochloromethane		**92.38**	78.2	120.8	**7.2**	30.0
1,1,1-Trichloroethane		**90.14**	79.4	130.9	**6.2**	30.0
Cyclohexane		**76.38**	10.0	169.1	**6.9**	30.0
4-Methyl-2-pentanone		**97.88**	71.6	125.2	**5.2**	30.0
2-Hexanone		**63.46**	55.4	136.9	**5.0**	30.0
2-Chloroethylvinyl ether	*	**2.42**	70.0	130.0	**4.8**	30.0
Carbon Tetrachloride		**95.24**	72.6	133.0	**1.9**	30.0
Benzene		**91.26**	79.9	124.9	**1.3**	30.0
1,2-Dichloroethane		**81.68**	76.0	126.3	**2.4**	30.0
Trichloroethene		**91.48**	79.7	124.2	**0.4**	30.0
1,2-Dichloropropane		**87.62**	78.6	126.4	**0.4**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 151211b7.7016803n, Parent Sample ID: 151211b7.7016802m

Run in Batch: 151211B7, Run Date: 12/12/2015 00:25, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Bromodichloromethane		**92.38**	80.4	128.2	**1.1**	30.0
Methyl cyclohexane		**79.44**	76.6	131.3	**0.7**	30.0
Dibromomethane		**102.52**	76.9	122.1	**2.8**	30.0
cis-1,3-Dichloropropene		**92.00**	79.8	129.9	**4.6**	30.0
Toluene		**94.10**	79.8	124.5	**1.2**	30.0
trans-1,3-Dichloropropene		**92.04**	74.0	131.3	**1.8**	30.0
1,1,2-Trichloroethane		**95.98**	78.7	123.1	**2.4**	30.0
Tetrachloroethene		**85.54**	74.5	124.5	**1.5**	30.0
trans-1,4-Dichloro-2-butene		**100.18**	68.6	135.4	**5.1**	30.0
Dibromochloromethane		**102.94**	74.6	127.2	**1.9**	30.0
1,2-Dibromoethane		**106.54**	70.3	133.7	**4.2**	30.0
Chlorobenzene		**97.88**	79.2	122.7	**1.2**	30.0
1,1,1,2-Tetrachloroethane		**98.60**	80.3	128.2	**0.7**	30.0
Ethylbenzene		**100.80**	79.5	129.1	**0.0**	30.0
p,m-Xylene		**100.62**	79.4	132.2	**3.4**	30.0
o-Xylene		**81.32**	80.2	131.0	**1.0**	30.0
Styrene		**89.70**	69.5	126.7	**0.3**	30.0
Isopropylbenzene		**100.90**	74.4	121.5	**0.9**	30.0
Bromoform		**110.46**	69.4	128.0	**3.7**	30.0
1,1,2,2-Tetrachloroethane		**103.40**	79.8	126.3	**0.1**	30.0
1,2,3-Trichloropropane		**102.42**	78.3	138.8	**6.0**	30.0
n-Propylbenzene		**102.92**	82.0	130.7	**1.3**	30.0
Bromobenzene		**103.40**	78.7	124.6	**6.1**	30.0
1,3,5-Trimethylbenzene		**101.04**	81.3	128.9	**1.0**	30.0
tert-Butylbenzene		**95.22**	80.7	128.9	**2.2**	30.0
1,2,4-Trimethylbenzene		**98.92**	81.4	130.8	**1.1**	30.0
sec-Butylbenzene		**94.26**	77.4	129.8	**0.0**	30.0
p-Isopropyltoluene	*	**74.90**	79.8	137.5	**1.2**	30.0
1,3-Dichlorobenzene		**87.02**	77.0	131.3	**0.1**	30.0
1,4-Dichlorobenzene		**88.22**	20.7	137.7	**0.0**	30.0
1,2-Dichlorobenzene		**92.82**	10.0	166.2	**1.6**	30.0
1,2,3-Trimethylbenzene		**88.42**	76.3	124.2	**0.1**	30.0
n-Butylbenzene		**88.70**	80.0	133.3	**0.5**	30.0
Hexachloroethane		**89.22**	23.8	138.1	**0.9**	30.0
1,2-Dibromo-3-Chloropropane		**97.10**	21.2	189.4	**2.4**	30.0
1,2,4-Trichlorobenzene		**94.60**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**96.24**	75.4	131.4	**0.2**	30.0
Naphthalene		**100.36**	32.9	135.8	**3.8**	30.0
2-Methylnaphthalene		**108.10**	25.5	165.5	**2.5**	30.0
2-Chlorotoluene		**102.30**	70.0	130.0	**0.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane	*	**70.90**	75.1	135.9	**6.0**	30.0
Diethyl ether		**82.00**	67.4	121.2	**4.5**	30.0
Acetone	*	**26.88**	29.9	161.5	**27.6**	30.0
Methyl iodide		**91.40**	68.8	116.4	**7.6**	30.0
Carbon disulfide		**79.40**	63.8	137.4	**5.9**	30.0
Methyl acetate	*	**131.54**	64.7	125.4	**17.9**	30.0
tert-Methyl butyl ether		**84.30**	73.2	122.4	**5.3**	30.0
Acrylonitrile		**81.32**	69.9	128.9	**2.2**	30.0
2-Butanone		**51.06**	44.0	134.4	**4.4**	30.0
Dichlorodifluoromethane		**76.26**	10.0	222.8	**8.2**	30.0
Chloromethane		**72.86**	23.8	166.5	**0.5**	30.0
Vinyl Chloride		**75.20**	43.5	149.1	**2.7**	30.0
Bromomethane		**65.62**	56.8	151.3	**1.9**	30.0
Chloroethane		**65.72**	53.4	149.4	**1.3**	30.0
Acrolein	*	**-1.18**	70.0	130.0	**0.5**	30.0
Trichlorofluoromethane		**67.98**	59.7	151.8	**4.6**	30.0
1,1-Dichloroethene		**79.54**	69.6	139.4	**5.2**	30.0
Methylene Chloride		**90.48**	73.3	121.1	**6.2**	30.0
trans-1,2-Dichloroethene		**79.68**	73.6	129.3	**1.1**	30.0
1,1-Dichloroethane		**83.22**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**91.20**	76.6	122.1	**4.1**	30.0
Tetrahydrofuran		**80.70**	59.0	117.9	**6.5**	30.0
Chloroform		**88.78**	78.4	124.0	**3.5**	30.0
Bromochloromethane		**90.12**	78.2	120.8	**3.8**	30.0
1,1,1-Trichloroethane		**87.54**	79.4	130.9	**3.3**	30.0
Cyclohexane		**69.54**	10.0	169.1	**2.9**	30.0
4-Methyl-2-pentanone		**97.76**	71.6	125.2	**0.7**	30.0
2-Hexanone		**61.90**	55.4	136.9	**3.8**	30.0
2-Chloroethylvinyl ether	*	**2.72**	70.0	130.0	**0.0**	30.0
Carbon Tetrachloride		**92.50**	72.6	133.0	**0.8**	30.0
Benzene		**81.16**	79.9	124.9	**0.3**	30.0
1,2-Dichloroethane		**89.68**	76.0	126.3	**1.2**	30.0
Trichloroethene		**92.66**	79.7	124.2	**1.0**	30.0
1,2-Dichloropropane		**85.88**	78.6	126.4	**0.3**	30.0
Bromodichloromethane		**91.36**	80.4	128.2	**1.3**	30.0
Methyl cyclohexane	*	**76.46**	76.6	131.3	**2.4**	30.0
Dibromomethane		**101.90**	76.9	122.1	**3.9**	30.0
cis-1,3-Dichloropropene		**89.26**	79.8	129.9	**1.5**	30.0
Toluene		**93.84**	79.8	124.5	**0.3**	30.0
trans-1,3-Dichloropropene		**91.56**	74.0	131.3	**0.2**	30.0
1,1,2-Trichloroethane		**93.50**	78.7	123.1	**0.1**	30.0
Tetrachloroethene		**84.00**	74.5	124.5	**0.6**	30.0
trans-1,4-Dichloro-2-butene		**94.96**	68.6	135.4	**4.6**	30.0
Dibromochloromethane		**98.54**	74.6	127.2	**1.3**	30.0
1,2-Dibromoethane		**103.66**	70.3	133.7	**3.2**	30.0
Chlorobenzene		**94.70**	79.2	122.7	**0.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: 151211b7.7016907n, Parent Sample ID: 151211b7.7016906m

Run in Batch: 151211B7, Run Date: 12/12/2015 01:09, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,1,2-Tetrachloroethane		**103.26**	80.3	128.2	**1.4**	30.0
Ethylbenzene		**107.52**	79.5	129.1	**0.7**	30.0
p,m-Xylene		**101.97**	79.4	132.2	**1.0**	30.0
o-Xylene		**84.06**	80.2	131.0	**1.2**	30.0
Styrene		**90.34**	69.5	126.7	**0.9**	30.0
Isopropylbenzene		**106.92**	74.4	121.5	**0.8**	30.0
Bromoform		**107.08**	69.4	128.0	**1.9**	30.0
1,1,2,2-Tetrachloroethane		**105.58**	79.8	126.3	**1.0**	30.0
1,2,3-Trichloropropane		**105.50**	78.3	138.8	**6.7**	30.0
n-Propylbenzene		**99.64**	82.0	130.7	**0.5**	30.0
Bromobenzene		**107.48**	78.7	124.6	**8.9**	30.0
1,3,5-Trimethylbenzene		**94.38**	81.3	128.9	**1.4**	30.0
tert-Butylbenzene		**80.76**	80.7	128.9	**12.6**	30.0
1,2,4-Trimethylbenzene	*	**59.44**	81.4	130.8	**1.9**	30.0
sec-Butylbenzene		**92.46**	77.4	129.8	**1.0**	30.0
p-Isopropyltoluene	*	**79.62**	79.8	137.5	**0.4**	30.0
1,3-Dichlorobenzene		**87.22**	77.0	131.3	**0.2**	30.0
1,4-Dichlorobenzene		**89.10**	20.7	137.7	**1.4**	30.0
1,2-Dichlorobenzene		**92.84**	10.0	166.2	**0.7**	30.0
1,2,3-Trimethylbenzene		**91.20**	76.3	124.2	**0.0**	30.0
n-Butylbenzene		**88.68**	80.0	133.3	**1.1**	30.0
Hexachloroethane		**90.94**	23.8	138.1	**0.7**	30.0
1,2-Dibromo-3-Chloropropane		**108.62**	21.2	189.4	**4.9**	30.0
1,2,4-Trichlorobenzene		**99.42**	27.4	143.4	**0.0**	30.0
1,2,3-Trichlorobenzene		**97.64**	75.4	131.4	**5.1**	30.0
Naphthalene		**79.58**	32.9	135.8	**6.0**	30.0
2-Methylnaphthalene		**109.00**	25.5	165.5	**11.3**	30.0
2-Chlorotoluene		**116.26**	70.0	130.0	**1.3**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**76.62**	75.1	135.9	**2.2**	30.0
Diethyl ether		**87.04**	67.4	121.2	**1.6**	30.0
Acetone		**101.12**	29.9	161.5	**27.8**	30.0
Methyl iodide		**92.14**	68.8	116.4	**1.7**	30.0
Carbon disulfide		**84.98**	63.8	137.4	**2.0**	30.0
Methyl acetate		**86.16**	64.7	125.4	**11.3**	30.0
tert-Methyl butyl ether		**85.42**	73.2	122.4	**1.7**	30.0
Acrylonitrile		**93.08**	69.9	128.9	**3.8**	30.0
2-Butanone		**91.94**	44.0	134.4	**4.3**	30.0
Dichlorodifluoromethane		**84.90**	10.0	222.8	**0.2**	30.0
Chloromethane		**78.62**	23.8	166.5	**2.1**	30.0
Vinyl Chloride		**82.14**	43.5	149.1	**0.7**	30.0
Bromomethane		**75.04**	56.8	151.3	**3.7**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Chloroethane		**73.64**	53.4	149.4	**1.7**	30.0
Trichlorofluoromethane		**74.08**	59.7	151.8	**0.6**	30.0
1,1-Dichloroethene		**85.94**	69.6	139.4	**3.0**	30.0
Methylene Chloride		**94.76**	73.3	121.1	**2.9**	30.0
trans-1,2-Dichloroethene		**86.64**	73.6	129.3	**1.7**	30.0
1,1-Dichloroethane		**89.02**	71.5	126.2	**2.7**	30.0
cis-1,2-Dichloroethene		**94.94**	76.6	122.1	**3.1**	30.0
Tetrahydrofuran		**89.64**	59.0	117.9	**6.7**	30.0
Chloroform		**94.22**	78.4	124.0	**1.8**	30.0
Bromochloromethane		**93.56**	78.2	120.8	**0.9**	30.0
1,1,1-Trichloroethane		**92.18**	79.4	130.9	**2.3**	30.0
Cyclohexane		**78.32**	10.0	169.1	**1.1**	30.0
4-Methyl-2-pentanone		**101.06**	71.6	125.2	**0.3**	30.0
2-Hexanone		**93.96**	55.4	136.9	**0.8**	30.0
2-Chloroethylvinyl ether	*	**2.16**	70.0	130.0	**185.7**	30.0
Carbon Tetrachloride		**95.98**	72.6	133.0	**2.4**	30.0
Benzene		**92.38**	79.9	124.9	**5.9**	30.0
1,2-Dichloroethane		**81.40**	76.0	126.3	**6.2**	30.0
Trichloroethene		**96.82**	79.7	124.2	**4.4**	30.0
1,2-Dichloropropane		**89.48**	78.6	126.4	**2.6**	30.0
Bromodichloromethane		**92.36**	80.4	128.2	**5.1**	30.0
Methyl cyclohexane		**82.38**	76.6	131.3	**4.3**	30.0
Dibromomethane		**102.62**	76.9	122.1	**3.0**	30.0
cis-1,3-Dichloropropene		**90.50**	79.8	129.9	**3.5**	30.0
Toluene		**94.98**	79.8	124.5	**4.2**	30.0
trans-1,3-Dichloropropene		**91.76**	74.0	131.3	**4.2**	30.0
1,1,2-Trichloroethane		**95.94**	78.7	123.1	**5.0**	30.0
Tetrachloroethene	*	**159.24**	74.5	124.5	**4.9**	30.0
trans-1,4-Dichloro-2-butene		**95.76**	68.6	135.4	**1.2**	30.0
Dibromochloromethane		**99.44**	74.6	127.2	**3.2**	30.0
1,2-Dibromoethane		**99.82**	70.3	133.7	**4.4**	30.0
Chlorobenzene		**96.14**	79.2	122.7	**2.1**	30.0
1,1,1,2-Tetrachloroethane		**96.80**	80.3	128.2	**2.3**	30.0
Ethylbenzene		**99.16**	79.5	129.1	**3.8**	30.0
p,m-Xylene		**97.95**	79.4	132.2	**3.4**	30.0
o-Xylene	*	**79.80**	80.2	131.0	**4.5**	30.0
Styrene		**87.44**	69.5	126.7	**5.2**	30.0
Isopropylbenzene		**100.58**	74.4	121.5	**2.8**	30.0
Bromoform		**104.24**	69.4	128.0	**0.8**	30.0
1,1,2,2-Tetrachloroethane		**95.68**	79.8	126.3	**0.7**	30.0
1,2,3-Trichloropropane		**95.18**	78.3	138.8	**10.0**	30.0
n-Propylbenzene		**100.04**	82.0	130.7	**4.5**	30.0
Bromobenzene		**97.92**	78.7	124.6	**4.5**	30.0
1,3,5-Trimethylbenzene		**100.20**	81.3	128.9	**2.6**	30.0
tert-Butylbenzene		**91.64**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**95.76**	81.4	130.8	**2.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151211W3 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151211b7.lcsw11d, Parent Sample ID: 151211b7.lcsw11c

Run in Batch: 151211B7, Run Date: 12/11/2015 23:42, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
sec-Butylbenzene		**95.98**	77.4	129.8	**1.7**	30.0
p-Isopropyltoluene	*	**77.08**	79.8	137.5	**2.4**	30.0
1,3-Dichlorobenzene		**89.12**	77.0	131.3	**2.4**	30.0
1,4-Dichlorobenzene		**90.14**	20.7	137.7	**2.2**	30.0
1,2-Dichlorobenzene		**93.52**	10.0	166.2	**1.3**	30.0
1,2,3-Trimethylbenzene		**89.26**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**88.40**	80.0	133.3	**5.6**	30.0
Hexachloroethane		**89.70**	23.8	138.1	**3.1**	30.0
1,2-Dibromo-3-Chloropropane		**96.20**	21.2	189.4	**0.5**	30.0
1,2,4-Trichlorobenzene		**95.58**	27.4	143.4	**0.8**	30.0
1,2,3-Trichlorobenzene		**97.62**	75.4	131.4	**2.1**	30.0
Naphthalene		**100.32**	32.9	135.8	**0.1**	30.0
2-Methylnaphthalene		**109.72**	25.5	165.5	**0.9**	30.0
2-Chlorotoluene		**101.18**	70.0	130.0	**3.3**	30.0

Organics - Volatiles, Prep Batch ID: VS151211W1

Surrogates: Yes, QC Types: LCS/BLK/MS/MSD/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:33, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.12**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151211a3.blkw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 13:45, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane		**ND**	1	ug/l

Matrix Spike (MS)

Lab Sample ID: 151211a3.7016802m, Parent Sample ID: S70168.01

Run in Batch: 151211A3, Run Date: 12/11/2015 19:46, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**111.36**	70.0	130.0

Matrix Spike Duplicate (MSD)

Lab Sample ID: 151211a3.7016803n, Parent Sample ID: 151211a3.7016802m

Run in Batch: 151211A3, Run Date: 12/11/2015 20:04, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**117.02**	70.0	130.0	**2.8**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151211a3.lcsw11b, Parent Sample ID: 151211a3.lcsw11a

Run in Batch: 151211A3, Run Date: 12/11/2015 12:51, Prep Date: 12/11/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**113.22**	70.0	130.0	**0.8**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

89595

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Dr. Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.: 810-229-8837 P.O. NO.: B00644812015
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Lansing Plant 6
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cogen

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB # (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC - 8260 1,4 Dioxane									Special Instructions
760108.01	12/8/15	10:00	MW-03-04_120815	GW	9	9							X									MS/MSD
.04	12/8/15	11:05	MW-04-0166)_120815	GW	3	3							X									
.05	12/8/15	—	Dup-10_120815	GW	3	3							X									
.06	—	—	Trip Blank_120815	GW	1	1							X									

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☒ Sampler	DATE	TIME
Arcadis		12-8-15	15:30
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		12-9-15	10
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-9-15	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
Karen Hoag	12/9/15	1020

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.6

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70215.01(01)
Generated on 01/07/2016

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70215.01-S70215.02
Project: RACER Lansing, Plant-2 / B0064480.2015
Submitted Date/Time: 12/10/2015 09:50
Sampled by: Billy J. Cobern
P.O. #: B0064480.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-3)
Prep Batch Summary (Pages 4-5)
Surrogates per Lab Sample (Pages 6-7)
Surrogates per QC Sample (Pages 8-11)
Batch QC Results (Pages 12-31)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

QC Report - Analysis Summary

Lab Sample ID: S70215.01
Sample Tag: TW-14-02_120915
Collected Date/Time: 12/09/2015 10:15
Matrix: Groundwater
COC Reference: 92784

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/16/15 13:15	ALK151216-W2	ALK151216-W2	No	BLK/LCS/MS/DUP
Bicarbonate	SM2320B	12/16/15 14:45	ALK151216-W1	ALK151216-W1	No	BLK/LCS/MS/DUP
Carbonate	SM2320B	12/16/15 14:50	ALK151216-W1	ALK151216-W1	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/11/15 12:12	CL151211-W5	CL151211-W5	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/11/15 10:42	SFT151211-W2	SFT151211-W2	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/18/15 14:21	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Calcium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:34	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:21	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:21	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:21	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Magnesium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:34	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:21	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Potassium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:34	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:34	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:21	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	12/18/15 02:42	H151217	SF151216W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	12/18/15 02:42	H151217C	SF151216W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 18:18	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 18:18	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 22:11	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 18:18	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70215.02
Sample Tag: Dup-04_120915
Collected Date/Time: 12/09/2015 00:01
Matrix: Groundwater
COC Reference: 92784

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/16/15 13:20	ALK151216-W2	ALK151216-W2	No	BLK/LCS/MS/DUP
Bicarbonate	SM2320B	12/16/15 14:50	ALK151216-W1	ALK151216-W1	No	BLK/LCS/MS/DUP
Carbonate	SM2320B	12/16/15 14:55	ALK151216-W1	ALK151216-W1	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/11/15 12:25	CL151211-W5	CL151211-W5	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/11/15 10:55	SFT151211-W2	SFT151211-W2	No	BLK/LCS/MS/MSD/DUP
Metals						
Arsenic, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/18/15 14:24	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Calcium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Calcium	SW6020A	12/17/15 13:37	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:24	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:24	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:24	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Magnesium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Magnesium	SW6020A	12/17/15 13:37	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:24	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Potassium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:37	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:37	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:24	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	12/18/15 03:09	H151217	SF151216W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	12/18/15 03:09	H151217C	SF151216W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 18:38	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 18:38	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 22:29	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 18:38	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151216-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Bicarbonate	SM2320B	12/16/15 14:45	ALK151216-W1
S70215.01	Carbonate	SM2320B	12/16/15 14:50	ALK151216-W1
S70215.02	Bicarbonate	SM2320B	12/16/15 14:50	ALK151216-W1
S70215.02	Carbonate	SM2320B	12/16/15 14:55	ALK151216-W1

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Alkalinity as CaCO3	SM2320B	12/16/15 13:15	ALK151216-W2
S70215.02	Alkalinity as CaCO3	SM2320B	12/16/15 13:20	ALK151216-W2

Inorganics, Prep Batch ID: CL151211-W5

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Chloride	E300.0	12/11/15 12:12	CL151211-W5
S70215.02	Chloride	E300.0	12/11/15 12:25	CL151211-W5

Inorganics, Prep Batch ID: SFT151211-W2

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Sulfate	E300.0	12/11/15 10:42	SFT151211-W2
S70215.02	Sulfate	E300.0	12/11/15 10:55	SFT151211-W2

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Calcium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B
S70215.01	Calcium	SW6020A	12/17/15 13:34	MT2-15-1217B
S70215.01	Magnesium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B
S70215.01	Magnesium	SW6020A	12/17/15 13:34	MT2-15-1217B
S70215.01	Potassium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B
S70215.01	Potassium	SW6020A	12/17/15 13:34	MT2-15-1217B
S70215.01	Sodium, Dissolved	SW6020A	12/17/15 13:36	MT2-15-1217B
S70215.01	Sodium	SW6020A	12/17/15 13:34	MT2-15-1217B
S70215.02	Calcium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B
S70215.02	Calcium	SW6020A	12/17/15 13:37	MT2-15-1217B
S70215.02	Magnesium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B
S70215.02	Magnesium	SW6020A	12/17/15 13:37	MT2-15-1217B
S70215.02	Potassium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B
S70215.02	Potassium	SW6020A	12/17/15 13:37	MT2-15-1217B
S70215.02	Sodium, Dissolved	SW6020A	12/17/15 13:38	MT2-15-1217B
S70215.02	Sodium	SW6020A	12/17/15 13:37	MT2-15-1217B

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Arsenic, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A
S70215.01	Arsenic	SW6020A	12/18/15 14:21	MT2-15-1218A
S70215.01	Chromium, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A
S70215.01	Chromium	SW6020A	12/18/15 14:21	MT2-15-1218A

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	Copper, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A
S70215.01	Copper	SW6020A	12/18/15 14:21	MT2-15-1218A
S70215.01	Lead, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A
S70215.01	Lead	SW6020A	12/18/15 14:21	MT2-15-1218A
S70215.01	Nickel, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A
S70215.01	Nickel	SW6020A	12/18/15 14:21	MT2-15-1218A
S70215.01	Vanadium, Dissolved	SW6020A	12/18/15 14:22	MT2-15-1218A
S70215.01	Vanadium	SW6020A	12/18/15 14:21	MT2-15-1218A
S70215.02	Arsenic, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A
S70215.02	Arsenic	SW6020A	12/18/15 14:24	MT2-15-1218A
S70215.02	Chromium, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A
S70215.02	Chromium	SW6020A	12/18/15 14:24	MT2-15-1218A
S70215.02	Copper, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A
S70215.02	Copper	SW6020A	12/18/15 14:24	MT2-15-1218A
S70215.02	Lead, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A
S70215.02	Lead	SW6020A	12/18/15 14:24	MT2-15-1218A
S70215.02	Nickel, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A
S70215.02	Nickel	SW6020A	12/18/15 14:24	MT2-15-1218A
S70215.02	Vanadium, Dissolved	SW6020A	12/18/15 14:26	MT2-15-1218A
S70215.02	Vanadium	SW6020A	12/18/15 14:24	MT2-15-1218A

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	TCL Semi-Volatile Organics	SW8270D	12/18/15 02:42	H151217
S70215.01	TCL Semi-Volatile Organics	SW8270D	12/18/15 02:42	H151217C
S70215.02	TCL Semi-Volatile Organics	SW8270D	12/18/15 03:09	H151217
S70215.02	TCL Semi-Volatile Organics	SW8270D	12/18/15 03:09	H151217C

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 18:18	151216A6
S70215.01	1,2-Dibromoethane	SW8260B	12/16/15 18:18	151216A6
S70215.01	TCL Volatile Organics 8260	SW8260C	12/16/15 18:18	151216A6
S70215.02	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 18:38	151216A6
S70215.02	1,2-Dibromoethane	SW8260B	12/16/15 18:38	151216A6
S70215.02	TCL Volatile Organics 8260	SW8260C	12/16/15 18:38	151216A6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70215.01	1,4-Dioxane	SW8260B - SIM	12/16/15 22:11	151216A3
S70215.02	1,4-Dioxane	SW8260B - SIM	12/16/15 22:29	151216A3

Lab Sample ID: S70215.01
Sample Tag: TW-14-02_120915
Collected Date/Time: 12/09/2015 10:15
Matrix: Groundwater
COC Reference: 92784

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H151217, Run Date: 12/18/2015 02:42, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**38.90**	10.0	110.0
2-Fluorobiphenyl		**88.10**	10.0	116.0
Nitrobenzene-D5		**82.50**	10.0	114.0
Phenol-D5		**25.00**	10.0	110.0
2,4,6-Tribromophenol		**94.90**	10.0	123.0
Terphenyl-D14		**98.40**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 18:18, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.00**	83.0	119.0
1,2-Dichloroethane-D4		**101.00**	77.0	121.0
Toluene-D8		**100.40**	86.0	118.0

Lab Sample ID: S70215.02

Sample Tag: Dup-04_120915

Collected Date/Time: 12/09/2015 00:01

Matrix: Groundwater

COC Reference: 92784

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics

Run in Batch: H151217, Run Date: 12/18/2015 03:09, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**44.70**	10.0	110.0
2-Fluorobiphenyl		**81.30**	10.0	116.0
Nitrobenzene-D5		**70.30**	10.0	114.0
Phenol-D5		**34.70**	10.0	110.0
2,4,6-Tribromophenol		**92.10**	10.0	123.0
Terphenyl-D14		**79.80**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Run in Batch: 151216A6, Run Date: 12/16/2015 18:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.00**	77.0	121.0
Toluene-D8		**100.80**	86.0	118.0

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h151217.lcsw17a

Run in Batch: H151217, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**76.20**	10.0	110.0
2-Fluorobiphenyl		**79.50**	10.0	116.0
Nitrobenzene-D5		**76.20**	10.0	114.0
Phenol-D5		**79.20**	10.0	110.0
2,4,6-Tribromophenol		**87.60**	10.0	123.0
Terphenyl-D14		**86.90**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h151217b.lcsw17a

Run in Batch: H151217B, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample (LCS)

Lab Sample ID: h151217c.lcsw17a

Run in Batch: H151217C, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h151217.blkw17a

Run in Batch: H151217, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**61.40**	10.0	110.0
2-Fluorobiphenyl		**64.60**	10.0	116.0
Nitrobenzene-D5		**62.80**	10.0	114.0
Phenol-D5		**63.30**	10.0	110.0
2,4,6-Tribromophenol		**65.60**	10.0	123.0
Terphenyl-D14		**72.40**	10.0	141.0

Blank (BLK)

Lab Sample ID: h151217b.blkw17a

Run in Batch: H151217B, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Blank (BLK)

Lab Sample ID: h151217c.blkw17a

Run in Batch: H151217C, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151217.lcsdw17a, Parent Sample ID: h151217.lcsw17a

Run in Batch: H151217, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**67.40**	10.0	110.0
2-Fluorobiphenyl		**72.30**	10.0	116.0
Nitrobenzene-D5		**67.20**	10.0	114.0
Phenol-D5		**70.10**	10.0	110.0
2,4,6-Tribromophenol		**80.10**	10.0	123.0
Terphenyl-D14		**79.40**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151217b.lcsdw17a, Parent Sample ID: h151217b.lcsw17a

Run in Batch: H151217B, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151217c.lcsdw17a, Parent Sample ID: h151217c.lcsw17a

Run in Batch: H151217C, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.80**	83.0	119.0
1,2-Dichloroethane-D4		**92.80**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**98.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: ALK151216-W1

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151216-W1.LRB1

Run in Batch: ALK151216-W1, Run Date: 12/16/2015 13:00, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Carbonate/Bicarbonate/Alkalinity as CaCO3		**ND**	10	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151216-W1.LCS1

Run in Batch: ALK151216-W1, Run Date: 12/16/2015 13:10, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**102**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151216-W1.MS1, Parent Sample ID: S69907.02

Run in Batch: ALK151216-W1, Run Date: 12/16/2015 13:30, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**105**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151216-W1.DP1, Parent Sample ID: S69907.01

Run in Batch: ALK151216-W1, Run Date: 12/16/2015 13:20, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**RPD**	RPD CL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**1**	15

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151216-W2.LRB1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:30, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Carbonate/Bicarbonate/Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151216-W2.LCS1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:45, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**104**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151216-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 13:05, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**104**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151216-W2.DP1, Parent Sample ID: S70131.02

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:55, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**RPD**	RPD CL
Carbonate/Bicarbonate/Alkalinity as CaCO3		**2**	15

Inorganics, Prep Batch ID: CL151211-W5

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151211-W5.LRB1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 09:38, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151211-W5.LCS1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 10:03, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**102**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151211-W5.MS1, Parent Sample ID: S70131.03

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:46, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**113**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151211-W5.MSD1, Parent Sample ID: CL151211-W5.MS1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:59, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**113**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151211-W5.DP1, Parent Sample ID: S70131.03

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:33, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Chloride		**2**	15

Inorganics, Prep Batch ID: SFT151211-W2

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151211-W2.LRB1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 09:38, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151211-W2.LCS1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 10:03, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**103**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151211-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:46, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151211-W2.MSD1, Parent Sample ID: SFT151211-W2.MS1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:59, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT151211-W2.DP1, Parent Sample ID: S70131.03

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:33, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Sulfate		**2**	15

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Sodium		**109**	85	115
Magnesium		**104**	85	115
Potassium		**103**	85	115
Calcium		**105**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Sodium		**ND**	0.05	mg/L
Magnesium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Calcium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Sodium		**106**	75	125
Magnesium		**109**	75	125
Potassium		**102**	75	125
Calcium		**100**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Sodium		**100**	75	125
Magnesium		**103**	75	125
Potassium		**100**	75	125
Calcium		**99**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Sodium		**105**	75	125	**0**	20
Magnesium		**105**	75	125	**1**	20
Potassium		**102**	75	125	**0**	20
Calcium		**115**	75	125	**2**	20

Metals, Prep Batch ID: MTD-121715-8 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sodium		**101**	75	125	**0**	20
Magnesium		**101**	75	125	**2**	20
Potassium		**98**	75	125	**1**	20
Calcium		**98**	75	125	**1**	20

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**100**	85	115
Chromium		**99**	85	115
Nickel		**101**	85	115
Copper		**104**	85	115
Arsenic		**103**	85	115
Lead		**98**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**100**	75	125
Nickel		**91**	75	125
Copper		**91**	75	125
Arsenic		**96**	75	125
Lead		**89**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**99**	75	125
Nickel		**88**	75	125
Copper		**87**	75	125
Arsenic		**92**	75	125
Lead		**92**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**102**	75	125	**1**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Nickel		**88**	75	125	**3**	20
Copper		**88**	75	125	**4**	20
Arsenic		**94**	75	125	**2**	20
Lead		**90**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**103**	75	125	**4**	20
Nickel		**94**	75	125	**5**	20
Copper		**88**	75	125	**1**	20
Arsenic		**92**	75	125	**0**	20
Lead		**91**	75	125	**0**	20

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h151217.lcsw17a

Run in Batch: H151217, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**63.36**	10.0	130.4
2-Chlorophenol		**67.76**	35.5	114.1
Bis(2-chloroethyl)ether		**64.08**	43.4	101.8
Bis(2-chloroisopropyl)ether		**59.26**	33.2	105.8
Hexachloroethane		**64.20**	23.8	138.1
N-Nitrosodi-n-propylamine		**70.00**	35.8	109.3
Nitrobenzene		**81.64**	41.7	110.1
Isophorone		**83.62**	44.9	107.5
2-Nitrophenol		**68.86**	54.4	109.5
2,4-Dimethylphenol		**68.68**	43.4	114.9
Bis(2-chloroethoxy)methane		**67.46**	48.3	105.4
2,4-Dichlorophenol		**70.58**	57.7	115.6
Naphthalene		**66.82**	32.9	135.8
4-Chloroaniline		**51.16**	33.4	89.4
Hexachlorobutadiene		**66.02**	30.2	119.4
4-Chloro-3-methylphenol		**70.34**	39.0	123.2
2-Methylnaphthalene		**66.82**	25.5	165.5
Hexachlorocyclopentadiene		**74.32**	10.0	271.8
2,4,6-Trichlorophenol		**69.44**	47.8	117.4
2,4,5-Trichlorophenol		**70.46**	48.9	118.8
2-Chloronaphthalene		**69.82**	50.3	108.3
2-Nitroaniline		**69.98**	53.4	119.9
Acenaphthylene		**75.66**	16.9	140.7
Dimethyl Phthalate		**70.28**	49.3	118.4
2,6-Dinitrotoluene		**72.56**	48.0	119.1
3-Nitroaniline		**69.60**	42.1	109.0
Acenaphthene		**69.22**	34.8	124.7
2,4-Dinitrophenol		**62.94**	10.0	171.2
Dibenzofuran		**67.78**	52.1	111.9
4-Nitrophenol		**65.08**	15.4	122.0
2,4-Dinitrotoluene		**70.64**	35.8	126.7
Fluorene		**73.18**	37.1	110.3
Diethyl phthalate		**71.60**	48.1	118.0
4-Chlorophenyl phenyl ether		**74.36**	52.2	116.5
4-Nitroaniline		**87.02**	45.8	119.7
4,6-Dinitro-2-methylphenol		**63.74**	18.7	149.0
N-Nitrosodiphenylamine		**88.62**	10.0	104.2
4-Bromophenyl phenyl ether		**71.40**	44.5	116.9
Hexachlorobenzene		**71.96**	45.2	118.5
Pentachlorophenol		**62.82**	10.3	139.1
Phenanthrene		**69.32**	31.8	123.3
Anthracene		**69.34**	38.1	115.5
di-N-butyl phthalate		**65.00**	48.1	121.8
Fluoranthene		**72.82**	43.0	127.9
Pyrene		**74.20**	37.8	131.4
Butyl benzyl phthalate		**68.58**	47.4	121.6

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h151217.lcsw17a

Run in Batch: H151217, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzo(a)anthracene		**70.32**	40.7	115.5
3,3'-Dichlorobenzidine		**95.40**	37.0	97.2
Chrysene		**70.52**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**68.20**	45.2	126.2
Di-n-octyl phthalate		**74.78**	45.7	123.1
Benzo(b)fluoranthene		**68.68**	43.3	119.4
Benzo(k)fluoranthene		**73.22**	41.2	116.9
Benzo(a)pyrene		**76.26**	51.2	133.4
Indeno(1,2,3-cd)pyrene		**77.80**	41.5	116.9
Dibenzo(ah)anthracene		**79.04**	33.8	132.4
Benzo(ghi)perylene		**76.98**	36.7	122.1
1-methylnaphthalene		**79.38**	10.0	133.6
1,4-Dichlorobenzene		**64.54**	20.7	137.7
1,2-Dichlorobenzene		**65.02**	9.6	166.2
o-Cresol		**68.30**	39.1	109.4
3,4-methylphenol		**65.38**	36.4	115.4
1,3-Dichlorobenzene		**64.62**	36.8	105.8
1,2-Diphenylhydrazine		**70.84**	40.2	136.4
1,2,4-Trichlorobenzene		**67.68**	32.2	118.4
1,2,4,5-Tetrachlorobenzene		**77.76**	70.0	130.0
2,3,4,6-Tetrachlorophenol		**72.82**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h151217b.lcsw17a

Run in Batch: H151217B, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzoic acid	*	**48.30**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h151217c.lcsw17a

Run in Batch: H151217C, Run Date: 12/18/2015 00:27, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde		**54.30**	35.6	137.2
Acetophenone		**70.72**	48.3	105.9
Caprolactam		**74.06**	10.0	113.1
1,1'-Biphenyl		**70.80**	49.7	110.7
Atrazine		**69.92**	52.5	143.1
Carbazole		**67.26**	44.3	128.8

Blank (BLK)

Lab Sample ID: h151217.blkw17a

Run in Batch: H151217, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
N-Nitrosodimethylamine		**ND**	0.5	ug/l
Phenol **		**ND**	0.5	ug/l
2-Chlorophenol **		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h151217.blkw17a

Run in Batch: H151217, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Bis(2-chloroethyl)ether		**ND**	0.5	ug/l
1,3-Dichlorobenzene		**ND**	0.5	ug/l
1,4-Dichlorobenzene **		**ND**	0.5	ug/l
1,2-Dichlorobenzene		**ND**	0.5	ug/l
Bis(2-chloroisopropyl)ether		**ND**	0.5	ug/l
Benzyl Alcohol		**ND**	0.5	ug/l
o-Cresol		**ND**	0.5	ug/l
3,4-methylphenol		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
N-Nitroso-n-dipropylamine		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
Bis(2-chloroethoxy)methane		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
1,2,4-Trichlorobenzene **		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
2,6-Dichlorophenol		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
4-Chloro-3-methylphenol **		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
1-Methylnaphthalene		**ND**	0.5	ug/l
1,2,4,5-Tetrachlorobenzene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Dimethyl Phthalate		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
Acenaphthene **		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
4-Nitrophenol **		**ND**	0.5	ug/l
2,4-Dinitrotoluene **		**ND**	0.5	ug/l
2,3,4,6-Tetrachlorophenol		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h151217.blkw17a

Run in Batch: H151217, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Diphenylhydrazine		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l
Pentachlorophenol **		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l
di-N-butyl phthalate	*	**0.2**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Benzidine		**ND**	0.5	ug/l
Pyrene **		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
Bis(2-ethylhexyl)phthalate	*	**0.5**	0.5	ug/l
Di-n-octyl phthalate		**ND**	0.5	ug/l
Di-n-octyl phthalate - Low Lev		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Benzo(ghi)perylene		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: h151217b.blkw17a

Run in Batch: H151217B, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzoic Acid		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: h151217c.blkw17a

Run in Batch: H151217C, Run Date: 12/17/2015 23:32, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Atrazine		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151217.lcsdw17a, Parent Sample ID: h151217.lcsw17a

Run in Batch: H151217, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**60.76**	10.0	130.4	**4.2**	30.0
2-Chlorophenol		**64.36**	35.5	114.1	**5.1**	30.0
Bis(2-chloroethyl)ether		**59.92**	43.4	101.8	**6.7**	30.0
Bis(2-chloroisopropyl)ether		**54.36**	33.2	105.8	**8.6**	30.0
Hexachloroethane		**60.00**	23.8	138.1	**6.8**	30.0
N-Nitrosodi-n-propylamine		**66.02**	35.8	109.3	**5.9**	30.0
Nitrobenzene		**77.60**	41.7	110.1	**5.1**	30.0
Isophorone		**78.90**	44.9	107.5	**5.8**	30.0
2-Nitrophenol		**65.04**	54.4	109.5	**5.7**	30.0
2,4-Dimethylphenol		**65.18**	43.4	114.9	**5.2**	30.0
Bis(2-chloroethoxy)methane		**63.58**	48.3	105.4	**5.9**	30.0
2,4-Dichlorophenol		**67.62**	57.7	115.6	**4.3**	30.0
Naphthalene		**63.86**	32.9	135.8	**4.5**	30.0
4-Chloroaniline		**50.12**	33.4	89.4	**2.1**	30.0
Hexachlorobutadiene		**62.80**	30.2	119.4	**5.0**	30.0
4-Chloro-3-methylphenol		**67.52**	39.0	123.2	**4.1**	30.0
2-Methylnaphthalene		**64.16**	25.5	165.5	**4.1**	30.0
Hexachlorocyclopentadiene		**71.28**	10.0	271.8	**4.2**	30.0
2,4,6-Trichlorophenol		**67.56**	47.8	117.4	**2.7**	30.0
2,4,5-Trichlorophenol		**68.84**	48.9	118.8	**2.3**	30.0
2-Chloronaphthalene		**68.82**	50.3	108.3	**1.4**	30.0
2-Nitroaniline		**67.60**	53.4	119.9	**3.5**	30.0
Acenaphthylene		**73.78**	16.9	140.7	**2.5**	30.0
Dimethyl Phthalate		**68.60**	49.3	118.4	**2.4**	30.0
2,6-Dinitrotoluene		**70.66**	48.0	119.1	**2.7**	30.0
3-Nitroaniline		**67.84**	42.1	109.0	**2.6**	30.0
Acenaphthene		**67.28**	34.8	124.7	**2.8**	30.0
2,4-Dinitrophenol		**50.74**	10.0	171.2	**21.5**	30.0
Dibenzofuran		**65.88**	52.1	111.9	**2.8**	30.0
4-Nitrophenol		**62.42**	15.4	122.0	**4.2**	30.0
2,4-Dinitrotoluene		**68.60**	35.8	126.7	**2.9**	30.0
Fluorene		**71.12**	37.1	110.3	**2.9**	30.0
Diethyl phthalate		**70.02**	48.1	118.0	**2.2**	30.0
4-Chlorophenyl phenyl ether		**72.60**	52.2	116.5	**2.4**	30.0
4-Nitroaniline		**84.54**	45.8	119.7	**2.9**	30.0
4,6-Dinitro-2-methylphenol		**62.58**	18.7	149.0	**1.8**	30.0
N-Nitrosodiphenylamine		**87.44**	10.0	104.2	**1.3**	30.0
4-Bromophenyl phenyl ether		**69.90**	44.5	116.9	**2.1**	30.0
Hexachlorobenzene		**70.22**	45.2	118.5	**2.4**	30.0
Pentachlorophenol		**59.36**	10.3	139.1	**5.7**	30.0
Phenanthrene		**66.40**	31.8	123.3	**4.3**	30.0
Anthracene		**66.58**	38.1	115.5	**4.1**	30.0
di-N-butyl phthalate		**62.56**	48.1	121.8	**3.8**	30.0
Fluoranthene		**70.54**	43.0	127.9	**3.2**	30.0
Pyrene		**69.52**	37.8	131.4	**6.5**	30.0
Butyl benzyl phthalate		**64.62**	47.4	121.6	**5.9**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF151216W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h151217.lcsdw17a, Parent Sample ID: h151217.lcsw17a

Run in Batch: H151217, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzo(a)anthracene		**67.88**	40.7	115.5	**3.5**	30.0
3,3'-Dichlorobenzidine		**92.28**	37.0	97.2	**3.3**	30.0
Chrysene		**68.00**	28.9	136.7	**3.6**	30.0
Bis(2-ethylhexyl)phthalate		**65.44**	45.2	126.2	**4.1**	30.0
Di-n-octyl phthalate		**72.30**	45.7	123.1	**3.4**	30.0
Benzo(b)fluoranthene		**73.16**	43.3	119.4	**6.3**	30.0
Benzo(k)fluoranthene		**65.72**	41.2	116.9	**10.8**	30.0
Benzo(a)pyrene		**74.88**	51.2	133.4	**1.8**	30.0
Indeno(1,2,3-cd)pyrene		**75.42**	41.5	116.9	**3.1**	30.0
Dibenzo(ah)anthracene		**76.70**	33.8	132.4	**3.0**	30.0
Benzo(ghi)perylene		**74.30**	36.7	122.1	**3.5**	30.0
1-methylnaphthalene		**75.00**	10.0	133.6	**5.7**	30.0
1,4-Dichlorobenzene		**60.16**	20.7	137.7	**7.0**	30.0
1,2-Dichlorobenzene		**60.94**	9.6	166.2	**6.5**	30.0
o-Cresol		**65.22**	39.1	109.4	**4.6**	30.0
3,4-methylphenol		**63.21**	36.4	115.4	**3.4**	30.0
1,3-Dichlorobenzene		**60.06**	36.8	105.8	**7.3**	30.0
1,2-Diphenylhydrazine		**69.42**	40.2	136.4	**2.0**	30.0
1,2,4-Trichlorobenzene		**64.40**	32.2	118.4	**5.0**	30.0
1,2,4,5-Tetrachlorobenzene		**76.34**	70.0	130.0	**1.8**	30.0
2,3,4,6-Tetrachlorophenol		**70.78**	70.0	130.0	**2.8**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151217b.lcsdw17a, Parent Sample ID: h151217b.lcsw17a

Run in Batch: H151217B, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzoic acid	*	**30.92**	70.0	130.0	**43.9**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h151217c.lcsdw17a, Parent Sample ID: h151217c.lcsw17a

Run in Batch: H151217C, Run Date: 12/18/2015 00:54, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzaldehyde		**50.72**	35.6	137.2	**6.8**	30.0
Acetophenone		**67.32**	48.3	105.9	**4.9**	30.0
Caprolactam		**70.66**	10.0	113.1	**4.7**	30.0
1,1'-Biphenyl		**69.00**	49.7	110.7	**2.6**	30.0
Atrazine		**68.28**	52.5	143.1	**2.4**	30.0
Carbazole		**66.36**	44.3	128.8	**1.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**97.58**	75.1	135.9
Diethyl ether		**104.28**	67.4	121.2
Acetone	*	**255.70**	29.9	161.5
Methyl iodide		**113.40**	68.8	116.4
Carbon disulfide		**98.84**	63.8	137.4
Methyl acetate		**111.64**	64.7	125.4
tert-Methyl butyl ether		**100.06**	73.2	122.4
Acrylonitrile		**121.72**	69.9	128.9
2-Butanone	*	**163.36**	44.0	134.4
Dichlorodifluoromethane		**116.78**	10.0	222.8
Chloromethane		**94.16**	23.8	166.5
Vinyl Chloride		**98.54**	43.5	149.1
Bromomethane		**101.02**	56.8	151.3
Chloroethane		**93.38**	53.4	149.4
Trichlorofluoromethane		**118.60**	59.7	151.8
1,1-Dichloroethene		**113.54**	69.6	139.4
Methylene Chloride		**116.54**	73.3	121.1
trans-1,2-Dichloroethene		**111.40**	73.6	129.3
1,1-Dichloroethane		**108.94**	71.5	126.2
cis-1,2-Dichloroethene		**112.28**	76.6	122.1
Tetrahydrofuran		**114.00**	59.0	117.9
Chloroform		**112.18**	78.4	124.0
Bromochloromethane	*	**121.40**	78.2	120.8
1,1,1-Trichloroethane		**108.92**	79.4	130.9
Cyclohexane		**79.04**	10.0	169.1
4-Methyl-2-pentanone	*	**126.16**	71.6	125.2
2-Hexanone	*	**150.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.46**	70.0	130.0
Carbon Tetrachloride		**121.50**	72.6	133.0
Benzene		**115.00**	79.9	124.9
1,2-Dichloroethane		**117.46**	76.0	126.3
Trichloroethene		**117.56**	79.7	124.2
1,2-Dichloropropane		**115.40**	78.6	126.4
Bromodichloromethane		**116.90**	80.4	128.2
Methyl cyclohexane		**104.36**	76.6	131.3
Dibromomethane	*	**135.28**	76.9	122.1
cis-1,3-Dichloropropene		**121.88**	79.8	129.9
Toluene		**116.98**	79.8	124.5
trans-1,3-Dichloropropene		**110.06**	74.0	131.3
1,1,2-Trichloroethane	*	**127.16**	78.7	123.1
Tetrachloroethene		**122.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**113.20**	68.6	135.4
Dibromochloromethane		**126.56**	74.6	127.2
1,2-Dibromoethane		**129.76**	70.3	133.7
Chlorobenzene		**119.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**120.44**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**116.08**	79.5	129.1
p,m-Xylene		**118.15**	79.4	132.2
o-Xylene		**115.22**	80.2	131.0
Styrene		**117.98**	69.5	126.7
Isopropylbenzene		**115.06**	74.4	121.5
Bromoform		**112.36**	69.4	128.0
1,1,2,2-Tetrachloroethane	*	**130.80**	79.8	126.3
1,2,3-Trichloropropane		**131.78**	78.3	138.8
n-Propylbenzene		**116.44**	82.0	130.7
Bromobenzene		**124.44**	78.7	124.6
1,3,5-Trimethylbenzene		**117.40**	81.3	128.9
tert-Butylbenzene		**114.96**	80.7	128.9
1,2,4-Trimethylbenzene		**119.46**	81.4	130.8
sec-Butylbenzene		**108.12**	77.4	129.8
p-Isopropyltoluene		**110.64**	79.8	137.5
1,3-Dichlorobenzene		**112.84**	77.0	131.3
1,4-Dichlorobenzene		**113.06**	20.7	137.7
1,2-Dichlorobenzene		**112.84**	10.0	166.2
1,2,3-Trimethylbenzene		**103.26**	76.3	124.2
n-Butylbenzene		**108.12**	80.0	133.3
Hexachloroethane		**91.52**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**113.40**	21.2	189.4
1,2,4-Trichlorobenzene		**114.86**	27.4	143.4
1,2,3-Trichlorobenzene		**119.98**	75.4	131.4
Naphthalene		**120.74**	32.9	135.8
2-Methylnaphthalene		**129.56**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Trichlorofluoromethane		ND	1	ug/l
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	1	ug/l
2-Hexanone (*)		ND	1	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.62**	75.1	135.9	**4.1**	30.0
Diethyl ether		**99.24**	67.4	121.2	**5.0**	30.0
Acetone	*	**251.46**	29.9	161.5	**1.7**	30.0
Methyl iodide		**109.22**	68.8	116.4	**3.8**	30.0
Carbon disulfide		**95.20**	63.8	137.4	**3.8**	30.0
Methyl acetate		**109.30**	64.7	125.4	**2.1**	30.0
tert-Methyl butyl ether		**96.98**	73.2	122.4	**3.1**	30.0
Acrylonitrile		**116.70**	69.9	128.9	**4.2**	30.0
2-Butanone	*	**160.96**	44.0	134.4	**1.5**	30.0
Dichlorodifluoromethane		**113.08**	10.0	222.8	**3.2**	30.0
Chloromethane		**90.96**	23.8	166.5	**3.5**	30.0
Vinyl Chloride		**94.58**	43.5	149.1	**4.1**	30.0
Bromomethane		**95.18**	56.8	151.3	**6.0**	30.0
Chloroethane		**89.24**	53.4	149.4	**4.5**	30.0
Trichlorofluoromethane		**113.58**	59.7	151.8	**4.3**	30.0
1,1-Dichloroethene		**109.76**	69.6	139.4	**3.4**	30.0
Methylene Chloride		**110.78**	73.3	121.1	**5.1**	30.0
trans-1,2-Dichloroethene		**106.68**	73.6	129.3	**4.3**	30.0
1,1-Dichloroethane		**104.54**	71.5	126.2	**4.1**	30.0
cis-1,2-Dichloroethene		**107.12**	76.6	122.1	**4.7**	30.0
Tetrahydrofuran		**113.42**	59.0	117.9	**0.5**	30.0
Chloroform		**107.22**	78.4	124.0	**4.5**	30.0
Bromochloromethane		**116.46**	78.2	120.8	**4.2**	30.0
1,1,1-Trichloroethane		**104.62**	79.4	130.9	**4.0**	30.0
Cyclohexane	*	**58.18**	10.0	169.1	**30.4**	30.0
4-Methyl-2-pentanone	*	**125.32**	71.6	125.2	**0.7**	30.0
2-Hexanone	*	**149.60**	55.4	136.9	**0.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Chloroethylvinyl ether	*	**2.60**	70.0	130.0	**5.5**	30.0
Carbon Tetrachloride		**118.92**	72.6	133.0	**2.1**	30.0
Benzene		**112.12**	79.9	124.9	**2.5**	30.0
1,2-Dichloroethane		**114.44**	76.0	126.3	**2.6**	30.0
Trichloroethene		**114.62**	79.7	124.2	**2.5**	30.0
1,2-Dichloropropane		**113.08**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**113.56**	80.4	128.2	**2.9**	30.0
Methyl cyclohexane		**101.90**	76.6	131.3	**2.4**	30.0
Dibromomethane	*	**131.18**	76.9	122.1	**3.1**	30.0
cis-1,3-Dichloropropene		**118.54**	79.8	129.9	**2.8**	30.0
Toluene		**113.78**	79.8	124.5	**2.8**	30.0
trans-1,3-Dichloropropene		**106.90**	74.0	131.3	**2.9**	30.0
1,1,2-Trichloroethane	*	**123.80**	78.7	123.1	**2.7**	30.0
Tetrachloroethene		**121.12**	74.5	124.5	**1.3**	30.0
trans-1,4-Dichloro-2-butene		**108.22**	68.6	135.4	**4.5**	30.0
Dibromochloromethane		**120.62**	74.6	127.2	**4.8**	30.0
1,2-Dibromoethane		**123.88**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**114.10**	79.2	122.7	**4.3**	30.0
1,1,1,2-Tetrachloroethane		**115.54**	80.3	128.2	**4.2**	30.0
Ethylbenzene		**110.64**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**112.20**	79.4	132.2	**5.2**	30.0
o-Xylene		**109.84**	80.2	131.0	**4.8**	30.0
Styrene		**111.76**	69.5	126.7	**5.4**	30.0
Isopropylbenzene		**110.34**	74.4	121.5	**4.2**	30.0
Bromoform		**108.20**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane	*	**126.40**	79.8	126.3	**3.4**	30.0
1,2,3-Trichloropropane		**129.48**	78.3	138.8	**1.8**	30.0
n-Propylbenzene		**111.12**	82.0	130.7	**4.7**	30.0
Bromobenzene		**118.68**	78.7	124.6	**4.7**	30.0
1,3,5-Trimethylbenzene		**112.58**	81.3	128.9	**4.2**	30.0
tert-Butylbenzene		**110.26**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**96.54**	81.4	130.8	**21.2**	30.0
sec-Butylbenzene		**104.52**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**106.84**	79.8	137.5	**3.5**	30.0
1,3-Dichlorobenzene		**109.04**	77.0	131.3	**3.4**	30.0
1,4-Dichlorobenzene		**108.76**	20.7	137.7	**3.9**	30.0
1,2-Dichlorobenzene		**108.98**	10.0	166.2	**3.5**	30.0
1,2,3-Trimethylbenzene		**99.62**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**104.36**	80.0	133.3	**3.5**	30.0
Hexachloroethane		**88.08**	23.8	138.1	**3.8**	30.0
1,2-Dibromo-3-Chloropropane		**111.04**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**111.86**	27.4	143.4	**2.6**	30.0
1,2,3-Trichlorobenzene		**116.90**	75.4	131.4	**2.6**	30.0
Naphthalene		**118.76**	32.9	135.8	**1.7**	30.0
2-Methylnaphthalene		**130.68**	25.5	165.5	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**1.4**	1	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # _____ OF _____

92784

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229-8594 FAX NO.: 810-229-8837 P.O. NO.: B00644480.2015
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: Racer Lansing, Plant-2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cox

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other _____
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC, 8260 1,4 dioxane	SVOCs	Select Metals + Geochem (Hardness, Sulfide, Total Alkalinity)	Geochem (Hardness, Sulfide, Total Alkalinity)	Dissolved Select Metals & Geochem					
78215.01	12/9/15	10:15	TW-14-02_120915	GW	8	3	3	2					X	X	X	X	X					
.02	12/9/15	—	DUP-04_120915	GW	8	3	3	2					X	X	X	X	X					

Special Instructions:
Select Metals =
As, Cr, Cu, Pb, Ni, V
Geochem Metals =
Mg, Na, K, Ca
Geochem Non Metals =
Chloride, Sulfate,
Total Alkalinity
(Carbonate, Bicarbonate)

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Arcadis / Sampler	DATE 12-9-15	TIME 13:15
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE 12-10-15	TIME 9:45
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE 12-10-15	TIME 9:50
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS	

NOTES: TEMP. ON ARRIVAL 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70216.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70216.01-S70216.02
Project: RACER P2 Lansing / B0064479.2015
Submitted Date/Time: 12/10/2015 09:50
Sampled by: Cliff Walls
P.O. #: B0064479.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-3)
Prep Batch Summary (Page 4)
Surrogates per Lab Sample (Pages 5-6)
Surrogates per QC Sample (Pages 7-8)
Batch QC Results (Pages 9-17)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70216.01
Sample Tag: TB_0002_120915
Collected Date/Time: 12/09/2015 07:00
Matrix: Liquid
COC Reference: 90643

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 21:12	151214A6	VF151214W2	Yes	LCS/BLK/MS/LCSD
1,2-Dibromoethane	SW8260B	12/14/15 21:12	151214A6	VF151214W2	Yes	LCS/BLK/MS/LCSD
TCL Volatile Organics 8260	SW8260C	12/14/15 21:12	151214A6	VF151214W2	Yes	LCS/BLK/MS/LCSD

Lab Sample ID: S70216.02
Sample Tag: MW-13-51_120915
Collected Date/Time: 12/09/2015 11:00
Matrix: Groundwater
COC Reference: 90643

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 21:33	151214A6	VF151214W2	Yes	LCS/BLK/MS/LCSD
1,2-Dibromoethane	SW8260B	12/14/15 21:33	151214A6	VF151214W2	Yes	LCS/BLK/MS/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 18:52	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/14/15 21:33	151214A6	VF151214W2	Yes	LCS/BLK/MS/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151214W2

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70216.01	1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 21:12	151214A6
S70216.01	1,2-Dibromoethane	SW8260B	12/14/15 21:12	151214A6
S70216.01	TCL Volatile Organics 8260	SW8260C	12/14/15 21:12	151214A6
S70216.02	1,2-Dibromo-3-chloropropane	SW8260C	12/14/15 21:33	151214A6
S70216.02	1,2-Dibromoethane	SW8260B	12/14/15 21:33	151214A6
S70216.02	TCL Volatile Organics 8260	SW8260C	12/14/15 21:33	151214A6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70216.02	1,4-Dioxane	SW8260B - SIM	12/16/15 18:52	151216A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70216.01
Sample Tag: TB_0002_120915
Collected Date/Time: 12/09/2015 07:00
Matrix: Liquid
COC Reference: 90643

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151214A6, Run Date: 12/14/2015 21:12, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.00**	83.0	119.0
1,2-Dichloroethane-D4		**100.40**	77.0	121.0
Toluene-D8		**94.40**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70216.02
Sample Tag: MW-13-51_120915
Collected Date/Time: 12/09/2015 11:00
Matrix: Groundwater
COC Reference: 90643

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151214A6, Run Date: 12/14/2015 21:33, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.80**	83.0	119.0
1,2-Dichloroethane-D4		**99.80**	77.0	121.0
Toluene-D8		**94.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151214W2

QC Types: LCS/BLK/MS/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:39, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**106.00**	83.0	119.0
1,2-Dichloroethane-D4		**92.00**	77.0	121.0
Toluene-D8		**101.40**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151214a6.blkt14a

Run in Batch: 151214A6, Run Date: 12/14/2015 19:51, Prep Date: 12/14/2015, Matrix: WW, Dilution: 100

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.00**	83.0	119.0
1,2-Dichloroethane-D4		**99.80**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151214a6.blkw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 15:21, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.80**	83.0	119.0
1,2-Dichloroethane-D4		**96.60**	77.0	121.0
Toluene-D8		**95.00**	86.0	118.0

Matrix Spike (MS)

Lab Sample ID: 151214a6.7022701m, Parent Sample ID: S70227.01

Run in Batch: 151214A6, Run Date: 12/14/2015 23:14, Prep Date: 12/14/2015, Matrix: WW, Dilution: 100

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.20**	83.0	119.0
1,2-Dichloroethane-D4		**96.40**	77.0	121.0
Toluene-D8		**101.80**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151214a6.lcsw14b, Parent Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:59, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**105.40**	83.0	119.0
1,2-Dichloroethane-D4		**91.80**	77.0	121.0
Toluene-D8		**100.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151214W2

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:39, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**84.80**	75.1	135.9
Diethyl ether		**88.86**	67.4	121.2
Acetone	*	**241.82**	29.9	161.5
Methyl iodide		**98.90**	68.8	116.4
Carbon disulfide		**89.18**	63.8	137.4
Methyl acetate		**93.80**	64.7	125.4
tert-Methyl butyl ether		**85.78**	73.2	122.4
Acrylonitrile		**101.40**	69.9	128.9
2-Butanone	*	**159.20**	44.0	134.4
Dichlorodifluoromethane		**113.32**	10.0	222.8
Chloromethane		**86.22**	23.8	166.5
Vinyl Chloride		**88.84**	43.5	149.1
Bromomethane		**85.50**	56.8	151.3
Chloroethane		**85.94**	53.4	149.4
Trichlorofluoromethane		**102.12**	59.7	151.8
1,1-Dichloroethene		**97.98**	69.6	139.4
Methylene Chloride		**98.46**	73.3	121.1
trans-1,2-Dichloroethene		**95.32**	73.6	129.3
1,1-Dichloroethane		**92.50**	71.5	126.2
cis-1,2-Dichloroethene		**95.52**	76.6	122.1
Tetrahydrofuran		**96.78**	59.0	117.9
Chloroform		**95.22**	78.4	124.0
Bromochloromethane		**102.68**	78.2	120.8
1,1,1-Trichloroethane		**93.32**	79.4	130.9
Cyclohexane		**51.32**	10.0	169.1
4-Methyl-2-pentanone		**106.62**	71.6	125.2
2-Hexanone		**135.44**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.18**	70.0	130.0
Carbon Tetrachloride		**106.16**	72.6	133.0
Benzene		**98.58**	79.9	124.9
1,2-Dichloroethane		**99.32**	76.0	126.3
Trichloroethene		**100.86**	79.7	124.2
1,2-Dichloropropane		**99.40**	78.6	126.4
Bromodichloromethane		**100.42**	80.4	128.2
Methyl cyclohexane		**91.34**	76.6	131.3
Dibromomethane		**114.38**	76.9	122.1
cis-1,3-Dichloropropene		**104.16**	79.8	129.9
Toluene		**100.14**	79.8	124.5
trans-1,3-Dichloropropene		**94.62**	74.0	131.3
1,1,2-Trichloroethane		**107.42**	78.7	123.1
Tetrachloroethene		**104.36**	74.5	124.5
trans-1,4-Dichloro-2-butene		**99.48**	68.6	135.4
Dibromochloromethane		**109.36**	74.6	127.2
1,2-Dibromoethane		**109.76**	70.3	133.7
Chlorobenzene		**101.64**	79.2	122.7
1,1,1,2-Tetrachloroethane		**103.06**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:39, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**99.30**	79.5	129.1
p,m-Xylene		**101.24**	79.4	132.2
o-Xylene		**98.70**	80.2	131.0
Styrene		**100.52**	69.5	126.7
Isopropylbenzene		**99.02**	74.4	121.5
Bromoform		**97.68**	69.4	128.0
1,1,2,2-Tetrachloroethane		**111.00**	79.8	126.3
1,2,3-Trichloropropane		**111.22**	78.3	138.8
n-Propylbenzene		**99.60**	82.0	130.7
Bromobenzene		**105.64**	78.7	124.6
1,3,5-Trimethylbenzene		**101.36**	81.3	128.9
tert-Butylbenzene		**87.54**	80.7	128.9
1,2,4-Trimethylbenzene		**102.64**	81.4	130.8
sec-Butylbenzene		**95.88**	77.4	129.8
p-Isopropyltoluene		**97.76**	79.8	137.5
1,3-Dichlorobenzene		**99.58**	77.0	131.3
1,4-Dichlorobenzene		**99.16**	20.7	137.7
1,2-Dichlorobenzene		**99.02**	10.0	166.2
1,2,3-Trimethylbenzene		**92.44**	76.3	124.2
n-Butylbenzene		**94.98**	80.0	133.3
Hexachloroethane		**83.96**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**98.14**	21.2	189.4
1,2,4-Trichlorobenzene		**102.04**	27.4	143.4
1,2,3-Trichlorobenzene		**107.02**	75.4	131.4
Naphthalene		**105.62**	32.9	135.8
2-Methylnaphthalene		**117.32**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151214a6.blkt14a

Run in Batch: 151214A6, Run Date: 12/14/2015 19:51, Prep Date: 12/14/2015, Matrix: WW, Dilution: 100

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	100	ug/l
Acetone		**ND**	1000	ug/l
Carbon disulfide		**ND**	100	ug/l
Methyl Acetate		**ND**	100	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	100	ug/l
2-Butanone (MEK)		**ND**	1000	ug/l
Dichlorodifluoromethane		**ND**	100	ug/l
Chloromethane		**ND**	100	ug/l
Vinyl chloride		**ND**	100	ug/l
Bromomethane		**ND**	100	ug/l
Chloroethane		**ND**	100	ug/l
Trichlorofluoromethane		**ND**	100	ug/l
1,1-Dichloroethene		**ND**	100	ug/l
Methylene chloride		**ND**	100	ug/l
trans-1,2-Dichloroethene		**ND**	100	ug/l

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151214a6.blkt14a

Run in Batch: 151214A6, Run Date: 12/14/2015 19:51, Prep Date: 12/14/2015, Matrix: WW, Dilution: 100

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	100	ug/l
cis-1,2-Dichloroethene		**ND**	100	ug/l
Chloroform		**ND**	100	ug/l
1,1,1-Trichloroethane		**ND**	100	ug/l
Cyclohexane		**ND**	100	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	100	ug/l
2-Hexanone		**ND**	100	ug/l
Carbon tetrachloride		**ND**	100	ug/l
Benzene		**ND**	100	ug/l
1,2-Dichloroethane		**ND**	100	ug/l
Trichloroethene		**ND**	100	ug/l
1,2-Dichloropropane		**ND**	100	ug/l
Bromodichloromethane		**ND**	100	ug/l
Methyl cyclohexane		**ND**	100	ug/l
cis-1,3-Dichloropropene		**ND**	100	ug/l
Toluene		**ND**	100	ug/l
trans-1,3-Dichloropropene		**ND**	100	ug/l
1,1,2-Trichloroethane		**ND**	100	ug/l
Tetrachloroethene		**ND**	100	ug/l
Dibromochloromethane		**ND**	100	ug/l
Chlorobenzene		**ND**	100	ug/l
1,1,2,2-Tetrachloroethane		**ND**	100	ug/l
Ethylbenzene		**ND**	100	ug/l
p,m-Xylene		**ND**	100	ug/l
o-Xylene		**ND**	100	ug/l
Styrene		**ND**	100	ug/l
Isopropylbenzene		**ND**	100	ug/l
Bromoform		**ND**	100	ug/l
1,3-Dichlorobenzene		**ND**	100	ug/l
1,4-Dichlorobenzene		**ND**	100	ug/l
1,2-Dichlorobenzene		**ND**	100	ug/l
1,2,4-Trichlorobenzene		**ND**	100	ug/l
1,2-Dibromo-3-chloropropane		**ND**	100	ug/l
1,2-Dibromoethane		**ND**	100	ug/l

Blank (BLK)

Lab Sample ID: 151214a6.blkw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 15:21, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151214a6.blkw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 15:21, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Matrix Spike (MS)

Lab Sample ID: 151214a6.7022701m, Parent Sample ID: S70227.01

Run in Batch: 151214A6, Run Date: 12/14/2015 23:14, Prep Date: 12/14/2015, Matrix: WW, Dilution: 100

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**90.50**	75.1	135.9
Diethyl ether		**99.76**	67.4	121.2
Acetone		**135.32**	29.9	161.5
Methyl iodide		**102.68**	68.8	116.4
Carbon disulfide		**80.12**	63.8	137.4
Methyl acetate		**109.52**	64.7	125.4
tert-Methyl butyl ether		**93.94**	73.2	122.4
Acrylonitrile		**102.78**	69.9	128.9
2-Butanone		**124.20**	44.0	134.4
Dichlorodifluoromethane		**119.14**	10.0	222.8
Chloromethane		**88.90**	23.8	166.5
Vinyl Chloride		**92.26**	43.5	149.1
Bromomethane		**89.72**	56.8	151.3
Chloroethane		**90.26**	53.4	149.4
Trichlorofluoromethane		**108.64**	59.7	151.8
1,1-Dichloroethene		**103.98**	69.6	139.4
Methylene Chloride		**108.00**	73.3	121.1
trans-1,2-Dichloroethene		**100.74**	73.6	129.3
1,1-Dichloroethane		**102.00**	71.5	126.2
cis-1,2-Dichloroethene		**104.16**	76.6	122.1
Tetrahydrofuran		**111.76**	59.0	117.9
Chloroform		**105.88**	78.4	124.0
Bromochloromethane		**112.38**	78.2	120.8
1,1,1-Trichloroethane		**98.98**	79.4	130.9
Cyclohexane		**54.50**	10.0	169.1
4-Methyl-2-pentanone		**123.66**	71.6	125.2
2-Hexanone		**114.80**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.46**	70.0	130.0
Carbon Tetrachloride		**111.66**	72.6	133.0
Benzene		**109.64**	79.9	124.9
1,2-Dichloroethane		**112.64**	76.0	126.3
Trichloroethene		**110.14**	79.7	124.2
1,2-Dichloropropane		**111.62**	78.6	126.4
Bromodichloromethane		**105.44**	80.4	128.2
Methyl cyclohexane		**95.54**	76.6	131.3
Dibromomethane	*	**129.78**	76.9	122.1
cis-1,3-Dichloropropene		**111.72**	79.8	129.9
Toluene		**110.70**	79.8	124.5
trans-1,3-Dichloropropene		**100.62**	74.0	131.3
1,1,2-Trichloroethane	*	**124.26**	78.7	123.1
Tetrachloroethene		**112.08**	74.5	124.5
trans-1,4-Dichloro-2-butene		**100.54**	68.6	135.4
Dibromochloromethane		**102.52**	74.6	127.2
1,2-Dibromoethane		**123.98**	70.3	133.7
Chlorobenzene		**113.56**	79.2	122.7
1,1,1,2-Tetrachloroethane		**114.86**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Matrix Spike (MS) (continued)

Lab Sample ID: 151214a6.7022701m, Parent Sample ID: S70227.01

Run in Batch: 151214A6, Run Date: 12/14/2015 23:14, Prep Date: 12/14/2015, Matrix: WW, Dilution: 100

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**110.74**	79.5	129.1
p,m-Xylene		**112.11**	79.4	132.2
o-Xylene		**109.66**	80.2	131.0
Styrene		**110.96**	69.5	126.7
Isopropylbenzene		**110.08**	74.4	121.5
Bromoform		**77.42**	69.4	128.0
1,1,2,2-Tetrachloroethane	*	**131.52**	79.8	126.3
1,2,3-Trichloropropane		**131.18**	78.3	138.8
n-Propylbenzene		**110.66**	82.0	130.7
Bromobenzene		**118.80**	78.7	124.6
1,3,5-Trimethylbenzene		**112.78**	81.3	128.9
tert-Butylbenzene		**110.10**	80.7	128.9
1,2,4-Trimethylbenzene		**114.38**	81.4	130.8
sec-Butylbenzene		**105.16**	77.4	129.8
p-Isopropyltoluene		**107.30**	79.8	137.5
1,3-Dichlorobenzene		**110.74**	77.0	131.3
1,4-Dichlorobenzene		**110.24**	20.7	137.7
1,2-Dichlorobenzene		**111.18**	10.0	166.2
1,2,3-Trimethylbenzene		**102.86**	76.3	124.2
n-Butylbenzene		**103.60**	80.0	133.3
Hexachloroethane		**85.64**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**108.12**	21.2	189.4
1,2,4-Trichlorobenzene		**110.38**	27.4	143.4
1,2,3-Trichlorobenzene		**114.42**	75.4	131.4
Naphthalene		**117.72**	32.9	135.8
2-Methylnaphthalene		**111.04**	25.5	165.5

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151214a6.lcsw14b, Parent Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:59, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**84.72**	75.1	135.9	**0.1**	30.0
Diethyl ether		**90.60**	67.4	121.2	**1.9**	30.0
Acetone	*	**229.02**	29.9	161.5	**5.4**	30.0
Methyl iodide		**98.68**	68.8	116.4	**0.2**	30.0
Carbon disulfide		**88.20**	63.8	137.4	**1.1**	30.0
Methyl acetate		**99.02**	64.7	125.4	**5.4**	30.0
tert-Methyl butyl ether		**88.26**	73.2	122.4	**2.8**	30.0
Acrylonitrile		**104.58**	69.9	128.9	**3.1**	30.0
2-Butanone	*	**159.62**	44.0	134.4	**0.3**	30.0
Dichlorodifluoromethane		**112.30**	10.0	222.8	**0.9**	30.0
Chloromethane		**85.58**	23.8	166.5	**0.7**	30.0
Vinyl Chloride		**87.86**	43.5	149.1	**1.1**	30.0
Bromomethane		**85.08**	56.8	151.3	**0.5**	30.0
Chloroethane		**80.78**	53.4	149.4	**6.2**	30.0
Trichlorofluoromethane		**101.80**	59.7	151.8	**0.3**	30.0

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151214a6.lcsw14b, Parent Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:59, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1-Dichloroethene		**98.22**	69.6	139.4	**0.2**	30.0
Methylene Chloride		**98.58**	73.3	121.1	**0.1**	30.0
trans-1,2-Dichloroethene		**94.84**	73.6	129.3	**0.5**	30.0
1,1-Dichloroethane		**92.30**	71.5	126.2	**0.2**	30.0
cis-1,2-Dichloroethene		**95.54**	76.6	122.1	**0.0**	30.0
Tetrahydrofuran		**102.46**	59.0	117.9	**5.7**	30.0
Chloroform		**94.90**	78.4	124.0	**0.3**	30.0
Bromochloromethane		**103.08**	78.2	120.8	**0.4**	30.0
1,1,1-Trichloroethane		**93.54**	79.4	130.9	**0.2**	30.0
Cyclohexane		**49.34**	10.0	169.1	**3.9**	30.0
4-Methyl-2-pentanone		**112.28**	71.6	125.2	**5.2**	30.0
2-Hexanone		**133.72**	55.4	136.9	**1.3**	30.0
2-Chloroethylvinyl ether	*	**2.36**	70.0	130.0	**7.9**	30.0
Carbon Tetrachloride		**105.08**	72.6	133.0	**1.0**	30.0
Benzene		**98.32**	79.9	124.9	**0.3**	30.0
1,2-Dichloroethane		**99.74**	76.0	126.3	**0.4**	30.0
Trichloroethene		**102.20**	79.7	124.2	**1.3**	30.0
1,2-Dichloropropane		**99.74**	78.6	126.4	**0.3**	30.0
Bromodichloromethane		**100.74**	80.4	128.2	**0.3**	30.0
Methyl cyclohexane		**90.00**	76.6	131.3	**1.5**	30.0
Dibromomethane		**116.56**	76.9	122.1	**1.9**	30.0
cis-1,3-Dichloropropene		**105.46**	79.8	129.9	**1.2**	30.0
Toluene		**100.88**	79.8	124.5	**0.7**	30.0
trans-1,3-Dichloropropene		**95.58**	74.0	131.3	**1.0**	30.0
1,1,2-Trichloroethane		**109.12**	78.7	123.1	**1.6**	30.0
Tetrachloroethene		**105.04**	74.5	124.5	**0.6**	30.0
trans-1,4-Dichloro-2-butene		**104.40**	68.6	135.4	**4.8**	30.0
Dibromochloromethane		**112.76**	74.6	127.2	**3.1**	30.0
1,2-Dibromoethane		**115.44**	70.3	133.7	**5.0**	30.0
Chlorobenzene		**103.84**	79.2	122.7	**2.1**	30.0
1,1,1,2-Tetrachloroethane		**106.36**	80.3	128.2	**3.2**	30.0
Ethylbenzene		**102.26**	79.5	129.1	**2.9**	30.0
p,m-Xylene		**102.94**	79.4	132.2	**1.7**	30.0
o-Xylene		**100.78**	80.2	131.0	**2.1**	30.0
Styrene		**101.62**	69.5	126.7	**1.1**	30.0
Isopropylbenzene		**100.66**	74.4	121.5	**1.6**	30.0
Bromoform		**102.96**	69.4	128.0	**5.3**	30.0
1,1,2,2-Tetrachloroethane		**117.98**	79.8	126.3	**6.1**	30.0
1,2,3-Trichloropropane		**119.42**	78.3	138.8	**7.1**	30.0
n-Propylbenzene		**101.74**	82.0	130.7	**2.1**	30.0
Bromobenzene		**108.30**	78.7	124.6	**2.5**	30.0
1,3,5-Trimethylbenzene		**102.72**	81.3	128.9	**1.3**	30.0
tert-Butylbenzene		**101.22**	80.7	128.9	**14.5**	30.0
1,2,4-Trimethylbenzene		**104.42**	81.4	130.8	**1.7**	30.0
sec-Butylbenzene		**98.20**	77.4	129.8	**2.4**	30.0
p-Isopropyltoluene		**99.94**	79.8	137.5	**2.2**	30.0

Organics - Volatiles, Prep Batch ID: VF151214W2 (continued)

Surrogates: Yes, QC Types: LCS/BLK/MS/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151214a6.lcsw14b, Parent Sample ID: 151214a6.lcsw14a

Run in Batch: 151214A6, Run Date: 12/14/2015 13:59, Prep Date: 12/14/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,3-Dichlorobenzene		**101.02**	77.0	131.3	**1.4**	30.0
1,4-Dichlorobenzene		**101.50**	20.7	137.7	**2.3**	30.0
1,2-Dichlorobenzene		**102.06**	10.0	166.2	**3.0**	30.0
1,2,3-Trimethylbenzene		**94.76**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**97.06**	80.0	133.3	**2.2**	30.0
Hexachloroethane		**84.92**	23.8	138.1	**1.1**	30.0
1,2-Dibromo-3-Chloropropane		**106.40**	21.2	189.4	**8.1**	30.0
1,2,4-Trichlorobenzene		**104.16**	27.4	143.4	**2.1**	30.0
1,2,3-Trichlorobenzene		**109.78**	75.4	131.4	**2.5**	30.0
Naphthalene		**112.70**	32.9	135.8	**6.5**	30.0
2-Methylnaphthalene		**126.72**	25.5	165.5	**7.7**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**1.4**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

Merit Laboratories, Inc.
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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

90643

CHAIN OF CUSTODY RECORD

REPORT TO		INVOICE TO	
CONTACT NAME	Randy Christensen	CONTACT NAME	☑ SAME
COMPANY	Arcadis	COMPANY	
ADDRESS	10559 Citation Drive Suite 100	ADDRESS	
CITY / STATE / ZIP CODE	Brighton / MI / 48116	CITY / STATE / ZIP CODE	
PHONE NO.	810.229.8594	PHONE NO.	E-MAIL ADDRESS
FAX NO.			
P.O. NO.			
E-MAIL ADDRESS	Randy.Christensen@arcadis-us.com	QUOTE NO.	

PROJECT NO./NAME: Later PD Lansing B0064479.2015

SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Wells

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER _____

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER _____

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other _____

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane
70216.01	120915	700	TB_0002_120915	L	1		1						X	
.02	120915	1100	MW13-51_120915	GW	3		3						X	X

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
Cliff Wells		120915	1700
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
PME Storage		120915	1700
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
PME Storage			
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		12-10-15	9:50

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-10-15	
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-10-15	9:50

SEAL NO. _____ SEAL INTACT YES ☐ NO ☐ INITIALS _____

SEAL NO. _____ SEAL INTACT YES ☐ NO ☐ INITIALS _____

NOTES: TEMP. ON ARRIVAL 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70217.01(01)
Generated on 01/07/2016

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70217.01-S70217.03
Project: RACER Lansing Q4 GWS-P2 / B0064479.2015.00603
Submitted Date/Time: 12/10/2015 09:50
Sampled by: J. Ness
P.O. #: B0064479.2015.00603

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Page 5)
Surrogates per Lab Sample (Pages 6-8)
Surrogates per QC Sample (Pages 9-10)
Batch QC Results (Pages 11-21)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70217.01
Sample Tag: MW-12-18_120915
Collected Date/Time: 12/09/2015 10:30
Matrix: Groundwater
COC Reference: 92787

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 18:58	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 18:58	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 18:58	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70217.02
Sample Tag: MW-14-62_120915
Collected Date/Time: 12/09/2015 11:50
Matrix: Groundwater
COC Reference: 92787

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Inorganics						
Alkalinity as CaCO3	SM2320B	12/16/15 13:25	ALK151216-W2	ALK151216-W2	No	BLK/LCS/MS/DUP
Chloride	E300.0	12/11/15 11:07	CL151211-W5	CL151211-W5	No	BLK/LCS/MS/MSD/DUP
Sulfate	E300.0	12/11/15 11:07	SFT151211-W2	SFT151211-W2	No	BLK/LCS/MS/MSD/DUP
Metals						
Calcium	SW6020A	12/17/15 13:40	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Manganese	SW6020A	12/21/15 12:17	MT3-15-1221A	MTD-122115-1	No	LCS/BLK/MS/MSD
Potassium	SW6020A	12/17/15 13:40	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Sodium	SW6020A	12/17/15 13:40	MT2-15-1217B	MTD-121715-8	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 19:18	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 19:18	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 19:10	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 19:18	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70217.03
Sample Tag: TB0003_120915
Collected Date/Time: 12/09/2015 00:01
Matrix: Water
COC Reference: 92787

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 19:38	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 19:38	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 19:38	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.02	Alkalinity as CaCO3	SM2320B	12/16/15 13:25	ALK151216-W2

Inorganics, Prep Batch ID: CL151211-W5

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.02	Chloride	E300.0	12/11/15 11:07	CL151211-W5

Inorganics, Prep Batch ID: SFT151211-W2

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.02	Sulfate	E300.0	12/11/15 11:07	SFT151211-W2

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.02	Calcium	SW6020A	12/17/15 13:40	MT2-15-1217B
S70217.02	Potassium	SW6020A	12/17/15 13:40	MT2-15-1217B
S70217.02	Sodium	SW6020A	12/17/15 13:40	MT2-15-1217B

Metals, Prep Batch ID: MTD-122115-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.02	Manganese	SW6020A	12/21/15 12:17	MT3-15-1221A

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.01	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 18:58	151216A6
S70217.01	1,2-Dibromoethane	SW8260B	12/16/15 18:58	151216A6
S70217.01	TCL Volatile Organics 8260	SW8260C	12/16/15 18:58	151216A6
S70217.02	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 19:18	151216A6
S70217.02	1,2-Dibromoethane	SW8260B	12/16/15 19:18	151216A6
S70217.02	TCL Volatile Organics 8260	SW8260C	12/16/15 19:18	151216A6
S70217.03	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 19:38	151216A6
S70217.03	1,2-Dibromoethane	SW8260B	12/16/15 19:38	151216A6
S70217.03	TCL Volatile Organics 8260	SW8260C	12/16/15 19:38	151216A6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70217.02	1,4-Dioxane	SW8260B - SIM	12/16/15 19:10	151216A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70217.01
Sample Tag: MW-12-18_120915
Collected Date/Time: 12/09/2015 10:30
Matrix: Groundwater
COC Reference: 92787

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 18:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.80**	83.0	119.0
1,2-Dichloroethane-D4		**100.00**	77.0	121.0
Toluene-D8		**95.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70217.02
Sample Tag: MW-14-62_120915
Collected Date/Time: 12/09/2015 11:50
Matrix: Groundwater
COC Reference: 92787

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 19:18, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.20**	83.0	119.0
1,2-Dichloroethane-D4		**98.20**	77.0	121.0
Toluene-D8		**99.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70217.03
Sample Tag: TB0003_120915
Collected Date/Time: 12/09/2015 00:01
Matrix: Water
COC Reference: 92787

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 19:38, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.80**	83.0	119.0
1,2-Dichloroethane-D4		**101.40**	77.0	121.0
Toluene-D8		**96.20**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.80**	83.0	119.0
1,2-Dichloroethane-D4		**92.80**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**98.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Inorganics, Prep Batch ID: ALK151216-W2

Surrogates: No, QC Types: BLK/LCS/MS/DUP

Blank (BLK)

Lab Sample ID: ALK151216-W2.LRB1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:30, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Alkalinity as CaCO3		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: ALK151216-W2.LCS1

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:45, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**104**	90	110

Matrix Spike (MS)

Lab Sample ID: ALK151216-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 13:05, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Alkalinity as CaCO3		**104**	80	120

Duplicate (DUP)

Lab Sample ID: ALK151216-W2.DP1, Parent Sample ID: S70131.02

Run in Batch: ALK151216-W2, Run Date: 12/16/2015 12:55, Prep Date: 12/16/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**RPD**	RPD CL
Alkalinity as CaCO3		**2**	15

Inorganics, Prep Batch ID: CL151211-W5

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: CL151211-W5.LRB1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 09:38, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Chloride		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: CL151211-W5.LCS1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 10:03, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**102**	90	110

Matrix Spike (MS)

Lab Sample ID: CL151211-W5.MS1, Parent Sample ID: S70131.03

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:46, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Chloride		**113**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: CL151211-W5.MSD1, Parent Sample ID: CL151211-W5.MS1

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:59, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Chloride		**113**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: CL151211-W5.DP1, Parent Sample ID: S70131.03

Run in Batch: CL151211-W5, Run Date: 12/11/2015 11:33, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Chloride		**2**	15

Inorganics, Prep Batch ID: SFT151211-W2

Surrogates: No, QC Types: BLK/LCS/MS/MSD/DUP

Blank (BLK)

Lab Sample ID: SFT151211-W2.LRB1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 09:38, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Sulfate		**ND**	1	mg/L

Laboratory Control Sample (LCS)

Lab Sample ID: SFT151211-W2.LCS1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 10:03, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**103**	90	110

Matrix Spike (MS)

Lab Sample ID: SFT151211-W2.MS1, Parent Sample ID: S70131.03

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:46, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Sulfate		**102**	80	120

Matrix Spike Duplicate (MSD)

Lab Sample ID: SFT151211-W2.MSD1, Parent Sample ID: SFT151211-W2.MS1

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:59, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Sulfate		**102**	80	120	**0**	15

Duplicate (DUP)

Lab Sample ID: SFT151211-W2.DP1, Parent Sample ID: S70131.03

Run in Batch: SFT151211-W2, Run Date: 12/11/2015 11:33, Prep Date: 12/11/2015, Matrix: Liquid, Dilution: 20

Analyte	Flags	**RPD**	RPD CL
Sulfate		**2**	15

Metals, Prep Batch ID: MTD-121715-8

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1217B.012.LCS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:08, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Calcium		**105**	85	115
Potassium		**103**	85	115
Sodium		**109**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1217B.013.LRB

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:09, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Calcium		**ND**	0.05	mg/L
Potassium		**ND**	0.05	mg/L
Sodium		**ND**	0.05	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.025.MS, Parent Sample ID: S70131.03

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:25, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL
Calcium		**100**	75	125
Potassium		**102**	75	125
Sodium		**106**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1217B.043.MS, Parent Sample ID: S70200.01

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:59, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL
Calcium		**99**	75	125
Potassium		**100**	75	125
Sodium		**100**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.026.MSD, Parent Sample ID: MT2-15-1217B.025.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 13:26, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 10

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		**115**	75	125	**2**	20
Potassium		**102**	75	125	**0**	20
Sodium		**105**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1217B.044.MSD, Parent Sample ID: MT2-15-1217B.043.MS

Run in Batch: MT2-15-1217B, Run Date: 12/17/2015 14:00, Prep Date: 12/17/2015, Matrix: Liquid, Dilution: 50

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Calcium		**98**	75	125	**1**	20
Potassium		**98**	75	125	**1**	20
Sodium		**101**	75	125	**0**	20

Metals, Prep Batch ID: MTD-122115-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT3-15-1221A.022.LCS

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 11:35, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**102**	85	115

Blank (BLK)

Lab Sample ID: MT3-15-1221A.024.LRB

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 11:44, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Manganese		**ND**	0.001	mg/L

Matrix Spike (MS)

Lab Sample ID: MT3-15-1221A.037.MS, Parent Sample ID: S70189.01

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 12:49, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**95**	70	130

Matrix Spike (MS)

Lab Sample ID: MT3-15-1221A.052.MS, Parent Sample ID: S70396.06

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 13:57, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL
Manganese		**98**	70	130

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1221A.038.MSD, Parent Sample ID: MT3-15-1221A.037.MS

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 12:52, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese		**96**	70	130	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT3-15-1221A.053.MSD, Parent Sample ID: MT3-15-1221A.052.MS

Run in Batch: MT3-15-1221A, Run Date: 12/21/2015 14:01, Prep Date: 12/21/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Manganese		**96**	70	130	**1**	20

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**97.58**	75.1	135.9
Diethyl ether		**104.28**	67.4	121.2
Acetone	*	**255.70**	29.9	161.5
Methyl iodide		**113.40**	68.8	116.4
Carbon disulfide		**98.84**	63.8	137.4
Methyl acetate		**111.64**	64.7	125.4
tert-Methyl butyl ether		**100.06**	73.2	122.4
Acrylonitrile		**121.72**	69.9	128.9
2-Butanone	*	**163.36**	44.0	134.4
Dichlorodifluoromethane		**116.78**	10.0	222.8
Chloromethane		**94.16**	23.8	166.5
Vinyl Chloride		**98.54**	43.5	149.1
Bromomethane		**101.02**	56.8	151.3
Chloroethane		**93.38**	53.4	149.4
Trichlorofluoromethane		**118.60**	59.7	151.8
1,1-Dichloroethene		**113.54**	69.6	139.4
Methylene Chloride		**116.54**	73.3	121.1
trans-1,2-Dichloroethene		**111.40**	73.6	129.3
1,1-Dichloroethane		**108.94**	71.5	126.2
cis-1,2-Dichloroethene		**112.28**	76.6	122.1
Tetrahydrofuran		**114.00**	59.0	117.9
Chloroform		**112.18**	78.4	124.0
Bromochloromethane	*	**121.40**	78.2	120.8
1,1,1-Trichloroethane		**108.92**	79.4	130.9
Cyclohexane		**79.04**	10.0	169.1
4-Methyl-2-pentanone	*	**126.16**	71.6	125.2
2-Hexanone	*	**150.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.46**	70.0	130.0
Carbon Tetrachloride		**121.50**	72.6	133.0
Benzene		**115.00**	79.9	124.9
1,2-Dichloroethane		**117.46**	76.0	126.3
Trichloroethene		**117.56**	79.7	124.2
1,2-Dichloropropane		**115.40**	78.6	126.4
Bromodichloromethane		**116.90**	80.4	128.2
Methyl cyclohexane		**104.36**	76.6	131.3
Dibromomethane	*	**135.28**	76.9	122.1
cis-1,3-Dichloropropene		**121.88**	79.8	129.9
Toluene		**116.98**	79.8	124.5
trans-1,3-Dichloropropene		**110.06**	74.0	131.3
1,1,2-Trichloroethane	*	**127.16**	78.7	123.1
Tetrachloroethene		**122.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**113.20**	68.6	135.4
Dibromochloromethane		**126.56**	74.6	127.2
1,2-Dibromoethane		**129.76**	70.3	133.7
Chlorobenzene		**119.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**120.44**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**116.08**	79.5	129.1
p,m-Xylene		**118.15**	79.4	132.2
o-Xylene		**115.22**	80.2	131.0
Styrene		**117.98**	69.5	126.7
Isopropylbenzene		**115.06**	74.4	121.5
Bromoform		**112.36**	69.4	128.0
1,1,2,2-Tetrachloroethane	*	**130.80**	79.8	126.3
1,2,3-Trichloropropane		**131.78**	78.3	138.8
n-Propylbenzene		**116.44**	82.0	130.7
Bromobenzene		**124.44**	78.7	124.6
1,3,5-Trimethylbenzene		**117.40**	81.3	128.9
tert-Butylbenzene		**114.96**	80.7	128.9
1,2,4-Trimethylbenzene		**119.46**	81.4	130.8
sec-Butylbenzene		**108.12**	77.4	129.8
p-Isopropyltoluene		**110.64**	79.8	137.5
1,3-Dichlorobenzene		**112.84**	77.0	131.3
1,4-Dichlorobenzene		**113.06**	20.7	137.7
1,2-Dichlorobenzene		**112.84**	10.0	166.2
1,2,3-Trimethylbenzene		**103.26**	76.3	124.2
n-Butylbenzene		**108.12**	80.0	133.3
Hexachloroethane		**91.52**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**113.40**	21.2	189.4
1,2,4-Trichlorobenzene		**114.86**	27.4	143.4
1,2,3-Trichlorobenzene		**119.98**	75.4	131.4
Naphthalene		**120.74**	32.9	135.8
2-Methylnaphthalene		**129.56**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.62**	75.1	135.9	**4.1**	30.0
Diethyl ether		**99.24**	67.4	121.2	**5.0**	30.0
Acetone	*	**251.46**	29.9	161.5	**1.7**	30.0
Methyl iodide		**109.22**	68.8	116.4	**3.8**	30.0
Carbon disulfide		**95.20**	63.8	137.4	**3.8**	30.0
Methyl acetate		**109.30**	64.7	125.4	**2.1**	30.0
tert-Methyl butyl ether		**96.98**	73.2	122.4	**3.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acrylonitrile		**116.70**	69.9	128.9	**4.2**	30.0
2-Butanone	*	**160.96**	44.0	134.4	**1.5**	30.0
Dichlorodifluoromethane		**113.08**	10.0	222.8	**3.2**	30.0
Chloromethane		**90.96**	23.8	166.5	**3.5**	30.0
Vinyl Chloride		**94.58**	43.5	149.1	**4.1**	30.0
Bromomethane		**95.18**	56.8	151.3	**6.0**	30.0
Chloroethane		**89.24**	53.4	149.4	**4.5**	30.0
Trichlorofluoromethane		**113.58**	59.7	151.8	**4.3**	30.0
1,1-Dichloroethene		**109.76**	69.6	139.4	**3.4**	30.0
Methylene Chloride		**110.78**	73.3	121.1	**5.1**	30.0
trans-1,2-Dichloroethene		**106.68**	73.6	129.3	**4.3**	30.0
1,1-Dichloroethane		**104.54**	71.5	126.2	**4.1**	30.0
cis-1,2-Dichloroethene		**107.12**	76.6	122.1	**4.7**	30.0
Tetrahydrofuran		**113.42**	59.0	117.9	**0.5**	30.0
Chloroform		**107.22**	78.4	124.0	**4.5**	30.0
Bromochloromethane		**116.46**	78.2	120.8	**4.2**	30.0
1,1,1-Trichloroethane		**104.62**	79.4	130.9	**4.0**	30.0
Cyclohexane	*	**58.18**	10.0	169.1	**30.4**	30.0
4-Methyl-2-pentanone	*	**125.32**	71.6	125.2	**0.7**	30.0
2-Hexanone	*	**149.60**	55.4	136.9	**0.5**	30.0
2-Chloroethylvinyl ether	*	**2.60**	70.0	130.0	**5.5**	30.0
Carbon Tetrachloride		**118.92**	72.6	133.0	**2.1**	30.0
Benzene		**112.12**	79.9	124.9	**2.5**	30.0
1,2-Dichloroethane		**114.44**	76.0	126.3	**2.6**	30.0
Trichloroethene		**114.62**	79.7	124.2	**2.5**	30.0
1,2-Dichloropropane		**113.08**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**113.56**	80.4	128.2	**2.9**	30.0
Methyl cyclohexane		**101.90**	76.6	131.3	**2.4**	30.0
Dibromomethane	*	**131.18**	76.9	122.1	**3.1**	30.0
cis-1,3-Dichloropropene		**118.54**	79.8	129.9	**2.8**	30.0
Toluene		**113.78**	79.8	124.5	**2.8**	30.0
trans-1,3-Dichloropropene		**106.90**	74.0	131.3	**2.9**	30.0
1,1,2-Trichloroethane	*	**123.80**	78.7	123.1	**2.7**	30.0
Tetrachloroethene		**121.12**	74.5	124.5	**1.3**	30.0
trans-1,4-Dichloro-2-butene		**108.22**	68.6	135.4	**4.5**	30.0
Dibromochloromethane		**120.62**	74.6	127.2	**4.8**	30.0
1,2-Dibromoethane		**123.88**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**114.10**	79.2	122.7	**4.3**	30.0
1,1,1,2-Tetrachloroethane		**115.54**	80.3	128.2	**4.2**	30.0
Ethylbenzene		**110.64**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**112.20**	79.4	132.2	**5.2**	30.0
o-Xylene		**109.84**	80.2	131.0	**4.8**	30.0
Styrene		**111.76**	69.5	126.7	**5.4**	30.0
Isopropylbenzene		**110.34**	74.4	121.5	**4.2**	30.0
Bromoform		**108.20**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane	*	**126.40**	79.8	126.3	**3.4**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**129.48**	78.3	138.8	**1.8**	30.0
n-Propylbenzene		**111.12**	82.0	130.7	**4.7**	30.0
Bromobenzene		**118.68**	78.7	124.6	**4.7**	30.0
1,3,5-Trimethylbenzene		**112.58**	81.3	128.9	**4.2**	30.0
tert-Butylbenzene		**110.26**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**96.54**	81.4	130.8	**21.2**	30.0
sec-Butylbenzene		**104.52**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**106.84**	79.8	137.5	**3.5**	30.0
1,3-Dichlorobenzene		**109.04**	77.0	131.3	**3.4**	30.0
1,4-Dichlorobenzene		**108.76**	20.7	137.7	**3.9**	30.0
1,2-Dichlorobenzene		**108.98**	10.0	166.2	**3.5**	30.0
1,2,3-Trimethylbenzene		**99.62**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**104.36**	80.0	133.3	**3.5**	30.0
Hexachloroethane		**88.08**	23.8	138.1	**3.8**	30.0
1,2-Dibromo-3-Chloropropane		**111.04**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**111.86**	27.4	143.4	**2.6**	30.0
1,2,3-Trichlorobenzene		**116.90**	75.4	131.4	**2.6**	30.0
Naphthalene		**118.76**	32.9	135.8	**1.7**	30.0
2-Methylnaphthalene		**130.68**	25.5	165.5	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**1.4**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

Merit Laboratories, Inc.

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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

92787

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Alex Villhauer
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Drive, Suite 500
CITY: Novi | STATE: MI | ZIP CODE: 48377
PHONE NO.: (616) 780-3277 | FAX NO.: NA | P.O. NO.: NA
E-MAIL ADDRESS: alexander.villhauer@arcadis.com | QUOTE NO.: NA

INVOICE TO

CONTACT NAME | ☑ SAME
COMPANY
ADDRESS
CITY | STATE | ZIP CODE
PHONE NO. | E-MAIL ADDRESS

PROJECT NO./NAME: RACER Lansing Q4 AWS- P2/B006479.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: J. Ness
TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☑ STANDARD ☐ OTHER
DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☑ Other Lansing

Special Instructions
All samples immediately packed on ice

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOCs	1,4-Dioxane	Mn, Na, K, Ca	chloride, sulfate, Total Alkalinity
70217.01	12/9/15	1030	MW-12-18_120915	GW	3		3						✓			
.02	↓	1150	MW-14-62_120915	GW	9	5	3	1					✓	✓	✓	✓
.03	↓	—	TB0003_120815	W	1		1						✓			

RELINQUISHED BY: J. Ness
SIGNATURE/ORGANIZATION: ARCADIS ☑ Sampler | DATE: 12/09/15 | TIME: 1300
RECEIVED BY:
SIGNATURE/ORGANIZATION: UPS | DATE: 12/10/15 | TIME: 9:45
RELINQUISHED BY:
SIGNATURE/ORGANIZATION | DATE | TIME
RECEIVED BY:
SIGNATURE/ORGANIZATION | DATE | TIME

RELINQUISHED BY:
SIGNATURE/ORGANIZATION | DATE | TIME
RECEIVED BY:
SIGNATURE/ORGANIZATION | DATE: 12-10-15 | TIME: 9:50
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS
SEAL NO. | SEAL INTACT YES ☐ NO ☐ | INITIALS

NOTES: | TEMP. ON ARRIVAL: 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Quality Control Report

Report ID: QC-S70218.01(01)
Generated on 01/07/2016

Report to
Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by
Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70218.01-S70218.03
Project: Racer Plant 6 / GWS:B0064481.2015.00603
Submitted Date/Time: 12/10/2015 09:50
Sampled by: Doug Spencer
P.O. #: B0064481.2015.006

QC Report Sections

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Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70218.01
Sample Tag: TB0001_120915
Collected Date/Time: 12/09/2015 08:00
Matrix: Liquid
COC Reference: 78530

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 19:58	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 19:58	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 19:58	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70218.02
Sample Tag: MW-02-03(6)_120915
Collected Date/Time: 12/09/2015 10:57
Matrix: Groundwater
COC Reference: 78530

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	12/18/15 14:27	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Chromium	SW6020A	12/18/15 14:27	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Copper	SW6020A	12/18/15 14:27	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Lead	SW6020A	12/18/15 14:27	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	12/18/15 14:27	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	12/18/15 14:27	MT2-15-1218A	MTD-121815-1	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 20:19	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 20:19	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/17/15 13:43	151217A3	VS151217W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 20:19	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70218.03
Sample Tag: MW-13-50_120915
Collected Date/Time: 12/09/2015 12:40
Matrix: Groundwater
COC Reference: 78530

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 20:39	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 20:39	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/17/15 14:01	151217A3	VS151217W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 20:39	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70218.02	Arsenic, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A
S70218.02	Arsenic	SW6020A	12/18/15 14:27	MT2-15-1218A
S70218.02	Chromium, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A
S70218.02	Chromium	SW6020A	12/18/15 14:27	MT2-15-1218A
S70218.02	Copper, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A
S70218.02	Copper	SW6020A	12/18/15 14:27	MT2-15-1218A
S70218.02	Lead, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A
S70218.02	Lead	SW6020A	12/18/15 14:27	MT2-15-1218A
S70218.02	Nickel, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A
S70218.02	Nickel	SW6020A	12/18/15 14:27	MT2-15-1218A
S70218.02	Vanadium, Dissolved	SW6020A	12/18/15 14:29	MT2-15-1218A
S70218.02	Vanadium	SW6020A	12/18/15 14:27	MT2-15-1218A

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70218.01	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 19:58	151216A6
S70218.01	1,2-Dibromoethane	SW8260B	12/16/15 19:58	151216A6
S70218.01	TCL Volatile Organics 8260	SW8260C	12/16/15 19:58	151216A6
S70218.02	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 20:19	151216A6
S70218.02	1,2-Dibromoethane	SW8260B	12/16/15 20:19	151216A6
S70218.02	TCL Volatile Organics 8260	SW8260C	12/16/15 20:19	151216A6
S70218.03	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 20:39	151216A6
S70218.03	1,2-Dibromoethane	SW8260B	12/16/15 20:39	151216A6
S70218.03	TCL Volatile Organics 8260	SW8260C	12/16/15 20:39	151216A6

Organics - Volatiles, Prep Batch ID: VS151217W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70218.02	1,4-Dioxane	SW8260B - SIM	12/17/15 13:43	151217A3
S70218.03	1,4-Dioxane	SW8260B - SIM	12/17/15 14:01	151217A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70218.01
Sample Tag: TB0001_120915
Collected Date/Time: 12/09/2015 08:00
Matrix: Liquid
COC Reference: 78530

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 19:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.20**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**97.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70218.02
Sample Tag: MW-02-03(6)_120915
Collected Date/Time: 12/09/2015 10:57
Matrix: Groundwater
COC Reference: 78530

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 20:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.20**	83.0	119.0
1,2-Dichloroethane-D4		**101.00**	77.0	121.0
Toluene-D8		**95.20**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70218.03
Sample Tag: MW-13-50_120915
Collected Date/Time: 12/09/2015 12:40
Matrix: Groundwater
COC Reference: 78530

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 20:39, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.20**	83.0	119.0
1,2-Dichloroethane-D4		**101.40**	77.0	121.0
Toluene-D8		**90.80**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.80**	83.0	119.0
1,2-Dichloroethane-D4		**92.80**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**98.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151217W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151217a3.lcsw17a

Run in Batch: 151217A3, Run Date: 12/17/2015 12:10, Prep Date: 12/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151217a3.blkw17a

Run in Batch: 151217A3, Run Date: 12/17/2015 13:04, Prep Date: 12/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151217a3.lcsw17b, Parent Sample ID: 151217a3.lcsw17a

Run in Batch: 151217A3, Run Date: 12/17/2015 12:28, Prep Date: 12/17/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: MTD-121815-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-15-1218A.018.LCS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:46, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**100**	85	115
Chromium		**99**	85	115
Nickel		**101**	85	115
Copper		**104**	85	115
Arsenic		**103**	85	115
Lead		**98**	85	115

Blank (BLK)

Lab Sample ID: MT2-15-1218A.019.LRB

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 13:48, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Vanadium		**ND**	0.0008	mg/L
Chromium		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Copper		**ND**	0.002	mg/L
Arsenic		**ND**	0.0004	mg/L
Lead		**ND**	0.0006	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.031.MS, Parent Sample ID: S70164.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:07, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**100**	75	125
Nickel		**91**	75	125
Copper		**91**	75	125
Arsenic		**96**	75	125
Lead		**89**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-15-1218A.045.MS, Parent Sample ID: S70218.02

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:31, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Vanadium		**101**	75	125
Chromium		**99**	75	125
Nickel		**88**	75	125
Copper		**87**	75	125
Arsenic		**92**	75	125
Lead		**92**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Vanadium		**102**	75	125	**1**	20
Chromium		**100**	75	125	**0**	20

Metals, Prep Batch ID: MTD-121815-1 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-15-1218A.032.MSD, Parent Sample ID: MT2-15-1218A.031.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:09, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Nickel		**88**	75	125	**3**	20
Copper		**88**	75	125	**4**	20
Arsenic		**94**	75	125	**2**	20
Lead		**90**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-15-1218A.046.MSD, Parent Sample ID: MT2-15-1218A.045.MS

Run in Batch: MT2-15-1218A, Run Date: 12/18/2015 14:32, Prep Date: 12/18/2015, Matrix: Liquid, Dilution: 5

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Vanadium		**103**	75	125	**2**	20
Chromium		**103**	75	125	**4**	20
Nickel		**94**	75	125	**5**	20
Copper		**88**	75	125	**1**	20
Arsenic		**92**	75	125	**0**	20
Lead		**91**	75	125	**0**	20

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**97.58**	75.1	135.9
Diethyl ether		**104.28**	67.4	121.2
Acetone	*	**255.70**	29.9	161.5
Methyl iodide		**113.40**	68.8	116.4
Carbon disulfide		**98.84**	63.8	137.4
Methyl acetate		**111.64**	64.7	125.4
tert-Methyl butyl ether		**100.06**	73.2	122.4
Acrylonitrile		**121.72**	69.9	128.9
2-Butanone	*	**163.36**	44.0	134.4
Dichlorodifluoromethane		**116.78**	10.0	222.8
Chloromethane		**94.16**	23.8	166.5
Vinyl Chloride		**98.54**	43.5	149.1
Bromomethane		**101.02**	56.8	151.3
Chloroethane		**93.38**	53.4	149.4
Trichlorofluoromethane		**118.60**	59.7	151.8
1,1-Dichloroethene		**113.54**	69.6	139.4
Methylene Chloride		**116.54**	73.3	121.1
trans-1,2-Dichloroethene		**111.40**	73.6	129.3
1,1-Dichloroethane		**108.94**	71.5	126.2
cis-1,2-Dichloroethene		**112.28**	76.6	122.1
Tetrahydrofuran		**114.00**	59.0	117.9
Chloroform		**112.18**	78.4	124.0
Bromochloromethane	*	**121.40**	78.2	120.8
1,1,1-Trichloroethane		**108.92**	79.4	130.9
Cyclohexane		**79.04**	10.0	169.1
4-Methyl-2-pentanone	*	**126.16**	71.6	125.2
2-Hexanone	*	**150.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.46**	70.0	130.0
Carbon Tetrachloride		**121.50**	72.6	133.0
Benzene		**115.00**	79.9	124.9
1,2-Dichloroethane		**117.46**	76.0	126.3
Trichloroethene		**117.56**	79.7	124.2
1,2-Dichloropropane		**115.40**	78.6	126.4
Bromodichloromethane		**116.90**	80.4	128.2
Methyl cyclohexane		**104.36**	76.6	131.3
Dibromomethane	*	**135.28**	76.9	122.1
cis-1,3-Dichloropropene		**121.88**	79.8	129.9
Toluene		**116.98**	79.8	124.5
trans-1,3-Dichloropropene		**110.06**	74.0	131.3
1,1,2-Trichloroethane	*	**127.16**	78.7	123.1
Tetrachloroethene		**122.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**113.20**	68.6	135.4
Dibromochloromethane		**126.56**	74.6	127.2
1,2-Dibromoethane		**129.76**	70.3	133.7
Chlorobenzene		**119.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**120.44**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**116.08**	79.5	129.1
p,m-Xylene		**118.15**	79.4	132.2
o-Xylene		**115.22**	80.2	131.0
Styrene		**117.98**	69.5	126.7
Isopropylbenzene		**115.06**	74.4	121.5
Bromoform		**112.36**	69.4	128.0
1,1,2,2-Tetrachloroethane	*	**130.80**	79.8	126.3
1,2,3-Trichloropropane		**131.78**	78.3	138.8
n-Propylbenzene		**116.44**	82.0	130.7
Bromobenzene		**124.44**	78.7	124.6
1,3,5-Trimethylbenzene		**117.40**	81.3	128.9
tert-Butylbenzene		**114.96**	80.7	128.9
1,2,4-Trimethylbenzene		**119.46**	81.4	130.8
sec-Butylbenzene		**108.12**	77.4	129.8
p-Isopropyltoluene		**110.64**	79.8	137.5
1,3-Dichlorobenzene		**112.84**	77.0	131.3
1,4-Dichlorobenzene		**113.06**	20.7	137.7
1,2-Dichlorobenzene		**112.84**	10.0	166.2
1,2,3-Trimethylbenzene		**103.26**	76.3	124.2
n-Butylbenzene		**108.12**	80.0	133.3
Hexachloroethane		**91.52**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**113.40**	21.2	189.4
1,2,4-Trichlorobenzene		**114.86**	27.4	143.4
1,2,3-Trichlorobenzene		**119.98**	75.4	131.4
Naphthalene		**120.74**	32.9	135.8
2-Methylnaphthalene		**129.56**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluor		**ND**	1	ug/l
Diethyl ether (*)		**ND**	1	ug/l
Acetone (*)		**ND**	10	ug/l
Methyl iodide (iodomethane) (*		**ND**	1	ug/l
Carbon disulfide (*)		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
Acrylonitrile (*)		**ND**	1	ug/l
2-Butanone (MEK) (*)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane (SPCC)		**ND**	1	ug/l
Vinyl Chloride (CCC)		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Acrolein		**ND**	10	ug/l

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Trichlorofluoromethane		ND	1	ug/l
1,1-Dichloroethene (CCC/MS)		ND	1	ug/l
Methylene Chloride		ND	1	ug/l
trans-1,2-Dichloroethene		ND	1	ug/l
1,1-Dichloroethane (SPCC)		ND	1	ug/l
cis-1,2-Dichloroethene		ND	1	ug/l
Tetrahydrofuran		ND	10	ug/l
Chloroform (CCC)		ND	1	ug/l
Bromochloromethane		ND	1	ug/l
1,1,1-Trichloroethane		ND	1	ug/l
1,1-Dichloropropene		ND	1	ug/l
Cyclohexane		ND	1	ug/l
4-Methyl-2-pentanone (MIBK) (*		ND	1	ug/l
2-Hexanone (*)		ND	1	ug/l
2-chloroethylvinyl ether		ND	1	ug/l
Carbon Tetrachloride		ND	1	ug/l
Benzene (MS)		ND	1	ug/l
1,2-Dichloroethane		ND	1	ug/l
Trichloroethene (MS)		ND	1	ug/l
1,2-Dichloropropane (CCC)		ND	1	ug/l
Bromodichloromethane		ND	1	ug/l
Methyl Cyclohexane		ND	1	ug/l
Dibromomethane		ND	1	ug/l
cis-1,3-Dichloropropene		ND	1	ug/l
Toluene (CCC/MS)		ND	1	ug/l
trans-1,3-Dichloropropene		ND	1	ug/l
1,1,2-Trichloroethane		ND	1	ug/l
Tetrachloroethene		ND	1	ug/l
trans-1,4-Dichloro-2-butene		ND	1	ug/l
Dibromochloromethane		ND	1	ug/l
1,2-Dibromoethane		ND	1	ug/l
Chlorobenzene (SPCC/MS)		ND	1	ug/l
1,1,1,2-Tetrachloroethane		ND	1	ug/l
Ethylbenzene (CCC)		ND	1	ug/l
p,m-Xylene		ND	1	ug/l
o-Xylene		ND	1	ug/l
Styrene		ND	1	ug/l
Isopropylbenzene		ND	1	ug/l
Bromoform (SPCC)		ND	1	ug/l
1,1,2,2-Tetrachloroethane (SPC		ND	1	ug/l
1,2,3-Trichloropropane		ND	1	ug/l
n-Propylbenzene		ND	1	ug/l
Bromobenzene		ND	1	ug/l
1,3,5-Trimethylbenzene		ND	1	ug/l
tert-Butylbenzene		ND	1	ug/l
1,2,4-Trimethylbenzene		ND	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
sec-Butylbenzene		**ND**	1	ug/l
p-Isopropyltoluene		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,3-Trimethylbenzene		**ND**	1	ug/l
n-Butylbenzene		**ND**	1	ug/l
Hexachloroethane		**ND**	1	ug/l
1,2-Dibromo-3-Chloropropane		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
Hexachlorobutadiene		**ND**	1	ug/l
1,2,3-Trichlorobenzene		**ND**	1	ug/l
Naphthalene		**ND**	1	ug/l
2-Methylnaphthalene		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.62**	75.1	135.9	**4.1**	30.0
Diethyl ether		**99.24**	67.4	121.2	**5.0**	30.0
Acetone	*	**251.46**	29.9	161.5	**1.7**	30.0
Methyl iodide		**109.22**	68.8	116.4	**3.8**	30.0
Carbon disulfide		**95.20**	63.8	137.4	**3.8**	30.0
Methyl acetate		**109.30**	64.7	125.4	**2.1**	30.0
tert-Methyl butyl ether		**96.98**	73.2	122.4	**3.1**	30.0
Acrylonitrile		**116.70**	69.9	128.9	**4.2**	30.0
2-Butanone	*	**160.96**	44.0	134.4	**1.5**	30.0
Dichlorodifluoromethane		**113.08**	10.0	222.8	**3.2**	30.0
Chloromethane		**90.96**	23.8	166.5	**3.5**	30.0
Vinyl Chloride		**94.58**	43.5	149.1	**4.1**	30.0
Bromomethane		**95.18**	56.8	151.3	**6.0**	30.0
Chloroethane		**89.24**	53.4	149.4	**4.5**	30.0
Trichlorofluoromethane		**113.58**	59.7	151.8	**4.3**	30.0
1,1-Dichloroethene		**109.76**	69.6	139.4	**3.4**	30.0
Methylene Chloride		**110.78**	73.3	121.1	**5.1**	30.0
trans-1,2-Dichloroethene		**106.68**	73.6	129.3	**4.3**	30.0
1,1-Dichloroethane		**104.54**	71.5	126.2	**4.1**	30.0
cis-1,2-Dichloroethene		**107.12**	76.6	122.1	**4.7**	30.0
Tetrahydrofuran		**113.42**	59.0	117.9	**0.5**	30.0
Chloroform		**107.22**	78.4	124.0	**4.5**	30.0
Bromochloromethane		**116.46**	78.2	120.8	**4.2**	30.0
1,1,1-Trichloroethane		**104.62**	79.4	130.9	**4.0**	30.0
Cyclohexane	*	**58.18**	10.0	169.1	**30.4**	30.0
4-Methyl-2-pentanone	*	**125.32**	71.6	125.2	**0.7**	30.0
2-Hexanone	*	**149.60**	55.4	136.9	**0.5**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
2-Chloroethylvinyl ether	*	**2.60**	70.0	130.0	**5.5**	30.0
Carbon Tetrachloride		**118.92**	72.6	133.0	**2.1**	30.0
Benzene		**112.12**	79.9	124.9	**2.5**	30.0
1,2-Dichloroethane		**114.44**	76.0	126.3	**2.6**	30.0
Trichloroethene		**114.62**	79.7	124.2	**2.5**	30.0
1,2-Dichloropropane		**113.08**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**113.56**	80.4	128.2	**2.9**	30.0
Methyl cyclohexane		**101.90**	76.6	131.3	**2.4**	30.0
Dibromomethane	*	**131.18**	76.9	122.1	**3.1**	30.0
cis-1,3-Dichloropropene		**118.54**	79.8	129.9	**2.8**	30.0
Toluene		**113.78**	79.8	124.5	**2.8**	30.0
trans-1,3-Dichloropropene		**106.90**	74.0	131.3	**2.9**	30.0
1,1,2-Trichloroethane	*	**123.80**	78.7	123.1	**2.7**	30.0
Tetrachloroethene		**121.12**	74.5	124.5	**1.3**	30.0
trans-1,4-Dichloro-2-butene		**108.22**	68.6	135.4	**4.5**	30.0
Dibromochloromethane		**120.62**	74.6	127.2	**4.8**	30.0
1,2-Dibromoethane		**123.88**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**114.10**	79.2	122.7	**4.3**	30.0
1,1,1,2-Tetrachloroethane		**115.54**	80.3	128.2	**4.2**	30.0
Ethylbenzene		**110.64**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**112.20**	79.4	132.2	**5.2**	30.0
o-Xylene		**109.84**	80.2	131.0	**4.8**	30.0
Styrene		**111.76**	69.5	126.7	**5.4**	30.0
Isopropylbenzene		**110.34**	74.4	121.5	**4.2**	30.0
Bromoform		**108.20**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane	*	**126.40**	79.8	126.3	**3.4**	30.0
1,2,3-Trichloropropane		**129.48**	78.3	138.8	**1.8**	30.0
n-Propylbenzene		**111.12**	82.0	130.7	**4.7**	30.0
Bromobenzene		**118.68**	78.7	124.6	**4.7**	30.0
1,3,5-Trimethylbenzene		**112.58**	81.3	128.9	**4.2**	30.0
tert-Butylbenzene		**110.26**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**96.54**	81.4	130.8	**21.2**	30.0
sec-Butylbenzene		**104.52**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**106.84**	79.8	137.5	**3.5**	30.0
1,3-Dichlorobenzene		**109.04**	77.0	131.3	**3.4**	30.0
1,4-Dichlorobenzene		**108.76**	20.7	137.7	**3.9**	30.0
1,2-Dichlorobenzene		**108.98**	10.0	166.2	**3.5**	30.0
1,2,3-Trimethylbenzene		**99.62**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**104.36**	80.0	133.3	**3.5**	30.0
Hexachloroethane		**88.08**	23.8	138.1	**3.8**	30.0
1,2-Dibromo-3-Chloropropane		**111.04**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**111.86**	27.4	143.4	**2.6**	30.0
1,2,3-Trichlorobenzene		**116.90**	75.4	131.4	**2.6**	30.0
Naphthalene		**118.76**	32.9	135.8	**1.7**	30.0
2-Methylnaphthalene		**130.68**	25.5	165.5	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VS151217W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151217a3.lcsw17a

Run in Batch: 151217A3, Run Date: 12/17/2015 12:10, Prep Date: 12/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**116.70**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151217a3.blkw17a

Run in Batch: 151217A3, Run Date: 12/17/2015 13:04, Prep Date: 12/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,2-Dibromo-3-chloropropane		**ND**	0.02	ug/l
1,4-Dioxane	*	**2.3**	1	ug/l
1,2-Dibromoethane		**ND**	0.02	ug/l
Dibromomethane		**ND**	0.02	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151217a3.lcsw17b, Parent Sample ID: 151217a3.lcsw17a

Run in Batch: 151217A3, Run Date: 12/17/2015 12:28, Prep Date: 12/17/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**111.78**	70.0	130.0	**4.3**	30.0

Merit Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

78530

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 10559 Citation Drive
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: (810) 229-8594 FAX NO.: (810) 229-8837 P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☑ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Plant 6 GWS: B006448I.2015.00603
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Doug Spencer

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane	Select Metals Total	Select Metals Dissolved	Special Instructions
70218.01	12/9/15	08:00	TB0001_120915	L	1		1						X				Select Metals:
.02	12/9/15	10:57	MW-02-03(6)_120915	GW	5		3	2					X	X	X	X	Arsenic, nickel, lead,
.03	12/9/15	12:40	MW-13-52_120915	GW	3		3						X	X			vanadium, chromium,
																	copper

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
PM Env.		12/9/15	17:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
PM Storage			
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
PM Storage			
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
		12-10-15	9:45

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME
	12-10-15	9:50
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S70219.01(01)
Generated on 12/23/2015

Report to

Attention: Randy Christensen
Arcadis
10559 Citation Drive
Suite 100
Brighton, MI 48116

Phone: 810-225-1940 FAX: 810-229-8837

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S70219.01-S70219.04
Project: RACER Lansing P6 / B0064481.2015
Submitted Date/Time: 12/10/2015 09:50
Sampled by: Cliff Walls
P.O. #: B0064481.2015

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-5)
Prep Batch Summary (Page 6)
Surrogates per Lab Sample (Pages 7-10)
Surrogates per QC Sample (Pages 11-12)
Batch QC Results (Pages 13-18)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S70219.01
Sample Tag: TB_0002_120912
Collected Date/Time: 12/09/2015 07:00
Matrix: Liquid
COC Reference: 92785

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 20:59	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 20:59	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 20:59	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70219.02
Sample Tag: MW-13-52_120915
Collected Date/Time: 12/09/2015 13:00
Matrix: Groundwater
COC Reference: 92785

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 21:19	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 21:19	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 20:05	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 21:19	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70219.03
Sample Tag: MW-13-53_120915
Collected Date/Time: 12/09/2015 14:45
Matrix: Groundwater
COC Reference: 92785

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 21:39	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 21:39	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	12/16/15 20:23	151216A3	VS151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 21:39	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S70219.04
Sample Tag: FB_0002_120912
Collected Date/Time: 12/09/2015 15:00
Matrix: Liquid
COC Reference: 92785

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 21:59	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	12/16/15 21:59	151216A6	VF151216W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	12/16/15 21:59	151216A6	VF151216W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70219.01	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 20:59	151216A6
S70219.01	1,2-Dibromoethane	SW8260B	12/16/15 20:59	151216A6
S70219.01	TCL Volatile Organics 8260	SW8260C	12/16/15 20:59	151216A6
S70219.02	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 21:19	151216A6
S70219.02	1,2-Dibromoethane	SW8260B	12/16/15 21:19	151216A6
S70219.02	TCL Volatile Organics 8260	SW8260C	12/16/15 21:19	151216A6
S70219.03	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 21:39	151216A6
S70219.03	1,2-Dibromoethane	SW8260B	12/16/15 21:39	151216A6
S70219.03	TCL Volatile Organics 8260	SW8260C	12/16/15 21:39	151216A6
S70219.04	1,2-Dibromo-3-chloropropane	SW8260C	12/16/15 21:59	151216A6
S70219.04	1,2-Dibromoethane	SW8260B	12/16/15 21:59	151216A6
S70219.04	TCL Volatile Organics 8260	SW8260C	12/16/15 21:59	151216A6

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S70219.02	1,4-Dioxane	SW8260B - SIM	12/16/15 20:05	151216A3
S70219.03	1,4-Dioxane	SW8260B - SIM	12/16/15 20:23	151216A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70219.01
Sample Tag: TB_0002_120912
Collected Date/Time: 12/09/2015 07:00
Matrix: Liquid
COC Reference: 92785

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 20:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.80**	83.0	119.0
1,2-Dichloroethane-D4		**104.40**	77.0	121.0
Toluene-D8		**95.80**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70219.02
Sample Tag: MW-13-52_120915
Collected Date/Time: 12/09/2015 13:00
Matrix: Groundwater
COC Reference: 92785

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 21:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.60**	83.0	119.0
1,2-Dichloroethane-D4		**103.20**	77.0	121.0
Toluene-D8		**91.60**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70219.03
Sample Tag: MW-13-53_120915
Collected Date/Time: 12/09/2015 14:45
Matrix: Groundwater
COC Reference: 92785

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 21:39, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.80**	83.0	119.0
1,2-Dichloroethane-D4		**101.00**	77.0	121.0
Toluene-D8		**92.00**	86.0	118.0

QC Report - Surrogates per Lab Sample

Lab Sample ID: S70219.04
Sample Tag: FB_0002_120912
Collected Date/Time: 12/09/2015 15:00
Matrix: Liquid
COC Reference: 92785

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 151216A6, Run Date: 12/16/2015 21:59, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.80**	83.0	119.0
1,2-Dichloroethane-D4		**103.00**	77.0	121.0
Toluene-D8		**96.60**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**107.80**	83.0	119.0
1,2-Dichloroethane-D4		**92.80**	77.0	121.0
Toluene-D8		**101.60**	86.0	118.0

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**99.40**	83.0	119.0
1,2-Dichloroethane-D4		**98.20**	77.0	121.0
Toluene-D8		**96.00**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.40**	83.0	119.0
1,2-Dichloroethane-D4		**92.60**	77.0	121.0
Toluene-D8		**103.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS151216W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VF151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**97.58**	75.1	135.9
Diethyl ether		**104.28**	67.4	121.2
Acetone	*	**255.70**	29.9	161.5
Methyl iodide		**113.40**	68.8	116.4
Carbon disulfide		**98.84**	63.8	137.4
Methyl acetate		**111.64**	64.7	125.4
tert-Methyl butyl ether		**100.06**	73.2	122.4
Acrylonitrile		**121.72**	69.9	128.9
2-Butanone	*	**163.36**	44.0	134.4
Dichlorodifluoromethane		**116.78**	10.0	222.8
Chloromethane		**94.16**	23.8	166.5
Vinyl Chloride		**98.54**	43.5	149.1
Bromomethane		**101.02**	56.8	151.3
Chloroethane		**93.38**	53.4	149.4
Trichlorofluoromethane		**118.60**	59.7	151.8
1,1-Dichloroethene		**113.54**	69.6	139.4
Methylene Chloride		**116.54**	73.3	121.1
trans-1,2-Dichloroethene		**111.40**	73.6	129.3
1,1-Dichloroethane		**108.94**	71.5	126.2
cis-1,2-Dichloroethene		**112.28**	76.6	122.1
Tetrahydrofuran		**114.00**	59.0	117.9
Chloroform		**112.18**	78.4	124.0
Bromochloromethane	*	**121.40**	78.2	120.8
1,1,1-Trichloroethane		**108.92**	79.4	130.9
Cyclohexane		**79.04**	10.0	169.1
4-Methyl-2-pentanone	*	**126.16**	71.6	125.2
2-Hexanone	*	**150.36**	55.4	136.9
2-Chloroethylvinyl ether	*	**2.46**	70.0	130.0
Carbon Tetrachloride		**121.50**	72.6	133.0
Benzene		**115.00**	79.9	124.9
1,2-Dichloroethane		**117.46**	76.0	126.3
Trichloroethene		**117.56**	79.7	124.2
1,2-Dichloropropane		**115.40**	78.6	126.4
Bromodichloromethane		**116.90**	80.4	128.2
Methyl cyclohexane		**104.36**	76.6	131.3
Dibromomethane	*	**135.28**	76.9	122.1
cis-1,3-Dichloropropene		**121.88**	79.8	129.9
Toluene		**116.98**	79.8	124.5
trans-1,3-Dichloropropene		**110.06**	74.0	131.3
1,1,2-Trichloroethane	*	**127.16**	78.7	123.1
Tetrachloroethene		**122.68**	74.5	124.5
trans-1,4-Dichloro-2-butene		**113.20**	68.6	135.4
Dibromochloromethane		**126.56**	74.6	127.2
1,2-Dibromoethane		**129.76**	70.3	133.7
Chlorobenzene		**119.16**	79.2	122.7
1,1,1,2-Tetrachloroethane		**120.44**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:14, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**116.08**	79.5	129.1
p,m-Xylene		**118.15**	79.4	132.2
o-Xylene		**115.22**	80.2	131.0
Styrene		**117.98**	69.5	126.7
Isopropylbenzene		**115.06**	74.4	121.5
Bromoform		**112.36**	69.4	128.0
1,1,2,2-Tetrachloroethane	*	**130.80**	79.8	126.3
1,2,3-Trichloropropane		**131.78**	78.3	138.8
n-Propylbenzene		**116.44**	82.0	130.7
Bromobenzene		**124.44**	78.7	124.6
1,3,5-Trimethylbenzene		**117.40**	81.3	128.9
tert-Butylbenzene		**114.96**	80.7	128.9
1,2,4-Trimethylbenzene		**119.46**	81.4	130.8
sec-Butylbenzene		**108.12**	77.4	129.8
p-Isopropyltoluene		**110.64**	79.8	137.5
1,3-Dichlorobenzene		**112.84**	77.0	131.3
1,4-Dichlorobenzene		**113.06**	20.7	137.7
1,2-Dichlorobenzene		**112.84**	10.0	166.2
1,2,3-Trimethylbenzene		**103.26**	76.3	124.2
n-Butylbenzene		**108.12**	80.0	133.3
Hexachloroethane		**91.52**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**113.40**	21.2	189.4
1,2,4-Trichlorobenzene		**114.86**	27.4	143.4
1,2,3-Trichlorobenzene		**119.98**	75.4	131.4
Naphthalene		**120.74**	32.9	135.8
2-Methylnaphthalene		**129.56**	25.5	165.5

Blank (BLK)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l
trans-1,2-Dichloroethene		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 151216a6.blkw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 14:55, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	1	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**93.62**	75.1	135.9	**4.1**	30.0
Diethyl ether		**99.24**	67.4	121.2	**5.0**	30.0
Acetone	*	**251.46**	29.9	161.5	**1.7**	30.0
Methyl iodide		**109.22**	68.8	116.4	**3.8**	30.0
Carbon disulfide		**95.20**	63.8	137.4	**3.8**	30.0
Methyl acetate		**109.30**	64.7	125.4	**2.1**	30.0
tert-Methyl butyl ether		**96.98**	73.2	122.4	**3.1**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Acrylonitrile		**116.70**	69.9	128.9	**4.2**	30.0
2-Butanone	*	**160.96**	44.0	134.4	**1.5**	30.0
Dichlorodifluoromethane		**113.08**	10.0	222.8	**3.2**	30.0
Chloromethane		**90.96**	23.8	166.5	**3.5**	30.0
Vinyl Chloride		**94.58**	43.5	149.1	**4.1**	30.0
Bromomethane		**95.18**	56.8	151.3	**6.0**	30.0
Chloroethane		**89.24**	53.4	149.4	**4.5**	30.0
Trichlorofluoromethane		**113.58**	59.7	151.8	**4.3**	30.0
1,1-Dichloroethene		**109.76**	69.6	139.4	**3.4**	30.0
Methylene Chloride		**110.78**	73.3	121.1	**5.1**	30.0
trans-1,2-Dichloroethene		**106.68**	73.6	129.3	**4.3**	30.0
1,1-Dichloroethane		**104.54**	71.5	126.2	**4.1**	30.0
cis-1,2-Dichloroethene		**107.12**	76.6	122.1	**4.7**	30.0
Tetrahydrofuran		**113.42**	59.0	117.9	**0.5**	30.0
Chloroform		**107.22**	78.4	124.0	**4.5**	30.0
Bromochloromethane		**116.46**	78.2	120.8	**4.2**	30.0
1,1,1-Trichloroethane		**104.62**	79.4	130.9	**4.0**	30.0
Cyclohexane	*	**58.18**	10.0	169.1	**30.4**	30.0
4-Methyl-2-pentanone	*	**125.32**	71.6	125.2	**0.7**	30.0
2-Hexanone	*	**149.60**	55.4	136.9	**0.5**	30.0
2-Chloroethylvinyl ether	*	**2.60**	70.0	130.0	**5.5**	30.0
Carbon Tetrachloride		**118.92**	72.6	133.0	**2.1**	30.0
Benzene		**112.12**	79.9	124.9	**2.5**	30.0
1,2-Dichloroethane		**114.44**	76.0	126.3	**2.6**	30.0
Trichloroethene		**114.62**	79.7	124.2	**2.5**	30.0
1,2-Dichloropropane		**113.08**	78.6	126.4	**2.0**	30.0
Bromodichloromethane		**113.56**	80.4	128.2	**2.9**	30.0
Methyl cyclohexane		**101.90**	76.6	131.3	**2.4**	30.0
Dibromomethane	*	**131.18**	76.9	122.1	**3.1**	30.0
cis-1,3-Dichloropropene		**118.54**	79.8	129.9	**2.8**	30.0
Toluene		**113.78**	79.8	124.5	**2.8**	30.0
trans-1,3-Dichloropropene		**106.90**	74.0	131.3	**2.9**	30.0
1,1,2-Trichloroethane	*	**123.80**	78.7	123.1	**2.7**	30.0
Tetrachloroethene		**121.12**	74.5	124.5	**1.3**	30.0
trans-1,4-Dichloro-2-butene		**108.22**	68.6	135.4	**4.5**	30.0
Dibromochloromethane		**120.62**	74.6	127.2	**4.8**	30.0
1,2-Dibromoethane		**123.88**	70.3	133.7	**4.6**	30.0
Chlorobenzene		**114.10**	79.2	122.7	**4.3**	30.0
1,1,1,2-Tetrachloroethane		**115.54**	80.3	128.2	**4.2**	30.0
Ethylbenzene		**110.64**	79.5	129.1	**4.8**	30.0
p,m-Xylene		**112.20**	79.4	132.2	**5.2**	30.0
o-Xylene		**109.84**	80.2	131.0	**4.8**	30.0
Styrene		**111.76**	69.5	126.7	**5.4**	30.0
Isopropylbenzene		**110.34**	74.4	121.5	**4.2**	30.0
Bromoform		**108.20**	69.4	128.0	**3.8**	30.0
1,1,2,2-Tetrachloroethane	*	**126.40**	79.8	126.3	**3.4**	30.0

Organics - Volatiles, Prep Batch ID: VF151216W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 151216a6.lcsw16b, Parent Sample ID: 151216a6.lcsw16a

Run in Batch: 151216A6, Run Date: 12/16/2015 13:34, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**129.48**	78.3	138.8	**1.8**	30.0
n-Propylbenzene		**111.12**	82.0	130.7	**4.7**	30.0
Bromobenzene		**118.68**	78.7	124.6	**4.7**	30.0
1,3,5-Trimethylbenzene		**112.58**	81.3	128.9	**4.2**	30.0
tert-Butylbenzene		**110.26**	80.7	128.9	**4.2**	30.0
1,2,4-Trimethylbenzene		**96.54**	81.4	130.8	**21.2**	30.0
sec-Butylbenzene		**104.52**	77.4	129.8	**3.4**	30.0
p-Isopropyltoluene		**106.84**	79.8	137.5	**3.5**	30.0
1,3-Dichlorobenzene		**109.04**	77.0	131.3	**3.4**	30.0
1,4-Dichlorobenzene		**108.76**	20.7	137.7	**3.9**	30.0
1,2-Dichlorobenzene		**108.98**	10.0	166.2	**3.5**	30.0
1,2,3-Trimethylbenzene		**99.62**	76.3	124.2	**3.6**	30.0
n-Butylbenzene		**104.36**	80.0	133.3	**3.5**	30.0
Hexachloroethane		**88.08**	23.8	138.1	**3.8**	30.0
1,2-Dibromo-3-Chloropropane		**111.04**	21.2	189.4	**2.1**	30.0
1,2,4-Trichlorobenzene		**111.86**	27.4	143.4	**2.6**	30.0
1,2,3-Trichlorobenzene		**116.90**	75.4	131.4	**2.6**	30.0
Naphthalene		**118.76**	32.9	135.8	**1.7**	30.0
2-Methylnaphthalene		**130.68**	25.5	165.5	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VS151216W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 13:47, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**114.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 151216a3.blkw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 15:35, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**1.4**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 151216a3.lcsw16b, Parent Sample ID: 151216a3.lcsw16a

Run in Batch: 151216A3, Run Date: 12/16/2015 14:05, Prep Date: 12/16/2015, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**92.48**	70.0	130.0	**21.4**	30.0

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C.O.C. PAGE # 1 OF 1

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CHAIN OF CUSTODY RECORD

REPORT TO

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COMPANY: Arcadis
ADDRESS: 10559 Citation Drive Suite 100
CITY: Brighton STATE: MI ZIP CODE: 48116
PHONE NO.: 810 229 8594 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Randy.Christensen@arcadis-us.com QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
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CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: Racer Landfill PO# B00644892015
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Cliff Walls

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC	1,4 Dioxane
70219.01	120915	700	TB_0002_120912	L	1		1						X	
.02		1300	MW-13-52_120915	GW	3		3						X	X
.03		1445	MW-13-53_1209_15	GW	3		3						X	X
.04		1500	FB_0002_120912	L	3		3						X	

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Cliff Walls ☒ Sampler DATE 12915 TIME 1700
RECEIVED BY: SIGNATURE/ORGANIZATION: RMF Storage DATE 12915 TIME 1700
RELINQUISHED BY: SIGNATURE/ORGANIZATION: RMF Storage DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE 12/16/15 TIME 0945

RELINQUISHED BY: SIGNATURE/ORGANIZATION: DATE 12.16.15 TIME
RECEIVED BY: SIGNATURE/ORGANIZATION: DATE 12/16/15 TIME 1550
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
NOTES: TEMP. ON ARRIVAL 5.0

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S72153.01(01)
Generated on 04/20/2016

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S72153.01-S72153.09
Project: RACER Lansing / Plant-3
Submitted Date/Time: 03/17/2016 08:00
Sampled by: Billy J. Cobern
P.O. #: B0064480.2016

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-10)
Prep Batch Summary (Pages 11-13)
Surrogates per Lab Sample (Pages 14-19)
Surrogates per QC Sample (Pages 20-24)
Batch QC Results (Pages 25-41)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S72153.01
Sample Tag: MW-13-48_031516
Collected Date/Time: 03/15/2016 10:05
Matrix: Groundwater
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 13:24	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 13:24	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 16:36	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 13:24	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72153.02
Sample Tag: MW-15-71_031516
Collected Date/Time: 03/15/2016 11:10
Matrix: Groundwater
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Iron	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Mercury	SW7471B	03/18/16 12:10	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	03/30/16 13:09	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	03/22/16 22:39	H160322	SF160322W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	03/22/16 22:39	H160322B	SF160322W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 13:46	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 13:46	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 14:17	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 13:46	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72153.03
Sample Tag: MW-13-22_031516
Collected Date/Time: 03/15/2016 12:40
Matrix: Groundwater
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 19:58	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 19:58	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/18/16 13:24	160317A3	VS160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 19:58	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72153.04
Sample Tag: MW-13-31_031516
Collected Date/Time: 03/15/2016 14:45
Matrix: Groundwater
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 13:11	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:11	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:11	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:11	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:11	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:11	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD

Lab Sample ID: S72153.05
Sample Tag: MW-13-32_031516
Collected Date/Time: 03/15/2016 16:30
Matrix: Groundwater
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	03/30/16 13:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD

Lab Sample ID: S72153.06
Sample Tag: Dup-02_03152016
Collected Date/Time: 03/15/2016 00:01
Matrix: Groundwater
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Arsenic	SW6020A	03/30/16 13:18	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:18	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:18	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:18	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:18	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:18	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD

Lab Sample ID: S72153.07
Sample Tag: Trip Blank_031516
Collected Date/Time: 03/15/2016 00:01
Matrix: Liquid
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 14:08	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 14:08	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 14:08	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72153.08
Sample Tag: FB-0004_031516
Collected Date/Time: 03/15/2016 17:05
Matrix: Liquid
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 14:30	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 14:30	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 14:30	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72153.09
Sample Tag: EB-0004_031516
Collected Date/Time: 03/15/2016 17:15
Matrix: Liquid
COC Reference: 100703

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Iron	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Mercury	SW7471B	03/18/16 12:12	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	03/30/16 13:20	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 14:52	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 14:52	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 14:52	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Metals, Prep Batch ID: HGD-031816-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.02	Mercury	SW7471B	03/18/16 12:10	HG2-16-0318A
S72153.09	Mercury	SW7471B	03/18/16 12:12	HG2-16-0318A

Metals, Prep Batch ID: MTD-033016-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.02	Antimony	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Arsenic	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Barium	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Boron	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Cadmium	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Chromium	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Cobalt	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Copper	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Iron	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Lead	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Manganese	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Nickel	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Selenium	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Silver	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Vanadium	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.02	Zinc	SW6020A	03/30/16 13:09	MT2-16-0330B
S72153.04	Arsenic, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B
S72153.04	Arsenic	SW6020A	03/30/16 13:11	MT2-16-0330B
S72153.04	Chromium, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B
S72153.04	Chromium	SW6020A	03/30/16 13:11	MT2-16-0330B
S72153.04	Copper, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B
S72153.04	Copper	SW6020A	03/30/16 13:11	MT2-16-0330B
S72153.04	Lead, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B
S72153.04	Lead	SW6020A	03/30/16 13:11	MT2-16-0330B
S72153.04	Nickel, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B
S72153.04	Nickel	SW6020A	03/30/16 13:11	MT2-16-0330B
S72153.04	Vanadium, Dissolved	SW6020A	03/30/16 13:14	MT2-16-0330B
S72153.04	Vanadium	SW6020A	03/30/16 13:11	MT2-16-0330B
S72153.05	Arsenic	SW6020A	03/30/16 13:16	MT2-16-0330B
S72153.05	Chromium	SW6020A	03/30/16 13:16	MT2-16-0330B
S72153.05	Copper	SW6020A	03/30/16 13:16	MT2-16-0330B
S72153.05	Lead	SW6020A	03/30/16 13:16	MT2-16-0330B
S72153.05	Nickel	SW6020A	03/30/16 13:16	MT2-16-0330B
S72153.05	Vanadium	SW6020A	03/30/16 13:16	MT2-16-0330B
S72153.06	Arsenic	SW6020A	03/30/16 13:18	MT2-16-0330B
S72153.06	Chromium	SW6020A	03/30/16 13:18	MT2-16-0330B
S72153.06	Copper	SW6020A	03/30/16 13:18	MT2-16-0330B
S72153.06	Lead	SW6020A	03/30/16 13:18	MT2-16-0330B
S72153.06	Nickel	SW6020A	03/30/16 13:18	MT2-16-0330B
S72153.06	Vanadium	SW6020A	03/30/16 13:18	MT2-16-0330B
S72153.09	Antimony	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Arsenic	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Barium	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Boron	SW6020A	03/30/16 13:20	MT2-16-0330B

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.09	Cadmium	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Chromium	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Cobalt	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Copper	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Iron	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Lead	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Manganese	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Nickel	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Selenium	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Silver	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Vanadium	SW6020A	03/30/16 13:20	MT2-16-0330B
S72153.09	Zinc	SW6020A	03/30/16 13:20	MT2-16-0330B

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.02	TCL Semi-Volatile Organics	SW8270D	03/22/16 22:39	H160322
S72153.02	TCL Semi-Volatile Organics	SW8270D	03/22/16 22:39	H160322B

Organics - Volatiles, Prep Batch ID: VF160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.01	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 13:24	160318A7
S72153.01	1,2-Dibromoethane	SW8260B	03/18/16 13:24	160318A7
S72153.01	TCL Volatile Organics 8260	SW8260C	03/18/16 13:24	160318A7
S72153.02	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 13:46	160318A7
S72153.02	1,2-Dibromoethane	SW8260B	03/18/16 13:46	160318A7
S72153.02	TCL Volatile Organics 8260	SW8260C	03/18/16 13:46	160318A7
S72153.03	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 19:58	160318A7
S72153.03	1,2-Dibromoethane	SW8260B	03/18/16 19:58	160318A7
S72153.03	TCL Volatile Organics 8260	SW8260C	03/18/16 19:58	160318A7
S72153.07	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 14:08	160318A7
S72153.07	1,2-Dibromoethane	SW8260B	03/18/16 14:08	160318A7
S72153.07	TCL Volatile Organics 8260	SW8260C	03/18/16 14:08	160318A7
S72153.08	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 14:30	160318A7
S72153.08	1,2-Dibromoethane	SW8260B	03/18/16 14:30	160318A7
S72153.08	TCL Volatile Organics 8260	SW8260C	03/18/16 14:30	160318A7
S72153.09	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 14:52	160318A7
S72153.09	1,2-Dibromoethane	SW8260B	03/18/16 14:52	160318A7
S72153.09	TCL Volatile Organics 8260	SW8260C	03/18/16 14:52	160318A7

Organics - Volatiles, Prep Batch ID: VS160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.03	1,4-Dioxane	SW8260B - SIM	03/18/16 13:24	160317A3

Organics - Volatiles, Prep Batch ID: VS160322W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72153.01	1,4-Dioxane	SW8260B - SIM	03/22/16 16:36	160322A3
S72153.02	1,4-Dioxane	SW8260B - SIM	03/22/16 14:17	160322A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S72153.01
Sample Tag: MW-13-48_031516
Collected Date/Time: 03/15/2016 10:05
Matrix: Groundwater
COC Reference: 100703

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 13:24, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.80**	83.0	119.0
1,2-Dichloroethane-D4		**94.60**	77.0	121.0
Toluene-D8		**94.80**	86.0	118.0

Lab Sample ID: S72153.02
Sample Tag: MW-15-71_031516
Collected Date/Time: 03/15/2016 11:10
Matrix: Groundwater
COC Reference: 100703

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H160322, Run Date: 03/22/2016 22:39, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**49.70**	10.0	110.0
2-Fluorobiphenyl		**78.40**	10.0	116.0
Nitrobenzene-D5		**78.90**	10.0	114.0
Phenol-D5		**42.60**	10.0	110.0
2,4,6-Tribromophenol		**76.40**	10.0	123.0
Terphenyl-D14		**92.30**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 13:46, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.00**	83.0	119.0
1,2-Dichloroethane-D4		**100.00**	77.0	121.0
Toluene-D8		**92.60**	86.0	118.0

Lab Sample ID: S72153.03
Sample Tag: MW-13-22_031516
Collected Date/Time: 03/15/2016 12:40
Matrix: Groundwater
COC Reference: 100703

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 19:58, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.60**	83.0	119.0
1,2-Dichloroethane-D4		**97.40**	77.0	121.0
Toluene-D8		**95.40**	86.0	118.0

Lab Sample ID: S72153.07
Sample Tag: Trip Blank_031516
Collected Date/Time: 03/15/2016 00:01
Matrix: Liquid
COC Reference: 100703

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 14:08, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**97.20**	83.0	119.0
1,2-Dichloroethane-D4		**94.80**	77.0	121.0
Toluene-D8		**93.40**	86.0	118.0

Lab Sample ID: S72153.08
Sample Tag: FB-0004_031516
Collected Date/Time: 03/15/2016 17:05
Matrix: Liquid
COC Reference: 100703

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 14:30, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**96.20**	83.0	119.0
1,2-Dichloroethane-D4		**102.60**	77.0	121.0
Toluene-D8		**90.00**	86.0	118.0

Lab Sample ID: S72153.09
Sample Tag: EB-0004_031516
Collected Date/Time: 03/15/2016 17:15
Matrix: Liquid
COC Reference: 100703

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 14:52, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.40**	83.0	119.0
1,2-Dichloroethane-D4		**93.40**	77.0	121.0
Toluene-D8		**92.80**	86.0	118.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.80**	10.0	110.0
2-Fluorobiphenyl		**60.20**	10.0	116.0
Nitrobenzene-D5		**63.00**	10.0	114.0
Phenol-D5		**59.60**	10.0	110.0
2,4,6-Tribromophenol		**59.40**	10.0	123.0
Terphenyl-D14		**67.00**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.10**	10.0	110.0
2-Fluorobiphenyl		**58.50**	10.0	116.0
Nitrobenzene-D5		**62.60**	10.0	114.0
Phenol-D5		**58.40**	10.0	110.0
2,4,6-Tribromophenol		**55.30**	10.0	123.0
Terphenyl-D14		**68.70**	10.0	141.0

Blank (BLK)

Lab Sample ID: h160322b.blkw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: z160329.blkw29a

Run in Batch: Z160329, Run Date: 03/29/2016 20:34, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**60.60**	10.0	110.0
2-Fluorobiphenyl		**64.40**	10.0	116.0
Nitrobenzene-D5		**67.20**	10.0	114.0
Phenol-D5		**64.80**	10.0	110.0
2,4,6-Tribromophenol		**65.70**	10.0	123.0
Terphenyl-D14		**74.70**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF160318W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**114.20**	83.0	119.0
1,2-Dichloroethane-D4		**93.60**	77.0	121.0
Toluene-D8		**94.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.80**	83.0	119.0
1,2-Dichloroethane-D4		**94.00**	77.0	121.0
Toluene-D8		**91.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**86.40**	77.0	121.0
Toluene-D8		**93.80**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS160318W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:00, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 160317a3.blkw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 12:30, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160317a3.lcsw18b, Parent Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:18, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Organics - Volatiles, Prep Batch ID: VS160322W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:11, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 160322a3.blkw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 13:59, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160322a3.lcsw22c, Parent Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:47, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: HGD-031816-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-16-0318A.015.LCS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:02, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**100**	85	115

Blank (BLK)

Lab Sample ID: HG2-16-0318A.016.LRB

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:04, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-16-0318A.027.MS, Parent Sample ID: S72169.01

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:26, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: HG2-16-0318A.041.MS, Parent Sample ID: S72188.01

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:54, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**97**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-16-0318A.028.MSD, Parent Sample ID: HG2-16-0318A.027.MS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:28, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**101**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-16-0318A.042.MSD, Parent Sample ID: HG2-16-0318A.041.MS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:56, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**99**	75	125	**2**	20

Metals, Prep Batch ID: MTD-033016-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-16-0330B.022.LCS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 12:30, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Silver		**95**	85	115
Arsenic		**102**	85	115
Barium		**99**	85	115
Boron		**92**	85	115
Cadmium		**99**	85	115
Cobalt		**104**	85	115
Chromium		**102**	85	115
Copper		**101**	85	115
Iron		**99**	85	115
Manganese		**100**	85	115
Nickel		**104**	85	115
Lead		**101**	85	115
Antimony		**98**	85	115
Selenium		**99**	85	115
Vanadium		**101**	85	115
Zinc		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-16-0330B.023.LRB

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 12:36, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Silver		**ND**	0.0002	mg/L
Arsenic		**ND**	0.0004	mg/L
Barium		**ND**	0.001	mg/L
Boron		**ND**	0.02	mg/L
Cadmium		**ND**	0.0001	mg/L
Cobalt		**ND**	0.001	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Manganese		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Antimony		**ND**	0.001	mg/L
Selenium		**ND**	0.001	mg/L
Vanadium		**ND**	0.0008	mg/L
Zinc		**ND**	0.002	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-16-0330B.036.MS, Parent Sample ID: S72155.04

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:43, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	75	125
Arsenic		**98**	75	125
Barium		**108**	75	125
Boron		**92**	75	125

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-16-0330B.036.MS, Parent Sample ID: S72155.04

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:43, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Cadmium		**102**	75	125
Cobalt		**99**	75	125
Chromium		**102**	75	125
Copper		**91**	75	125
Iron		**80**	75	125
Manganese		**98**	75	125
Nickel		**97**	75	125
Lead		**95**	75	125
Antimony		**102**	75	125
Selenium		**97**	75	125
Vanadium		**105**	75	125
Zinc		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-16-0330B.042.MS, Parent Sample ID: S72155.07

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 14:31, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	75	125
Arsenic		**99**	75	125
Barium		**120**	75	125
Boron		**92**	75	125
Cadmium		**102**	75	125
Cobalt		**97**	75	125
Chromium		**104**	75	125
Copper		**90**	75	125
Iron		**112**	75	125
Manganese		**98**	75	125
Nickel		**96**	75	125
Lead		**93**	75	125
Antimony		**105**	75	125
Selenium		**100**	75	125
Vanadium		**104**	75	125
Zinc		**94**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-16-0330B.037.MSD, Parent Sample ID: MT2-16-0330B.036.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:56, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**96**	75	125	**2**	20
Arsenic		**100**	75	125	**2**	20
Barium		**108**	75	125	**0**	20
Boron		**91**	75	125	**1**	20
Cadmium		**98**	75	125	**5**	20
Cobalt		**97**	75	125	**2**	20
Chromium		**101**	75	125	**1**	20
Copper		**91**	75	125	**0**	20

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-16-0330B.037.MSD, Parent Sample ID: MT2-16-0330B.036.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:56, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Iron		**96**	75	125	**0**	20
Manganese		**99**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Lead		**95**	75	125	**0**	20
Antimony		**101**	75	125	**1**	20
Selenium		**101**	75	125	**4**	20
Vanadium		**102**	75	125	**2**	20
Zinc		**95**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-16-0330B.043.MSD, Parent Sample ID: MT2-16-0330B.042.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 14:53, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**97**	75	125	**1**	20
Arsenic		**100**	75	125	**1**	20
Barium		**108**	75	125	**2**	20
Boron		**92**	75	125	**0**	20
Cadmium		**98**	75	125	**4**	20
Cobalt		**96**	75	125	**1**	20
Chromium		**104**	75	125	**0**	20
Copper		**91**	75	125	**1**	20
Iron		**124**	75	125	**0**	20
Manganese		**99**	75	125	**0**	20
Nickel		**96**	75	125	**0**	20
Lead		**94**	75	125	**1**	20
Antimony		**102**	75	125	**3**	20
Selenium		**100**	75	125	**0**	20
Vanadium		**106**	75	125	**2**	20
Zinc		**94**	75	125	**0**	20

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**52.58**	10.0	130.4
2-Chlorophenol		**53.78**	35.5	114.1
Bis(2-chloroethyl)ether		**55.06**	43.4	101.8
Bis(2-chloroisopropyl)ether		**69.66**	33.2	105.8
Hexachloroethane		**54.46**	23.8	138.1
N-Nitrosodi-n-propylamine		**62.20**	35.8	109.3
Nitrobenzene		**75.40**	41.7	110.1
Isophorone		**73.42**	44.9	107.5
2-Nitrophenol		**56.20**	54.4	109.5
2,4-Dimethylphenol		**56.04**	43.4	114.9
Bis(2-chloroethoxy)methane		**59.90**	48.3	105.4
2,4-Dichlorophenol	*	**56.16**	57.7	115.6
Naphthalene		**57.46**	32.9	135.8
4-Chloroaniline		**35.46**	33.4	89.4
Hexachlorobutadiene		**55.80**	30.2	119.4
4-Chloro-3-methylphenol		**58.92**	39.0	123.2
2-Methylnaphthalene		**54.52**	25.5	165.5
Hexachlorocyclopentadiene		**49.86**	10.0	271.8
2,4,6-Trichlorophenol		**53.38**	47.8	117.4
2,4,5-Trichlorophenol		**54.70**	48.9	118.8
2-Chloronaphthalene		**54.20**	50.3	108.3
2-Nitroaniline		**54.96**	53.4	119.9
Acenaphthylene		**61.26**	16.9	140.7
Dimethyl Phthalate		**56.16**	49.3	118.4
2,6-Dinitrotoluene		**55.86**	48.0	119.1
3-Nitroaniline		**45.52**	42.1	109.0
Acenaphthene		**56.68**	34.8	124.7
2,4-Dinitrophenol		**32.94**	10.0	171.2
Dibenzofuran		**54.36**	52.1	111.9
4-Nitrophenol		**55.08**	15.4	122.0
2,4-Dinitrotoluene		**56.54**	35.8	126.7
Fluorene		**60.42**	37.1	110.3
Diethyl phthalate		**59.54**	48.1	118.0
4-Chlorophenyl phenyl ether		**59.96**	52.2	116.5
4-Nitroaniline		**56.12**	45.8	119.7
4,6-Dinitro-2-methylphenol		**49.86**	18.7	149.0
N-Nitrosodiphenylamine		**75.60**	10.0	104.2
4-Bromophenyl phenyl ether		**59.94**	44.5	116.9
Hexachlorobenzene		**60.38**	45.2	118.5
Pentachlorophenol		**44.76**	10.3	139.1
Phenanthrene		**59.58**	31.8	123.3
Anthracene		**57.62**	38.1	115.5
di-N-butyl phthalate		**58.54**	48.1	121.8
Fluoranthene		**60.58**	43.0	127.9
Pyrene		**64.12**	37.8	131.4
Butyl benzyl phthalate		**62.24**	47.4	121.6

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzo(a)anthracene		**58.46**	40.7	115.5
3,3'-Dichlorobenzidine		**71.96**	37.0	97.2
Chrysene		**62.12**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**65.02**	45.2	126.2
Di-n-octyl phthalate		**62.64**	45.7	123.1
Benzo(b)fluoranthene		**53.76**	43.3	119.4
Benzo(k)fluoranthene		**55.38**	41.2	116.9
Benzo(a)pyrene		**57.72**	51.2	133.4
Indeno(1,2,3-cd)pyrene		**58.28**	41.5	116.9
Dibenzo(ah)anthracene		**58.10**	33.8	132.4
Benzo(ghi)perylene		**57.12**	36.7	122.1
1-methylnaphthalene		**64.90**	10.0	133.6
1,4-Dichlorobenzene		**52.64**	20.7	137.7
1,2-Dichlorobenzene		**53.78**	9.6	166.2
o-Cresol		**55.34**	39.1	109.4
3,4-methylphenol		**53.61**	36.4	115.4
1,3-Dichlorobenzene		**52.60**	36.8	105.8
1,2-Diphenylhydrazine		**58.88**	40.2	136.4
1,2,4-Trichlorobenzene		**57.52**	32.2	118.4
1,2,4,5-Tetrachlorobenzene	*	**60.86**	70.0	130.0
2,3,4,6-Tetrachlorophenol	*	**55.48**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde	*	**22.08**	35.6	137.2
Acetophenone		**59.16**	48.3	105.9
Caprolactam		**61.66**	10.0	113.1
1,1'-Biphenyl		**60.10**	49.7	110.7
Atrazine		**53.04**	52.5	143.1
Carbazole		**55.94**	44.3	128.8

Blank (BLK)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acenaphthene		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
di-n-Butyl phthalate	*	**0.1**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l
Benzo(ghi)perylene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Chlorophenol		**ND**	0.5	ug/l
4-Chloro-3-methylphenol		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
bis(2-Chloroethoxy)methane		**ND**	0.5	ug/l
bis(2-Chloroethyl)ether		**ND**	0.5	ug/l
bis(2-Chloroisopropyl)ether		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
2,4-Dinitrotoluene		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
Dimethyl phthalate		**ND**	0.5	ug/l
bis(2-Ethylhexyl)phthalate	*	**1.0**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4-Nitrophenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Pentachlorophenol		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Phenol		**ND**	0.5	ug/l
Pyrene		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK)

Lab Sample ID: h160322b.blkw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Atrazine		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: z160329.blkw29a

Run in Batch: Z160329, Run Date: 03/29/2016 20:34, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(a)pyrene		**ND**	0.01	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**58.18**	10.0	130.4	**10.1**	30.0
2-Chlorophenol		**59.98**	35.5	114.1	**10.9**	30.0
Bis(2-chloroethyl)ether		**61.06**	43.4	101.8	**10.3**	30.0
Bis(2-chloroisopropyl)ether		**77.82**	33.2	105.8	**11.1**	30.0
Hexachloroethane		**60.88**	23.8	138.1	**11.1**	30.0
N-Nitrosodi-n-propylamine		**69.48**	35.8	109.3	**11.1**	30.0
Nitrobenzene		**82.18**	41.7	110.1	**8.6**	30.0
Isophorone		**80.36**	44.9	107.5	**9.0**	30.0
2-Nitrophenol		**60.26**	54.4	109.5	**7.0**	30.0
2,4-Dimethylphenol		**61.94**	43.4	114.9	**10.0**	30.0
Bis(2-chloroethoxy)methane		**65.14**	48.3	105.4	**8.4**	30.0
2,4-Dichlorophenol		**62.02**	57.7	115.6	**9.9**	30.0
Naphthalene		**62.48**	32.9	135.8	**8.4**	30.0
4-Chloroaniline		**40.20**	33.4	89.4	**12.5**	30.0
Hexachlorobutadiene		**60.60**	30.2	119.4	**8.2**	30.0
4-Chloro-3-methylphenol		**64.08**	39.0	123.2	**8.4**	30.0
2-Methylnaphthalene		**58.70**	25.5	165.5	**7.4**	30.0
Hexachlorocyclopentadiene		**54.98**	10.0	271.8	**9.8**	30.0
2,4,6-Trichlorophenol		**59.72**	47.8	117.4	**11.2**	30.0
2,4,5-Trichlorophenol		**61.72**	48.9	118.8	**12.1**	30.0
2-Chloronaphthalene		**59.62**	50.3	108.3	**9.5**	30.0
2-Nitroaniline		**62.86**	53.4	119.9	**13.4**	30.0
Acenaphthylene		**67.60**	16.9	140.7	**9.8**	30.0
Dimethyl Phthalate		**63.46**	49.3	118.4	**12.2**	30.0
2,6-Dinitrotoluene		**62.58**	48.0	119.1	**11.3**	30.0
3-Nitroaniline		**52.78**	42.1	109.0	**14.8**	30.0
Acenaphthene		**61.86**	34.8	124.7	**8.7**	30.0
2,4-Dinitrophenol	*	**44.66**	10.0	171.2	**30.2**	30.0
Dibenzofuran		**60.12**	52.1	111.9	**10.1**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Nitrophenol		**62.36**	15.4	122.0	**12.4**	30.0
2,4-Dinitrotoluene		**64.28**	35.8	126.7	**12.8**	30.0
Fluorene		**66.78**	37.1	110.3	**10.0**	30.0
Diethyl phthalate		**67.16**	48.1	118.0	**12.0**	30.0
4-Chlorophenyl phenyl ether		**66.62**	52.2	116.5	**10.5**	30.0
4-Nitroaniline		**66.54**	45.8	119.7	**17.0**	30.0
4,6-Dinitro-2-methylphenol		**56.32**	18.7	149.0	**12.2**	30.0
N-Nitrosodiphenylamine		**84.68**	10.0	104.2	**11.3**	30.0
4-Bromophenyl phenyl ether		**66.68**	44.5	116.9	**10.6**	30.0
Hexachlorobenzene		**66.80**	45.2	118.5	**10.1**	30.0
Pentachlorophenol		**51.62**	10.3	139.1	**14.2**	30.0
Phenanthrene		**66.22**	31.8	123.3	**10.6**	30.0
Anthracene		**64.38**	38.1	115.5	**11.1**	30.0
di-N-butyl phthalate		**65.40**	48.1	121.8	**11.1**	30.0
Fluoranthene		**67.78**	43.0	127.9	**11.2**	30.0
Pyrene		**70.38**	37.8	131.4	**9.3**	30.0
Butyl benzyl phthalate		**67.28**	47.4	121.6	**7.8**	30.0
Benzo(a)anthracene		**64.40**	40.7	115.5	**9.7**	30.0
3,3'-Dichlorobenzidine		**79.68**	37.0	97.2	**10.2**	30.0
Chrysene		**68.34**	28.9	136.7	**9.5**	30.0
Bis(2-ethylhexyl)phthalate		**71.42**	45.2	126.2	**9.4**	30.0
Di-n-octyl phthalate		**68.92**	45.7	123.1	**9.5**	30.0
Benzo(b)fluoranthene		**62.14**	43.3	119.4	**14.5**	30.0
Benzo(k)fluoranthene		**58.90**	41.2	116.9	**6.2**	30.0
Benzo(a)pyrene		**64.50**	51.2	133.4	**11.1**	30.0
Indeno(1,2,3-cd)pyrene		**64.46**	41.5	116.9	**10.1**	30.0
Dibenzo(ah)anthracene		**64.90**	33.8	132.4	**11.1**	30.0
Benzo(ghi)perylene		**63.50**	36.7	122.1	**10.6**	30.0
1-methylnaphthalene		**69.56**	10.0	133.6	**6.9**	30.0
1,4-Dichlorobenzene		**58.70**	20.7	137.7	**10.9**	30.0
1,2-Dichlorobenzene		**60.32**	9.6	166.2	**11.5**	30.0
o-Cresol		**61.40**	39.1	109.4	**10.4**	30.0
3,4-methylphenol		**59.08**	36.4	115.4	**9.7**	30.0
1,3-Dichlorobenzene		**58.98**	36.8	105.8	**11.4**	30.0
1,2-Diphenylhydrazine		**64.50**	40.2	136.4	**9.1**	30.0
1,2,4-Trichlorobenzene		**63.92**	32.2	118.4	**10.5**	30.0
1,2,4,5-Tetrachlorobenzene	*	**67.32**	70.0	130.0	**10.1**	30.0
2,3,4,6-Tetrachlorophenol	*	**63.74**	70.0	130.0	**13.9**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzaldehyde	*	**24.70**	35.6	137.2	**11.2**	30.0
Acetophenone		**65.02**	48.3	105.9	**9.4**	30.0
Caprolactam		**68.60**	10.0	113.1	**10.7**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,1'-Biphenyl		**66.10**	49.7	110.7	**9.5**	30.0
Atrazine		**59.92**	52.5	143.1	**12.2**	30.0
Carbazole		**62.46**	44.3	128.8	**11.0**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**91.16**	75.1	135.9
Diethyl ether		**94.10**	67.4	121.2
Acetone		**77.42**	29.9	161.5
Methyl iodide		**106.10**	68.8	116.4
Carbon disulfide		**97.34**	63.8	137.4
Methyl acetate		**94.64**	64.7	125.4
tert-Methyl butyl ether		**107.28**	73.2	122.4
Acrylonitrile		**94.20**	69.9	128.9
2-Butanone		**81.48**	44.0	134.4
Dichlorodifluoromethane		**91.96**	10.0	222.8
Chloromethane		**97.50**	23.8	166.5
Vinyl Chloride		**98.04**	43.5	149.1
Bromomethane		**113.84**	56.8	151.3
Chloroethane		**104.02**	53.4	149.4
Trichlorofluoromethane		**118.02**	59.7	151.8
1,1-Dichloroethene		**111.02**	69.6	139.4
Methylene Chloride		**108.78**	73.3	121.1
trans-1,2-Dichloroethene		**111.86**	73.6	129.3
1,1-Dichloroethane		**111.84**	71.5	126.2
cis-1,2-Dichloroethene		**109.32**	76.6	122.1
Tetrahydrofuran		**98.80**	59.0	117.9
Chloroform		**111.38**	78.4	124.0
Bromochloromethane		**113.70**	78.2	120.8
1,1,1-Trichloroethane		**126.48**	79.4	130.9
Cyclohexane		**110.98**	10.0	169.1
4-Methyl-2-pentanone		**99.38**	71.6	125.2
2-Hexanone		**86.30**	55.4	136.9
2-Chloroethylvinyl ether	*	**54.46**	70.0	130.0
Carbon Tetrachloride		**122.10**	72.6	133.0
Benzene		**101.52**	79.9	124.9
1,2-Dichloroethane		**104.18**	76.0	126.3
Trichloroethene		**109.04**	79.7	124.2
1,2-Dichloropropane		**105.84**	78.6	126.4
Bromodichloromethane		**113.88**	80.4	128.2
Methyl cyclohexane		**93.24**	76.6	131.3
Dibromomethane		**114.78**	76.9	122.1
cis-1,3-Dichloropropene		**113.36**	79.8	129.9
Toluene		**105.44**	79.8	124.5
trans-1,3-Dichloropropene		**113.84**	74.0	131.3
1,1,2-Trichloroethane		**106.26**	78.7	123.1
Tetrachloroethene		**111.64**	74.5	124.5
trans-1,4-Dichloro-2-butene		**108.00**	68.6	135.4
Dibromochloromethane		**122.16**	74.6	127.2
1,2-Dibromoethane		**119.96**	70.3	133.7
Chlorobenzene		**115.44**	79.2	122.7
1,1,1,2-Tetrachloroethane		**124.30**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**117.66**	79.5	129.1
p,m-Xylene		**120.50**	79.4	132.2
o-Xylene		**114.84**	80.2	131.0
Styrene		**116.66**	69.5	126.7
Isopropylbenzene		**120.64**	74.4	121.5
Bromoform	*	**130.10**	69.4	128.0
1,1,2,2-Tetrachloroethane		**114.58**	79.8	126.3
1,2,3-Trichloropropane		**108.70**	78.3	138.8
n-Propylbenzene		**123.96**	82.0	130.7
Bromobenzene		**121.46**	78.7	124.6
1,3,5-Trimethylbenzene		**121.16**	81.3	128.9
tert-Butylbenzene		**119.10**	80.7	128.9
1,2,4-Trimethylbenzene		**120.52**	81.4	130.8
sec-Butylbenzene		**111.38**	77.4	129.8
p-Isopropyltoluene		**113.88**	79.8	137.5
1,3-Dichlorobenzene		**109.56**	77.0	131.3
1,4-Dichlorobenzene		**108.76**	20.7	137.7
1,2-Dichlorobenzene		**108.82**	10.0	166.2
1,2,3-Trimethylbenzene		**106.10**	76.3	124.2
n-Butylbenzene		**107.28**	80.0	133.3
Hexachloroethane		**121.00**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**108.54**	21.2	189.4
1,2,4-Trichlorobenzene		**116.10**	27.4	143.4
1,2,3-Trichlorobenzene		**112.42**	75.4	131.4
Naphthalene		**110.42**	32.9	135.8
2-Methylnaphthalene		**101.08**	25.5	165.5
2-Chlorotoluene		**115.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**80.50**	75.1	135.9	**12.4**	30.0
Diethyl ether		**86.24**	67.4	121.2	**8.7**	30.0
Acetone		**75.12**	29.9	161.5	**3.0**	30.0
Methyl iodide		**96.56**	68.8	116.4	**9.4**	30.0
Carbon disulfide		**86.08**	63.8	137.4	**12.3**	30.0
Methyl acetate		**89.76**	64.7	125.4	**5.3**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**98.16**	73.2	122.4	**8.9**	30.0
Acrylonitrile		**92.98**	69.9	128.9	**1.3**	30.0
2-Butanone		**82.98**	44.0	134.4	**1.8**	30.0
Dichlorodifluoromethane		**76.32**	10.0	222.8	**18.6**	30.0
Chloromethane		**82.02**	23.8	166.5	**17.2**	30.0
Vinyl Chloride		**84.86**	43.5	149.1	**14.4**	30.0
Bromomethane		**96.86**	56.8	151.3	**16.1**	30.0
Chloroethane		**89.64**	53.4	149.4	**14.9**	30.0
Trichlorofluoromethane		**102.30**	59.7	151.8	**14.3**	30.0
1,1-Dichloroethene		**97.46**	69.6	139.4	**13.0**	30.0
Methylene Chloride		**98.68**	73.3	121.1	**9.7**	30.0
trans-1,2-Dichloroethene		**99.12**	73.6	129.3	**12.1**	30.0
1,1-Dichloroethane		**102.00**	71.5	126.2	**9.2**	30.0
cis-1,2-Dichloroethene		**100.44**	76.6	122.1	**8.5**	30.0
Tetrahydrofuran		**95.08**	59.0	117.9	**3.8**	30.0
Chloroform		**103.64**	78.4	124.0	**7.2**	30.0
Bromochloromethane		**105.58**	78.2	120.8	**7.4**	30.0
1,1,1-Trichloroethane		**113.90**	79.4	130.9	**10.5**	30.0
Cyclohexane		**98.42**	10.0	169.1	**12.0**	30.0
4-Methyl-2-pentanone		**102.52**	71.6	125.2	**3.1**	30.0
2-Hexanone		**90.40**	55.4	136.9	**4.6**	30.0
Carbon Tetrachloride		**117.36**	72.6	133.0	**4.0**	30.0
Benzene		**99.34**	79.9	124.9	**2.2**	30.0
1,2-Dichloroethane		**104.06**	76.0	126.3	**0.1**	30.0
Trichloroethene		**105.62**	79.7	124.2	**3.2**	30.0
1,2-Dichloropropane		**105.60**	78.6	126.4	**0.2**	30.0
Bromodichloromethane		**110.92**	80.4	128.2	**2.6**	30.0
Methyl cyclohexane		**90.92**	76.6	131.3	**2.5**	30.0
Dibromomethane		**115.42**	76.9	122.1	**0.6**	30.0
cis-1,3-Dichloropropene		**111.26**	79.8	129.9	**1.9**	30.0
Toluene		**103.84**	79.8	124.5	**1.5**	30.0
trans-1,3-Dichloropropene		**112.50**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**108.70**	78.7	123.1	**2.3**	30.0
Tetrachloroethene		**111.38**	74.5	124.5	**0.2**	30.0
trans-1,4-Dichloro-2-butene		**92.82**	68.6	135.4	**15.1**	30.0
Dibromochloromethane		**120.38**	74.6	127.2	**1.5**	30.0
1,2-Dibromoethane		**121.00**	70.3	133.7	**0.9**	30.0
Chlorobenzene		**115.12**	79.2	122.7	**0.3**	30.0
1,1,1,2-Tetrachloroethane		**118.48**	80.3	128.2	**4.8**	30.0
Ethylbenzene		**115.48**	79.5	129.1	**1.9**	30.0
p,m-Xylene		**115.57**	79.4	132.2	**4.2**	30.0
o-Xylene		**111.46**	80.2	131.0	**3.0**	30.0
Styrene		**116.62**	69.5	126.7	**0.0**	30.0
Isopropylbenzene		**117.02**	74.4	121.5	**3.0**	30.0
Bromoform	*	**128.68**	69.4	128.0	**1.1**	30.0
1,1,2,2-Tetrachloroethane		**115.62**	79.8	126.3	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**108.06**	78.3	138.8	**0.6**	30.0
n-Propylbenzene		**119.16**	82.0	130.7	**3.9**	30.0
Bromobenzene		**118.96**	78.7	124.6	**2.1**	30.0
1,3,5-Trimethylbenzene		**116.54**	81.3	128.9	**3.9**	30.0
tert-Butylbenzene		**114.04**	80.7	128.9	**4.3**	30.0
1,2,4-Trimethylbenzene		**116.24**	81.4	130.8	**3.6**	30.0
sec-Butylbenzene		**108.48**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene		**110.22**	79.8	137.5	**3.3**	30.0
1,3-Dichlorobenzene		**108.72**	77.0	131.3	**0.8**	30.0
1,4-Dichlorobenzene		**106.72**	20.7	137.7	**1.9**	30.0
1,2-Dichlorobenzene		**106.56**	10.0	166.2	**2.1**	30.0
1,2,3-Trimethylbenzene		**103.50**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**106.74**	80.0	133.3	**0.5**	30.0
Hexachloroethane		**120.44**	23.8	138.1	**0.5**	30.0
1,2-Dibromo-3-Chloropropane		**116.18**	21.2	189.4	**6.8**	30.0
1,2,4-Trichlorobenzene		**113.24**	27.4	143.4	**2.5**	30.0
1,2,3-Trichlorobenzene		**111.12**	75.4	131.4	**1.2**	30.0
Naphthalene		**111.32**	32.9	135.8	**0.8**	30.0
2-Methylnaphthalene		**105.50**	25.5	165.5	**4.3**	30.0
2-Chlorotoluene		**111.32**	70.0	130.0	**3.8**	30.0

Organics - Volatiles, Prep Batch ID: VS160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:00, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**89.46**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160317a3.blkw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 12:30, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**3.0**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160317a3.lcsw18b, Parent Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:18, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**92.02**	70.0	130.0	**2.8**	30.0

Organics - Volatiles, Prep Batch ID: VS160322W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:11, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**85.24**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160322a3.blkw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 13:59, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**2.0**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160322a3.lcsw22c, Parent Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:47, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.80**	70.0	130.0	**4.1**	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

100703

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 28550 Cabot Dr Suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO.: 810-225-1940 FAX NO.:
P.O. NO.: B0064480-2016
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Lansing / Plant-3
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cosby

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: ☐ OHIO VAP ☐ Drinking Water ☐ DoD ☐ NPDES
Project Locations: ☐ Detroit ☐ New York ☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260 1,4 Dioxane	SVOC	Total Metals	Select Metals (Hardy)	Select Metals (0.1 ug/L)	Special Instructions
72153.01	3/15/16	10:05	MW-13-48_031516	GW	2		2						X					Metals = Sb, As, Ba,
.02	3/15/16	11:10	MW-15-71_031516	GW	5	2	2	1					X	X	X			B, Cd, Cr, Co, Cu, Pb,
.03	3/15/16	12:40	MW-13-22_031516	GW	2		2						X					Mn, Hg, Ni, Se, Ag,
.04	3/15/16	14:45	MW-13-31_031516	GW	2			2								X	X	V, Zn, Fe
.05	3/15/16	16:30	MW-13-32_031516	GW												X		
.06	3/15/16	—	Dup-02_031516	GW														Select Metals = As,
.07	—	—	Trip Blank_031516	L	2		2						X					Cr, Cu, Pb, Ni, V
.08	3/15/16	17:05	FB-0004_031516	L	2		2						X					
.09	3/15/16	17:15	EB-0004_031516	L	3		2	1					X		X			

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	Arcadis / Sampler	3-17-16	8:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	Arcadis	3-17-16	800
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS
SEAL NO.	SEAL INTACT YES ☐ NO ☐	INITIALS

NOTES: TEMP. ON ARRIVAL 5.8

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S72154.01(01)
Generated on 04/20/2016

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S72154.01-S72154.03
Project: RACER Lansing / Plant-2
Submitted Date/Time: 03/17/2016 08:00
Sampled by: Billy J. Cobern
P.O. #: B006479.2016

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-4)
Prep Batch Summary (Pages 5-6)
Surrogates per Lab Sample (Pages 7-9)
Surrogates per QC Sample (Pages 10-14)
Batch QC Results (Pages 15-31)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S72154.01
Sample Tag: MW-13-45_031516
Collected Date/Time: 03/15/2016 18:10
Matrix: Groundwater
COC Reference: 100702

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 15:14	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 15:14	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/18/16 13:42	160317A3	VS160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 15:14	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72154.02
Sample Tag: MW-13-42_031516
Collected Date/Time: 03/15/2016 18:55
Matrix: Groundwater
COC Reference: 100702

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 15:36	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 15:36	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/18/16 14:00	160317A3	VS160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 15:36	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72154.03
Sample Tag: MW-15-73_031516
Collected Date/Time: 03/15/2016 19:25
Matrix: Groundwater
COC Reference: 100702

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Antimony	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Mercury, Dissolved	SW7471B	03/18/16 12:14	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Mercury	SW7471B	03/18/16 12:16	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Nickel, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	03/30/16 13:22	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	03/22/16 23:06	H160322	SF160322W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	03/22/16 23:06	H160322B	SF160322W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 15:57	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 15:57	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 14:35	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 15:57	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

QC Report - Prep Batch Summary

Metals, Prep Batch ID: HGD-031816-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.03	Mercury, Dissolved	SW7471B	03/18/16 12:14	HG2-16-0318A
S72154.03	Mercury	SW7471B	03/18/16 12:16	HG2-16-0318A

Metals, Prep Batch ID: MTD-033016-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.03	Antimony, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Antimony	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Arsenic, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Arsenic	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Barium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Barium	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Boron, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Boron	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Cadmium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Cadmium	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Chromium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Chromium	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Cobalt, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Cobalt	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Copper, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Copper	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Lead, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Lead	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Manganese, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Manganese	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Nickel, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Nickel	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Selenium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Selenium	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Silver, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Silver	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Vanadium, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Vanadium	SW6020A	03/30/16 13:22	MT2-16-0330B
S72154.03	Zinc, Dissolved	SW6020A	03/30/16 13:25	MT2-16-0330B
S72154.03	Zinc	SW6020A	03/30/16 13:22	MT2-16-0330B

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.03	TCL Semi-Volatile Organics	SW8270D	03/22/16 23:06	H160322
S72154.03	TCL Semi-Volatile Organics	SW8270D	03/22/16 23:06	H160322B

Organics - Volatiles, Prep Batch ID: VF160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.01	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 15:14	160318A7
S72154.01	1,2-Dibromoethane	SW8260B	03/18/16 15:14	160318A7
S72154.01	TCL Volatile Organics 8260	SW8260C	03/18/16 15:14	160318A7
S72154.02	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 15:36	160318A7

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.02	1,2-Dibromoethane	SW8260B	03/18/16 15:36	160318A7
S72154.02	TCL Volatile Organics 8260	SW8260C	03/18/16 15:36	160318A7
S72154.03	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 15:57	160318A7
S72154.03	1,2-Dibromoethane	SW8260B	03/18/16 15:57	160318A7
S72154.03	TCL Volatile Organics 8260	SW8260C	03/18/16 15:57	160318A7

Organics - Volatiles, Prep Batch ID: VS160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.01	1,4-Dioxane	SW8260B - SIM	03/18/16 13:42	160317A3
S72154.02	1,4-Dioxane	SW8260B - SIM	03/18/16 14:00	160317A3

Organics - Volatiles, Prep Batch ID: VS160322W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72154.03	1,4-Dioxane	SW8260B - SIM	03/22/16 14:35	160322A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S72154.01
Sample Tag: MW-13-45_031516
Collected Date/Time: 03/15/2016 18:10
Matrix: Groundwater
COC Reference: 100702

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 15:14, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.60**	83.0	119.0
1,2-Dichloroethane-D4		**102.20**	77.0	121.0
Toluene-D8		**97.00**	86.0	118.0

Lab Sample ID: S72154.02

Sample Tag: MW-13-42_031516

Collected Date/Time: 03/15/2016 18:55

Matrix: Groundwater

COC Reference: 100702

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Run in Batch: 160318A7, Run Date: 03/18/2016 15:36, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**91.20**	83.0	119.0
1,2-Dichloroethane-D4		**96.40**	77.0	121.0
Toluene-D8		**93.80**	86.0	118.0

Lab Sample ID: S72154.03
Sample Tag: MW-15-73_031516
Collected Date/Time: 03/15/2016 19:25
Matrix: Groundwater
COC Reference: 100702

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H160322, Run Date: 03/22/2016 23:06, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**48.30**	10.0	110.0
2-Fluorobiphenyl		**71.60**	10.0	116.0
Nitrobenzene-D5		**70.60**	10.0	114.0
Phenol-D5		**44.10**	10.0	110.0
2,4,6-Tribromophenol		**71.20**	10.0	123.0
Terphenyl-D14		**84.40**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 15:57, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**95.80**	83.0	119.0
1,2-Dichloroethane-D4		**104.80**	77.0	121.0
Toluene-D8		**91.00**	86.0	118.0

QC Report - Surrogates per QC Sample

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.80**	10.0	110.0
2-Fluorobiphenyl		**60.20**	10.0	116.0
Nitrobenzene-D5		**63.00**	10.0	114.0
Phenol-D5		**59.60**	10.0	110.0
2,4,6-Tribromophenol		**59.40**	10.0	123.0
Terphenyl-D14		**67.00**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.10**	10.0	110.0
2-Fluorobiphenyl		**58.50**	10.0	116.0
Nitrobenzene-D5		**62.60**	10.0	114.0
Phenol-D5		**58.40**	10.0	110.0
2,4,6-Tribromophenol		**55.30**	10.0	123.0
Terphenyl-D14		**68.70**	10.0	141.0

Blank (BLK)

Lab Sample ID: h160322b.blkw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: z160329.blkw29a

Run in Batch: Z160329, Run Date: 03/29/2016 20:34, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**60.60**	10.0	110.0
2-Fluorobiphenyl		**64.40**	10.0	116.0
Nitrobenzene-D5		**67.20**	10.0	114.0
Phenol-D5		**64.80**	10.0	110.0
2,4,6-Tribromophenol		**65.70**	10.0	123.0
Terphenyl-D14		**74.70**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF160318W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**114.20**	83.0	119.0
1,2-Dichloroethane-D4		**93.60**	77.0	121.0
Toluene-D8		**94.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.80**	83.0	119.0
1,2-Dichloroethane-D4		**94.00**	77.0	121.0
Toluene-D8		**91.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**86.40**	77.0	121.0
Toluene-D8		**93.80**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS160318W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:00, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 160317a3.blkw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 12:30, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160317a3.lcsw18b, Parent Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:18, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VS160322W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:11, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 160322a3.blkw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 13:59, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160322a3.lcsw22c, Parent Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:47, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	**%Rec**	LCL	UCL

No Surrogates

Metals, Prep Batch ID: HGD-031816-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-16-0318A.015.LCS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:02, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**100**	85	115

Blank (BLK)

Lab Sample ID: HG2-16-0318A.016.LRB

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:04, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-16-0318A.027.MS, Parent Sample ID: S72169.01

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:26, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: HG2-16-0318A.041.MS, Parent Sample ID: S72188.01

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:54, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**97**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-16-0318A.028.MSD, Parent Sample ID: HG2-16-0318A.027.MS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:28, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**101**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-16-0318A.042.MSD, Parent Sample ID: HG2-16-0318A.041.MS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:56, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**99**	75	125	**2**	20

Metals, Prep Batch ID: MTD-033016-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-16-0330B.022.LCS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 12:30, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Silver		**95**	85	115
Arsenic		**102**	85	115
Barium		**99**	85	115
Boron		**92**	85	115
Cadmium		**99**	85	115
Cobalt		**104**	85	115
Chromium		**102**	85	115
Copper		**101**	85	115
Manganese		**100**	85	115
Nickel		**104**	85	115
Lead		**101**	85	115
Antimony		**98**	85	115
Selenium		**99**	85	115
Vanadium		**101**	85	115
Zinc		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-16-0330B.023.LRB

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 12:36, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Silver		**ND**	0.0002	mg/L
Arsenic		**ND**	0.0004	mg/L
Barium		**ND**	0.001	mg/L
Boron		**ND**	0.02	mg/L
Cadmium		**ND**	0.0001	mg/L
Cobalt		**ND**	0.001	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.001	mg/L
Manganese		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Antimony		**ND**	0.001	mg/L
Selenium		**ND**	0.001	mg/L
Vanadium		**ND**	0.0008	mg/L
Zinc		**ND**	0.002	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-16-0330B.036.MS, Parent Sample ID: S72155.04

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:43, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	75	125
Arsenic		**98**	75	125
Barium		**108**	75	125
Boron		**92**	75	125
Cadmium		**102**	75	125
Cobalt		**99**	75	125

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-16-0330B.036.MS, Parent Sample ID: S72155.04

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:43, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Chromium		**102**	75	125
Copper		**91**	75	125
Manganese		**98**	75	125
Nickel		**97**	75	125
Lead		**95**	75	125
Antimony		**102**	75	125
Selenium		**97**	75	125
Vanadium		**105**	75	125
Zinc		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-16-0330B.042.MS, Parent Sample ID: S72155.07

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 14:31, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	75	125
Arsenic		**99**	75	125
Barium		**120**	75	125
Boron		**92**	75	125
Cadmium		**102**	75	125
Cobalt		**97**	75	125
Chromium		**104**	75	125
Copper		**90**	75	125
Manganese		**98**	75	125
Nickel		**96**	75	125
Lead		**93**	75	125
Antimony		**105**	75	125
Selenium		**100**	75	125
Vanadium		**104**	75	125
Zinc		**94**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-16-0330B.037.MSD, Parent Sample ID: MT2-16-0330B.036.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:56, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**96**	75	125	**2**	20
Arsenic		**100**	75	125	**2**	20
Barium		**108**	75	125	**0**	20
Boron		**91**	75	125	**1**	20
Cadmium		**98**	75	125	**5**	20
Cobalt		**97**	75	125	**2**	20
Chromium		**101**	75	125	**1**	20
Copper		**91**	75	125	**0**	20
Manganese		**99**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Lead		**95**	75	125	**0**	20
Antimony		**101**	75	125	**1**	20

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-16-0330B.037.MSD, Parent Sample ID: MT2-16-0330B.036.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:56, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Selenium		**101**	75	125	**4**	20
Vanadium		**102**	75	125	**2**	20
Zinc		**95**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-16-0330B.043.MSD, Parent Sample ID: MT2-16-0330B.042.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 14:53, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**97**	75	125	**1**	20
Arsenic		**100**	75	125	**1**	20
Barium		**108**	75	125	**2**	20
Boron		**92**	75	125	**0**	20
Cadmium		**98**	75	125	**4**	20
Cobalt		**96**	75	125	**1**	20
Chromium		**104**	75	125	**0**	20
Copper		**91**	75	125	**1**	20
Manganese		**99**	75	125	**0**	20
Nickel		**96**	75	125	**0**	20
Lead		**94**	75	125	**1**	20
Antimony		**102**	75	125	**3**	20
Selenium		**100**	75	125	**0**	20
Vanadium		**106**	75	125	**2**	20
Zinc		**94**	75	125	**0**	20

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**52.58**	10.0	130.4
2-Chlorophenol		**53.78**	35.5	114.1
Bis(2-chloroethyl)ether		**55.06**	43.4	101.8
Bis(2-chloroisopropyl)ether		**69.66**	33.2	105.8
Hexachloroethane		**54.46**	23.8	138.1
N-Nitrosodi-n-propylamine		**62.20**	35.8	109.3
Nitrobenzene		**75.40**	41.7	110.1
Isophorone		**73.42**	44.9	107.5
2-Nitrophenol		**56.20**	54.4	109.5
2,4-Dimethylphenol		**56.04**	43.4	114.9
Bis(2-chloroethoxy)methane		**59.90**	48.3	105.4
2,4-Dichlorophenol	*	**56.16**	57.7	115.6
Naphthalene		**57.46**	32.9	135.8
4-Chloroaniline		**35.46**	33.4	89.4
Hexachlorobutadiene		**55.80**	30.2	119.4
4-Chloro-3-methylphenol		**58.92**	39.0	123.2
2-Methylnaphthalene		**54.52**	25.5	165.5
Hexachlorocyclopentadiene		**49.86**	10.0	271.8
2,4,6-Trichlorophenol		**53.38**	47.8	117.4
2,4,5-Trichlorophenol		**54.70**	48.9	118.8
2-Chloronaphthalene		**54.20**	50.3	108.3
2-Nitroaniline		**54.96**	53.4	119.9
Acenaphthylene		**61.26**	16.9	140.7
Dimethyl Phthalate		**56.16**	49.3	118.4
2,6-Dinitrotoluene		**55.86**	48.0	119.1
3-Nitroaniline		**45.52**	42.1	109.0
Acenaphthene		**56.68**	34.8	124.7
2,4-Dinitrophenol		**32.94**	10.0	171.2
Dibenzofuran		**54.36**	52.1	111.9
4-Nitrophenol		**55.08**	15.4	122.0
2,4-Dinitrotoluene		**56.54**	35.8	126.7
Fluorene		**60.42**	37.1	110.3
Diethyl phthalate		**59.54**	48.1	118.0
4-Chlorophenyl phenyl ether		**59.96**	52.2	116.5
4-Nitroaniline		**56.12**	45.8	119.7
4,6-Dinitro-2-methylphenol		**49.86**	18.7	149.0
N-Nitrosodiphenylamine		**75.60**	10.0	104.2
4-Bromophenyl phenyl ether		**59.94**	44.5	116.9
Hexachlorobenzene		**60.38**	45.2	118.5
Pentachlorophenol		**44.76**	10.3	139.1
Phenanthrene		**59.58**	31.8	123.3
Anthracene		**57.62**	38.1	115.5
di-N-butyl phthalate		**58.54**	48.1	121.8
Fluoranthene		**60.58**	43.0	127.9
Pyrene		**64.12**	37.8	131.4
Butyl benzyl phthalate		**62.24**	47.4	121.6

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzo(a)anthracene		**58.46**	40.7	115.5
3,3'-Dichlorobenzidine		**71.96**	37.0	97.2
Chrysene		**62.12**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**65.02**	45.2	126.2
Di-n-octyl phthalate		**62.64**	45.7	123.1
Benzo(b)fluoranthene		**53.76**	43.3	119.4
Benzo(k)fluoranthene		**55.38**	41.2	116.9
Benzo(a)pyrene		**57.72**	51.2	133.4
Indeno(1,2,3-cd)pyrene		**58.28**	41.5	116.9
Dibenzo(ah)anthracene		**58.10**	33.8	132.4
Benzo(ghi)perylene		**57.12**	36.7	122.1
1-methylnaphthalene		**64.90**	10.0	133.6
1,4-Dichlorobenzene		**52.64**	20.7	137.7
1,2-Dichlorobenzene		**53.78**	9.6	166.2
o-Cresol		**55.34**	39.1	109.4
3,4-methylphenol		**53.61**	36.4	115.4
1,3-Dichlorobenzene		**52.60**	36.8	105.8
1,2-Diphenylhydrazine		**58.88**	40.2	136.4
1,2,4-Trichlorobenzene		**57.52**	32.2	118.4
1,2,4,5-Tetrachlorobenzene	*	**60.86**	70.0	130.0
2,3,4,6-Tetrachlorophenol	*	**55.48**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde	*	**22.08**	35.6	137.2
Acetophenone		**59.16**	48.3	105.9
Caprolactam		**61.66**	10.0	113.1
1,1'-Biphenyl		**60.10**	49.7	110.7
Atrazine		**53.04**	52.5	143.1
Carbazole		**55.94**	44.3	128.8

Blank (BLK)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acenaphthene		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
di-n-Butyl phthalate	*	**0.1**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l
Benzo(ghi)perylene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Chlorophenol		**ND**	0.5	ug/l
4-Chloro-3-methylphenol		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
bis(2-Chloroethoxy)methane		**ND**	0.5	ug/l
bis(2-Chloroethyl)ether		**ND**	0.5	ug/l
bis(2-Chloroisopropyl)ether		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
2,4-Dinitrotoluene		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
Dimethyl phthalate		**ND**	0.5	ug/l
bis(2-Ethylhexyl)phthalate	*	**1.0**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4-Nitrophenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Pentachlorophenol		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Phenol		**ND**	0.5	ug/l
Pyrene		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK)

Lab Sample ID: h160322b.blkw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Atrazine		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: z160329.blkw29a

Run in Batch: Z160329, Run Date: 03/29/2016 20:34, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(a)pyrene		**ND**	0.01	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**58.18**	10.0	130.4	**10.1**	30.0
2-Chlorophenol		**59.98**	35.5	114.1	**10.9**	30.0
Bis(2-chloroethyl)ether		**61.06**	43.4	101.8	**10.3**	30.0
Bis(2-chloroisopropyl)ether		**77.82**	33.2	105.8	**11.1**	30.0
Hexachloroethane		**60.88**	23.8	138.1	**11.1**	30.0
N-Nitrosodi-n-propylamine		**69.48**	35.8	109.3	**11.1**	30.0
Nitrobenzene		**82.18**	41.7	110.1	**8.6**	30.0
Isophorone		**80.36**	44.9	107.5	**9.0**	30.0
2-Nitrophenol		**60.26**	54.4	109.5	**7.0**	30.0
2,4-Dimethylphenol		**61.94**	43.4	114.9	**10.0**	30.0
Bis(2-chloroethoxy)methane		**65.14**	48.3	105.4	**8.4**	30.0
2,4-Dichlorophenol		**62.02**	57.7	115.6	**9.9**	30.0
Naphthalene		**62.48**	32.9	135.8	**8.4**	30.0
4-Chloroaniline		**40.20**	33.4	89.4	**12.5**	30.0
Hexachlorobutadiene		**60.60**	30.2	119.4	**8.2**	30.0
4-Chloro-3-methylphenol		**64.08**	39.0	123.2	**8.4**	30.0
2-Methylnaphthalene		**58.70**	25.5	165.5	**7.4**	30.0
Hexachlorocyclopentadiene		**54.98**	10.0	271.8	**9.8**	30.0
2,4,6-Trichlorophenol		**59.72**	47.8	117.4	**11.2**	30.0
2,4,5-Trichlorophenol		**61.72**	48.9	118.8	**12.1**	30.0
2-Chloronaphthalene		**59.62**	50.3	108.3	**9.5**	30.0
2-Nitroaniline		**62.86**	53.4	119.9	**13.4**	30.0
Acenaphthylene		**67.60**	16.9	140.7	**9.8**	30.0
Dimethyl Phthalate		**63.46**	49.3	118.4	**12.2**	30.0
2,6-Dinitrotoluene		**62.58**	48.0	119.1	**11.3**	30.0
3-Nitroaniline		**52.78**	42.1	109.0	**14.8**	30.0
Acenaphthene		**61.86**	34.8	124.7	**8.7**	30.0
2,4-Dinitrophenol	*	**44.66**	10.0	171.2	**30.2**	30.0
Dibenzofuran		**60.12**	52.1	111.9	**10.1**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Nitrophenol		**62.36**	15.4	122.0	**12.4**	30.0
2,4-Dinitrotoluene		**64.28**	35.8	126.7	**12.8**	30.0
Fluorene		**66.78**	37.1	110.3	**10.0**	30.0
Diethyl phthalate		**67.16**	48.1	118.0	**12.0**	30.0
4-Chlorophenyl phenyl ether		**66.62**	52.2	116.5	**10.5**	30.0
4-Nitroaniline		**66.54**	45.8	119.7	**17.0**	30.0
4,6-Dinitro-2-methylphenol		**56.32**	18.7	149.0	**12.2**	30.0
N-Nitrosodiphenylamine		**84.68**	10.0	104.2	**11.3**	30.0
4-Bromophenyl phenyl ether		**66.68**	44.5	116.9	**10.6**	30.0
Hexachlorobenzene		**66.80**	45.2	118.5	**10.1**	30.0
Pentachlorophenol		**51.62**	10.3	139.1	**14.2**	30.0
Phenanthrene		**66.22**	31.8	123.3	**10.6**	30.0
Anthracene		**64.38**	38.1	115.5	**11.1**	30.0
di-N-butyl phthalate		**65.40**	48.1	121.8	**11.1**	30.0
Fluoranthene		**67.78**	43.0	127.9	**11.2**	30.0
Pyrene		**70.38**	37.8	131.4	**9.3**	30.0
Butyl benzyl phthalate		**67.28**	47.4	121.6	**7.8**	30.0
Benzo(a)anthracene		**64.40**	40.7	115.5	**9.7**	30.0
3,3'-Dichlorobenzidine		**79.68**	37.0	97.2	**10.2**	30.0
Chrysene		**68.34**	28.9	136.7	**9.5**	30.0
Bis(2-ethylhexyl)phthalate		**71.42**	45.2	126.2	**9.4**	30.0
Di-n-octyl phthalate		**68.92**	45.7	123.1	**9.5**	30.0
Benzo(b)fluoranthene		**62.14**	43.3	119.4	**14.5**	30.0
Benzo(k)fluoranthene		**58.90**	41.2	116.9	**6.2**	30.0
Benzo(a)pyrene		**64.50**	51.2	133.4	**11.1**	30.0
Indeno(1,2,3-cd)pyrene		**64.46**	41.5	116.9	**10.1**	30.0
Dibenzo(ah)anthracene		**64.90**	33.8	132.4	**11.1**	30.0
Benzo(ghi)perylene		**63.50**	36.7	122.1	**10.6**	30.0
1-methylnaphthalene		**69.56**	10.0	133.6	**6.9**	30.0
1,4-Dichlorobenzene		**58.70**	20.7	137.7	**10.9**	30.0
1,2-Dichlorobenzene		**60.32**	9.6	166.2	**11.5**	30.0
o-Cresol		**61.40**	39.1	109.4	**10.4**	30.0
3,4-methylphenol		**59.08**	36.4	115.4	**9.7**	30.0
1,3-Dichlorobenzene		**58.98**	36.8	105.8	**11.4**	30.0
1,2-Diphenylhydrazine		**64.50**	40.2	136.4	**9.1**	30.0
1,2,4-Trichlorobenzene		**63.92**	32.2	118.4	**10.5**	30.0
1,2,4,5-Tetrachlorobenzene	*	**67.32**	70.0	130.0	**10.1**	30.0
2,3,4,6-Tetrachlorophenol	*	**63.74**	70.0	130.0	**13.9**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzaldehyde	*	**24.70**	35.6	137.2	**11.2**	30.0
Acetophenone		**65.02**	48.3	105.9	**9.4**	30.0
Caprolactam		**68.60**	10.0	113.1	**10.7**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,1'-Biphenyl		**66.10**	49.7	110.7	**9.5**	30.0
Atrazine		**59.92**	52.5	143.1	**12.2**	30.0
Carbazole		**62.46**	44.3	128.8	**11.0**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**91.16**	75.1	135.9
Diethyl ether		**94.10**	67.4	121.2
Acetone		**77.42**	29.9	161.5
Methyl iodide		**106.10**	68.8	116.4
Carbon disulfide		**97.34**	63.8	137.4
Methyl acetate		**94.64**	64.7	125.4
tert-Methyl butyl ether		**107.28**	73.2	122.4
Acrylonitrile		**94.20**	69.9	128.9
2-Butanone		**81.48**	44.0	134.4
Dichlorodifluoromethane		**91.96**	10.0	222.8
Chloromethane		**97.50**	23.8	166.5
Vinyl Chloride		**98.04**	43.5	149.1
Bromomethane		**113.84**	56.8	151.3
Chloroethane		**104.02**	53.4	149.4
Trichlorofluoromethane		**118.02**	59.7	151.8
1,1-Dichloroethene		**111.02**	69.6	139.4
Methylene Chloride		**108.78**	73.3	121.1
trans-1,2-Dichloroethene		**111.86**	73.6	129.3
1,1-Dichloroethane		**111.84**	71.5	126.2
cis-1,2-Dichloroethene		**109.32**	76.6	122.1
Tetrahydrofuran		**98.80**	59.0	117.9
Chloroform		**111.38**	78.4	124.0
Bromochloromethane		**113.70**	78.2	120.8
1,1,1-Trichloroethane		**126.48**	79.4	130.9
Cyclohexane		**110.98**	10.0	169.1
4-Methyl-2-pentanone		**99.38**	71.6	125.2
2-Hexanone		**86.30**	55.4	136.9
2-Chloroethylvinyl ether	*	**54.46**	70.0	130.0
Carbon Tetrachloride		**122.10**	72.6	133.0
Benzene		**101.52**	79.9	124.9
1,2-Dichloroethane		**104.18**	76.0	126.3
Trichloroethene		**109.04**	79.7	124.2
1,2-Dichloropropane		**105.84**	78.6	126.4
Bromodichloromethane		**113.88**	80.4	128.2
Methyl cyclohexane		**93.24**	76.6	131.3
Dibromomethane		**114.78**	76.9	122.1
cis-1,3-Dichloropropene		**113.36**	79.8	129.9
Toluene		**105.44**	79.8	124.5
trans-1,3-Dichloropropene		**113.84**	74.0	131.3
1,1,2-Trichloroethane		**106.26**	78.7	123.1
Tetrachloroethene		**111.64**	74.5	124.5
trans-1,4-Dichloro-2-butene		**108.00**	68.6	135.4
Dibromochloromethane		**122.16**	74.6	127.2
1,2-Dibromoethane		**119.96**	70.3	133.7
Chlorobenzene		**115.44**	79.2	122.7
1,1,1,2-Tetrachloroethane		**124.30**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**117.66**	79.5	129.1
p,m-Xylene		**120.50**	79.4	132.2
o-Xylene		**114.84**	80.2	131.0
Styrene		**116.66**	69.5	126.7
Isopropylbenzene		**120.64**	74.4	121.5
Bromoform	*	**130.10**	69.4	128.0
1,1,2,2-Tetrachloroethane		**114.58**	79.8	126.3
1,2,3-Trichloropropane		**108.70**	78.3	138.8
n-Propylbenzene		**123.96**	82.0	130.7
Bromobenzene		**121.46**	78.7	124.6
1,3,5-Trimethylbenzene		**121.16**	81.3	128.9
tert-Butylbenzene		**119.10**	80.7	128.9
1,2,4-Trimethylbenzene		**120.52**	81.4	130.8
sec-Butylbenzene		**111.38**	77.4	129.8
p-Isopropyltoluene		**113.88**	79.8	137.5
1,3-Dichlorobenzene		**109.56**	77.0	131.3
1,4-Dichlorobenzene		**108.76**	20.7	137.7
1,2-Dichlorobenzene		**108.82**	10.0	166.2
1,2,3-Trimethylbenzene		**106.10**	76.3	124.2
n-Butylbenzene		**107.28**	80.0	133.3
Hexachloroethane		**121.00**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**108.54**	21.2	189.4
1,2,4-Trichlorobenzene		**116.10**	27.4	143.4
1,2,3-Trichlorobenzene		**112.42**	75.4	131.4
Naphthalene		**110.42**	32.9	135.8
2-Methylnaphthalene		**101.08**	25.5	165.5
2-Chlorotoluene		**115.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**80.50**	75.1	135.9	**12.4**	30.0
Diethyl ether		**86.24**	67.4	121.2	**8.7**	30.0
Acetone		**75.12**	29.9	161.5	**3.0**	30.0
Methyl iodide		**96.56**	68.8	116.4	**9.4**	30.0
Carbon disulfide		**86.08**	63.8	137.4	**12.3**	30.0
Methyl acetate		**89.76**	64.7	125.4	**5.3**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**98.16**	73.2	122.4	**8.9**	30.0
Acrylonitrile		**92.98**	69.9	128.9	**1.3**	30.0
2-Butanone		**82.98**	44.0	134.4	**1.8**	30.0
Dichlorodifluoromethane		**76.32**	10.0	222.8	**18.6**	30.0
Chloromethane		**82.02**	23.8	166.5	**17.2**	30.0
Vinyl Chloride		**84.86**	43.5	149.1	**14.4**	30.0
Bromomethane		**96.86**	56.8	151.3	**16.1**	30.0
Chloroethane		**89.64**	53.4	149.4	**14.9**	30.0
Trichlorofluoromethane		**102.30**	59.7	151.8	**14.3**	30.0
1,1-Dichloroethene		**97.46**	69.6	139.4	**13.0**	30.0
Methylene Chloride		**98.68**	73.3	121.1	**9.7**	30.0
trans-1,2-Dichloroethene		**99.12**	73.6	129.3	**12.1**	30.0
1,1-Dichloroethane		**102.00**	71.5	126.2	**9.2**	30.0
cis-1,2-Dichloroethene		**100.44**	76.6	122.1	**8.5**	30.0
Tetrahydrofuran		**95.08**	59.0	117.9	**3.8**	30.0
Chloroform		**103.64**	78.4	124.0	**7.2**	30.0
Bromochloromethane		**105.58**	78.2	120.8	**7.4**	30.0
1,1,1-Trichloroethane		**113.90**	79.4	130.9	**10.5**	30.0
Cyclohexane		**98.42**	10.0	169.1	**12.0**	30.0
4-Methyl-2-pentanone		**102.52**	71.6	125.2	**3.1**	30.0
2-Hexanone		**90.40**	55.4	136.9	**4.6**	30.0
Carbon Tetrachloride		**117.36**	72.6	133.0	**4.0**	30.0
Benzene		**99.34**	79.9	124.9	**2.2**	30.0
1,2-Dichloroethane		**104.06**	76.0	126.3	**0.1**	30.0
Trichloroethene		**105.62**	79.7	124.2	**3.2**	30.0
1,2-Dichloropropane		**105.60**	78.6	126.4	**0.2**	30.0
Bromodichloromethane		**110.92**	80.4	128.2	**2.6**	30.0
Methyl cyclohexane		**90.92**	76.6	131.3	**2.5**	30.0
Dibromomethane		**115.42**	76.9	122.1	**0.6**	30.0
cis-1,3-Dichloropropene		**111.26**	79.8	129.9	**1.9**	30.0
Toluene		**103.84**	79.8	124.5	**1.5**	30.0
trans-1,3-Dichloropropene		**112.50**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**108.70**	78.7	123.1	**2.3**	30.0
Tetrachloroethene		**111.38**	74.5	124.5	**0.2**	30.0
trans-1,4-Dichloro-2-butene		**92.82**	68.6	135.4	**15.1**	30.0
Dibromochloromethane		**120.38**	74.6	127.2	**1.5**	30.0
1,2-Dibromoethane		**121.00**	70.3	133.7	**0.9**	30.0
Chlorobenzene		**115.12**	79.2	122.7	**0.3**	30.0
1,1,1,2-Tetrachloroethane		**118.48**	80.3	128.2	**4.8**	30.0
Ethylbenzene		**115.48**	79.5	129.1	**1.9**	30.0
p,m-Xylene		**115.57**	79.4	132.2	**4.2**	30.0
o-Xylene		**111.46**	80.2	131.0	**3.0**	30.0
Styrene		**116.62**	69.5	126.7	**0.0**	30.0
Isopropylbenzene		**117.02**	74.4	121.5	**3.0**	30.0
Bromoform	*	**128.68**	69.4	128.0	**1.1**	30.0
1,1,2,2-Tetrachloroethane		**115.62**	79.8	126.3	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**108.06**	78.3	138.8	**0.6**	30.0
n-Propylbenzene		**119.16**	82.0	130.7	**3.9**	30.0
Bromobenzene		**118.96**	78.7	124.6	**2.1**	30.0
1,3,5-Trimethylbenzene		**116.54**	81.3	128.9	**3.9**	30.0
tert-Butylbenzene		**114.04**	80.7	128.9	**4.3**	30.0
1,2,4-Trimethylbenzene		**116.24**	81.4	130.8	**3.6**	30.0
sec-Butylbenzene		**108.48**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene		**110.22**	79.8	137.5	**3.3**	30.0
1,3-Dichlorobenzene		**108.72**	77.0	131.3	**0.8**	30.0
1,4-Dichlorobenzene		**106.72**	20.7	137.7	**1.9**	30.0
1,2-Dichlorobenzene		**106.56**	10.0	166.2	**2.1**	30.0
1,2,3-Trimethylbenzene		**103.50**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**106.74**	80.0	133.3	**0.5**	30.0
Hexachloroethane		**120.44**	23.8	138.1	**0.5**	30.0
1,2-Dibromo-3-Chloropropane		**116.18**	21.2	189.4	**6.8**	30.0
1,2,4-Trichlorobenzene		**113.24**	27.4	143.4	**2.5**	30.0
1,2,3-Trichlorobenzene		**111.12**	75.4	131.4	**1.2**	30.0
Naphthalene		**111.32**	32.9	135.8	**0.8**	30.0
2-Methylnaphthalene		**105.50**	25.5	165.5	**4.3**	30.0
2-Chlorotoluene		**111.32**	70.0	130.0	**3.8**	30.0

Organics - Volatiles, Prep Batch ID: VS160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:00, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**89.46**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160317a3.blkw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 12:30, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**3.0**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160317a3.lcsw18b, Parent Sample ID: 160317a3.lcsw18a

Run in Batch: 160317A3, Run Date: 03/18/2016 11:18, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**92.02**	70.0	130.0	**2.8**	30.0

Organics - Volatiles, Prep Batch ID: VS160322W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:11, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,4-Dioxane		**85.24**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160322a3.blkw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 13:59, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,4-Dioxane	*	**2.0**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160322a3.lcsw22c, Parent Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:47, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,4-Dioxane		**88.80**	70.0	130.0	**4.1**	30.0

Merit Laboratories, Inc.
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Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

100702

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 28550 Cabot Dr. Suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO.: 810-225-1940 FAX NO.:
P.O. NO.: B006479.2016
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Lansing / Plant 2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J Cook

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8200 1,4 Dioxane	SVOCs	Total Metals	Dissolved Metals	Special Instructions
72154.01	3/15/16	18:10	MW-13-45_031516	GW	6		6						X				Metals=Sb, As, Ba,
.02	3/15/16	18:55	MW-13-42_031516	GW	2		2						X				B, Cd, Cr, Co, Cu, Pb,
.03	3/15/16	19:25	MW-15-72_031516	GW		2	2										Mn, Hg, Ni, Se, Ag, V,
																	Zn, Fe

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
	Arcadis ☒ Sampler	3-17-16	8:00
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME
Shawn Ward		3.17.16	820
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.8

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Quality Control Report

Report ID: QC-S72155.01(01)
Generated on 04/20/2016

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241

Report Produced by

Merit Laboratories
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Report Summary

Lab Sample ID(s): S72155.01-S72155.08
Project: RACER Lansing / Plant-2
Submitted Date/Time: 03/17/2016 08:00
Sampled by: Billy J. Cobern
P.O. #: B006479.2016

QC Report Sections

Cover Page (Page 1)
Analysis Summary (Pages 2-9)
Prep Batch Summary (Pages 10-12)
Surrogates per Lab Sample (Pages 13-20)
Surrogates per QC Sample (Pages 21-24)
Batch QC Results (Pages 25-40)

Report Flag Descriptions

*: QC result is outside of indicated control limits
W: Surrogate result not applicable due to sample dilution

I certify that this data package is in compliance with the terms and conditions of the program, and project, and contractual requirements both technically and for completeness. Release of the data contained in this hardcopy data package and its computer-readable data submitted has been authorized by the Quality Assurance Manager and his/her designee, as verified by the following signature.

Barbara Ball

Barbara Ball
Quality Assurance Manager

Lab Sample ID: S72155.01
Sample Tag: MW-13-44_031616
Collected Date/Time: 03/16/2016 08:35
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 16:19	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 16:19	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 14:53	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 16:19	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.02
Sample Tag: MW-13-43_031616
Collected Date/Time: 03/16/2016 09:20
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 16:41	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 16:41	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 16:54	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 16:41	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.03
Sample Tag: MW-14-56_031616
Collected Date/Time: 03/16/2016 11:30
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 17:03	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 17:03	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 15:11	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 17:03	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.04
Sample Tag: TW-14-02_031616
Collected Date/Time: 03/16/2016 12:55
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Iron	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Mercury	SW7471B	03/18/16 12:18	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	03/30/16 13:41	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	03/22/16 23:34	H160322	SF160322W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	03/22/16 23:34	H160322B	SF160322W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 17:25	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 17:25	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 18:25	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 17:25	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.05
Sample Tag: MW-15-72_031616
Collected Date/Time: 03/16/2016 15:20
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Iron	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Mercury	SW7471B	03/18/16 12:20	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	03/30/16 14:12	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	03/23/16 00:01	H160322	SF160322W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	03/23/16 00:01	H160322B	SF160322W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 17:47	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 17:47	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 16:00	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 17:47	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.06
Sample Tag: MW-12-05_031616
Collected Date/Time: 03/16/2016 17:15
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 18:09	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 18:09	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 15:29	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 18:09	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.07
Sample Tag: Dup-01_031616
Collected Date/Time: 03/16/2016 00:01
Matrix: Groundwater
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Metals						
Antimony	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Arsenic	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Barium	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Boron	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cadmium	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Chromium	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Cobalt	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Copper	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Iron	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Lead	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Manganese	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Mercury	SW7471B	03/18/16 12:22	HG2-16-0318A	HGD-031816-1	No	LCS/BLK/MS/MSD
Nickel	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Selenium	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Silver	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Vanadium	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Zinc	SW6020A	03/30/16 14:16	MT2-16-0330B	MTD-033016-2	No	LCS/BLK/MS/MSD
Organics - Semi-Volatiles						
TCL Semi-Volatile Organics	SW8270D	03/23/16 00:28	H160322	SF160322W01	Yes	LCS/BLK/LCSD
TCL Semi-Volatile Organics	SW8270D	03/23/16 00:28	H160322B	SF160322W01	Yes	LCS/BLK/LCSD
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 18:31	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 18:31	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,4-Dioxane	SW8260B - SIM	03/22/16 18:43	160322A3	VS160322W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 18:31	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Lab Sample ID: S72155.08
Sample Tag: Trip Blank_031616
Collected Date/Time: 03/16/2016 00:01
Matrix: Liquid
COC Reference: 100700

Analysis	Method	Run Date/Time	Batch ID	Prep ID	Surr	QC Types
Organics - Volatiles						
1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 18:53	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
1,2-Dibromoethane	SW8260B	03/18/16 18:53	160318A7	VF160318W1	Yes	LCS/BLK/LCSD
TCL Volatile Organics 8260	SW8260C	03/18/16 18:53	160318A7	VF160318W1	Yes	LCS/BLK/LCSD

Metals, Prep Batch ID: HGD-031816-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.04	Mercury	SW7471B	03/18/16 12:18	HG2-16-0318A
S72155.05	Mercury	SW7471B	03/18/16 12:20	HG2-16-0318A
S72155.07	Mercury	SW7471B	03/18/16 12:22	HG2-16-0318A

Metals, Prep Batch ID: MTD-033016-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.04	Antimony	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Arsenic	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Barium	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Boron	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Cadmium	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Chromium	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Cobalt	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Copper	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Iron	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Lead	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Manganese	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Nickel	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Selenium	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Silver	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Vanadium	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.04	Zinc	SW6020A	03/30/16 13:41	MT2-16-0330B
S72155.05	Antimony	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Arsenic	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Barium	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Boron	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Cadmium	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Chromium	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Cobalt	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Copper	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Iron	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Lead	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Manganese	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Nickel	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Selenium	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Silver	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Vanadium	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.05	Zinc	SW6020A	03/30/16 14:12	MT2-16-0330B
S72155.07	Antimony	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Arsenic	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Barium	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Boron	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Cadmium	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Chromium	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Cobalt	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Copper	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Iron	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Lead	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Manganese	SW6020A	03/30/16 14:16	MT2-16-0330B

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.07	Nickel	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Selenium	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Silver	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Vanadium	SW6020A	03/30/16 14:16	MT2-16-0330B
S72155.07	Zinc	SW6020A	03/30/16 14:16	MT2-16-0330B

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.04	TCL Semi-Volatile Organics	SW8270D	03/22/16 23:34	H160322
S72155.04	TCL Semi-Volatile Organics	SW8270D	03/22/16 23:34	H160322B
S72155.05	TCL Semi-Volatile Organics	SW8270D	03/23/16 00:01	H160322
S72155.05	TCL Semi-Volatile Organics	SW8270D	03/23/16 00:01	H160322B
S72155.07	TCL Semi-Volatile Organics	SW8270D	03/23/16 00:28	H160322
S72155.07	TCL Semi-Volatile Organics	SW8270D	03/23/16 00:28	H160322B

Organics - Volatiles, Prep Batch ID: VF160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.01	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 16:19	160318A7
S72155.01	1,2-Dibromoethane	SW8260B	03/18/16 16:19	160318A7
S72155.01	TCL Volatile Organics 8260	SW8260C	03/18/16 16:19	160318A7
S72155.02	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 16:41	160318A7
S72155.02	1,2-Dibromoethane	SW8260B	03/18/16 16:41	160318A7
S72155.02	TCL Volatile Organics 8260	SW8260C	03/18/16 16:41	160318A7
S72155.03	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 17:03	160318A7
S72155.03	1,2-Dibromoethane	SW8260B	03/18/16 17:03	160318A7
S72155.03	TCL Volatile Organics 8260	SW8260C	03/18/16 17:03	160318A7
S72155.04	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 17:25	160318A7
S72155.04	1,2-Dibromoethane	SW8260B	03/18/16 17:25	160318A7
S72155.04	TCL Volatile Organics 8260	SW8260C	03/18/16 17:25	160318A7
S72155.05	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 17:47	160318A7
S72155.05	1,2-Dibromoethane	SW8260B	03/18/16 17:47	160318A7
S72155.05	TCL Volatile Organics 8260	SW8260C	03/18/16 17:47	160318A7
S72155.06	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 18:09	160318A7
S72155.06	1,2-Dibromoethane	SW8260B	03/18/16 18:09	160318A7
S72155.06	TCL Volatile Organics 8260	SW8260C	03/18/16 18:09	160318A7
S72155.07	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 18:31	160318A7
S72155.07	1,2-Dibromoethane	SW8260B	03/18/16 18:31	160318A7
S72155.07	TCL Volatile Organics 8260	SW8260C	03/18/16 18:31	160318A7
S72155.08	1,2-Dibromo-3-chloropropane	SW8260C	03/18/16 18:53	160318A7
S72155.08	1,2-Dibromoethane	SW8260B	03/18/16 18:53	160318A7
S72155.08	TCL Volatile Organics 8260	SW8260C	03/18/16 18:53	160318A7

Organics - Volatiles, Prep Batch ID: VS160322W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.01	1,4-Dioxane	SW8260B - SIM	03/22/16 14:53	160322A3
S72155.02	1,4-Dioxane	SW8260B - SIM	03/22/16 16:54	160322A3

Organics - Volatiles, Prep Batch ID: VS160322W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Sample ID	Analysis	Method	Run Date/Time	Batch ID
S72155.03	1,4-Dioxane	SW8260B - SIM	03/22/16 15:11	160322A3
S72155.04	1,4-Dioxane	SW8260B - SIM	03/22/16 18:25	160322A3
S72155.05	1,4-Dioxane	SW8260B - SIM	03/22/16 16:00	160322A3
S72155.06	1,4-Dioxane	SW8260B - SIM	03/22/16 15:29	160322A3
S72155.07	1,4-Dioxane	SW8260B - SIM	03/22/16 18:43	160322A3

QC Report - Surrogates per Lab Sample

Lab Sample ID: S72155.01
Sample Tag: MW-13-44_031616
Collected Date/Time: 03/16/2016 08:35
Matrix: Groundwater
COC Reference: 100700

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 16:19, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**94.60**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**91.60**	86.0	118.0

Lab Sample ID: S72155.02
Sample Tag: MW-13-43_031616
Collected Date/Time: 03/16/2016 09:20
Matrix: Groundwater
COC Reference: 100700

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 16:41, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**90.20**	83.0	119.0
1,2-Dichloroethane-D4		**105.00**	77.0	121.0
Toluene-D8		**91.60**	86.0	118.0

Lab Sample ID: S72155.03
Sample Tag: MW-14-56_031616
Collected Date/Time: 03/16/2016 11:30
Matrix: Groundwater
COC Reference: 100700

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 17:03, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.20**	83.0	119.0
1,2-Dichloroethane-D4		**99.60**	77.0	121.0
Toluene-D8		**93.80**	86.0	118.0

Lab Sample ID: S72155.04
Sample Tag: TW-14-02_031616
Collected Date/Time: 03/16/2016 12:55
Matrix: Groundwater
COC Reference: 100700

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H160322, Run Date: 03/22/2016 23:34, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**78.00**	10.0	110.0
2-Fluorobiphenyl		**103.10**	10.0	116.0
Nitrobenzene-D5		**100.10**	10.0	114.0
Phenol-D5		**78.70**	10.0	110.0
2,4,6-Tribromophenol		**113.80**	10.0	123.0
Terphenyl-D14		**133.70**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 17:25, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.60**	83.0	119.0
1,2-Dichloroethane-D4		**104.40**	77.0	121.0
Toluene-D8		**97.20**	86.0	118.0

Lab Sample ID: S72155.05
Sample Tag: MW-15-72_031616
Collected Date/Time: 03/16/2016 15:20
Matrix: Groundwater
COC Reference: 100700

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H160322, Run Date: 03/23/2016 00:01, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**41.70**	10.0	110.0
2-Fluorobiphenyl		**70.20**	10.0	116.0
Nitrobenzene-D5		**72.30**	10.0	114.0
Phenol-D5		**32.60**	10.0	110.0
2,4,6-Tribromophenol		**69.20**	10.0	123.0
Terphenyl-D14		**84.40**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 17:47, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**100.80**	83.0	119.0
1,2-Dichloroethane-D4		**102.00**	77.0	121.0
Toluene-D8		**95.20**	86.0	118.0

Lab Sample ID: S72155.06
Sample Tag: MW-12-05_031616
Collected Date/Time: 03/16/2016 17:15
Matrix: Groundwater
COC Reference: 100700

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 18:09, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**98.00**	83.0	119.0
1,2-Dichloroethane-D4		**100.60**	77.0	121.0
Toluene-D8		**89.80**	86.0	118.0

Lab Sample ID: S72155.07
Sample Tag: Dup-01_031616
Collected Date/Time: 03/16/2016 00:01
Matrix: Groundwater
COC Reference: 100700

Organics - Semi-Volatiles, Analysis: TCL Semi-Volatile Organics
Run in Batch: H160322, Run Date: 03/23/2016 00:28, Matrix: WW, Dilution: 2

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**38.90**	10.0	110.0
2-Fluorobiphenyl		**59.10**	10.0	116.0
Nitrobenzene-D5		**59.30**	10.0	114.0
Phenol-D5		**33.10**	10.0	110.0
2,4,6-Tribromophenol		**57.60**	10.0	123.0
Terphenyl-D14		**74.10**	10.0	141.0

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane
Organics - Volatiles, Analysis: 1,2-Dibromoethane
Organics - Volatiles, Analysis: TCL Volatile Organics 8260
Run in Batch: 160318A7, Run Date: 03/18/2016 18:31, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**88.00**	83.0	119.0
1,2-Dichloroethane-D4		**99.40**	77.0	121.0
Toluene-D8		**97.40**	86.0	118.0

Lab Sample ID: S72155.08

Sample Tag: Trip Blank_031616

Collected Date/Time: 03/16/2016 00:01

Matrix: Liquid

COC Reference: 100700

Organics - Volatiles, Analysis: 1,2-Dibromo-3-chloropropane

Organics - Volatiles, Analysis: 1,2-Dibromoethane

Organics - Volatiles, Analysis: TCL Volatile Organics 8260

Run in Batch: 160318A7, Run Date: 03/18/2016 18:53, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**93.00**	83.0	119.0
1,2-Dichloroethane-D4		**98.00**	77.0	121.0
Toluene-D8		**94.60**	86.0	118.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.80**	10.0	110.0
2-Fluorobiphenyl		**60.20**	10.0	116.0
Nitrobenzene-D5		**63.00**	10.0	114.0
Phenol-D5		**59.60**	10.0	110.0
2,4,6-Tribromophenol		**59.40**	10.0	123.0
Terphenyl-D14		**67.00**	10.0	141.0

Laboratory Control Sample (LCS)

Lab Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**55.10**	10.0	110.0
2-Fluorobiphenyl		**58.50**	10.0	116.0
Nitrobenzene-D5		**62.60**	10.0	114.0
Phenol-D5		**58.40**	10.0	110.0
2,4,6-Tribromophenol		**55.30**	10.0	123.0
Terphenyl-D14		**68.70**	10.0	141.0

Blank (BLK)

Lab Sample ID: h160322b.blkw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: z160329.blkw29a

Run in Batch: Z160329, Run Date: 03/29/2016 20:34, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
2-Fluorophenol		**60.60**	10.0	110.0
2-Fluorobiphenyl		**64.40**	10.0	116.0
Nitrobenzene-D5		**67.20**	10.0	114.0
Phenol-D5		**64.80**	10.0	110.0
2,4,6-Tribromophenol		**65.70**	10.0	123.0
Terphenyl-D14		**74.70**	10.0	141.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
No Surrogates				

QC Report - Surrogates per QC Sample

Organics - Volatiles, Prep Batch ID: VF160318W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**114.20**	83.0	119.0
1,2-Dichloroethane-D4		**93.60**	77.0	121.0
Toluene-D8		**94.20**	86.0	118.0

Blank (BLK)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**89.80**	83.0	119.0
1,2-Dichloroethane-D4		**94.00**	77.0	121.0
Toluene-D8		**91.40**	86.0	118.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL
4-Bromofluorobenzene		**108.60**	83.0	119.0
1,2-Dichloroethane-D4		**86.40**	77.0	121.0
Toluene-D8		**93.80**	86.0	118.0

Organics - Volatiles, Prep Batch ID: VS160322W1

QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:11, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Blank (BLK)

Lab Sample ID: 160322a3.blkw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 13:59, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160322a3.lcsw22c, Parent Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:47, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Surrogate	Flags	%Rec	LCL	UCL

No Surrogates

Metals, Prep Batch ID: HGD-031816-1

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: HG2-16-0318A.015.LCS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:02, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**100**	85	115

Blank (BLK)

Lab Sample ID: HG2-16-0318A.016.LRB

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:04, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
Mercury		**ND**	0.03	ug/L

Matrix Spike (MS)

Lab Sample ID: HG2-16-0318A.027.MS, Parent Sample ID: S72169.01

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:26, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**101**	75	125

Matrix Spike (MS)

Lab Sample ID: HG2-16-0318A.041.MS, Parent Sample ID: S72188.01

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:54, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
Mercury		**97**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-16-0318A.028.MSD, Parent Sample ID: HG2-16-0318A.027.MS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:28, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**101**	75	125	**0**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: HG2-16-0318A.042.MSD, Parent Sample ID: HG2-16-0318A.041.MS

Run in Batch: HG2-16-0318A, Run Date: 03/18/2016 12:56, Prep Date: 03/18/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
Mercury		**99**	75	125	**2**	20

Metals, Prep Batch ID: MTD-033016-2

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Laboratory Control Sample (LCS)

Lab Sample ID: MT2-16-0330B.022.LCS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 12:30, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Silver		**95**	85	115
Arsenic		**102**	85	115
Barium		**99**	85	115
Boron		**92**	85	115
Cadmium		**99**	85	115
Cobalt		**104**	85	115
Chromium		**102**	85	115
Copper		**101**	85	115
Iron		**99**	85	115
Manganese		**100**	85	115
Nickel		**104**	85	115
Lead		**101**	85	115
Antimony		**98**	85	115
Selenium		**99**	85	115
Vanadium		**101**	85	115
Zinc		**102**	85	115

Blank (BLK)

Lab Sample ID: MT2-16-0330B.023.LRB

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 12:36, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Silver		**ND**	0.0002	mg/L
Arsenic		**ND**	0.0004	mg/L
Barium		**ND**	0.001	mg/L
Boron		**ND**	0.02	mg/L
Cadmium		**ND**	0.0001	mg/L
Cobalt		**ND**	0.001	mg/L
Chromium		**ND**	0.001	mg/L
Copper		**ND**	0.001	mg/L
Iron		**ND**	0.02	mg/L
Manganese		**ND**	0.001	mg/L
Nickel		**ND**	0.001	mg/L
Lead		**ND**	0.0006	mg/L
Antimony		**ND**	0.001	mg/L
Selenium		**ND**	0.001	mg/L
Vanadium		**ND**	0.0008	mg/L
Zinc		**ND**	0.002	mg/L

Matrix Spike (MS)

Lab Sample ID: MT2-16-0330B.036.MS, Parent Sample ID: S72155.04

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:43, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	75	125
Arsenic		**98**	75	125
Barium		**108**	75	125
Boron		**92**	75	125

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike (MS) (continued)

Lab Sample ID: MT2-16-0330B.036.MS, Parent Sample ID: S72155.04

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:43, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Cadmium		**102**	75	125
Cobalt		**99**	75	125
Chromium		**102**	75	125
Copper		**91**	75	125
Iron		**80**	75	125
Manganese		**98**	75	125
Nickel		**97**	75	125
Lead		**95**	75	125
Antimony		**102**	75	125
Selenium		**97**	75	125
Vanadium		**105**	75	125
Zinc		**94**	75	125

Matrix Spike (MS)

Lab Sample ID: MT2-16-0330B.042.MS, Parent Sample ID: S72155.07

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 14:31, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL
Silver		**98**	75	125
Arsenic		**99**	75	125
Barium		**120**	75	125
Boron		**92**	75	125
Cadmium		**102**	75	125
Cobalt		**97**	75	125
Chromium		**104**	75	125
Copper		**90**	75	125
Iron		**112**	75	125
Manganese		**98**	75	125
Nickel		**96**	75	125
Lead		**93**	75	125
Antimony		**105**	75	125
Selenium		**100**	75	125
Vanadium		**104**	75	125
Zinc		**94**	75	125

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-16-0330B.037.MSD, Parent Sample ID: MT2-16-0330B.036.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:56, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**96**	75	125	**2**	20
Arsenic		**100**	75	125	**2**	20
Barium		**108**	75	125	**0**	20
Boron		**91**	75	125	**1**	20
Cadmium		**98**	75	125	**5**	20
Cobalt		**97**	75	125	**2**	20
Chromium		**101**	75	125	**1**	20
Copper		**91**	75	125	**0**	20

Metals, Prep Batch ID: MTD-033016-2 (continued)

Surrogates: No, QC Types: LCS/BLK/MS/MSD

Matrix Spike Duplicate (MSD) (continued)

Lab Sample ID: MT2-16-0330B.037.MSD, Parent Sample ID: MT2-16-0330B.036.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 13:56, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Iron		**96**	75	125	**0**	20
Manganese		**99**	75	125	**1**	20
Nickel		**98**	75	125	**0**	20
Lead		**95**	75	125	**0**	20
Antimony		**101**	75	125	**1**	20
Selenium		**101**	75	125	**4**	20
Vanadium		**102**	75	125	**2**	20
Zinc		**95**	75	125	**1**	20

Matrix Spike Duplicate (MSD)

Lab Sample ID: MT2-16-0330B.043.MSD, Parent Sample ID: MT2-16-0330B.042.MS

Run in Batch: MT2-16-0330B, Run Date: 03/30/2016 14:53, Prep Date: 03/30/2016, Matrix: Liquid, Dilution: 5

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Silver		**97**	75	125	**1**	20
Arsenic		**100**	75	125	**1**	20
Barium		**108**	75	125	**2**	20
Boron		**92**	75	125	**0**	20
Cadmium		**98**	75	125	**4**	20
Cobalt		**96**	75	125	**1**	20
Chromium		**104**	75	125	**0**	20
Copper		**91**	75	125	**1**	20
Iron		**124**	75	125	**0**	20
Manganese		**99**	75	125	**0**	20
Nickel		**96**	75	125	**0**	20
Lead		**94**	75	125	**1**	20
Antimony		**102**	75	125	**3**	20
Selenium		**100**	75	125	**0**	20
Vanadium		**106**	75	125	**2**	20
Zinc		**94**	75	125	**0**	20

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Phenol		**52.58**	10.0	130.4
2-Chlorophenol		**53.78**	35.5	114.1
Bis(2-chloroethyl)ether		**55.06**	43.4	101.8
Bis(2-chloroisopropyl)ether		**69.66**	33.2	105.8
Hexachloroethane		**54.46**	23.8	138.1
N-Nitrosodi-n-propylamine		**62.20**	35.8	109.3
Nitrobenzene		**75.40**	41.7	110.1
Isophorone		**73.42**	44.9	107.5
2-Nitrophenol		**56.20**	54.4	109.5
2,4-Dimethylphenol		**56.04**	43.4	114.9
Bis(2-chloroethoxy)methane		**59.90**	48.3	105.4
2,4-Dichlorophenol	*	**56.16**	57.7	115.6
Naphthalene		**57.46**	32.9	135.8
4-Chloroaniline		**35.46**	33.4	89.4
Hexachlorobutadiene		**55.80**	30.2	119.4
4-Chloro-3-methylphenol		**58.92**	39.0	123.2
2-Methylnaphthalene		**54.52**	25.5	165.5
Hexachlorocyclopentadiene		**49.86**	10.0	271.8
2,4,6-Trichlorophenol		**53.38**	47.8	117.4
2,4,5-Trichlorophenol		**54.70**	48.9	118.8
2-Chloronaphthalene		**54.20**	50.3	108.3
2-Nitroaniline		**54.96**	53.4	119.9
Acenaphthylene		**61.26**	16.9	140.7
Dimethyl Phthalate		**56.16**	49.3	118.4
2,6-Dinitrotoluene		**55.86**	48.0	119.1
3-Nitroaniline		**45.52**	42.1	109.0
Acenaphthene		**56.68**	34.8	124.7
2,4-Dinitrophenol		**32.94**	10.0	171.2
Dibenzofuran		**54.36**	52.1	111.9
4-Nitrophenol		**55.08**	15.4	122.0
2,4-Dinitrotoluene		**56.54**	35.8	126.7
Fluorene		**60.42**	37.1	110.3
Diethyl phthalate		**59.54**	48.1	118.0
4-Chlorophenyl phenyl ether		**59.96**	52.2	116.5
4-Nitroaniline		**56.12**	45.8	119.7
4,6-Dinitro-2-methylphenol		**49.86**	18.7	149.0
N-Nitrosodiphenylamine		**75.60**	10.0	104.2
4-Bromophenyl phenyl ether		**59.94**	44.5	116.9
Hexachlorobenzene		**60.38**	45.2	118.5
Pentachlorophenol		**44.76**	10.3	139.1
Phenanthrene		**59.58**	31.8	123.3
Anthracene		**57.62**	38.1	115.5
di-N-butyl phthalate		**58.54**	48.1	121.8
Fluoranthene		**60.58**	43.0	127.9
Pyrene		**64.12**	37.8	131.4
Butyl benzyl phthalate		**62.24**	47.4	121.6

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzo(a)anthracene		**58.46**	40.7	115.5
3,3'-Dichlorobenzidine		**71.96**	37.0	97.2
Chrysene		**62.12**	28.9	136.7
Bis(2-ethylhexyl)phthalate		**65.02**	45.2	126.2
Di-n-octyl phthalate		**62.64**	45.7	123.1
Benzo(b)fluoranthene		**53.76**	43.3	119.4
Benzo(k)fluoranthene		**55.38**	41.2	116.9
Benzo(a)pyrene		**57.72**	51.2	133.4
Indeno(1,2,3-cd)pyrene		**58.28**	41.5	116.9
Dibenzo(ah)anthracene		**58.10**	33.8	132.4
Benzo(ghi)perylene		**57.12**	36.7	122.1
1-methylnaphthalene		**64.90**	10.0	133.6
1,4-Dichlorobenzene		**52.64**	20.7	137.7
1,2-Dichlorobenzene		**53.78**	9.6	166.2
o-Cresol		**55.34**	39.1	109.4
3,4-methylphenol		**53.61**	36.4	115.4
1,3-Dichlorobenzene		**52.60**	36.8	105.8
1,2-Diphenylhydrazine		**58.88**	40.2	136.4
1,2,4-Trichlorobenzene		**57.52**	32.2	118.4
1,2,4,5-Tetrachlorobenzene	*	**60.86**	70.0	130.0
2,3,4,6-Tetrachlorophenol	*	**55.48**	70.0	130.0

Laboratory Control Sample (LCS)

Lab Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:45, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Benzaldehyde	*	**22.08**	35.6	137.2
Acetophenone		**59.16**	48.3	105.9
Caprolactam		**61.66**	10.0	113.1
1,1'-Biphenyl		**60.10**	49.7	110.7
Atrazine		**53.04**	52.5	143.1
Carbazole		**55.94**	44.3	128.8

Blank (BLK)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Acenaphthene		**ND**	0.5	ug/l
Acenaphthylene		**ND**	0.5	ug/l
Anthracene		**ND**	0.5	ug/l
4-Bromophenyl phenyl ether		**ND**	0.5	ug/l
di-n-Butyl phthalate	*	**0.1**	0.5	ug/l
Benzo(a)anthracene		**ND**	0.5	ug/l
Benzo(a)pyrene		**ND**	0.5	ug/l
Benzo(b)fluoranthene		**ND**	0.5	ug/l
Benzo(ghi)perylene		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: h160322.blkw22a

Run in Batch: H160322, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(k)fluoranthene		**ND**	0.5	ug/l
Butyl benzyl phthalate		**ND**	0.5	ug/l
2-Chloronaphthalene		**ND**	0.5	ug/l
2-Chlorophenol		**ND**	0.5	ug/l
4-Chloro-3-methylphenol		**ND**	0.5	ug/l
4-Chloroaniline		**ND**	0.5	ug/l
4-Chlorophenyl phenyl ether		**ND**	0.5	ug/l
bis(2-Chloroethoxy)methane		**ND**	0.5	ug/l
bis(2-Chloroethyl)ether		**ND**	0.5	ug/l
bis(2-Chloroisopropyl)ether		**ND**	0.5	ug/l
Chrysene		**ND**	0.5	ug/l
2,4-Dichlorophenol		**ND**	0.5	ug/l
2,4-Dimethylphenol		**ND**	0.5	ug/l
2,4-Dinitrophenol		**ND**	0.5	ug/l
2,4-Dinitrotoluene		**ND**	0.5	ug/l
2,6-Dinitrotoluene		**ND**	0.5	ug/l
4,6-Dinitro-2-methylphenol		**ND**	0.5	ug/l
Dibenzo(ah)anthracene		**ND**	0.5	ug/l
Dibenzofuran		**ND**	0.5	ug/l
Diethyl phthalate		**ND**	0.5	ug/l
Dimethyl phthalate		**ND**	0.5	ug/l
bis(2-Ethylhexyl)phthalate	*	**1.0**	0.5	ug/l
Fluoranthene		**ND**	0.5	ug/l
Fluorene		**ND**	0.5	ug/l
Hexachlorobutadiene		**ND**	0.5	ug/l
Hexachlorocyclopentadiene		**ND**	0.5	ug/l
Hexachloroethane		**ND**	0.5	ug/l
Indeno(1,2,3-cd)pyrene		**ND**	0.5	ug/l
Isophorone		**ND**	0.5	ug/l
2-Methylnaphthalene		**ND**	0.5	ug/l
2-Nitroaniline		**ND**	0.5	ug/l
2-Nitrophenol		**ND**	0.5	ug/l
3-Nitroaniline		**ND**	0.5	ug/l
4-Nitroaniline		**ND**	0.5	ug/l
4-Nitrophenol		**ND**	0.5	ug/l
N-Nitrosodiphenylamine		**ND**	0.5	ug/l
Naphthalene		**ND**	0.5	ug/l
Nitrobenzene		**ND**	0.5	ug/l
Pentachlorophenol		**ND**	0.5	ug/l
Phenanthrene		**ND**	0.5	ug/l
Phenol		**ND**	0.5	ug/l
Pyrene		**ND**	0.5	ug/l
2,4,5-Trichlorophenol		**ND**	0.5	ug/l
2,4,6-Trichlorophenol		**ND**	0.5	ug/l
Hexachlorobenzene		**ND**	0.5	ug/l
3,3'-Dichlorobenzidine		**ND**	0.5	ug/l

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK)

Lab Sample ID: h160322b.blkw22a

Run in Batch: H160322B, Run Date: 03/22/2016 21:18, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzaldehyde		**ND**	0.5	ug/l
Acetophenone		**ND**	0.5	ug/l
Caprolactam		**ND**	0.5	ug/l
Carbazole		**ND**	0.5	ug/l
1,1'-Biphenyl		**ND**	0.5	ug/l
Atrazine		**ND**	0.5	ug/l

Blank (BLK)

Lab Sample ID: z160329.blkw29a

Run in Batch: Z160329, Run Date: 03/29/2016 20:34, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
Benzo(a)pyrene		**ND**	0.01	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Phenol		**58.18**	10.0	130.4	**10.1**	30.0
2-Chlorophenol		**59.98**	35.5	114.1	**10.9**	30.0
Bis(2-chloroethyl)ether		**61.06**	43.4	101.8	**10.3**	30.0
Bis(2-chloroisopropyl)ether		**77.82**	33.2	105.8	**11.1**	30.0
Hexachloroethane		**60.88**	23.8	138.1	**11.1**	30.0
N-Nitrosodi-n-propylamine		**69.48**	35.8	109.3	**11.1**	30.0
Nitrobenzene		**82.18**	41.7	110.1	**8.6**	30.0
Isophorone		**80.36**	44.9	107.5	**9.0**	30.0
2-Nitrophenol		**60.26**	54.4	109.5	**7.0**	30.0
2,4-Dimethylphenol		**61.94**	43.4	114.9	**10.0**	30.0
Bis(2-chloroethoxy)methane		**65.14**	48.3	105.4	**8.4**	30.0
2,4-Dichlorophenol		**62.02**	57.7	115.6	**9.9**	30.0
Naphthalene		**62.48**	32.9	135.8	**8.4**	30.0
4-Chloroaniline		**40.20**	33.4	89.4	**12.5**	30.0
Hexachlorobutadiene		**60.60**	30.2	119.4	**8.2**	30.0
4-Chloro-3-methylphenol		**64.08**	39.0	123.2	**8.4**	30.0
2-Methylnaphthalene		**58.70**	25.5	165.5	**7.4**	30.0
Hexachlorocyclopentadiene		**54.98**	10.0	271.8	**9.8**	30.0
2,4,6-Trichlorophenol		**59.72**	47.8	117.4	**11.2**	30.0
2,4,5-Trichlorophenol		**61.72**	48.9	118.8	**12.1**	30.0
2-Chloronaphthalene		**59.62**	50.3	108.3	**9.5**	30.0
2-Nitroaniline		**62.86**	53.4	119.9	**13.4**	30.0
Acenaphthylene		**67.60**	16.9	140.7	**9.8**	30.0
Dimethyl Phthalate		**63.46**	49.3	118.4	**12.2**	30.0
2,6-Dinitrotoluene		**62.58**	48.0	119.1	**11.3**	30.0
3-Nitroaniline		**52.78**	42.1	109.0	**14.8**	30.0
Acenaphthene		**61.86**	34.8	124.7	**8.7**	30.0
2,4-Dinitrophenol	*	**44.66**	10.0	171.2	**30.2**	30.0
Dibenzofuran		**60.12**	52.1	111.9	**10.1**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h160322.lcsdw22a, Parent Sample ID: h160322.lcsw22a

Run in Batch: H160322, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
4-Nitrophenol		**62.36**	15.4	122.0	**12.4**	30.0
2,4-Dinitrotoluene		**64.28**	35.8	126.7	**12.8**	30.0
Fluorene		**66.78**	37.1	110.3	**10.0**	30.0
Diethyl phthalate		**67.16**	48.1	118.0	**12.0**	30.0
4-Chlorophenyl phenyl ether		**66.62**	52.2	116.5	**10.5**	30.0
4-Nitroaniline		**66.54**	45.8	119.7	**17.0**	30.0
4,6-Dinitro-2-methylphenol		**56.32**	18.7	149.0	**12.2**	30.0
N-Nitrosodiphenylamine		**84.68**	10.0	104.2	**11.3**	30.0
4-Bromophenyl phenyl ether		**66.68**	44.5	116.9	**10.6**	30.0
Hexachlorobenzene		**66.80**	45.2	118.5	**10.1**	30.0
Pentachlorophenol		**51.62**	10.3	139.1	**14.2**	30.0
Phenanthrene		**66.22**	31.8	123.3	**10.6**	30.0
Anthracene		**64.38**	38.1	115.5	**11.1**	30.0
di-N-butyl phthalate		**65.40**	48.1	121.8	**11.1**	30.0
Fluoranthene		**67.78**	43.0	127.9	**11.2**	30.0
Pyrene		**70.38**	37.8	131.4	**9.3**	30.0
Butyl benzyl phthalate		**67.28**	47.4	121.6	**7.8**	30.0
Benzo(a)anthracene		**64.40**	40.7	115.5	**9.7**	30.0
3,3'-Dichlorobenzidine		**79.68**	37.0	97.2	**10.2**	30.0
Chrysene		**68.34**	28.9	136.7	**9.5**	30.0
Bis(2-ethylhexyl)phthalate		**71.42**	45.2	126.2	**9.4**	30.0
Di-n-octyl phthalate		**68.92**	45.7	123.1	**9.5**	30.0
Benzo(b)fluoranthene		**62.14**	43.3	119.4	**14.5**	30.0
Benzo(k)fluoranthene		**58.90**	41.2	116.9	**6.2**	30.0
Benzo(a)pyrene		**64.50**	51.2	133.4	**11.1**	30.0
Indeno(1,2,3-cd)pyrene		**64.46**	41.5	116.9	**10.1**	30.0
Dibenzo(ah)anthracene		**64.90**	33.8	132.4	**11.1**	30.0
Benzo(ghi)perylene		**63.50**	36.7	122.1	**10.6**	30.0
1-methylnaphthalene		**69.56**	10.0	133.6	**6.9**	30.0
1,4-Dichlorobenzene		**58.70**	20.7	137.7	**10.9**	30.0
1,2-Dichlorobenzene		**60.32**	9.6	166.2	**11.5**	30.0
o-Cresol		**61.40**	39.1	109.4	**10.4**	30.0
3,4-methylphenol		**59.08**	36.4	115.4	**9.7**	30.0
1,3-Dichlorobenzene		**58.98**	36.8	105.8	**11.4**	30.0
1,2-Diphenylhydrazine		**64.50**	40.2	136.4	**9.1**	30.0
1,2,4-Trichlorobenzene		**63.92**	32.2	118.4	**10.5**	30.0
1,2,4,5-Tetrachlorobenzene	*	**67.32**	70.0	130.0	**10.1**	30.0
2,3,4,6-Tetrachlorophenol	*	**63.74**	70.0	130.0	**13.9**	30.0

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
Benzaldehyde	*	**24.70**	35.6	137.2	**11.2**	30.0
Acetophenone		**65.02**	48.3	105.9	**9.4**	30.0
Caprolactam		**68.60**	10.0	113.1	**10.7**	30.0

Organics - Semi-Volatiles, Prep Batch ID: SF160322W01 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: h160322b.lcsdw22a, Parent Sample ID: h160322b.lcsw22a

Run in Batch: H160322B, Run Date: 03/22/2016 22:12, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,1'-Biphenyl		**66.10**	49.7	110.7	**9.5**	30.0
Atrazine		**59.92**	52.5	143.1	**12.2**	30.0
Carbazole		**62.46**	44.3	128.8	**11.0**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
1,1,2-Trichloro-1,2,2-trifluoroethane		**91.16**	75.1	135.9
Diethyl ether		**94.10**	67.4	121.2
Acetone		**77.42**	29.9	161.5
Methyl iodide		**106.10**	68.8	116.4
Carbon disulfide		**97.34**	63.8	137.4
Methyl acetate		**94.64**	64.7	125.4
tert-Methyl butyl ether		**107.28**	73.2	122.4
Acrylonitrile		**94.20**	69.9	128.9
2-Butanone		**81.48**	44.0	134.4
Dichlorodifluoromethane		**91.96**	10.0	222.8
Chloromethane		**97.50**	23.8	166.5
Vinyl Chloride		**98.04**	43.5	149.1
Bromomethane		**113.84**	56.8	151.3
Chloroethane		**104.02**	53.4	149.4
Trichlorofluoromethane		**118.02**	59.7	151.8
1,1-Dichloroethene		**111.02**	69.6	139.4
Methylene Chloride		**108.78**	73.3	121.1
trans-1,2-Dichloroethene		**111.86**	73.6	129.3
1,1-Dichloroethane		**111.84**	71.5	126.2
cis-1,2-Dichloroethene		**109.32**	76.6	122.1
Tetrahydrofuran		**98.80**	59.0	117.9
Chloroform		**111.38**	78.4	124.0
Bromochloromethane		**113.70**	78.2	120.8
1,1,1-Trichloroethane		**126.48**	79.4	130.9
Cyclohexane		**110.98**	10.0	169.1
4-Methyl-2-pentanone		**99.38**	71.6	125.2
2-Hexanone		**86.30**	55.4	136.9
2-Chloroethylvinyl ether	*	**54.46**	70.0	130.0
Carbon Tetrachloride		**122.10**	72.6	133.0
Benzene		**101.52**	79.9	124.9
1,2-Dichloroethane		**104.18**	76.0	126.3
Trichloroethene		**109.04**	79.7	124.2
1,2-Dichloropropane		**105.84**	78.6	126.4
Bromodichloromethane		**113.88**	80.4	128.2
Methyl cyclohexane		**93.24**	76.6	131.3
Dibromomethane		**114.78**	76.9	122.1
cis-1,3-Dichloropropene		**113.36**	79.8	129.9
Toluene		**105.44**	79.8	124.5
trans-1,3-Dichloropropene		**113.84**	74.0	131.3
1,1,2-Trichloroethane		**106.26**	78.7	123.1
Tetrachloroethene		**111.64**	74.5	124.5
trans-1,4-Dichloro-2-butene		**108.00**	68.6	135.4
Dibromochloromethane		**122.16**	74.6	127.2
1,2-Dibromoethane		**119.96**	70.3	133.7
Chlorobenzene		**115.44**	79.2	122.7
1,1,1,2-Tetrachloroethane		**124.30**	80.3	128.2

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS) (continued)

Lab Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:12, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL
Ethylbenzene		**117.66**	79.5	129.1
p,m-Xylene		**120.50**	79.4	132.2
o-Xylene		**114.84**	80.2	131.0
Styrene		**116.66**	69.5	126.7
Isopropylbenzene		**120.64**	74.4	121.5
Bromoform	*	**130.10**	69.4	128.0
1,1,2,2-Tetrachloroethane		**114.58**	79.8	126.3
1,2,3-Trichloropropane		**108.70**	78.3	138.8
n-Propylbenzene		**123.96**	82.0	130.7
Bromobenzene		**121.46**	78.7	124.6
1,3,5-Trimethylbenzene		**121.16**	81.3	128.9
tert-Butylbenzene		**119.10**	80.7	128.9
1,2,4-Trimethylbenzene		**120.52**	81.4	130.8
sec-Butylbenzene		**111.38**	77.4	129.8
p-Isopropyltoluene		**113.88**	79.8	137.5
1,3-Dichlorobenzene		**109.56**	77.0	131.3
1,4-Dichlorobenzene		**108.76**	20.7	137.7
1,2-Dichlorobenzene		**108.82**	10.0	166.2
1,2,3-Trimethylbenzene		**106.10**	76.3	124.2
n-Butylbenzene		**107.28**	80.0	133.3
Hexachloroethane		**121.00**	23.8	138.1
1,2-Dibromo-3-Chloropropane		**108.54**	21.2	189.4
1,2,4-Trichlorobenzene		**116.10**	27.4	143.4
1,2,3-Trichlorobenzene		**112.42**	75.4	131.4
Naphthalene		**110.42**	32.9	135.8
2-Methylnaphthalene		**101.08**	25.5	165.5
2-Chlorotoluene		**115.64**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
1,1,2-Trichloro-1,2,2-trifluoroethane		**ND**	1	ug/l
Acetone		**ND**	10	ug/l
Carbon disulfide		**ND**	1	ug/l
Methyl Acetate		**ND**	1	ug/l
tert-Methyl butyl ether (MTBE)		**ND**	1	ug/l
2-Butanone (MEK)		**ND**	10	ug/l
Dichlorodifluoromethane		**ND**	1	ug/l
Chloromethane		**ND**	1	ug/l
Vinyl chloride		**ND**	1	ug/l
Bromomethane		**ND**	1	ug/l
Chloroethane		**ND**	1	ug/l
Trichlorofluoromethane		**ND**	1	ug/l
1,1-Dichloroethene		**ND**	1	ug/l
Methylene chloride		**ND**	1	ug/l

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Blank (BLK) (continued)

Lab Sample ID: 160318a7.blkw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 13:02, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	Conc	RDL	Units
trans-1,2-Dichloroethene		**ND**	1	ug/l
1,1-Dichloroethane		**ND**	1	ug/l
cis-1,2-Dichloroethene		**ND**	1	ug/l
Chloroform		**ND**	1	ug/l
1,1,1-Trichloroethane		**ND**	1	ug/l
Cyclohexane		**ND**	1	ug/l
4-Methyl-2-pentanone (MIBK)		**ND**	1	ug/l
2-Hexanone		**ND**	10	ug/l
Carbon tetrachloride		**ND**	1	ug/l
Benzene		**ND**	1	ug/l
1,2-Dichloroethane		**ND**	1	ug/l
Trichloroethene		**ND**	1	ug/l
1,2-Dichloropropane		**ND**	1	ug/l
Bromodichloromethane		**ND**	1	ug/l
Methyl cyclohexane		**ND**	1	ug/l
cis-1,3-Dichloropropene		**ND**	1	ug/l
Toluene		**ND**	1	ug/l
trans-1,3-Dichloropropene		**ND**	1	ug/l
1,1,2-Trichloroethane		**ND**	1	ug/l
Tetrachloroethene		**ND**	1	ug/l
Dibromochloromethane		**ND**	1	ug/l
Chlorobenzene		**ND**	1	ug/l
1,1,2,2-Tetrachloroethane		**ND**	1	ug/l
Ethylbenzene		**ND**	1	ug/l
p,m-Xylene		**ND**	1	ug/l
o-Xylene		**ND**	1	ug/l
Styrene		**ND**	1	ug/l
Isopropylbenzene		**ND**	1	ug/l
Bromoform		**ND**	1	ug/l
1,3-Dichlorobenzene		**ND**	1	ug/l
1,4-Dichlorobenzene		**ND**	1	ug/l
1,2-Dichlorobenzene		**ND**	1	ug/l
1,2,4-Trichlorobenzene		**ND**	1	ug/l
1,2-Dibromo-3-chloropropane		**ND**	1	ug/l
1,2-Dibromoethane		**ND**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,1,2-Trichloro-1,2,2-trifluoroethane		**80.50**	75.1	135.9	**12.4**	30.0
Diethyl ether		**86.24**	67.4	121.2	**8.7**	30.0
Acetone		**75.12**	29.9	161.5	**3.0**	30.0
Methyl iodide		**96.56**	68.8	116.4	**9.4**	30.0
Carbon disulfide		**86.08**	63.8	137.4	**12.3**	30.0
Methyl acetate		**89.76**	64.7	125.4	**5.3**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
tert-Methyl butyl ether		**98.16**	73.2	122.4	**8.9**	30.0
Acrylonitrile		**92.98**	69.9	128.9	**1.3**	30.0
2-Butanone		**82.98**	44.0	134.4	**1.8**	30.0
Dichlorodifluoromethane		**76.32**	10.0	222.8	**18.6**	30.0
Chloromethane		**82.02**	23.8	166.5	**17.2**	30.0
Vinyl Chloride		**84.86**	43.5	149.1	**14.4**	30.0
Bromomethane		**96.86**	56.8	151.3	**16.1**	30.0
Chloroethane		**89.64**	53.4	149.4	**14.9**	30.0
Trichlorofluoromethane		**102.30**	59.7	151.8	**14.3**	30.0
1,1-Dichloroethene		**97.46**	69.6	139.4	**13.0**	30.0
Methylene Chloride		**98.68**	73.3	121.1	**9.7**	30.0
trans-1,2-Dichloroethene		**99.12**	73.6	129.3	**12.1**	30.0
1,1-Dichloroethane		**102.00**	71.5	126.2	**9.2**	30.0
cis-1,2-Dichloroethene		**100.44**	76.6	122.1	**8.5**	30.0
Tetrahydrofuran		**95.08**	59.0	117.9	**3.8**	30.0
Chloroform		**103.64**	78.4	124.0	**7.2**	30.0
Bromochloromethane		**105.58**	78.2	120.8	**7.4**	30.0
1,1,1-Trichloroethane		**113.90**	79.4	130.9	**10.5**	30.0
Cyclohexane		**98.42**	10.0	169.1	**12.0**	30.0
4-Methyl-2-pentanone		**102.52**	71.6	125.2	**3.1**	30.0
2-Hexanone		**90.40**	55.4	136.9	**4.6**	30.0
Carbon Tetrachloride		**117.36**	72.6	133.0	**4.0**	30.0
Benzene		**99.34**	79.9	124.9	**2.2**	30.0
1,2-Dichloroethane		**104.06**	76.0	126.3	**0.1**	30.0
Trichloroethene		**105.62**	79.7	124.2	**3.2**	30.0
1,2-Dichloropropane		**105.60**	78.6	126.4	**0.2**	30.0
Bromodichloromethane		**110.92**	80.4	128.2	**2.6**	30.0
Methyl cyclohexane		**90.92**	76.6	131.3	**2.5**	30.0
Dibromomethane		**115.42**	76.9	122.1	**0.6**	30.0
cis-1,3-Dichloropropene		**111.26**	79.8	129.9	**1.9**	30.0
Toluene		**103.84**	79.8	124.5	**1.5**	30.0
trans-1,3-Dichloropropene		**112.50**	74.0	131.3	**1.2**	30.0
1,1,2-Trichloroethane		**108.70**	78.7	123.1	**2.3**	30.0
Tetrachloroethene		**111.38**	74.5	124.5	**0.2**	30.0
trans-1,4-Dichloro-2-butene		**92.82**	68.6	135.4	**15.1**	30.0
Dibromochloromethane		**120.38**	74.6	127.2	**1.5**	30.0
1,2-Dibromoethane		**121.00**	70.3	133.7	**0.9**	30.0
Chlorobenzene		**115.12**	79.2	122.7	**0.3**	30.0
1,1,1,2-Tetrachloroethane		**118.48**	80.3	128.2	**4.8**	30.0
Ethylbenzene		**115.48**	79.5	129.1	**1.9**	30.0
p,m-Xylene		**115.57**	79.4	132.2	**4.2**	30.0
o-Xylene		**111.46**	80.2	131.0	**3.0**	30.0
Styrene		**116.62**	69.5	126.7	**0.0**	30.0
Isopropylbenzene		**117.02**	74.4	121.5	**3.0**	30.0
Bromoform	*	**128.68**	69.4	128.0	**1.1**	30.0
1,1,2,2-Tetrachloroethane		**115.62**	79.8	126.3	**0.9**	30.0

Organics - Volatiles, Prep Batch ID: VF160318W1 (continued)

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample Duplicate (LCSD) (continued)

Lab Sample ID: 160318a7.lcsw18b, Parent Sample ID: 160318a7.lcsw18a

Run in Batch: 160318A7, Run Date: 03/18/2016 11:34, Prep Date: 03/18/2016, Matrix: WW, Dilution: 1

Analyte	Flags	% Rec	LCL	UCL	RPD	RPD CL
1,2,3-Trichloropropane		**108.06**	78.3	138.8	**0.6**	30.0
n-Propylbenzene		**119.16**	82.0	130.7	**3.9**	30.0
Bromobenzene		**118.96**	78.7	124.6	**2.1**	30.0
1,3,5-Trimethylbenzene		**116.54**	81.3	128.9	**3.9**	30.0
tert-Butylbenzene		**114.04**	80.7	128.9	**4.3**	30.0
1,2,4-Trimethylbenzene		**116.24**	81.4	130.8	**3.6**	30.0
sec-Butylbenzene		**108.48**	77.4	129.8	**2.6**	30.0
p-Isopropyltoluene		**110.22**	79.8	137.5	**3.3**	30.0
1,3-Dichlorobenzene		**108.72**	77.0	131.3	**0.8**	30.0
1,4-Dichlorobenzene		**106.72**	20.7	137.7	**1.9**	30.0
1,2-Dichlorobenzene		**106.56**	10.0	166.2	**2.1**	30.0
1,2,3-Trimethylbenzene		**103.50**	76.3	124.2	**2.5**	30.0
n-Butylbenzene		**106.74**	80.0	133.3	**0.5**	30.0
Hexachloroethane		**120.44**	23.8	138.1	**0.5**	30.0
1,2-Dibromo-3-Chloropropane		**116.18**	21.2	189.4	**6.8**	30.0
1,2,4-Trichlorobenzene		**113.24**	27.4	143.4	**2.5**	30.0
1,2,3-Trichlorobenzene		**111.12**	75.4	131.4	**1.2**	30.0
Naphthalene		**111.32**	32.9	135.8	**0.8**	30.0
2-Methylnaphthalene		**105.50**	25.5	165.5	**4.3**	30.0
2-Chlorotoluene		**111.32**	70.0	130.0	**3.8**	30.0

Organics - Volatiles, Prep Batch ID: VS160322W1

Surrogates: Yes, QC Types: LCS/BLK/LCSD

Laboratory Control Sample (LCS)

Lab Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:11, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL
1,4-Dioxane		**85.24**	70.0	130.0

Blank (BLK)

Lab Sample ID: 160322a3.blkw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 13:59, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**Conc**	RDL	Units
1,4-Dioxane	*	**2.0**	1	ug/l

Laboratory Control Sample Duplicate (LCSD)

Lab Sample ID: 160322a3.lcsw22c, Parent Sample ID: 160322a3.lcsw22a

Run in Batch: 160322A3, Run Date: 03/22/2016 12:47, Prep Date: 03/22/2016, Matrix: WW, Dilution: 1

Analyte	Flags	**% Rec**	LCL	UCL	**RPD**	RPD CL
1,4-Dioxane		**88.80**	70.0	130.0	**4.1**	30.0

Merit Laboratories, Inc.
2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

100700

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Randy Christensen
COMPANY: Arcadis
ADDRESS: 28550 Cabot Dr. Suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO.: 810.225-1940 FAX NO.:
P.O. NO.: B00 64479.2016
E-MAIL ADDRESS: Randy.Christensen@Arcadis.com
QUOTE NO.:

INVOICE TO

CONTACT NAME: ☐ SAME
COMPANY:
ADDRESS:
CITY: STATE: ZIP CODE:
PHONE NO.: E-MAIL ADDRESS:

PROJECT NO./NAME: Racer Lansing Plant-2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Billy J. Cosel

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☒ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES

Project Locations
☐ Detroit ☐ New York
☐ Other

Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	VOC-8260 1,4 Dioxane	SVOCs	TOTAL METALS
7455.01	3/16/16	8:35	MW-13-44_@31616	GW	2		2						X		
.02	3/16/16	9:20	MW-13-43_@31616	GW	2		2						X		
.03	3/16/16	11:30	MW-14-56_@31616	GW	2		2						X		
.04	3/16/16	12:55	TW-14-02_@31616	GW	5	2	2	1					X	X	X
.05	3/16/16	15:20	MW-15-73_@31616	GW	5	2	2	1					X	X	X
.06	3/16/16	17:15	MW-12-05_@31616	GW	2		2						X		
.07	3/16/16	—	DUP-01_@31616	GW	5	2	2	1					X	X	X
.08	—	—	TRIP BLANK_@31616	L	2		2						X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Arcadis	DATE	TIME
Sampler		3-17-16	8:00
RECEIVED BY: SIGNATURE/ORGANIZATION	Shawna Daul	3-17-16	8:00
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 5.8

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

In-Situ Inc.

Troll 9000 | Low-Flow System
3/16/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	105 [ft]
		Pump placement from TOC	98 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-12-05	Final pumping rate	50 [mL/min]
Well diameter	2 [in]	Flowcell volume	585.66 [mL]
Well total depth	101.9 [ft]	Calculated Sample Rate	703 [sec]
Depth to top of screen	92 [ft]	Sample rate	300 [sec]
Screen length	120 [in]	Stabilized drawdown	3.6 [in]
Depth to Water	76.45 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	16:55:06	13.53	6.94	2240.97	4.45	1.20	-82.51
	17:00:08	13.50	6.94	2412.94	5.12	1.21	-82.59
	17:05:09	13.58	6.94	2253.40	3.86	1.22	-82.93
	17:10:11	13.61	6.94	2249.35	4.16	1.21	-83.10
	17:15:13	13.65	6.94	2270.65	3.99	1.20	-83.32
Variance in last 3 readings	17:05:09	0.07	0.00	-159.54	-1.26	0.01	-0.34
	17:10:11	0.03	0.00	-4.05	0.30	-0.01	-0.17
	17:15:13	0.04	0.00	21.30	-0.17	-0.01	-0.21

Notes:

Voltage: n/a
Pump Time: 40 minutes
Purge Volume: .8 gallon
Sample Time: 17:15
Stabilized DTW: 76.75
Final DTW: 76.75
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked

In-Situ Inc.

Troll 9000 | Low-Flow System
3/16/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	85 [ft]
		Pump placement from TOC	77 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-43	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	496.39 [mL]
Well total depth	79.75 [ft]	Calculated Sample Rate	298 [sec]
Depth to top of screen	75 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	2.4 [in]
Depth to Water	70.72 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	9:00:32	11.77	6.55	1477.36	10.83	1.40	-50.24
	9:05:32	11.77	6.57	1455.31	10.16	1.15	-58.33
	9:10:33	11.77	6.57	1461.09	9.72	1.13	-59.27
	9:15:34	11.78	6.57	1444.55	8.97	1.12	-60.21
	9:20:36	11.76	6.57	1477.19	9.24	1.10	-61.11
Variance in last 3 readings	9:10:33	0.00	0.00	5.78	-0.44	-0.02	-0.94
	9:15:34	0.02	0.00	-16.54	-0.75	-0.01	-0.94
	9:20:36	-0.02	0.00	32.63	0.27	-0.02	-0.90

Notes:

Voltage: n/a
Pump Time: 25 minutes
Purge Volume: .5 gallon
Sample Time: 9:20
Stabilized DTW: 70.92
Final DTW: 70.92
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked

In-Situ Inc.

Troll 9000 | Low-Flow System
3/16/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	120 [ft]
		Pump placement from TOC	115 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-44	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	652.61 [mL]
Well total depth	119.39 [ft]	Calculated Sample Rate	392 [sec]
Depth to top of screen	109 [ft]	Sample rate	300 [sec]
Screen length	120 [in]	Stabilized drawdown	3.6 [in]
Depth to Water	81.82 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	8:15:14	11.99	8.04	644.53	28.30	0.80	-259.88
	8:20:17	12.05	8.06	648.01	36.54	0.74	-267.92
	8:25:18	12.10	8.07	641.89	53.45	0.69	-273.52
	8:30:19	12.12	8.07	659.49	54.64	0.65	-276.43
	8:35:21	12.14	8.07	646.21	55.20	0.66	-276.60
Variance in last 3 readings	8:25:18	0.05	0.01	-6.13	16.91	-0.05	-5.60
	8:30:19	0.02	0.00	17.61	1.19	-0.03	-2.91
	8:35:21	0.02	0.00	-13.28	0.55	0.01	-0.17

Notes:

Voltage: n/a
Pump Time: 35 minutes
Purge Volume: .7 gallon
Sample Time: 8:35
Stabilized DTW: 82.12
Final DTW: 82.12
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked

In-Situ Inc.

Troll 9000 | Low-Flow System
3/15/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	80 [ft]
		Pump placement from TOC	75 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-45	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	474.08 [mL]
Well total depth	78.32 [ft]	Calculated Sample Rate	285 [sec]
Depth to top of screen	73 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	1.8 [in]
Depth to Water	70.25 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	17:50:00	14.14	7.26	646.10	26.58	1.34	-56.39
	17:55:03	13.99	7.24	653.10	19.33	1.12	-67.39
	18:00:05	14.03	7.23	660.28	11.99	1.02	-72.69
	18:05:07	14.24	7.22	659.83	7.51	0.99	-75.43
	18:10:09	14.25	7.22	658.61	5.69	0.99	-77.35
Variance in last 3 readings	18:00:05	0.04	-0.01	7.18	-7.34	-0.09	-5.31
	18:05:07	0.21	-0.01	-0.45	-4.48	-0.03	-2.73
	18:10:09	0.01	0.00	-1.22	-1.82	0.00	-1.92

Notes:

Voltage: n/a
Pump Time: 25 minutes
Purge Volume: .5 gallon
Sample Time: 18:10
Stabilized DTW: 70.40
Final DTW: 70.40
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked, MSMSD

In-Situ Inc.

Troll 9000 | Low-Flow System
3/16/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	85 [ft]
		Pump placement from TOC	77 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-14-56	Final pumping rate	50 [mL/min]
Well diameter	2 [in]	Flowcell volume	496.39 [mL]
Well total depth	78.98 [ft]	Calculated Sample Rate	596 [sec]
Depth to top of screen	74 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	3.96 [in]
Depth to Water	74.78 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	11:10:41	12.39	6.63	3994.51	44.90	3.33	93.39
	11:15:42	12.38	6.63	4111.89	51.12	3.28	93.39
	11:20:43	12.40	6.63	4077.86	47.55	3.24	93.43
	11:25:45	12.42	6.63	4033.08	44.62	3.16	93.47
	11:30:47	12.41	6.63	4177.50	60.69	3.11	93.60
Variance in last 3 readings	11:20:43	0.02	0.00	-34.04	-3.56	-0.04	0.04
	11:25:45	0.02	0.00	-44.78	-2.93	-0.08	0.04
	11:30:47	0.00	0.00	144.42	16.07	-0.05	0.13

Notes:

Voltage: n/a
Pump Time: 90 minutes
Purge Volume: 1.8 gallons
Sample Time: 11:30
Stabilized DTW: 75.11
Final DTW: 75.11
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked, drawdown stabilized at a flow rate of 50 ml/L, turbidity didn't stabilize within 90 minutes

In-Situ Inc.

Troll 9000 | Low-Flow System
3/15/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	84 [ft]
		Pump placement from TOC	79 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-15-72	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	491.93 [mL]
Well total depth	81.25 [ft]	Calculated Sample Rate	296 [sec]
Depth to top of screen	76 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	1.2 [in]
Depth to Water	76.34 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	19:05:26	14.30	6.91	1744.49	835.09	3.40	-45.63
	19:10:27	14.12	6.92	1787.09	810.57	3.53	-43.87
	19:15:29	14.26	6.92	1712.33	818.57	3.55	-43.62
	19:20:30	14.10	6.92	1749.00	778.46	3.60	-43.02
	19:25:31	14.28	6.92	1710.86	792.78	3.65	-42.68
Variance in last 3 readings	19:15:29	0.13	0.00	-74.76	8.00	0.02	0.26
	19:20:30	-0.15	0.00	36.67	-40.11	0.05	0.60
	19:25:31	0.18	0.00	-38.14	14.32	0.05	0.34

Notes:

Voltage: n/a
Pump Time: 45 minutes
Purge Volume: .9 gallon
Sample Time: 19:25
Stabilized DTW: 76.44
Final DTW: 76.44
Parameters: VOC-8260, 1,4 Dioxane, SVOC's, total and dissolved metals

Stick up well, locked, turbidity stabilized at a value greater than 10 ntu's

In-Situ Inc.

Troll 9000 | Low-Flow System
3/16/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	75 [ft]
		Pump placement from TOC	68 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-15-73	Final pumping rate	50 [mL/min]
Well diameter	2 [in]	Flowcell volume	451.76 [mL]
Well total depth	70.75 [ft]	Calculated Sample Rate	543 [sec]
Depth to top of screen	66 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	3.96 [in]
Depth to Water	59.84 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	15:00:20	11.83	6.94	1321.90	11.77	0.98	-92.15
	15:05:23	12.08	6.93	1279.26	9.64	0.94	-96.09
	15:10:24	12.17	6.93	1305.13	9.23	0.93	-96.99
	15:15:25	12.23	6.93	1328.56	10.11	0.93	-97.37
	15:20:26	12.20	6.92	1298.42	9.61	0.93	-97.59
Variance in last 3 readings	15:10:24	0.09	0.00	25.86	-0.41	0.00	-0.90
	15:15:25	0.07	0.00	23.43	0.88	0.00	-0.38
	15:20:26	-0.03	0.00	-30.14	-0.50	0.00	-0.21

Notes:

Voltage: n/a
Pump Time: 35 minutes
Purge Volume: .7 gallon
Sample Time: 15:20
Stabilized DTW: 60.17
Final DTW: 60.17
Parameters: VOC-8260, 1,4 Dioxane, SVOC's, total metals

Stick up well, locked

In-Situ Inc.

Troll 9000 | Low-Flow System
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Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	78 [ft]
		Pump placement from TOC	72 [ft]

Well Information:		**Pumping information:**	
Well ID	TW-14-02	Final pumping rate	50 [mL/min]
Well diameter	2 [in]	Flowcell volume	465.15 [mL]
Well total depth	74.7 [ft]	Calculated Sample Rate	559 [sec]
Depth to top of screen	70 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	3.48 [in]
Depth to Water	65.81 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	12:35:21	11.84	6.90	2672.21	14.84	1.01	-85.12
	12:40:23	12.20	6.89	2521.39	10.73	1.00	-87.28
	12:45:26	13.71	6.88	2642.90	8.50	0.97	-89.10
	12:50:27	13.85	6.88	2635.47	8.19	0.96	-89.32
	12:55:28	13.91	6.88	2631.06	8.23	0.98	-89.44
Variance in last 3 readings	12:45:26	1.51	-0.01	121.50	-2.23	-0.03	-1.83
	12:50:27	0.15	0.00	-7.43	-0.31	-0.02	-0.21
	12:55:28	0.06	0.00	-4.41	0.05	0.02	-0.13

Notes:

Voltage: n/a
Pump Time: 50 minutes
Purge Volume: .55 gallon
Sample Time: 12:55
Stabilized DTW: 65.10
Final DTW: 65.10
Parameters: VOC-8260, 1,4 Dioxane, SVOC's, total metals

Stick up well, locked, DUP-01

In-Situ Inc.

Troll 9000 | Low-Flow System
3/15/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	99 [ft]
		Pump placement from TOC	93 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-22	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	558.88 [mL]
Well total depth	96.15 [ft]	Calculated Sample Rate	336 [sec]
Depth to top of screen	91 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	0.48 [in]
Depth to Water	73.21 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	12:20:22	12.11	7.04	943.50	2.32	2.17	-40.98
	12:25:23	12.06	7.04	980.82	2.64	2.01	-43.12
	12:30:24	12.11	7.04	941.08	2.20	1.87	-45.35
	12:35:26	12.06	7.03	966.77	2.05	1.75	-47.02
	12:40:27	12.11	7.03	941.44	2.33	1.66	-48.68
Variance in last 3 readings	12:30:24	0.05	0.00	-39.75	-0.44	-0.14	-2.22
	12:35:26	-0.05	-0.01	25.70	-0.15	-0.11	-1.67
	12:40:27	0.05	0.00	-25.33	0.28	-0.09	-1.67

Notes:

Voltage: n/a
Pump Time: 45 minutes
Purge Volume: .9 gallon
Sample Time: 12:40
Stabilized DTW: 73.25
Final DTW: 73.25
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked

In-Situ Inc.

Troll 9000 | Low-Flow System
3/15/2016 | ISI Low-Flow Log

Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	15 [ft]
		Pump placement from TOC	11 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-31	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	183.95 [mL]
Well total depth	12.8 [ft]	Calculated Sample Rate	111 [sec]
Depth to top of screen	8 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	0.48 [in]
Depth to Water	8.49 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	14:24:17	8.31	6.86	513.67	16.13	2.11	71.40
	14:29:19	8.40	6.86	530.39	15.72	2.12	71.70
	14:34:21	8.40	6.86	501.39	16.35	2.10	72.25
	14:39:22	8.32	6.86	504.62	16.04	2.09	72.85
	14:44:24	8.19	6.86	516.23	17.36	2.11	73.45
Variance in last 3 readings	14:34:21	0.01	0.00	-29.01	0.63	-0.02	0.56
	14:39:22	-0.09	0.00	3.24	-0.31	-0.01	0.60
	14:44:24	-0.13	0.00	11.60	1.32	0.02	0.60

Notes:

Voltage: n/a
Pump Time: 90 minutes
Purge Volume: 1.8 gallons
Sample Time: 14:45
Stabilized DTW: 8.53
Final DTW: 8.53
Parameters: total and dissolved metals

Stick up well, locked, turbidity stabilized above 10 ntu's

In-Situ Inc.

Troll 9000 | Low-Flow System
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Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	15 [ft]
		Pump placement from TOC	10 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-32	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	183.95 [mL]
Well total depth	12.65 [ft]	Calculated Sample Rate	111 [sec]
Depth to top of screen	7.5 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	3.48 [in]
Depth to Water	6.94 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	16:10:23	11.36	6.97	747.62	21.97	3.55	102.65
	16:15:25	11.46	6.97	729.72	17.70	3.64	103.20
	16:20:27	11.50	6.97	733.21	15.12	3.73	103.89
	16:25:28	11.50	6.98	745.02	15.84	3.79	104.53
	16:30:30	11.60	6.98	731.06	15.73	3.87	105.04
Variance in last 3 readings	16:20:27	0.04	0.00	3.49	-2.58	0.10	0.68
	16:25:28	0.00	0.00	11.81	0.72	0.06	0.64
	16:30:30	0.11	0.00	-13.96	-0.11	0.08	0.51

Notes:

Voltage: n/a
Pump Time: 75 minutes
Purge Volume: 1.5 gallons
Sample Time: 16:30
Stabilized DTW: 7.23
Final DTW: 7.23
Parameters: total and dissolved metals

Stick up well, locked, turbidity stabilized above 10 ntu's, DUP-02

In-Situ Inc.

Troll 9000 | Low-Flow System
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Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	75 [ft]
		Pump placement from TOC	70 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-13-48	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	451.76 [mL]
Well total depth	73.05 [ft]	Calculated Sample Rate	272 [sec]
Depth to top of screen	68 [ft]	Sample rate	300 [sec]
Screen length	60 [in]	Stabilized drawdown	0.12 [in]
Depth to Water	61.72 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	9:45:36	11.14	6.75	1178.51	38.56	0.99	-75.89
	9:50:38	11.11	6.75	1185.23	41.02	0.99	-75.89
	9:55:39	11.14	6.75	1182.48	36.34	0.98	-76.02
	10:00:40	11.17	6.75	1186.30	36.88	0.97	-76.14
	10:05:40	11.19	6.75	1186.94	34.64	0.98	-76.23
Variance in last 3 readings	9:55:39	0.03	0.00	-2.76	-4.68	-0.01	-0.13
	10:00:40	0.03	0.00	3.82	0.54	0.00	-0.13
	10:05:40	0.02	0.00	0.64	-2.24	0.00	-0.09

Notes:

Voltage: n/a
Pump Time: 95 minutes
Purge Volume: 1.9 gallons
Sample Time: 10:05
Stabilized DTW: 61.73
Final DTW: 61.73
Parameters: VOC-8260, 1,4 Dioxane

Stick up well, locked

In-Situ Inc.

Troll 9000 | Low-Flow System
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Project Information:		**Pump Information:**	
Operator Name	Billy J Cobern	Pump Model/Type	GeoPro/Bladder
Company Name	ARCADIS	Tubing Type	HDPE
Project Name	Racer	Tubing Diameter	0.17 [in]
Site Name	Lansing	Tubing Length	120 [ft]
		Pump placement from TOC	115 [ft]

Well Information:		**Pumping information:**	
Well ID	MW-15-71	Final pumping rate	100 [mL/min]
Well diameter	2 [in]	Flowcell volume	652.61 [mL]
Well total depth	118.25 [ft]	Calculated Sample Rate	392 [sec]
Depth to top of screen	108 [ft]	Sample rate	300 [sec]
Screen length	120 [in]	Stabilized drawdown	0.36 [in]
Depth to Water	71.32 [ft]		

Low-Flow Sampling Stabilization Summary

	Time	Temp [C]	pH [pH]	Cond [µS/cm @25C]	Turb [NTU]	DO [mg/L]	ORP [mV]
Stabilization Settings			+/-0.1	+/-1 +/-3 %	+/-1 +/-10 %	+/-1 +/-10 %	+/-10
Last 5 Readings	10:50:11	11.36	7.46	377.03	8.17	5.98	95.47
	10:55:12	11.54	7.43	376.82	5.83	5.74	99.87
	11:00:14	11.56	7.42	376.80	5.58	5.71	100.38
	11:05:15	11.59	7.42	376.91	5.68	5.67	100.90
	11:10:16	11.60	7.42	376.78	5.39	5.67	101.41
Variance in last 3 readings	11:00:14	0.02	0.00	-0.02	-0.25	-0.03	0.51
	11:05:15	0.02	0.00	0.11	0.09	-0.05	0.51
	11:10:16	0.01	0.00	-0.13	-0.29	0.00	0.51

Notes:

Voltage: n/a
Pump Time: 25 minutes
Purge Volume: .5 gallon
Sample Time: 11:10
Stabilized DTW: 71.35
Final DTW: 71,35
Parameters: VOC-8260, 1,4 Dioxane, SVOC's, total metals

Stick up well, locked

APPENDIX C

October 2014 APC Sampling Results

APC MW-7S
APC MW-7D
APC MW-8S
APC MW-8D
APC MW-9D
APC MW-2D
APC MW-13D
APC MW-13S
APC MW-4D
APC MW-4S
APC MW-5D
APC MW-6D
APC MW-6S
APC MW-12S
APC MW-12D
APC MW-11S
APC MW-11D
MW-12-02
MW-14-63
P2-MW-03
MW-13-44
MW-13-43
MW-13-42
PW-14-02
MW-14-58
MW-14-57
MW-12-09
MW-14-56

0 75 150
SCALE IN FEET

LEGEND

- APC MONITORING WELL
- RACER MONITORING WELL
- PERCHED 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- LOWER 1,4-DIOXANE IMPACTS > PROPOSED DW CRITERIA (8.5 µg/L)
- PROPERTY BOUNDARY

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

FORMER ADAMS PLATING COMPANY MONITORING WELL LOCATION MAP

ARCADIS

FIGURE

CITY: Novi DIV: ENV DB: TRY PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docsworking\MONITORING WELL SUMMARY 0515.mxd PLOTTED: 5/28/2015 2:36:28 PM BY: PCurry

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-01	1410055-02	1410055-03	1410055-04	1410055-05	1410055-06	1410055-07
Sample ID								MW08S	MW08D	MW07S	MW07D	MW12S	MW12D	MW04S
Sample Depth														
Date Collected								10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-General Chemistry											
Hexavalent Chromium	ug/L	7196	NA	NA	NA	NA	NA	NA						24
Total Cyanide	mg/L	ASTM D 7511-09	0.005	0.200	0.0052	NLV	0.044	0.027	0.017	<0.005	<0.005	<0.005	<0.005	<0.005

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
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Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
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Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-08	1410055-09	1410055-10	1410055-11	1410055-12	1410055-13	1410055-14
Sample ID								MW04D	MW06S	MW13S	MW06D	MW05D	MW11S	MW11D
Sample Depth														
Date Collected								10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-General Chemistry											
Hexavalent Chromium	ug/L	7196	NA	NA	NA	NA	NA	<5	<5	<5	<5	<5	<5	<50
Total Cyanide	mg/L	ASTM D 7511-09	0.005	0.200	0.0052	NLV	0.044	0.013	<0.005	0.095	<0.005	<0.005	0.005	0.006

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Client:	MDEQ-RRD-LANSING
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Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-15	1410055-16	1410055-17	1410055-18	1410055-19	1410055-20	1410055-21
Sample ID								MW11D MS	MW11D MSD	MW09D	MW09D-dup	MW02-D	MW13D	MW04D-dup
Sample Depth														
Date Collected								10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-General Chemistry											
Hexavalent Chromium	ug/L	7196	NA	NA	NA	NA	NA	3300	3400	<5	<5	8	<5	<5
Total Cyanide	mg/L	ASTM D 7511-09	0.005	0.200	0.0052	NLV	0.044	0.096	0.099	0.056	0.057	<0.005	0.019	0.01

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Project Name:	ADAMS PLATING COMPANY
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Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-01	1410055-02	1410055-03	1410055-04	1410055-05	1410055-06
Sample ID								MW08S	MW08D	MW07S	MW07D	MW12S	MW12D
Sample Depth													
Date Collected								10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-Metals										
Antimony	ug/L	6020/200.8	2	6	130	NLV	2,300	<1.0	1.4	<1.0	<1.0	<1.0	<1.0
Arsenic	ug/L	6020/200.8	5	10	10	NLV	680	<1.0	<1.0	<1.0	2	<1.0	<1.0
Barium	ug/L	6020/200.8	100	2,000	G	NLV	See Rule 57 Table	350	110	80	50	150	300
Beryllium	ug/L	6020/200.8	1	4	G	NLV	See Rule 57 Table	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/L	6020/200.8	1	5	G,X	NLV	See Rule 57 Table	<0.2	<0.2	<0.2	<0.2	0.3	0.5
Chromium	ug/L	6020/200.8	10	100	G,X	NLV	NA	<1.0	4.1	<1.0	1.5	<1.0	2.5
Cobalt	ug/L	6020/200.8	20	40	100	NLV	740	18	<5.0	<5.0	<5.0	<5.0	<5.0
Copper	ug/L	6020/200.8	4	1,000	G	NLV	See Rule 57 Table	6	6.2	3.5	1.2	4.2	7
Iron	ug/L	6010/200.7	200	300	NA	NLV	NA	7,100	3000	89	9400	23000	6200
Lead	ug/L	6020/200.8	3	4	G,X	NLV	See Rule 57 Table	<1.0	<1.0	<1.0	<1.0	<1.0	4
Manganese	ug/L	6020/200.8	50	50	G,X	NLV	See Rule 57 Table	340	89	31	240	310	470
Mercury	ug/L	7470/245.1	0	2	0	56	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L	6020/200.8	50	73	3,200	NLV	NA	<5.0	<5.0	<5.0	<5.0	<5.0	5.9
Nickel	ug/L	6020/200.8	20	100	G	NLV	See Rule 57 Table	11	8.3	4.6	6.6	3.5	7
Selenium	ug/L	6020/200.8	5	50	5	NLV	120	<1.0	<1.0	2.3	<1.0	<1.0	<1.0
Silver	ug/L	6020/200.8	0	34	0	NLV	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	ug/L	6020/200.8	2	2	4	NLV	94	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vanadium	ug/L	6020/200.8	4	5	27	NLV	160	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Zinc	ug/L	6020/200.8	50	2,400	G	NLV	See Rule 57 Table	<5.0	12	5.4	16	95	69

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Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-07	1410055-08	1410055-09	1410055-10	1410055-11	1410055-12
Sample ID								MW04S	MW04D	MW06S	MW13S	MW06D	MW05D
Sample Depth													
Date Collected								10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-Metals										
Antimony	ug/L	6020/200.8	2	6	130	NLV	2,300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Arsenic	ug/L	6020/200.8	5	10	10	NLV	680	<1.0	2.2	2.3	2.6	<1.0	<1.0
Barium	ug/L	6020/200.8	100	2,000	G	NLV	See Rule 57 Table	88	410	83	110	140	44
Beryllium	ug/L	6020/200.8	1	4	G	NLV	See Rule 57 Table	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cadmium	ug/L	6020/200.8	1	5	G,X	NLV	See Rule 57 Table	<0.2	<0.2	<0.2	<0.2	0.2	0.8
Chromium	ug/L	6020/200.8	10	100	G,X	NLV	NA	24	<1.0	3.8	6.4	<1.0	2.4
Cobalt	ug/L	6020/200.8	20	40	100	NLV	740	<5.0	<5.0	<5.0	170	<5.0	<5.0
Copper	ug/L	6020/200.8	4	1,000	G	NLV	See Rule 57 Table	4.9	2.4	10	13	1.3	2.3
Iron	ug/L	6010/200.7	200	300	NA	NLV	NA	42	11000	<200	14000	6000	55
Lead	ug/L	6020/200.8	3	4	G,X	NLV	See Rule 57 Table	<1.0	<1.0	<1.0	1.7	<1.0	<1.0
Manganese	ug/L	6020/200.8	50	50	G,X	NLV	See Rule 57 Table	<5.0	450	13	230	360	33
Mercury	ug/L	7470/245.1	0	2	0	56	3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Molybdenum	ug/L	6020/200.8	50	73	3,200	NLV	NA	<5.0	<5.0	<5.0	<5.0	<5.0	8.3
Nickel	ug/L	6020/200.8	20	100	G	NLV	See Rule 57 Table	15	5.7	8	66	6	21
Selenium	ug/L	6020/200.8	5	50	5	NLV	120	4.4	<1.0	<1.0	<1.0	<1.0	<1.0
Silver	ug/L	6020/200.8	0	34	0	NLV	1	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Thallium	ug/L	6020/200.8	2	2	4	NLV	94	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Vanadium	ug/L	6020/200.8	4	5	27	NLV	160	<2.0	<2.0	<2.0	6.5	<2.0	<2.0
Zinc	ug/L	6020/200.8	50	2,400	G	NLV	See Rule 57 Table	13	<5.0	5.6	160	15	6.8

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Michigan Department of Environmental Quality Analytical Testing Report

Work Order: 1410055
Report Date: 10/30/2014 12:55
Client: MDEQ-RRD-LANSING
Attention: Mary Schafer
Project Name: ADAMS PLATING COMPANY
Project Number: LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-13	1410055-14	1410055-15	1410055-16	1410055-17	1410055-18
Sample ID								MW11S	MW11D	MW11D MS	MW11D MSD	MW09D	MW09D-dup
Sample Depth													
Date Collected								10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-Metals										
Antimony	ug/L	6020/200.8	2	6	130	NLV	2,300	<1.0	<1.0	45	45	<1.0	<1.0
Arsenic	ug/L	6020/200.8	5	10	10	NLV	680	<1.0	<1.0	42	43	1.4	2
Barium	ug/L	6020/200.8	100	2,000	G	NLV	See Rule 57 Table	140	290	340	330	470	450
Beryllium	ug/L	6020/200.8	1	4	G	NLV	See Rule 57 Table	<1.0	<1.0	50	50	<1.0	<1.0
Cadmium	ug/L	6020/200.8	1	5	G,X	NLV	See Rule 57 Table	<0.2	<0.2	42	43	<0.2	<0.2
Chromium	ug/L	6020/200.8	10	100	G,X	NLV	NA	<1.0	22	68	69	1.5	1.5
Cobalt	ug/L	6020/200.8	20	40	100	NLV	740	<5.0	<5.0	49	47	83	85
Copper	ug/L	6020/200.8	4	1,000	G	NLV	See Rule 57 Table	<1.0	9.1	53	52	3.5	3.6
Iron	ug/L	6010/200.7	200	300	NA	NLV	NA	5200	8500	9100	8800	8800	9300
Lead	ug/L	6020/200.8	3	4	G,X	NLV	See Rule 57 Table	<1.0	<1.0	40	40	<1.0	<1.0
Manganese	ug/L	6020/200.8	50	50	G,X	NLV	See Rule 57 Table	350	600	650	640	220	230
Mercury	ug/L	7470/245.1	0	2	0	56	3	<0.2	<0.2	3.8	3.8	<0.2	<0.2
Molybdenum	ug/L	6020/200.8	50	73	3,200	NLV	NA	<5.0	7.5	63	66	<5.0	<5.0
Nickel	ug/L	6020/200.8	20	100	G	NLV	See Rule 57 Table	8	7.1	53	51	120	120
Selenium	ug/L	6020/200.8	5	50	5	NLV	120	<1.0	<1.0	38	40	<1.0	<1.0
Silver	ug/L	6020/200.8	0	34	0	NLV	1	<0.2	<0.2	41	41	<0.2	<0.2
Thallium	ug/L	6020/200.8	2	2	4	NLV	94	<2.0	<2.0	43	43	<2.0	<2.0
Vanadium	ug/L	6020/200.8	4	5	27	NLV	160	<2.0	<2.0	50	52	<2.0	<2.0
Zinc	ug/L	6020/200.8	50	2,400	G	NLV	See Rule 57 Table	<5.0	<5.0	38	38	5.5	6

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Michigan Department of Environmental Quality Analytical Testing Report

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Client: MDEQ-RRD-LANSING
Attention: Mary Schafer
Project Name: ADAMS PLATING COMPANY
Project Number: LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-19	1410055-20	1410055-21
Sample ID								MW02-D	MW13D	MW04D-dup
Sample Depth										
Date Collected								10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Inorganics-Metals							
Antimony	ug/L	6020/200.8	2	6	130	NLV	2,300	<1.0	<1.0	<1.0
Arsenic	ug/L	6020/200.8	5	10	10	NLV	680	<1.0	5.8	3.3
Barium	ug/L	6020/200.8	100	2,000	G	NLV	See Rule 57 Table	69	230	390
Beryllium	ug/L	6020/200.8	1	4	G	NLV	See Rule 57 Table	<1.0	<1.0	<1.0
Cadmium	ug/L	6020/200.8	1	5	G,X	NLV	See Rule 57 Table	<0.2	<0.2	<0.2
Chromium	ug/L	6020/200.8	10	100	G,X	NLV	NA	9.6	6	<1.0
Cobalt	ug/L	6020/200.8	20	40	100	NLV	740	<5.0	8.3	<5.0
Copper	ug/L	6020/200.8	4	1,000	G	NLV	See Rule 57 Table	1.4	5.6	2.4
Iron	ug/L	6010/200.7	200	300	NA	NLV	NA	70	20000	11000
Lead	ug/L	6020/200.8	3	4	G,X	NLV	See Rule 57 Table	<1.0	3.1	<1.0
Manganese	ug/L	6020/200.8	50	50	G,X	NLV	See Rule 57 Table	<5.0	320	470
Mercury	ug/L	7470/245.1	0	2	0	56	3	<0.2	<0.2	<0.2
Molybdenum	ug/L	6020/200.8	50	73	3,200	NLV	NA	<5.0	5.3	<5.0
Nickel	ug/L	6020/200.8	20	100	G	NLV	See Rule 57 Table	18	21	11
Selenium	ug/L	6020/200.8	5	50	5	NLV	120	<1.0	<1.0	<1.0
Silver	ug/L	6020/200.8	0	34	0	NLV	1	<0.2	<0.2	<0.2
Thallium	ug/L	6020/200.8	2	2	4	NLV	94	<2.0	<2.0	<2.0
Vanadium	ug/L	6020/200.8	4	5	27	NLV	160	<2.0	8.2	<2.0
Zinc	ug/L	6020/200.8	50	2,400	G	NLV	See Rule 57 Table	11	240	<5.0

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background, not applicable.
"NLV" means hazardous substance is not likely to volatilize under most conditions.
"G" refers to Footnote G of the Criteria/RBSLs tables. The GSI criteria must be calculated.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-01	1410055-02	1410055-03	1410055-04	1410055-05	1410055-06	1410055-07
Sample ID								MW08S	MW08D	MW07S	MW07D	MW12S	MW12D	MW04S
Sample Depth														
Date Collected								10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Dioxane											
1,4-dioxane	ug/L	8260 Modified	1	85	2,800	NLV	390,000	44	24	<1.0	95	<1.0	12	<1.0

Grey indicates contaminant was detected.
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Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
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Michigan Department of Environmental Quality Analytical Testing Report

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Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-08	1410055-09	1410055-10	1410055-11	1410055-12	1410055-13	1410055-14
Sample ID								MW04D	MW06S	MW13S	MW06D	MW05D	MW11S	MW11D
Sample Depth														
Date Collected								10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Dioxane											
1,4-dioxane	ug/L	8260 Modified	1	85	2,800	NLV	390,000	39	<1.0	490	11	3.9	3	<1.0

Grey indicates contaminant was detected.
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Blue indicates contaminant exceeds GSIC.
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"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background, not applicable.
"NLV" means hazardous substance is not likely to volatilize under most conditions.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-15	1410055-16	1410055-17	1410055-18	1410055-19	1410055-20	1410055-21
Sample ID								MW11D MS	MW11D MSD	MW09D	MW09D-dup	MW02-D	MW13D	MW04D-dup
Sample Depth														
Date Collected								10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Dioxane											
1,4-dioxane	ug/L	8260 Modified	1	85	2,800	NLV	390,000	12	11	910	930	<1.0	200	34

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
“ID” means insufficient data to develop criterion.
“NA” means a criterion or value is not available or, in the case of background, not applicable.
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Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
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Project Number:	LB041499

Sample Number			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	1410055-01	1410055-02	1410055-03	1410055-04	1410055-05	1410055-06
Sample ID								MW08S	MW08D	MW07S	MW07D	MW12S	MW12D
Sample Depth													
Date Collected								10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Semivolatiles										
1,2,4-Trichlorobenzene	ug/L	8270	5	70	99	300,000	850	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2,4,5-Trichlorophenol	ug/L	8270	5	730	NA	NLV	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
2,4,6-Tribromophenol	ug/L	8270	NA	NA	NA	NA	NA	37	31	30.9	36.3	34.4	35.4
2,4,6-Trichlorophenol	ug/L	8270	4	120	5	NLV	79	<4.0	<4.0	<4.0	<4.0	<4.1	<4.0
2,4-Dichlorophenol	ug/L	8270	10	73	11	NLV	180	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	ug/L	8270	5	370	380	NLV	2,700	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
2,4-Dinitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<25	<25	<25	<25	<26	<25
2,4-Dinitrotoluene	ug/L	8270	5	8	NA	NLV	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
2,6-Dinitrotoluene	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
2-Chloronaphthalene	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2-Chlorophenol	ug/L	8270	10	45	18	490,000	320	<10	<10	<10	<10	<10	<10
2-Fluorobiphenyl	ug/L	8270	NA	NA	NA	NA	NA	13	9.25	11.2	11.9	14.5	12.7
2-Fluorophenol	ug/L	8270	NA	NA	NA	NA	NA	13	8.17	9.25	9.87	13.1	8.9
2-Methyl-4,6-dinitrophenol	ug/L	8270	20	20	NA	NLV	NA	<20	<20	<20	<20	<20	<20
2-Methylnaphthalene	ug/L	8270	5	260	19	25,000	340	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
2-Methylphenol (o-Cresol)	ug/L	8270	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10
2-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
2-Nitrophenol	ug/L	8270	5	20	ID	NLV	1,000	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
3 & 4-Methylphenol	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
3-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
4-Bromophenyl phenyl ether	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4-Chloro-3-methyl-phenol	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
4-Chlorodiphenylether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
4-Nitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<25	<25	<25	<25	<26	<25
Acenaphthene	ug/L	8270	5	1,300	38	4,200	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	ug/L	8270	5	52	ID	3,900	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aniline	ug/L	8270	4	53	4	NLV	36	<4.0	<4.0	<4.0	<4.0	<4.1	<4.0
Anthracene	ug/L	8270	5	43	ID	43	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Azobenzene	ug/L	8270	2	23	ID	6,400	ID	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Benz[a]anthracene	ug/L	8270	1	2	ID	NLV	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[a]pyrene	ug/L	8270	1	5	ID	NLV	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[b]fluoranthene	ug/L	8270	1	2	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[g,h,i]perylene	ug/L	8270	1	1	ID	NLV	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[k]fluoranthene	ug/L	8270	1	1	NA	NLV	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzyl Alcohol	ug/L	8270	50	10,000	NA	NLV	NA	<50	<51	<50	<51	<51	<50
Bis(2-chloroethoxy)methane	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bis(2-chloroethyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bis(2-chloroisopropyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bis(2-ethylhexyl)phthalate	ug/L	8270	5	6	25	NLV	285	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Butyl benzyl phthalate	ug/L	8270	5	1,200	67	NLV	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Carbazole	ug/L	8270	10	85	10	NLV	72	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Chrysene	ug/L	8270	1	2	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz[a,h]anthracene	ug/L	8270	2	2	ID	NLV	ID	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dibenzofuran	ug/L	8270	4	ID	4	10,000	72	<4.0	<4.0	<4.0	<4.0	<4.1	<4.0
Diethylphthalate	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Dimethyl phthalate	ug/L	8270	5	73,000	NA	NLV	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Di-n-butyl phthalate	ug/L	8270	5	880	10	NLV	75	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Di-n-octyl phthalate	ug/L	8270	5	130	ID	NLV	ID	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Fluoranthene	ug/L	8270	1	210	2	210	28	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	ug/L	8270	5	880	12	2,000	220	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	ug/L	8270	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10
Hexachloroethane	ug/L	8270	5	7	7	27,000	210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-c,d)pyrene	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Isophorone	ug/L	8270	5	770	1,300	NLV	9,200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N,N-dimethylaniline	ug/L	8270	5	16	NA	240,000	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Naphthalene	ug/L	8270	5	520	11	31,000	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	ug/L	8270	3	3	180	280,000	2,100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nitrobenzene-d5	ug/L	8270	NA	NA	NA	NA	NA	14	10.7	12.5	13	15.6	13.3
N-Nitrosodimethylamine	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
N-Nitrosodi-n-propylamine	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
N-Nitrosodiphenylamine	ug/L	8270	5	270	NA	NLV	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Pentachlorophenol	ug/L	8270	1	1	G,X	NLV	See Rule 57 Table	<20	<20	<20	<20	<20	<20
Phenanthrene	ug/L	8270	2	52	2	1,000	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	ug/L	8270	5	4,400	450	NLV	6,800	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0
Phenol-d6	ug/L	8270	NA	NA	NA	NA	NA	8	6.38	7.33	6.77	9.15	6.87
p-Terphenyl-d14	ug/L	8270	NA	NA	NA	NA	NA	21	19.4	21.7	22.1	20.9	21.3
Pyrene	ug/L	8270	5	140	ID	140	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetramethylurea	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.1	<5.0	<5.1	<5.1	<5.0

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Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number								1410055-07	1410055-08	1410055-09	1410055-10	1410055-11	1410055-12
Sample ID								MW04S	MW04D	MW06S	MW13S	MW06D	MW05D
Sample Depth													
Date Collected			Target Detection Limit	Drinking Water	Groundwater Surface Water Interface	Groundwater Volatilization to Indoor Air Inhalation	Rule 57 Final Acute Value	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received			(TDL)	Criteria (DWC)	Criteria (GSIC)	Criteria (GVIIC)	(FAV)	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Semivolatiles										
1,2,4-Trichlorobenzene	ug/L	8270	5	70	99	300,000	850	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2,4,5-Trichlorophenol	ug/L	8270	5	730	NA	NLV	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,4,6-Tribromophenol	ug/L	8270	NA	NA	NA	NA	NA	27.4	30.4	35.6	41	39.3	31.8
2,4,6-Trichlorophenol	ug/L	8270	4	120	5	NLV	79	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
2,4-Dichlorophenol	ug/L	8270	10	73	11	NLV	180	<10	<10	<10	<10	<10	<10
2,4-Dimethylphenol	ug/L	8270	5	370	380	NLV	2,700	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,4-Dinitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<25	<25	<25	<25	<25	<25
2,4-Dinitrotoluene	ug/L	8270	5	8	NA	NLV	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2,6-Dinitrotoluene	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Chloronaphthalene	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
2-Chlorophenol	ug/L	8270	10	45	18	490,000	320	<10	<10	<10	<10	<10	<10
2-Fluorobiphenyl	ug/L	8270	NA	NA	NA	NA	NA	9.04	10.2	13.7	15	15.3	11.1
2-Fluorophenol	ug/L	8270	NA	NA	NA	NA	NA	7.18	9.09	12.2	12.8	13.5	9.33
2-Methyl-4,6-dinitrophenol	ug/L	8270	20	20	NA	NLV	NA	<20	<20	<20	<20	<20	<20
2-Methylnaphthalene	ug/L	8270	5	260	19	25,000	340	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylphenol (o-Cresol)	ug/L	8270	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10
2-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
2-Nitrophenol	ug/L	8270	5	20	ID	NLV	1,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
3 & 4-Methylphenol	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
3-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
4-Bromophenyl phenyl ether	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
4-Chloro-3-methyl-phenol	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
4-Chlorodiphenylether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
4-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	<20	<20	<20	<20
4-Nitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<25	<25	<25	<25	<25	<25
Acenaphthene	ug/L	8270	5	1,300	38	4,200	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Acenaphthylene	ug/L	8270	5	52	ID	3,900	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Aniline	ug/L	8270	4	53	4	NLV	36	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Anthracene	ug/L	8270	5	43	ID	43	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Azobenzene	ug/L	8270	2	23	ID	6,400	ID	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Benz[a]anthracene	ug/L	8270	1	2	ID	NLV	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[a]pyrene	ug/L	8270	1	5	ID	NLV	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[b]fluoranthene	ug/L	8270	1	2	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[g,h,i]perylene	ug/L	8270	1	1	ID	NLV	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzo[k]fluoranthene	ug/L	8270	1	1	NA	NLV	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Benzyl Alcohol	ug/L	8270	50	10,000	NA	NLV	NA	<50	<50	<50	<50	<50	<50
Bis(2-chloroethoxy)methane	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Bis(2-chloroethyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bis(2-chloroisopropyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bis(2-ethylhexyl)phthalate	ug/L	8270	5	6	25	NLV	285	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Butyl benzyl phthalate	ug/L	8270	5	1,200	67	NLV	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbazole	ug/L	8270	10	85	10	NLV	72	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chrysene	ug/L	8270	1	2	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibenz[a,h]anthracene	ug/L	8270	2	2	ID	NLV	ID	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dibenzofuran	ug/L	8270	4	ID	4	10,000	72	<4.0	<4.0	<4.0	<4.0	<4.0	<4.0
Diethylphthalate	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dimethyl phthalate	ug/L	8270	5	73,000	NA	NLV	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-butyl phthalate	ug/L	8270	5	880	10	NLV	75	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Di-n-octyl phthalate	ug/L	8270	5	130	ID	NLV	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Fluoranthene	ug/L	8270	1	210	2	210	28	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Fluorene	ug/L	8270	5	880	12	2,000	220	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobenzene	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorobutadiene	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Hexachlorocyclopentadiene	ug/L	8270	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10
Hexachloroethane	ug/L	8270	5	7	7	27,000	210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Indeno(1,2,3-c,d)pyrene	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Isophorone	ug/L	8270	5	770	1,300	NLV	9,200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
N,N-dimethylaniline	ug/L	8270	5	16	NA	240,000	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Naphthalene	ug/L	8270	5	520	11	31,000	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Nitrobenzene	ug/L	8270	3	3	180	280,000	2,100	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nitrobenzene-d5	ug/L	8270	NA	NA	NA	NA	NA	9.32	11.6	16.1	16.6	16.9	11.8
N-Nitrosodimethylamine	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
N-Nitrosodi-n-propylamine	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
N-Nitrosodiphenylamine	ug/L	8270	5	270	NA	NLV	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Pentachlorophenol	ug/L	8270	1	1	G,X	NLV	See Rule 57 Table	<20	<20	<20	<20	<20	<20
Phenanthrene	ug/L	8270	2	52	2	1,000	11	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Phenol	ug/L	8270	5	4,400	450	NLV	6,800	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Phenol-d6	ug/L	8270	NA	NA	NA	NA	NA	6.06	6.72	8.88	10.1	9.83	6.55
p-Terphenyl-d14	ug/L	8270	NA	NA	NA	NA	NA	21.9	21	23.8	21.5	22.5	21.8
Pyrene	ug/L	8270	5	140	ID	140	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetramethylurea	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background, not applicable.
"NLV" means hazardous substance is not likely to volatilize under most conditions.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number								1410055-13	1410055-14	1410055-15	1410055-16	1410055-17	1410055-18
Sample ID								MW11S	MW11D	MW11D MS	MW11D MSD	MW09D	MW09D-dup
Sample Depth													
Date Collected			Target Detection Limit	Drinking Water	Groundwater Surface Water Interface	Groundwater Volatilization to Indoor Air Inhalation	Rule 57 Final Acute Value	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received			(TDL)	Criteria (DWC)	Criteria (GSIC)	Criteria (GVIIC)	(FAV)	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Semivolatiles										
1,2,4-Trichlorobenzene	ug/L	8270	5	70	99	300,000	850	<2.0	<2.0	27	28	<2.0	<2.0
2,4,5-Trichlorophenol	ug/L	8270	5	730	NA	NLV	NA	<5.0	<5.0	77	77	<5.0	<5.0
2,4,6-Tribromophenol	ug/L	8270	NA	NA	NA	NA	NA	32.4	39.7	38.1	38.8	34.2	37.7
2,4,6-Trichlorophenol	ug/L	8270	4	120	5	NLV	79	<4.0	<4.0	76	76	<4.0	<4.0
2,4-Dichlorophenol	ug/L	8270	10	73	11	NLV	180	<10	<10	71	71	<10	<10
2,4-Dimethylphenol	ug/L	8270	5	370	380	NLV	2,700	<5.0	<5.0	71	71	<5.0	<5.0
2,4-Dinitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<25	<25	74	77	<25	<25
2,4-Dinitrotoluene	ug/L	8270	5	8	NA	NLV	NA	<5.0	<5.0	46	44	<5.0	<5.0
2,6-Dinitrotoluene	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	45	42	<5.0	<5.0
2-Chloronaphthalene	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	36	36	<2.0	<2.0
2-Chlorophenol	ug/L	8270	10	45	18	490,000	320	<10	<10	62	64	<10	<10
2-Fluorobiphenyl	ug/L	8270	NA	NA	NA	NA	NA	12.9	14.8	16.1	16.3	10.1	15
2-Fluorophenol	ug/L	8270	NA	NA	NA	NA	NA	11.5	13.8	13	12.9	8.81	5.44
2-Methyl-4,6-dinitrophenol	ug/L	8270	20	20	NA	NLV	NA	<20	<20	86	87	<20	<20
2-Methylnaphthalene	ug/L	8270	5	260	19	25,000	340	<5.0	<5.0	32	33	<5.0	<5.0
2-Methylphenol (o-Cresol)	ug/L	8270	NA	NA	NA	NA	NA	<10	<10	59	60	<10	<10
2-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	49	48	<20	<20
2-Nitrophenol	ug/L	8270	5	20	ID	NLV	1,000	<5.0	<5.0	69	72	<5.0	<5.0
3 & 4-Methylphenol	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	52	52	<20	<20
3-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	46	45	<20	<20
4-Bromophenyl phenyl ether	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	34	36	<2.0	<2.0
4-Chloro-3-methyl-phenol	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	74	73	<5.0	<5.0
4-Chlorodiphenylether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	38	38	<1.0	<1.0
4-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<20	<20	59	57	<20	<20
4-Nitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<25	<25	23	23	<25	<25
Acenaphthene	ug/L	8270	5	1,300	38	4,200	200	<1.0	<1.0	38	38	<1.0	<1.0
Acenaphthylene	ug/L	8270	5	52	ID	3,900	ID	<1.0	<1.0	41	40	<1.0	<1.0
Aniline	ug/L	8270	4	53	4	NLV	36	<4.0	<4.0	28	25	<4.0	<4.0
Anthracene	ug/L	8270	5	43	ID	43	ID	<1.0	<1.0	42	43	<1.0	<1.0
Azobenzene	ug/L	8270	2	23	ID	6,400	ID	<2.0	<2.0	45	46	<2.0	<2.0
Benz[a]anthracene	ug/L	8270	1	2	ID	NLV	ID	<1.0	<1.0	26	28	<1.0	<1.0
Benzo[a]pyrene	ug/L	8270	1	5	ID	NLV	ID	<1.0	<1.0	25	27	<1.0	<1.0
Benzo[b]fluoranthene	ug/L	8270	1	2	ID	ID	ID	<1.0	<1.0	26	29	<1.0	<1.0
Benzo[g,h,i]perylene	ug/L	8270	1	1	ID	NLV	ID	<1.0	<1.0	18	20	<1.0	<1.0
Benzo[k]fluoranthene	ug/L	8270	1	1	NA	NLV	NA	<1.0	<1.0	25	27	<1.0	<1.0
Benzyl Alcohol	ug/L	8270	50	10,000	NA	NLV	NA	<50	<50	57	56	<50	<50
Bis(2-chloroethoxy)methane	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	41	41	<2.0	<2.0
Bis(2-chloroethyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	35	36	<1.0	<1.0
Bis(2-chloroisopropyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	36	38	<1.0	<1.0
Bis(2-ethylhexyl)phthalate	ug/L	8270	5	6	25	NLV	285	<5.0	<5.0	26	28	<5.0	<5.0
Butyl benzyl phthalate	ug/L	8270	5	1,200	67	NLV	NA	<5.0	<5.0	38	38	<5.0	<5.0
Carbazole	ug/L	8270	10	85	10	NLV	72	<5.0	<5.0	51	50	<5.0	<5.0
Chrysene	ug/L	8270	1	2	ID	ID	ID	<1.0	<1.0	25	28	<1.0	<1.0
Dibenz[a,h]anthracene	ug/L	8270	2	2	ID	NLV	ID	<2.0	<2.0	18	20	<2.0	<2.0
Dibenzofuran	ug/L	8270	4	ID	4	10,000	72	<4.0	<4.0	39	38	<4.0	<4.0
Diethylphthalate	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	43	41	<5.0	<5.0
Dimethyl phthalate	ug/L	8270	5	73,000	NA	NLV	NA	<5.0	<5.0	42	41	<5.0	<5.0
Di-n-butyl phthalate	ug/L	8270	5	880	10	NLV	75	<5.0	<5.0	40	40	<5.0	<5.0
Di-n-octyl phthalate	ug/L	8270	5	130	ID	NLV	ID	<5.0	<5.0	22	24	<5.0	<5.0
Fluoranthene	ug/L	8270	1	210	2	210	28	<1.0	<1.0	38	39	<1.0	<1.0
Fluorene	ug/L	8270	5	880	12	2,000	220	<1.0	<1.0	39	39	<1.0	<1.0
Hexachlorobenzene	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	27	30	<1.0	<1.0
Hexachlorobutadiene	ug/L	8270	NA	NA	NA	NA	NA	<1.0	<1.0	23	25	<1.0	<1.0
Hexachlorocyclopentadiene	ug/L	8270	NA	NA	NA	NA	NA	<10	<10	26	28	<10	<10
Hexachloroethane	ug/L	8270	5	7	7	27,000	210	<1.0	<1.0	23	26	<1.0	<1.0
Indeno(1,2,3-c,d)pyrene	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	18	19	<2.0	<2.0
Isophorone	ug/L	8270	5	770	1,300	NLV	9,200	<1.0	<1.0	42	42	<1.0	<1.0
N,N-dimethylaniline	ug/L	8270	5	16	NA	240,000	NA	<5.0	<5.0	30	34	<5.0	<5.0
Naphthalene	ug/L	8270	5	520	11	31,000	200	<1.0	<1.0	32	33	<1.0	<1.0
Nitrobenzene	ug/L	8270	3	3	180	280,000	2,100	<2.0	<2.0	35	36	<2.0	<2.0
Nitrobenzene-d5	ug/L	8270	NA	NA	NA	NA	NA	13.3	16.3	17.2	17.3	11.4	14.4
N-Nitrosodimethylamine	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	15	15	<5.0	<5.0
N-Nitrosodi-n-propylamine	ug/L	8270	NA	NA	NA	NA	NA	<2.0	<2.0	41	42	<2.0	<2.0
N-Nitrosodiphenylamine	ug/L	8270	5	270	NA	NLV	NA	<2.0	<2.0	42	42	<2.0	<2.0
Pentachlorophenol	ug/L	8270	1	1	G,X	NLV	See Rule 57 Table	<20	<20	69	72	<20	<20
Phenanthrene	ug/L	8270	2	52	2	1,000	11	<1.0	<1.0	40	41	<1.0	<1.0
Phenol	ug/L	8270	5	4,400	450	NLV	6,800	<5.0	<5.0	23	17	<5.0	<5.0
Phenol-d6	ug/L	8270	NA	NA	NA	NA	NA	8.63	9.82	9.7	9.01	6.52	6.97
p-Terphenyl-d14	ug/L	8270	NA	NA	NA	NA	NA	20.8	23.5	13.7	14.8	20.7	22.5
Pyrene	ug/L	8270	5	140	ID	140	ID	<1.0	<1.0	35	37	<1.0	<1.0
Tetramethylurea	ug/L	8270	NA	NA	NA	NA	NA	<5.0	<5.0	37	9.8	<5.0	<5.0

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
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Green indicates contaminant exceeds both DWC and GSIC.
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"ID" means insufficient data to develop criterion.
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"NLV" means hazardous substance is not likely to volatilize under most conditions.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number								1410055-19	1410055-20	1410055-21
Sample ID								MW02-D	MW13D	MW04D-dup
Sample Depth										
Date Collected			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method			Organics-Semivolatiles					
1,2,4-Trichlorobenzene	ug/L	8270	5	70	99	300,000	850	<2.2	<2.0	<2.0
2,4,5-Trichlorophenol	ug/L	8270	5	730	NA	NLV	NA	<5.4	<5.1	<5.0
2,4,6-Tribromophenol	ug/L	8270	NA	NA	NA	NA	NA	36.5	34.6	34.3
2,4,6-Trichlorophenol	ug/L	8270	4	120	5	NLV	79	<4.3	<4.1	<4.0
2,4-Dichlorophenol	ug/L	8270	10	73	11	NLV	180	<11	<10	<10
2,4-Dimethylphenol	ug/L	8270	5	370	380	NLV	2,700	<5.4	<5.1	<5.0
2,4-Dinitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<27	<26	<25
2,4-Dinitrotoluene	ug/L	8270	5	8	NA	NLV	NA	<5.4	<5.1	<5.0
2,6-Dinitrotoluene	ug/L	8270	NA	NA	NA	NA	NA	<5.4	<5.1	<5.0
2-Chloronaphthalene	ug/L	8270	NA	NA	NA	NA	NA	<2.2	<2.0	<2.0
2-Chlorophenol	ug/L	8270	10	45	18	490,000	320	<11	<10	<10
2-Fluorobiphenyl	ug/L	8270	NA	NA	NA	NA	NA	13.6	11.9	14.9
2-Fluorophenol	ug/L	8270	NA	NA	NA	NA	NA	8.8	6.17	8.51
2-Methyl-4,6-dinitrophenol	ug/L	8270	20	20	NA	NLV	NA	<22	<20	<20
2-Methylnaphthalene	ug/L	8270	5	260	19	25,000	340	<5.4	<5.1	<5.0
2-Methylphenol (o-Cresol)	ug/L	8270	NA	NA	NA	NA	NA	<11	<10	<10
2-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<22	<20	<20
2-Nitrophenol	ug/L	8270	5	20	ID	NLV	1,000	<5.4	<5.1	<5.0
3 & 4-Methylphenol	ug/L	8270	NA	NA	NA	NA	NA	<22	<20	<20
3-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<22	<20	<20
4-Bromophenyl phenyl ether	ug/L	8270	NA	NA	NA	NA	NA	<2.2	<2.0	<2.0
4-Chloro-3-methyl-phenol	ug/L	8270	NA	NA	NA	NA	NA	<5.4	<5.1	<5.0
4-Chlorodiphenylether	ug/L	8270	NA	NA	NA	NA	NA	<1.1	<1.0	<1.0
4-Nitroaniline	ug/L	8270	NA	NA	NA	NA	NA	<22	<20	<20
4-Nitrophenol	ug/L	8270	NA	NA	NA	NA	NA	<27	<26	<25
Acenaphthene	ug/L	8270	5	1,300	38	4,200	200	<1.1	<1.0	<1.0
Acenaphthylene	ug/L	8270	5	52	ID	3,900	ID	<1.1	<1.0	<1.0
Aniline	ug/L	8270	4	53	4	NLV	36	<4.3	<4.1	<4.0
Anthracene	ug/L	8270	5	43	ID	43	ID	<1.1	<1.0	<1.0
Azobenzene	ug/L	8270	2	23	ID	6,400	ID	<2.2	<2.0	<2.0
Benz[a]anthracene	ug/L	8270	1	2	ID	NLV	ID	<1.1	<1.0	<1.0
Benzo[a]pyrene	ug/L	8270	1	5	ID	NLV	ID	<1.1	<1.0	<1.0
Benzo[b]fluoranthene	ug/L	8270	1	2	ID	ID	ID	<1.1	<1.0	<1.0
Benzo[g,h,i]perylene	ug/L	8270	1	1	ID	NLV	ID	<1.1	<1.0	<1.0
Benzo[k]fluoranthene	ug/L	8270	1	1	NA	NLV	NA	<1.1	<1.0	<1.0
Benzyl Alcohol	ug/L	8270	50	10,000	NA	NLV	NA	<54	<51	<50
Bis(2-chloroethoxy)methane	ug/L	8270	NA	NA	NA	NA	NA	<2.2	<2.0	<2.0
Bis(2-chloroethyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.1	<1.0	<1.0
Bis(2-chloroisopropyl)ether	ug/L	8270	NA	NA	NA	NA	NA	<1.1	<1.0	<1.0
Bis(2-ethylhexyl)phthalate	ug/L	8270	5	6	25	NLV	285	<5.4	<5.1	<5.0
Butyl benzyl phthalate	ug/L	8270	5	1,200	67	NLV	NA	<5.4	<5.1	<5.0
Carbazole	ug/L	8270	10	85	10	NLV	72	<5.4	<5.1	<5.0
Chrysene	ug/L	8270	1	2	ID	ID	ID	<1.1	<1.0	<1.0
Dibenz[a,h]anthracene	ug/L	8270	2	2	ID	NLV	ID	<2.2	<2.0	<2.0
Dibenzofuran	ug/L	8270	4	ID	4	10,000	72	<4.3	<4.1	<4.0
Diethylphthalate	ug/L	8270	NA	NA	NA	NA	NA	<5.4	<5.1	<5.0
Dimethyl phthalate	ug/L	8270	5	73,000	NA	NLV	NA	<5.4	<5.1	<5.0
Di-n-butyl phthalate	ug/L	8270	5	880	10	NLV	75	<5.4	<5.1	<5.0
Di-n-octyl phthalate	ug/L	8270	5	130	ID	NLV	ID	<5.4	<5.1	<5.0
Fluoranthene	ug/L	8270	1	210	2	210	28	<1.1	<1.0	<1.0
Fluorene	ug/L	8270	5	880	12	2,000	220	<1.1	<1.0	<1.0
Hexachlorobenzene	ug/L	8270	NA	NA	NA	NA	NA	<1.1	<1.0	<1.0
Hexachlorobutadiene	ug/L	8270	NA	NA	NA	NA	NA	<1.1	<1.0	<1.0
Hexachlorocyclopentadiene	ug/L	8270	NA	NA	NA	NA	NA	<11	<10	<10
Hexachloroethane	ug/L	8270	5	7	7	27,000	210	<1.1	<1.0	<1.0
Indeno(1,2,3-c,d)pyrene	ug/L	8270	NA	NA	NA	NA	NA	<2.2	<2.0	<2.0
Isophorone	ug/L	8270	5	770	1,300	NLV	9,200	<1.1	<1.0	<1.0
N,N-dimethylaniline	ug/L	8270	5	16	NA	240,000	NA	<5.4	<5.1	<5.0
Naphthalene	ug/L	8270	5	520	11	31,000	200	<1.1	<1.0	<1.0
Nitrobenzene	ug/L	8270	3	3	180	280,000	2,100	<2.2	<2.0	<2.0
Nitrobenzene-d5	ug/L	8270	NA	NA	NA	NA	NA	14.7	12.2	14.6
N-Nitrosodimethylamine	ug/L	8270	NA	NA	NA	NA	NA	<5.4	<5.1	<5.0
N-Nitrosodi-n-propylamine	ug/L	8270	NA	NA	NA	NA	NA	<2.2	<2.0	<2.0
N-Nitrosodiphenylamine	ug/L	8270	5	270	NA	NLV	NA	<2.2	<2.0	<2.0
Pentachlorophenol	ug/L	8270	1	1	G,X	NLV	See Rule 57 Table	<22	<20	<20
Phenanthrene	ug/L	8270	2	52	2	1,000	11	<1.1	<1.0	<1.0
Phenol	ug/L	8270	5	4,400	450	NLV	6,800	<5.4	<5.1	<5.0
Phenol-d6	ug/L	8270	NA	NA	NA	NA	NA	6.04	5.5	6.39
p-Terphenyl-d14	ug/L	8270	NA	NA	NA	NA	NA	21.2	19.7	19.9
Pyrene	ug/L	8270	5	140	ID	140	ID	<1.1	<1.0	<1.0
Tetramethylurea	ug/L	8270	NA	NA	NA	NA	NA	<5.4	<5.1	<5.0

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background, not applicable.
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Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number								1410055-01	1410055-02	1410055-03	1410055-04	1410055-05	1410055-06	1410055-07	1410055-08
Sample ID								MW08S	MW08D	MW07S	MW07D	MW12S	MW12D	MW04S	MW04D
Sample Depth															
Date Collected								10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/7/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)								
Organics-Volatiles															
1,1,1,2-Tetrachloroethane	ug/L	8260	1	77	ID	15,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	ug/L	8260	1	200	89	660,000	1,600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	31	<1.0
1,1,2,2-Tetrachloroethane	ug/L	8260	1	9	78	12,000	1,800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	ug/L	8260	1	5	330	17,000	6,400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	8260	1	880	740	1,000,000	13,000	1	<1.0	<1.0	30	<1.0	<1.0	<1.0	1.4
1,1-Dichloroethylene	ug/L	8260	1	7	130	200	2,300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,3-Trichloropropane	ug/L	8260	1	42	NA	8,300	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trimethylbenzene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	ug/L	8260	5	70	99	300,000	850	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene	ug/L	8260	1	63	17	56,000	310	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	ug/L	8260	0	0	6	2,400	280	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	ug/L	8260	1	600	13	160,000	240	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	8260	1	5	360	9,600	16,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	8260	1	5	230	16,000	4,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	ug/L	8260	1	72	45	61,000	810	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	ug/L	8260	1	7	28	18,000	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	8260	1	75	17	16,000	210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	ug/L	8260	25	13,000	2,200	240,000,000	40,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Hexanone	ug/L	8260	50	1,000	ID	4,200,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	ug/L	8260	5	260	19	25,000	340	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Propanone (acetone)	ug/L	8260	50	730	1,700	1,000,000,000	30,000	<20	<20	<20	<20	<20	<20	<20	<20
4-Methyl-2-pentanone (MIBK)	ug/L	8260	50	1,800	ID	20,000,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Acrylonitrile	ug/L	8260	2	3	2	34,000	1,200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	ug/L	8260	1	5	200	5,600	1,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene	ug/L	8260	1	18	NA	180,000	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	8260	1	80	ID	4,800	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromofluorobenzene	ug/L	8260	NA	NA	NA	NA	NA	49	51.3	49.6	49.9	50.3	50.9	50.6	50.9
Bromoform	ug/L	8260	1	80	ID	470,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	ug/L	8260	5	10	35	4,000	640	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon disulfide	ug/L	8260	5	800	ID	250,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	ug/L	8260	1	5	45	370	1,400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	ug/L	8260	1	100	25	210,000	450	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	ug/L	8260	5	430	1,100	5,700,000	20,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	86
Chloroform	ug/L	8260	1	80	350	28,000	11,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	8260	5	260	ID	8,600	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethylene	ug/L	8260	1	70	620	93,000	11,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	ug/L	8260	5	80	ID	14,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	ug/L	8260	5	80	NA	ID	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	ug/L	8260	5	1,700	ID	220,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Diethyl ether	ug/L	8260	10	10	ID	61,000,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Diisopropyl Ether	ug/L	8260	5	30	ID	8,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	8260	1	74	18	110,000	320	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyltertiarybutylether	ug/L	8260	5	49	ID	2,900,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hexachloroethane	ug/L	8260	5	7	7	27,000	210	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropylbenzene	ug/L	8260	5	800	28	56,000	500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m & p - Xylene	ug/L	8260	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl iodide	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene chloride	ug/L	8260	5	5	1,500	220,000	17,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyltertiarybutylether	ug/L	8260	5	40	7,100	47,000,000	420,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	ug/L	8260	5	520	11	31,000	200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
p-Isopropyl toluene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Styrene	ug/L	8260	1	100	80	170,000	2,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tertiary Butyl Alcohol	ug/L	8260	50	3,900	NA	1,000,000,000	NA	<50	<50	<50	<50	<50	<50	<50	<50
tertiaryAmylmethylether	ug/L	8260	5	190	NA	260,000	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethylene	ug/L	8260	1	5	60	25,000	2,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran	ug/L	8260	90	95	11,000	6,900,000	150,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	8260	1	790	270	530,000	2,600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene-d8	ug/L	8260	NA	NA	NA	NA	NA	51	52.2	51.4	51.6	51.6	49.5	48.7	49.2
trans-1,2-Dichloroethylene	ug/L	8260	1	100	1,500	85,000	28,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,4-Dichloro-2-butene	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	ug/L	8260	1	5	200	2,200	3,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	ug/L	8260	1	2,600	NA	1,100,000	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	ug/L	8260	1	2	13	1,100	17,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromofluoromethane	ug/L	8260	NA	NA	NA	NA	NA	52	52.5	52.4	52.2	52.8	46.7	49.5	48

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
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Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
"ID" means insufficient data to develop criterion.
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Michigan Department of Environmental Quality Analytical Testing Report

Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number								1410055-09	1410055-10	1410055-11	1410055-12	1410055-13	1410055-14	1410055-15	1410055-16
Sample ID								MW06S	MW13S	MW06D	MW05D	MW11S	MW11D	MW11D MS	MW11D MSD
Sample Depth															
Date Collected			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Volatiles												
1,1,1,2-Tetrachloroethane	ug/L	8260	1	77	ID	15,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	52
1,1,1-Trichloroethane	ug/L	8260	1	200	89	660,000	1,600	<1.0	49	<1.0	<1.0	<1.0	<1.0	50	52
1,1,2,2-Tetrachloroethane	ug/L	8260	1	9	78	12,000	1,800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	55	57
1,1,2-Trichloroethane	ug/L	8260	1	5	330	17,000	6,400	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	49	50
1,1-Dichloroethane	ug/L	8260	1	880	740	1,000,000	13,000	<1.0	1300	72	<1.0	26	<1.0	49	48
1,1-Dichloroethylene	ug/L	8260	1	7	130	200	2,300	<1.0	16	<1.0	<1.0	<1.0	<1.0	46	46
1,2,3-Trichlorobenzene	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	51	52
1,2,3-Trichloropropane	ug/L	8260	1	42	NA	8,300	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	49	51
1,2,3-Trimethylbenzene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	52
1,2,4-Trichlorobenzene	ug/L	8260	5	70	99	300,000	850	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	51	52
1,2,4-Trimethylbenzene	ug/L	8260	1	63	17	56,000	310	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	53
1,2-Dibromo-3-chloropropane	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	53	54
1,2-Dibromoethane	ug/L	8260	0	0	6	2,400	280	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	49	52
1,2-Dichlorobenzene	ug/L	8260	1	600	13	160,000	240	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	51	52
1,2-Dichloroethane	ug/L	8260	1	5	360	9,600	16,000	<1.0	4.4	<1.0	<1.0	<1.0	<1.0	50	51
1,2-Dichloropropane	ug/L	8260	1	5	230	16,000	4,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	49	49
1,3,5-Trimethylbenzene	ug/L	8260	1	72	45	61,000	810	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	53
1,3-Dichlorobenzene	ug/L	8260	1	7	28	18,000	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	49	50
1,4-Dichlorobenzene	ug/L	8260	1	75	17	16,000	210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	48	50
2-Butanone (MEK)	ug/L	8260	25	13,000	2,200	240,000,000	40,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	46	47
2-Hexanone	ug/L	8260	50	1,000	ID	4,200,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	46	48
2-Methylnaphthalene	ug/L	8260	5	260	19	25,000	340	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	51	54
2-Propanone (acetone)	ug/L	8260	50	730	1,700	1,000,000,000	30,000	<20	<20	<20	<20	<20	<20	37	36
4-Methyl-2-pentanone (MIBK)	ug/L	8260	50	1,800	ID	20,000,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	53	54
Acrylonitrile	ug/L	8260	2	3	2	34,000	1,200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	50	48
Benzene	ug/L	8260	1	5	200	5,600	1,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	51	52
Bromobenzene	ug/L	8260	1	18	NA	180,000	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	49	50
Bromochloromethane	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	53	53
Bromodichloromethane	ug/L	8260	1	80	ID	4,800	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	51	53
Bromofluorobenzene	ug/L	8260	NA	NA	NA	NA	NA	50.3	50.7	49	49.7	49.6	51.5	48	47.9
Bromoform	ug/L	8260	1	80	ID	470,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	48	49
Bromomethane	ug/L	8260	5	10	35	4,000	640	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	50	56
Carbon disulfide	ug/L	8260	5	800	ID	250,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	48	48
Carbon tetrachloride	ug/L	8260	1	5	45	370	1,400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	53	54
Chlorobenzene	ug/L	8260	1	100	25	210,000	450	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	51
Chloroethane	ug/L	8260	5	430	1,100	5,700,000	20,000	<5.0	18	91	<5.0	9.6	<5.0	53	53
Chloroform	ug/L	8260	1	80	350	28,000	11,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	50
Chloromethane	ug/L	8260	5	260	ID	8,600	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	52	52
cis-1,2-Dichloroethylene	ug/L	8260	1	70	620	93,000	11,000	<1.0	200	<1.0	<1.0	49	<1.0	51	50
cis-1,3-Dichloropropylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	51
Cyclohexane	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	51	52
Dibromochloromethane	ug/L	8260	5	80	ID	14,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	53
Dibromomethane	ug/L	8260	5	80	NA	ID	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	53	55
Dichlorodifluoromethane	ug/L	8260	5	1,700	ID	220,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	64	65
Diethyl ether	ug/L	8260	10	10	ID	61,000,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	46	47
Diisopropyl Ether	ug/L	8260	5	30	ID	8,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	42	42
Ethylbenzene	ug/L	8260	1	74	18	110,000	320	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	53	54
Ethyltertiarybutylether	ug/L	8260	5	49	ID	2,900,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	49	50
Hexachloroethane	ug/L	8260	5	7	7	27,000	210	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	50	52
Isopropylbenzene	ug/L	8260	5	800	28	56,000	500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	54
m & p - Xylene	ug/L	8260	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	110	110
Methyl iodide	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	39	44
Methylene chloride	ug/L	8260	5	5	1,500	220,000	17,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	49	48
Methyltertiarybutylether	ug/L	8260	5	40	7,100	47,000,000	420,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	47	47
Naphthalene	ug/L	8260	5	520	11	31,000	200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	58	58
n-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	52
n-Propylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	53
o-Xylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	53
p-Isopropyl toluene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	50	51
sec-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	53
Styrene	ug/L	8260	1	100	80	170,000	2,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	53	54
tert-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	51	52
tertiary Butyl Alcohol	ug/L	8260	50	3,900	NA	1,000,000,000	NA	<50	<50	<50	<50	<50	<50	230	230
tertiaryAmylmethylether	ug/L	8260	5	190	NA	260,000	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	49	51
Tetrachloroethylene	ug/L	8260	1	5	60	25,000	2,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	47	48
Tetrahydrofuran	ug/L	8260	90	95	11,000	6,900,000	150,000	<5.0	5.1	<5.0	<5.0	<5.0	<5.0	50	49
Toluene	ug/L	8260	1	790	270	530,000	2,600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	51	51
Toluene-d8	ug/L	8260	NA	NA	NA	NA	NA	49	49.8	48.8	49.5	49.5	50.1	49.1	49.9
trans-1,2-Dichloroethylene	ug/L	8260	1	100	1,500	85,000	28,000	<1.0	13	<1.0	<1.0	1.4	<1.0	48	47
trans-1,3-Dichloropropylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	49	51
trans-1,4-Dichloro-2-butene	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	49	49
Trichloroethylene	ug/L	8260	1	5	200	2,200	3,500	<1.0	16	<1.0	<1.0	<1.0	<1.0	47	49
Trichlorofluoromethane	ug/L	8260	1	2,600	NA	1,100,000	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	52	51
Vinyl chloride	ug/L	8260	1	2	13	1,100	17,000	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	55	54
Dibromofluoromethane	ug/L	8260	NA	NA	NA	NA	NA	50	47.9	53	48.2	49.2	47.6	52.6	52.3

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background, not applicable.
"NLV" means hazardous substance is not likely to volatilize under most conditions.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

Michigan Department of Environmental Quality Analytical Testing Report

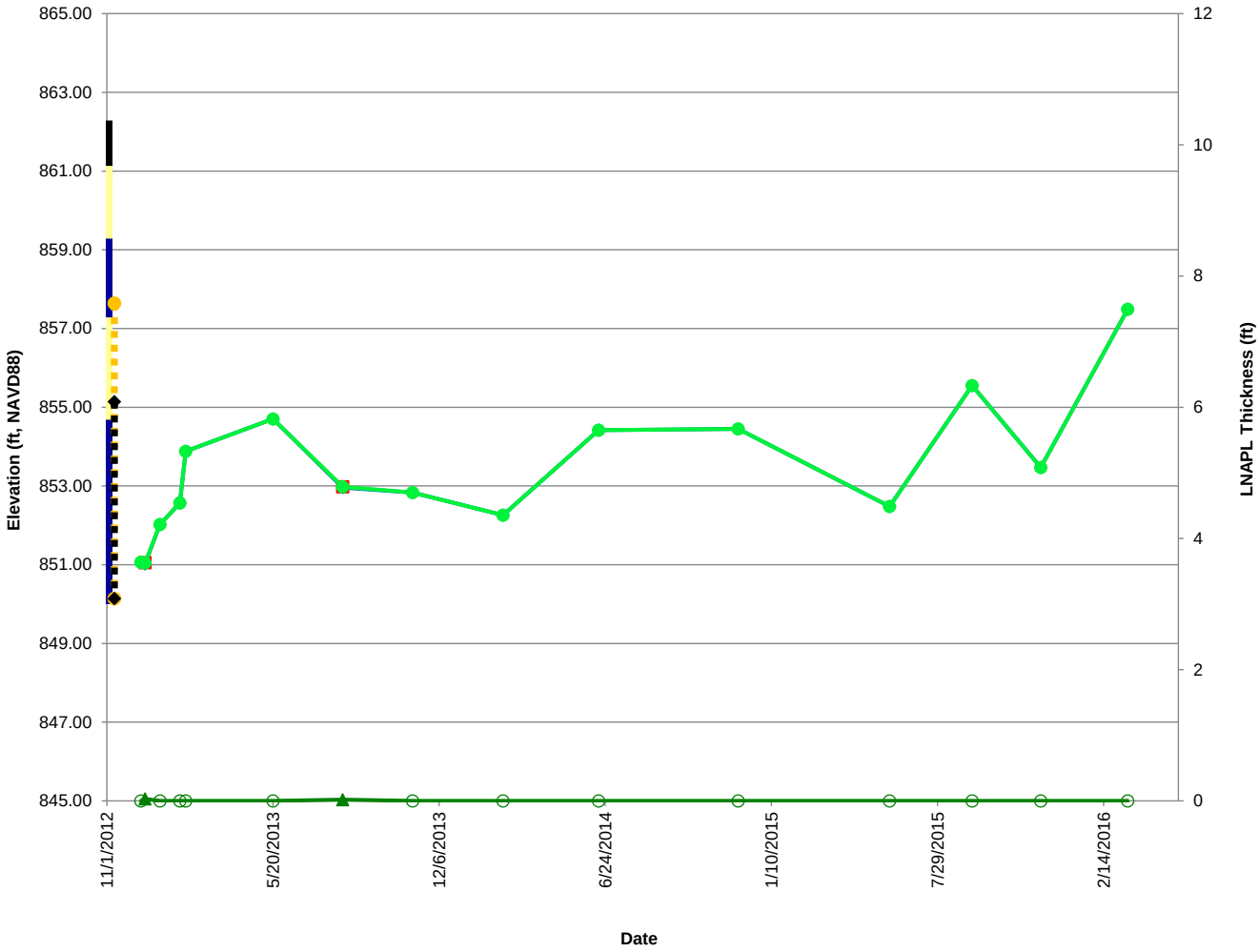
Work Order:	1410055
Report Date:	10/30/2014 12:55
Client:	MDEQ-RRD-LANSING
Attention:	Mary Schafer
Project Name:	ADAMS PLATING COMPANY
Project Number:	LB041499

Sample Number								1410055-17	1410055-18	1410055-19	1410055-20	1410055-21	1410055-22
Sample ID								MW09D	MW09D-dup	MW02-D	MW13D	MW04D-dup	TRIP BLANK
Sample Depth													
Date Collected			Target Detection Limit (TDL)	Drinking Water Criteria (DWC)	Groundwater Surface Water Interface Criteria (GSIC)	Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)	Rule 57 Final Acute Value (FAV)	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/8/2014	10/7/2014
Date Received								10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014	10/9/2014
Analyte	Units	Method	Organics-Volatiles										
1,1,1,2-Tetrachloroethane	ug/L	8260	1	77	ID	15,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	ug/L	8260	1	200	89	660,000	1,600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2,2-Tetrachloroethane	ug/L	8260	1	9	78	12,000	1,800	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	ug/L	8260	1	5	330	17,000	6,400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	ug/L	8260	1	880	740	1,000,000	13,000	4.8	4.9	<1.0	8.3	1.4	<1.0
1,1-Dichloroethylene	ug/L	8260	1	7	130	200	2,300	7	6.9	<1.0	<1.0	<1.0	<1.0
1,2,3-Trichlorobenzene	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,3-Trichloropropane	ug/L	8260	1	42	NA	8,300	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,3-Trimethylbenzene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2,4-Trichlorobenzene	ug/L	8260	5	70	99	300,000	850	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2,4-Trimethylbenzene	ug/L	8260	1	63	17	56,000	310	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dibromo-3-chloropropane	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
1,2-Dibromoethane	ug/L	8260	0	0	6	2,400	280	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichlorobenzene	ug/L	8260	1	600	13	160,000	240	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloroethane	ug/L	8260	1	5	360	9,600	16,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,2-Dichloropropane	ug/L	8260	1	5	230	16,000	4,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3,5-Trimethylbenzene	ug/L	8260	1	72	45	61,000	810	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,3-Dichlorobenzene	ug/L	8260	1	7	28	18,000	200	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,4-Dichlorobenzene	ug/L	8260	1	75	17	16,000	210	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	ug/L	8260	25	13,000	2,200	240,000,000	40,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Hexanone	ug/L	8260	50	1,000	ID	4,200,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Methylnaphthalene	ug/L	8260	5	260	19	25,000	340	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2-Propanone (acetone)	ug/L	8260	50	730	1,700	1,000,000,000	30,000	<20	<20	<20	<20	<20	<20
4-Methyl-2-pentanone (MIBK)	ug/L	8260	50	1,800	ID	20,000,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Acrylonitrile	ug/L	8260	2	3	2	34,000	1,200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Benzene	ug/L	8260	1	5	200	5,600	1,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromobenzene	ug/L	8260	1	18	NA	180,000	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromochloromethane	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromodichloromethane	ug/L	8260	1	80	ID	4,800	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromofluorobenzene	ug/L	8260	NA	NA	NA	NA	NA	50	49.2	50.3	50.1	49.7	49.8
Bromoform	ug/L	8260	1	80	ID	470,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Bromomethane	ug/L	8260	5	10	35	4,000	640	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Carbon disulfide	ug/L	8260	5	800	ID	250,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Carbon tetrachloride	ug/L	8260	1	5	45	370	1,400	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chlorobenzene	ug/L	8260	1	100	25	210,000	450	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloroethane	ug/L	8260	5	430	1,100	5,700,000	20,000	150	150	<5.0	<5.0	82	<5.0
Chloroform	ug/L	8260	1	80	350	28,000	11,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ug/L	8260	5	260	ID	8,600	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
cis-1,2-Dichloroethylene	ug/L	8260	1	70	620	93,000	11,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,3-Dichloropropylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Cyclohexane	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dibromochloromethane	ug/L	8260	5	80	ID	14,000	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromomethane	ug/L	8260	5	80	NA	ID	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dichlorodifluoromethane	ug/L	8260	5	1,700	ID	220,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Diethyl ether	ug/L	8260	10	10	ID	61,000,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Diisopropyl Ether	ug/L	8260	5	30	ID	8,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ethylbenzene	ug/L	8260	1	74	18	110,000	320	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Ethyltertiarybutylether	ug/L	8260	5	49	ID	2,900,000	ID	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Hexachloroethane	ug/L	8260	5	7	7	27,000	210	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Isopropylbenzene	ug/L	8260	5	800	28	56,000	500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
m & p - Xylene	ug/L	8260	NA	NA	NA	NA	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Methyl iodide	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Methylene chloride	ug/L	8260	5	5	1,500	220,000	17,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Methyltertiarybutylether	ug/L	8260	5	40	7,100	47,000,000	420,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Naphthalene	ug/L	8260	5	520	11	31,000	200	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
n-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
n-Propylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
o-Xylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
p-Isopropyl toluene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
sec-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Styrene	ug/L	8260	1	100	80	170,000	2,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tert-Butylbenzene	ug/L	8260	1	80	ID	ID	ID	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
tertiary Butyl Alcohol	ug/L	8260	50	3,900	NA	1,000,000,000	NA	<50	<50	<50	<50	<50	<50
tertiaryAmylmethylether	ug/L	8260	5	190	NA	260,000	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Tetrachloroethylene	ug/L	8260	1	5	60	25,000	2,900	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrahydrofuran	ug/L	8260	90	95	11,000	6,900,000	150,000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Toluene	ug/L	8260	1	790	270	530,000	2,600	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene-d8	ug/L	8260	NA	NA	NA	NA	NA	49.6	48.6	49.6	49.5	49.1	48.4
trans-1,2-Dichloroethylene	ug/L	8260	1	100	1,500	85,000	28,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,3-Dichloropropylene	ug/L	8260	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,4-Dichloro-2-butene	ug/L	8260	NA	NA	NA	NA	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Trichloroethylene	ug/L	8260	1	5	200	2,200	3,500	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichlorofluoromethane	ug/L	8260	1	2,600	NA	1,100,000	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl chloride	ug/L	8260	1	2	13	1,100	17,000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dibromofluoromethane	ug/L	8260	NA	NA	NA	NA	NA	52.3	52.1	48.5	48.3	51.7	52.8

Grey indicates contaminant was detected.
Yellow indicates contaminant exceeds DWC.
Blue indicates contaminant exceeds GSIC.
Green indicates contaminant exceeds both DWC and GSIC.
Orange indicates contaminant exceeds one or more criteria; GVIIC and/or FAV.
"ID" means insufficient data to develop criterion.
"NA" means a criterion or value is not available or, in the case of background, not applicable.
"NLV" means hazardous substance is not likely to volatilize under most conditions.
Letters in criteria columns refer to Footnotes of the Criteria/RBSLs tables.

APPENDIX D

LNAPL Trend Graphs



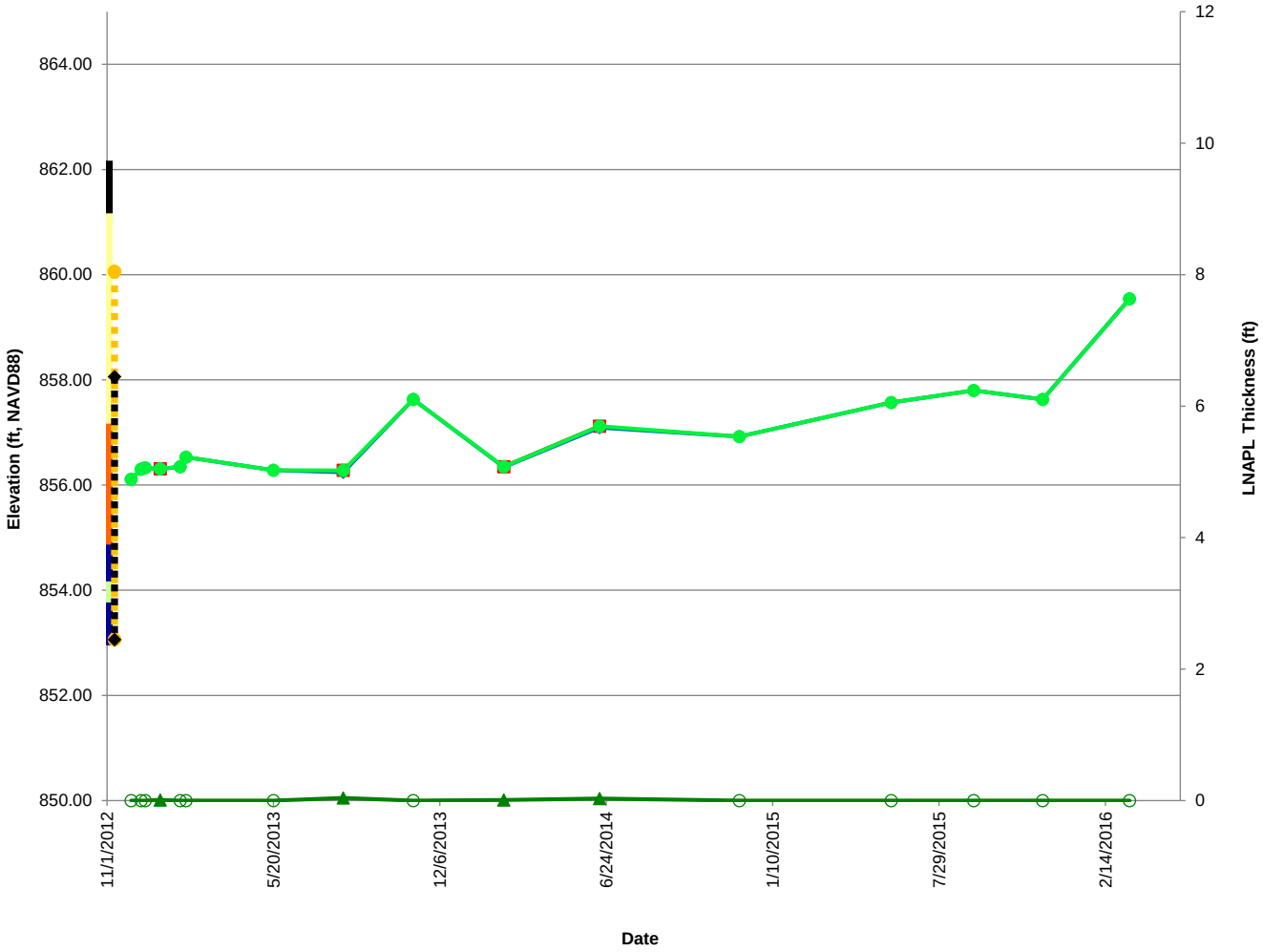
RACER Lansing
Lansing, MI

LMW-12-01 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

1

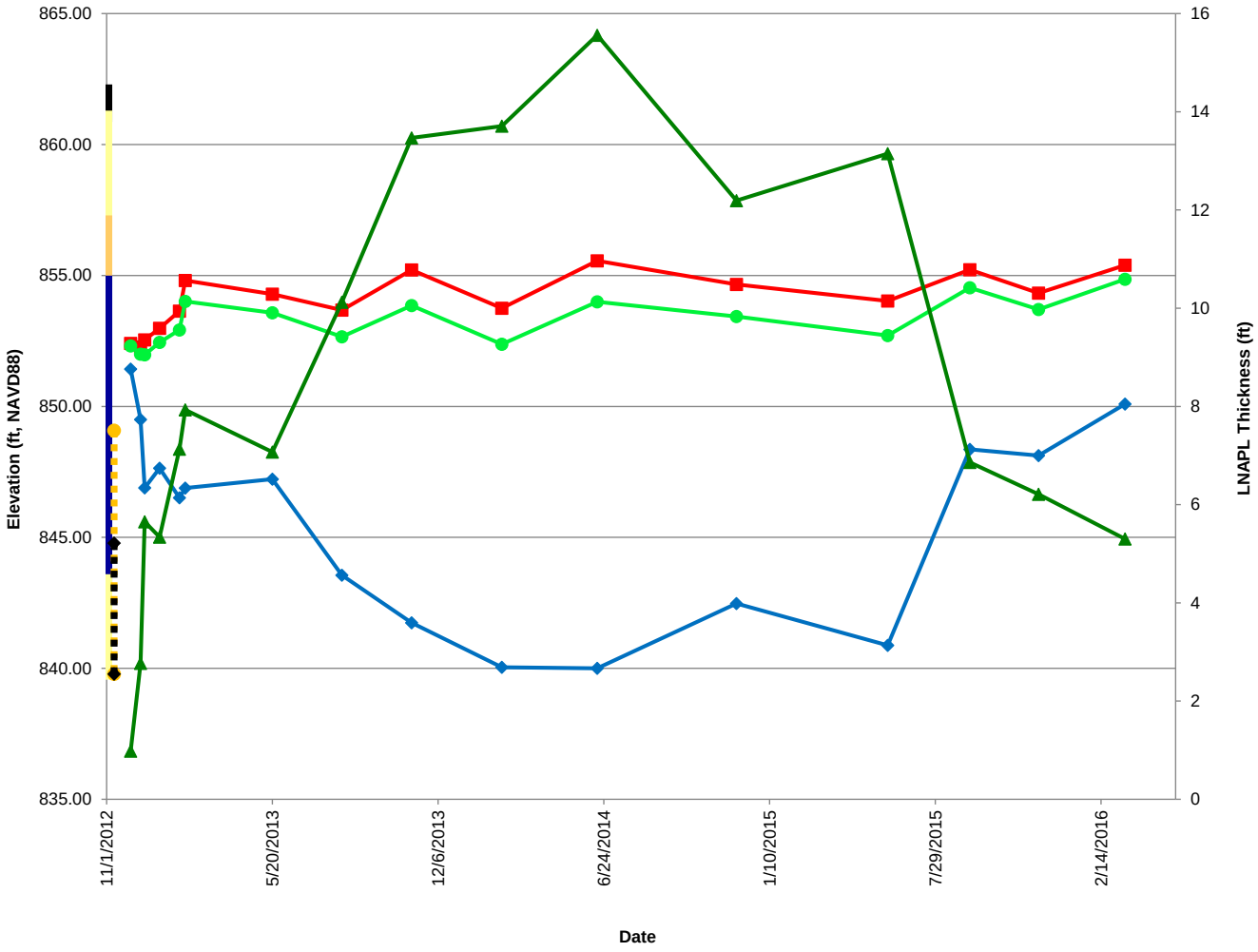


RACER Lansing
Lansing, MI

LMW-12-03S LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2



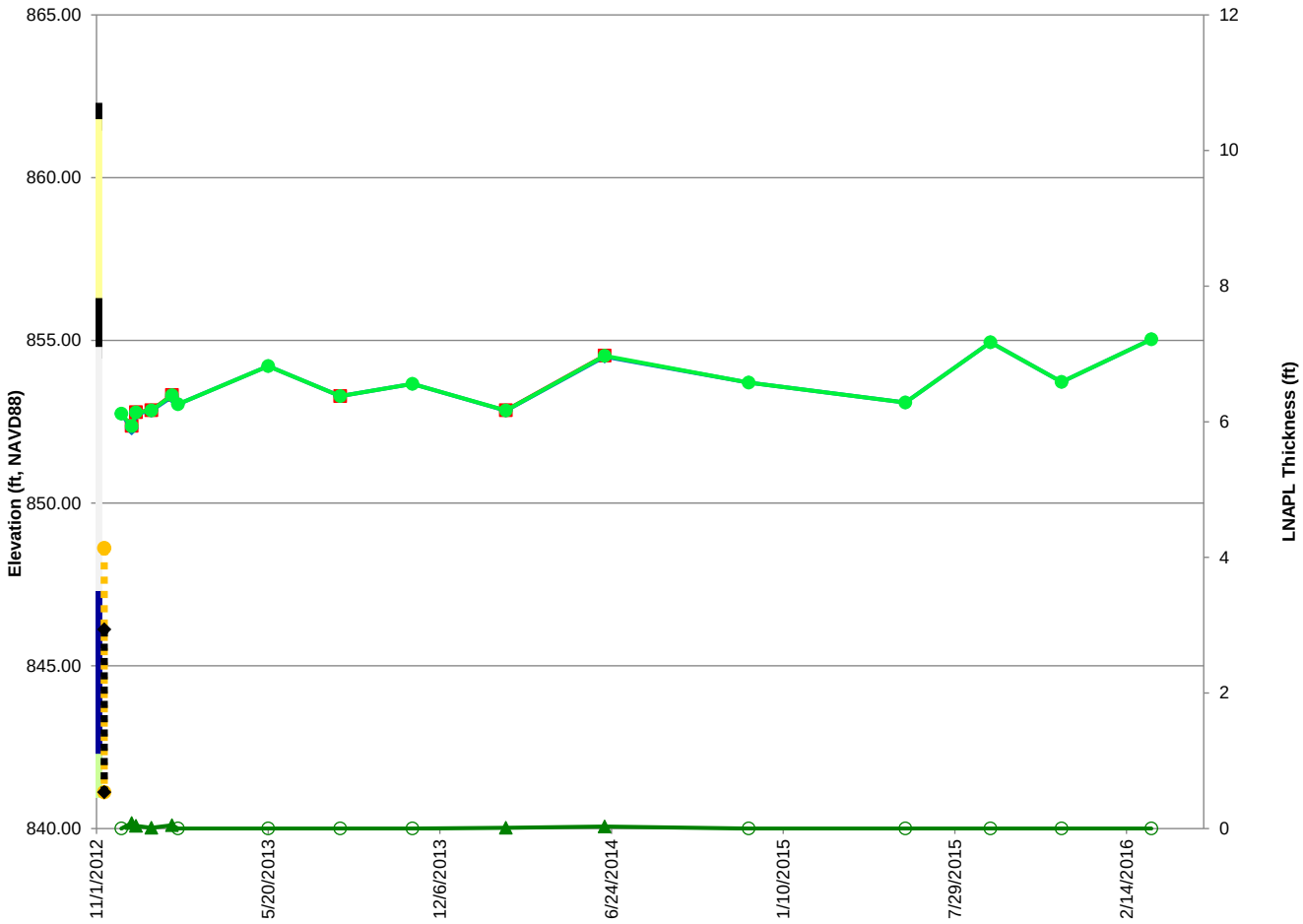
RACER Lansing
Lansing, MI

LMW-12-03D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

3



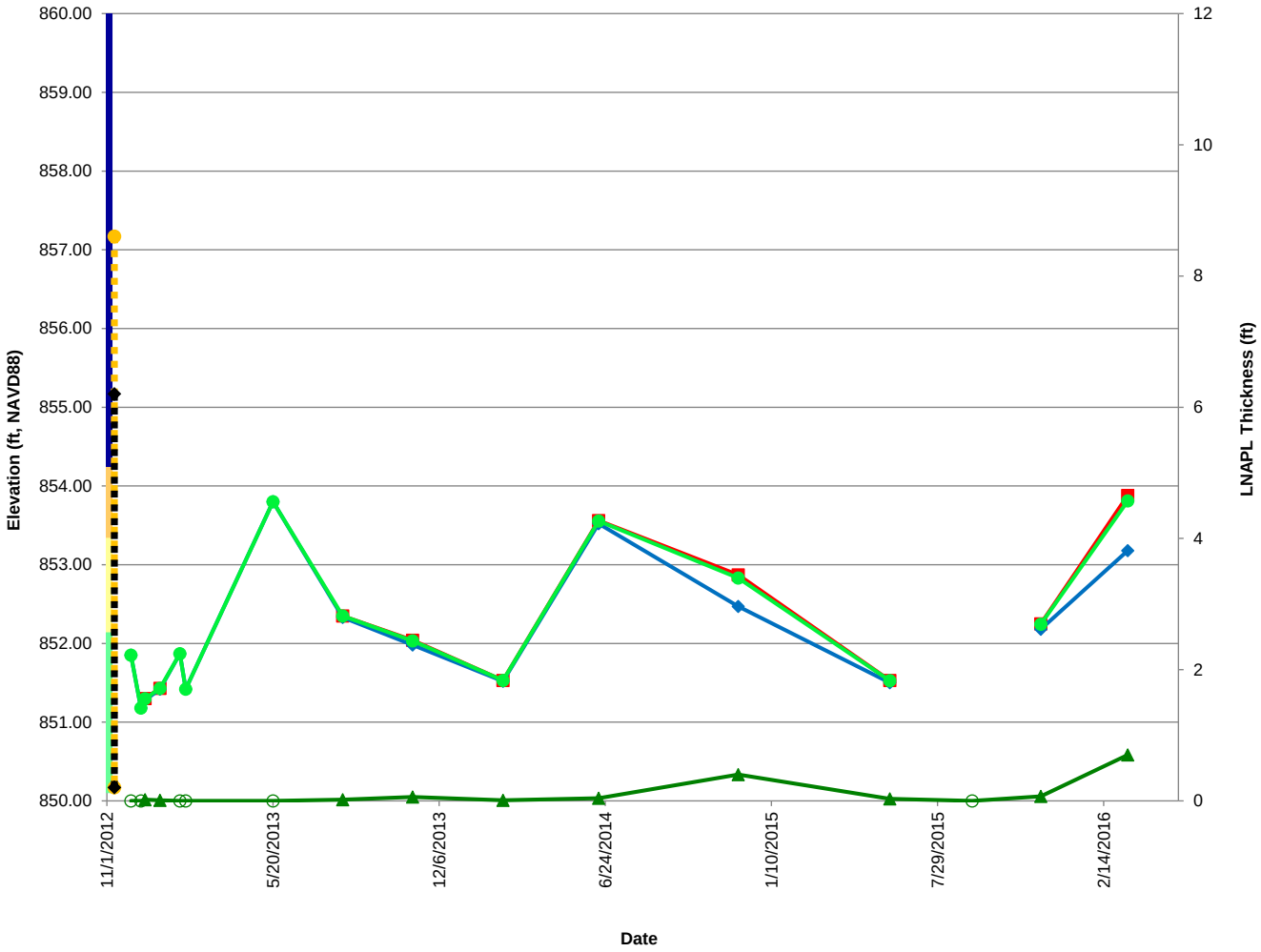
RACER Lansing
Lansing, MI

LMW-12-04 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

4

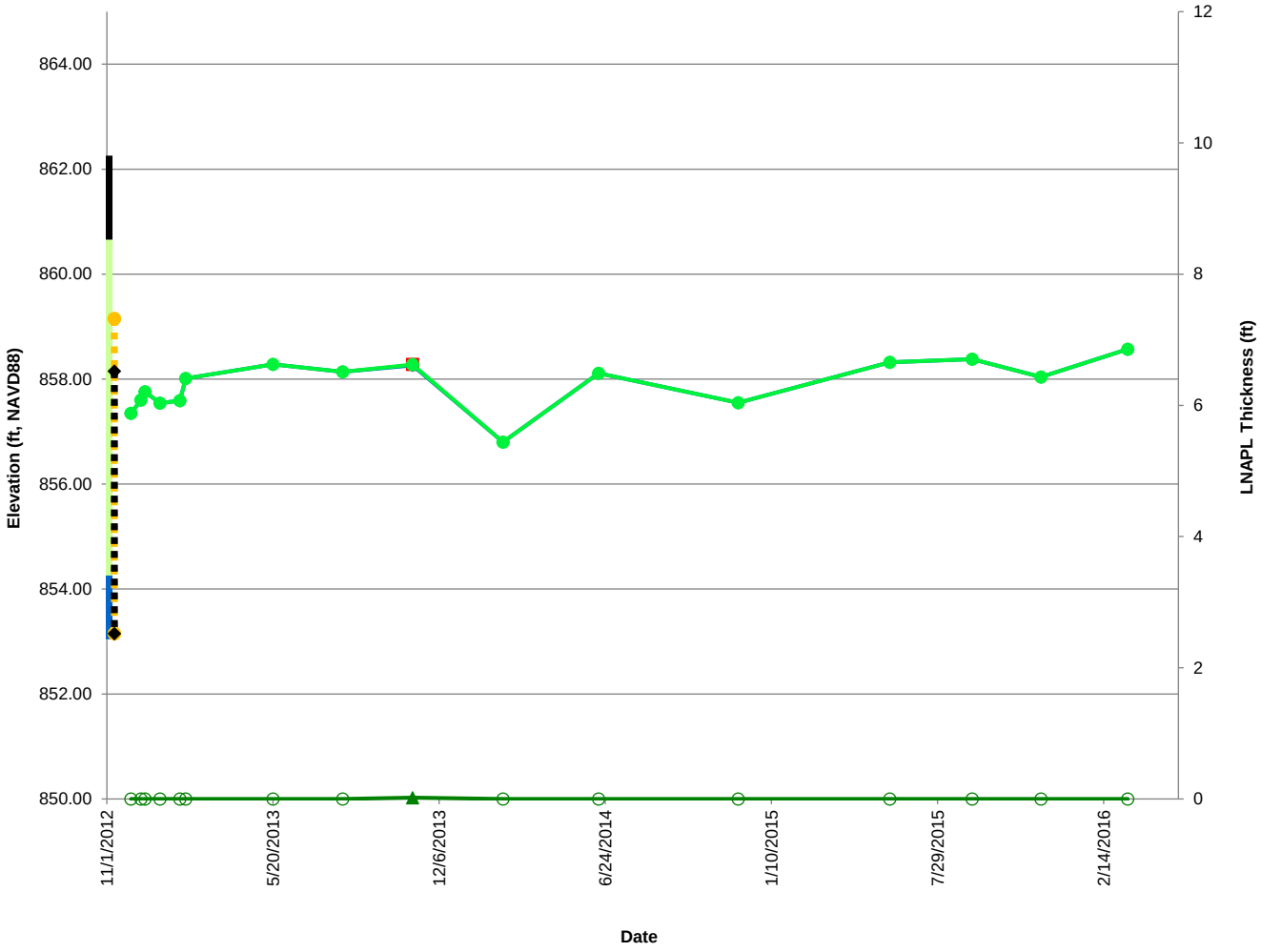


RACER Lansing
Lansing, MI

LMW-12-05 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5



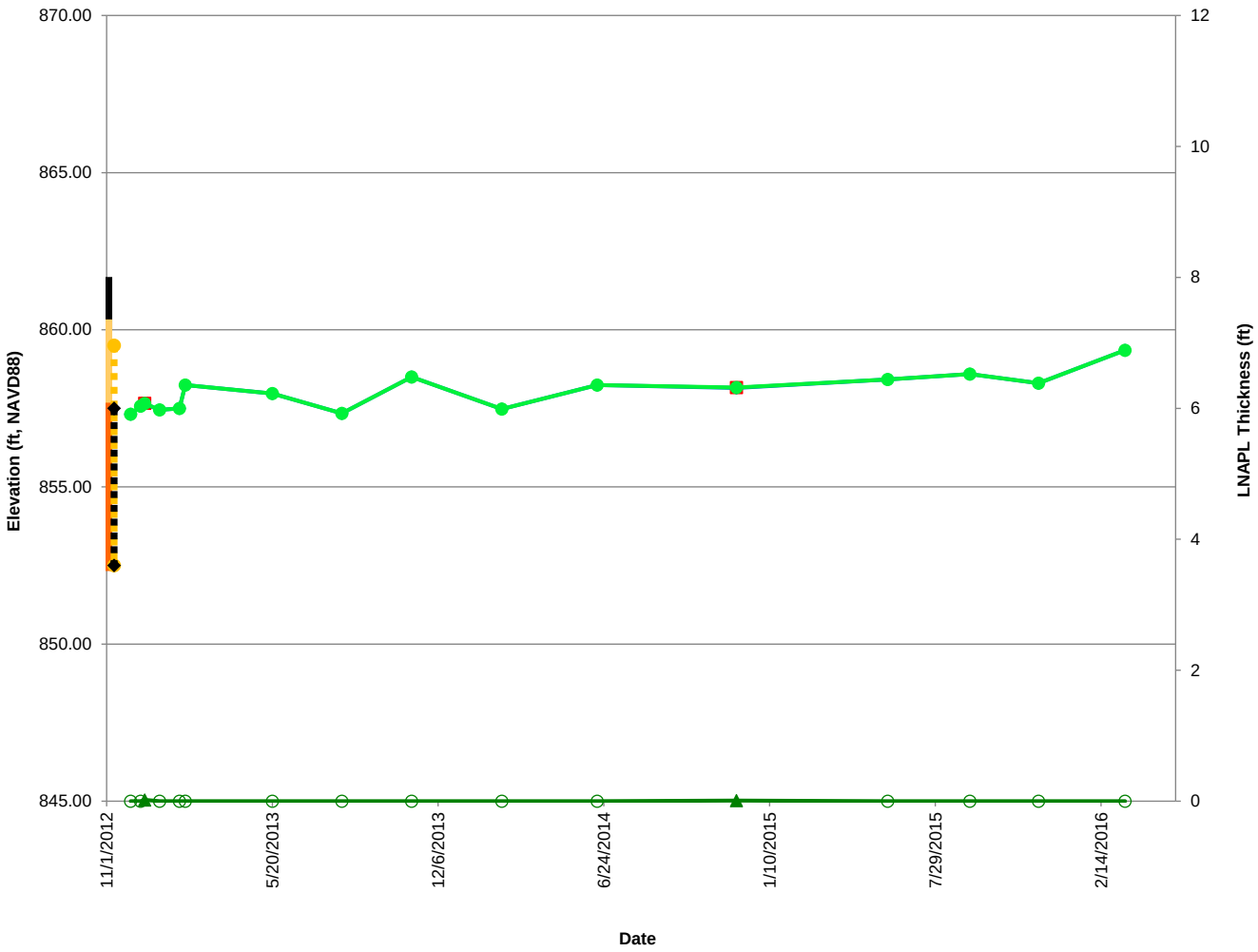
RACER Lansing
Lansing, MI

LMW-12-06 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

6



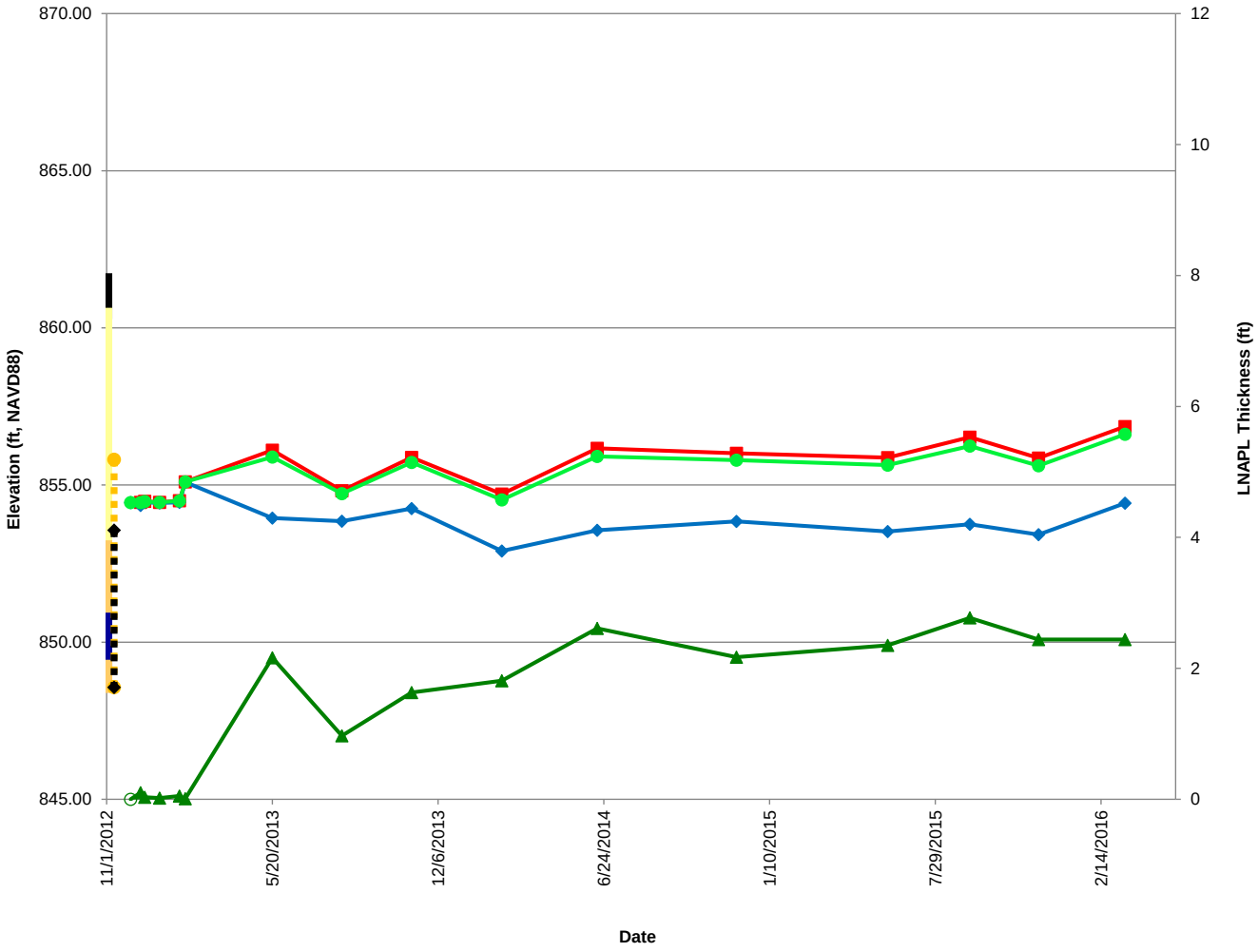
RACER Lansing
Lansing, MI

LMW-12-07 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

7



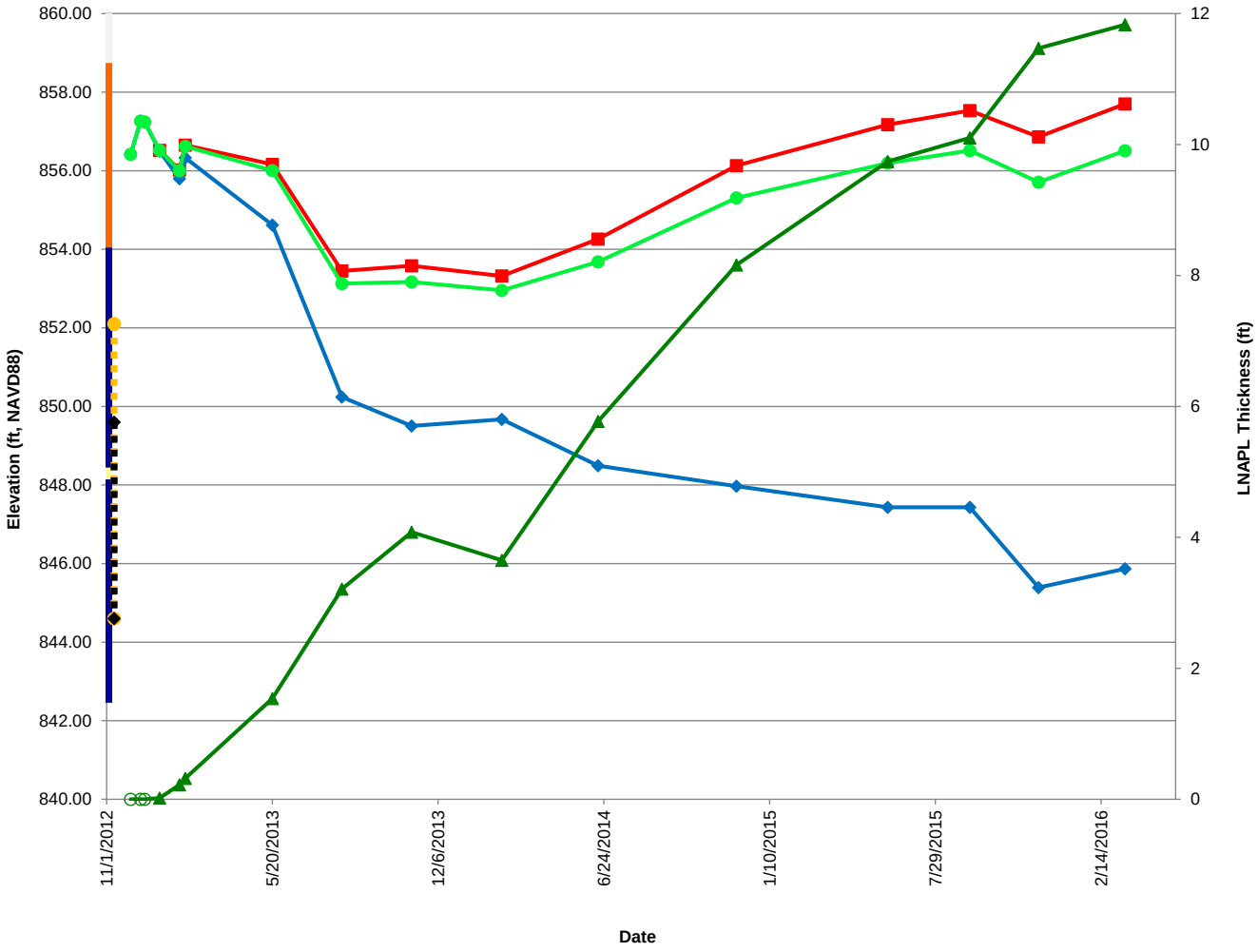
RACER Lansing
Lansing, MI

LMW-12-08 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

8



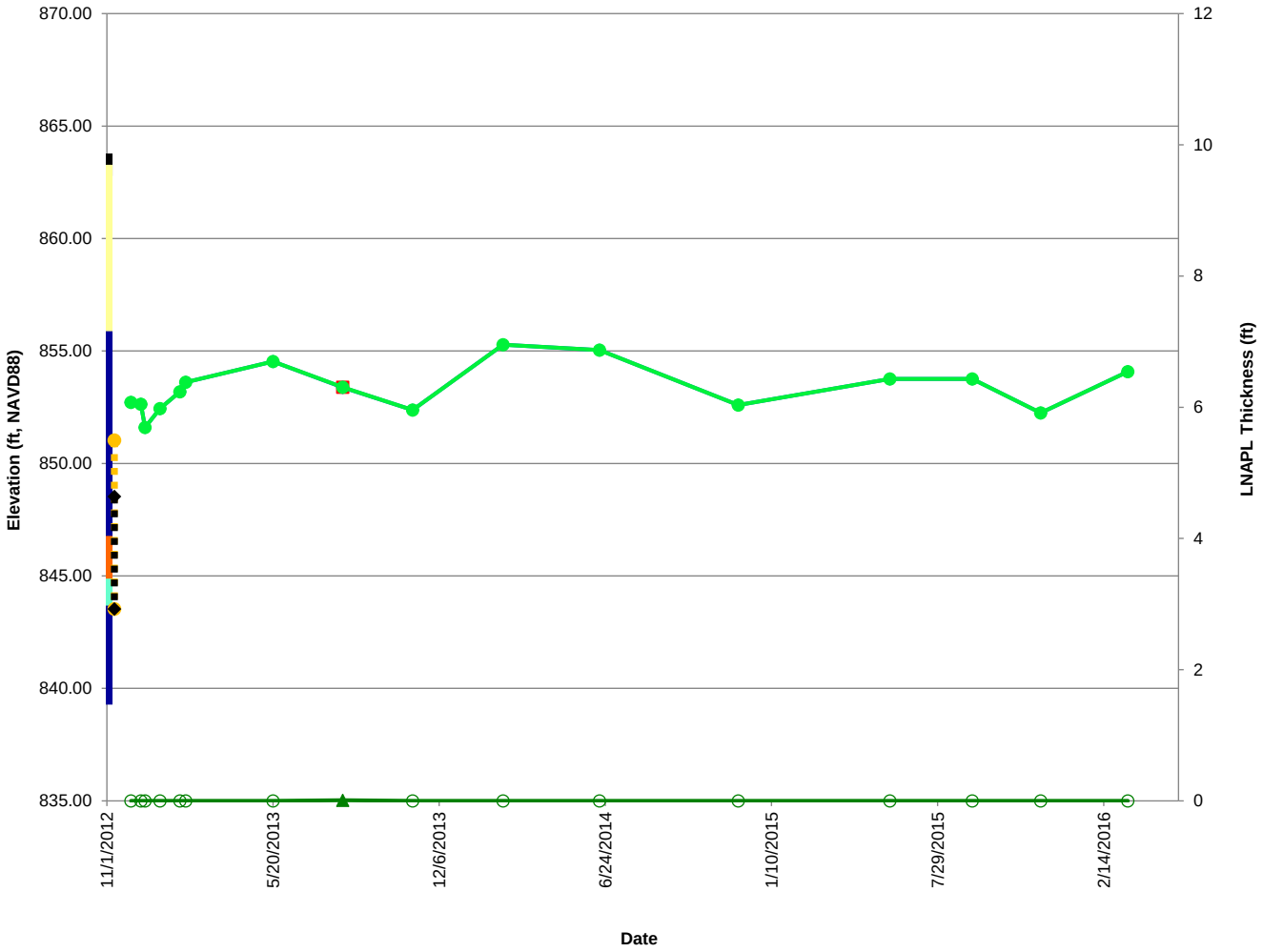
RACER Lansing
Lansing, MI

LMW-12-10 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE

9

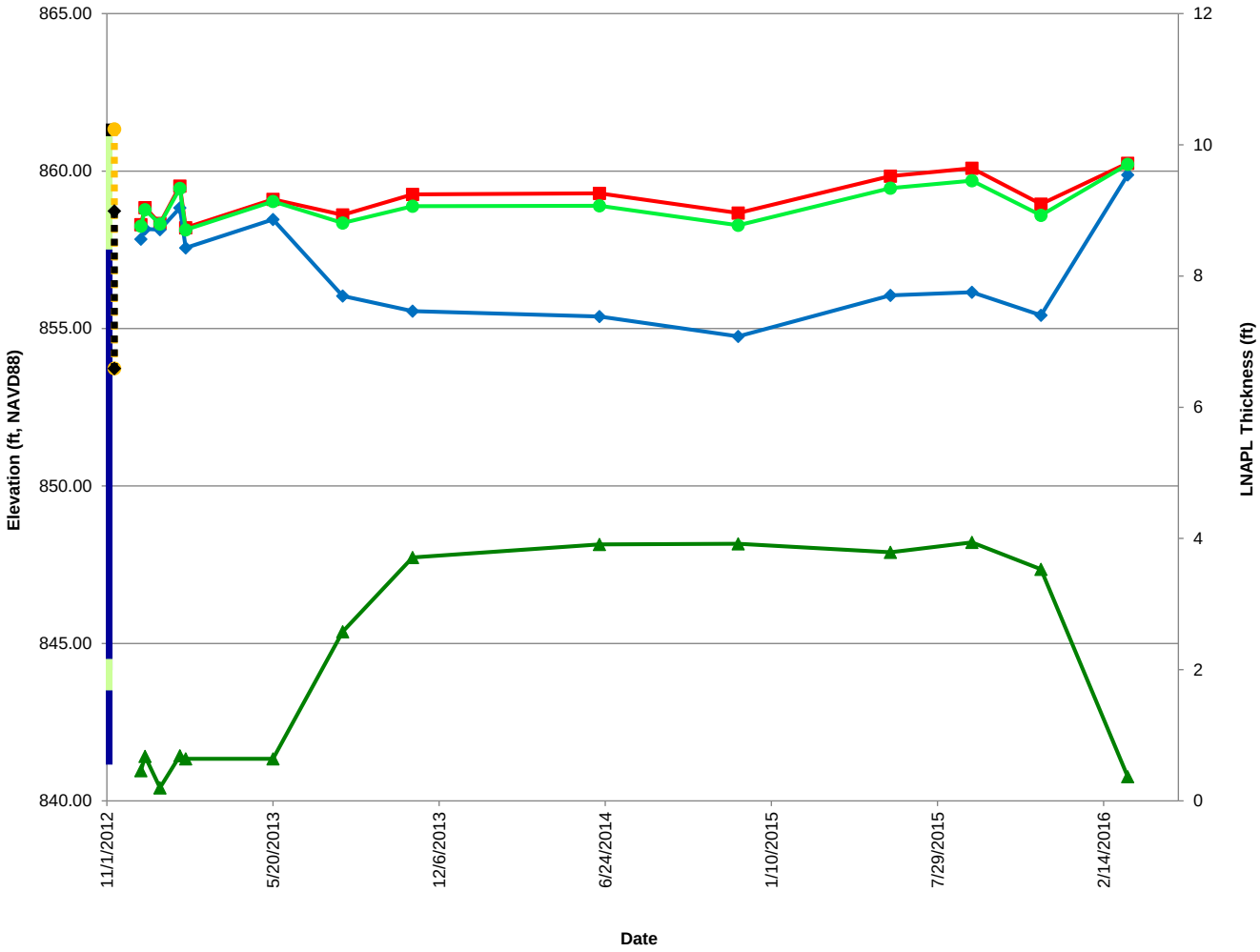


RACER Lansing
Lansing, MI

LMW-12-11 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
10

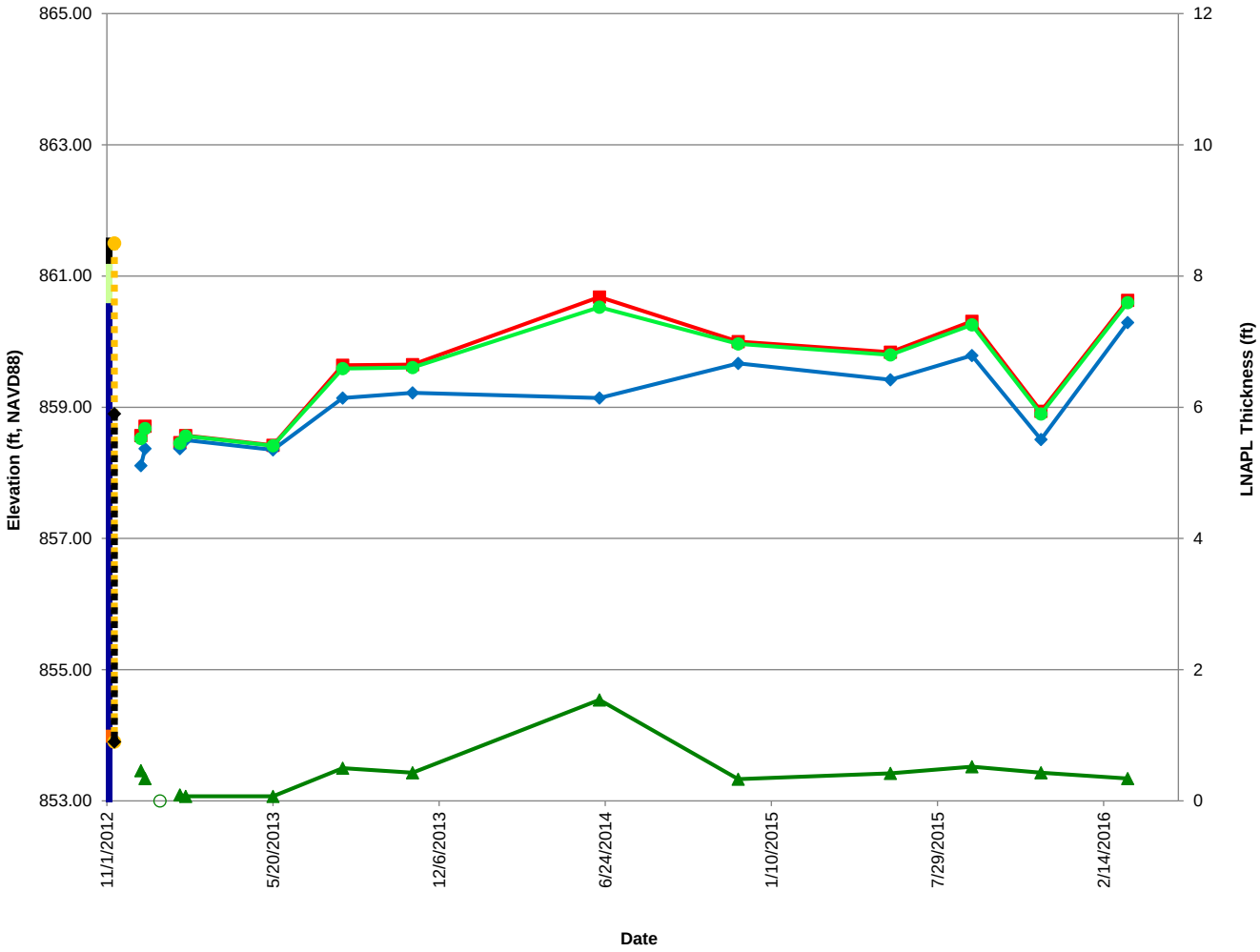


RACER Lansing
Lansing, MI

PMW-1 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
11

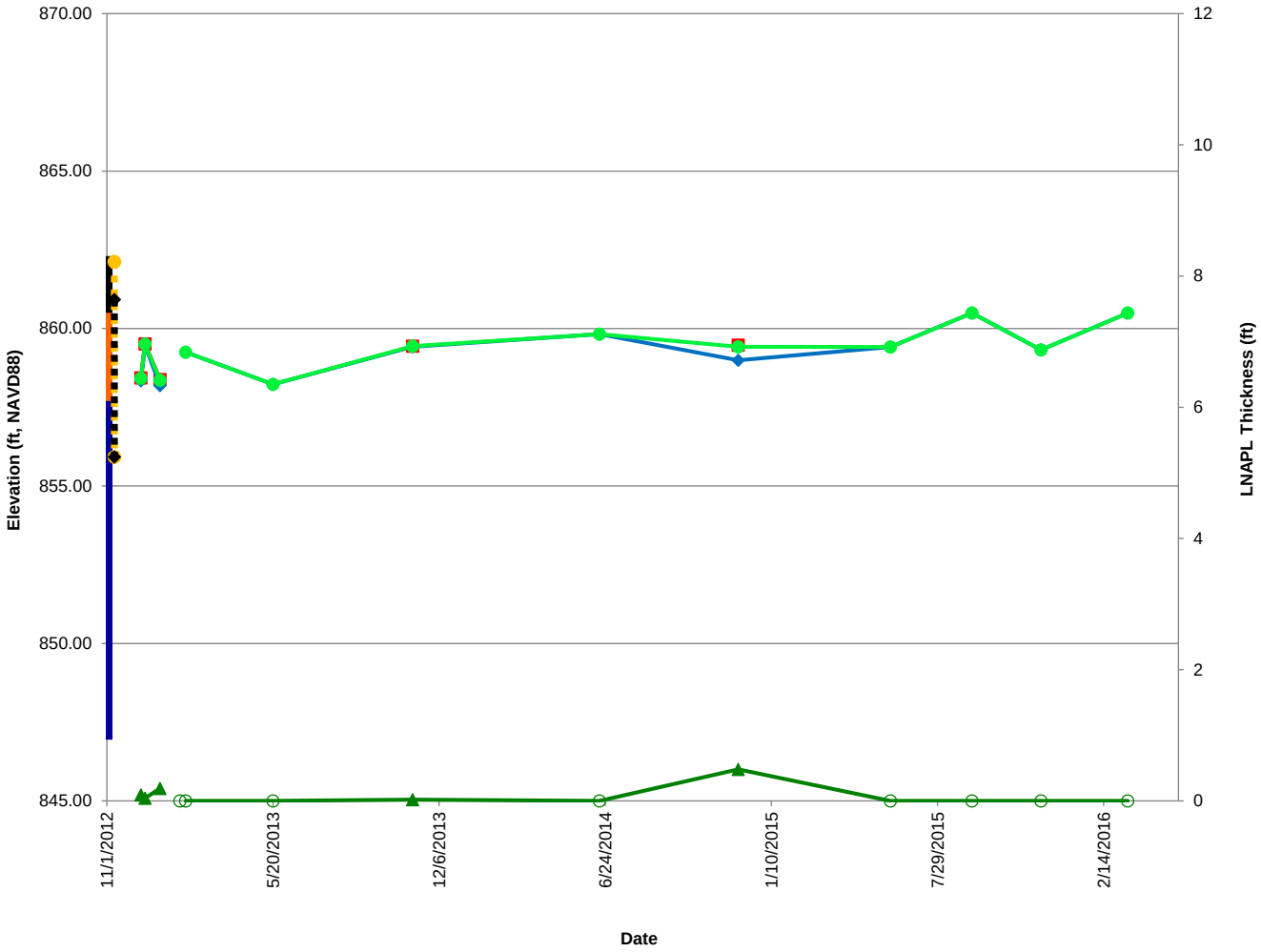


RACER Lansing
Lansing, MI

PMW-2 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
12

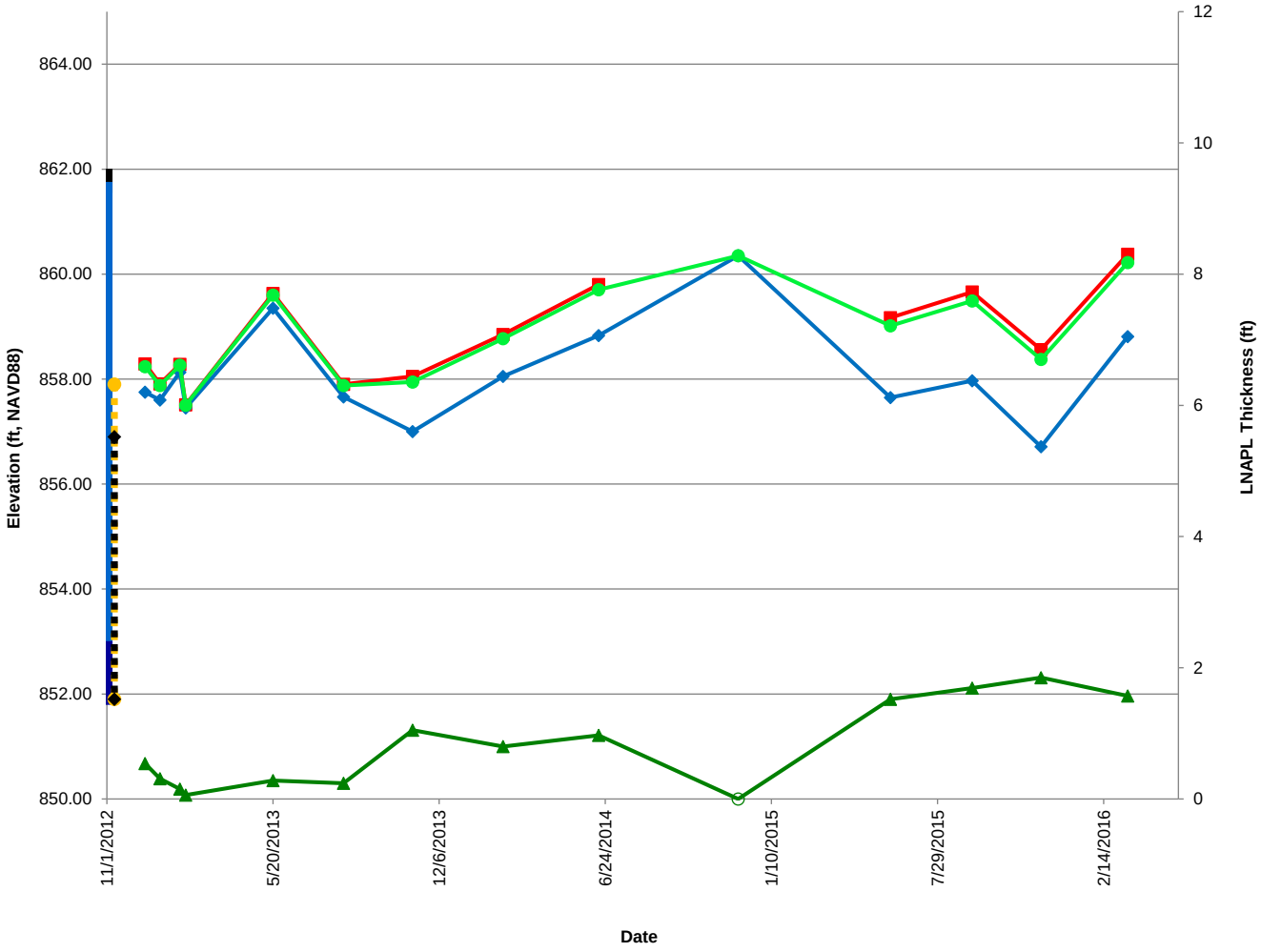


RACER Lansing
Lansing, MI

PMW-3 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
13

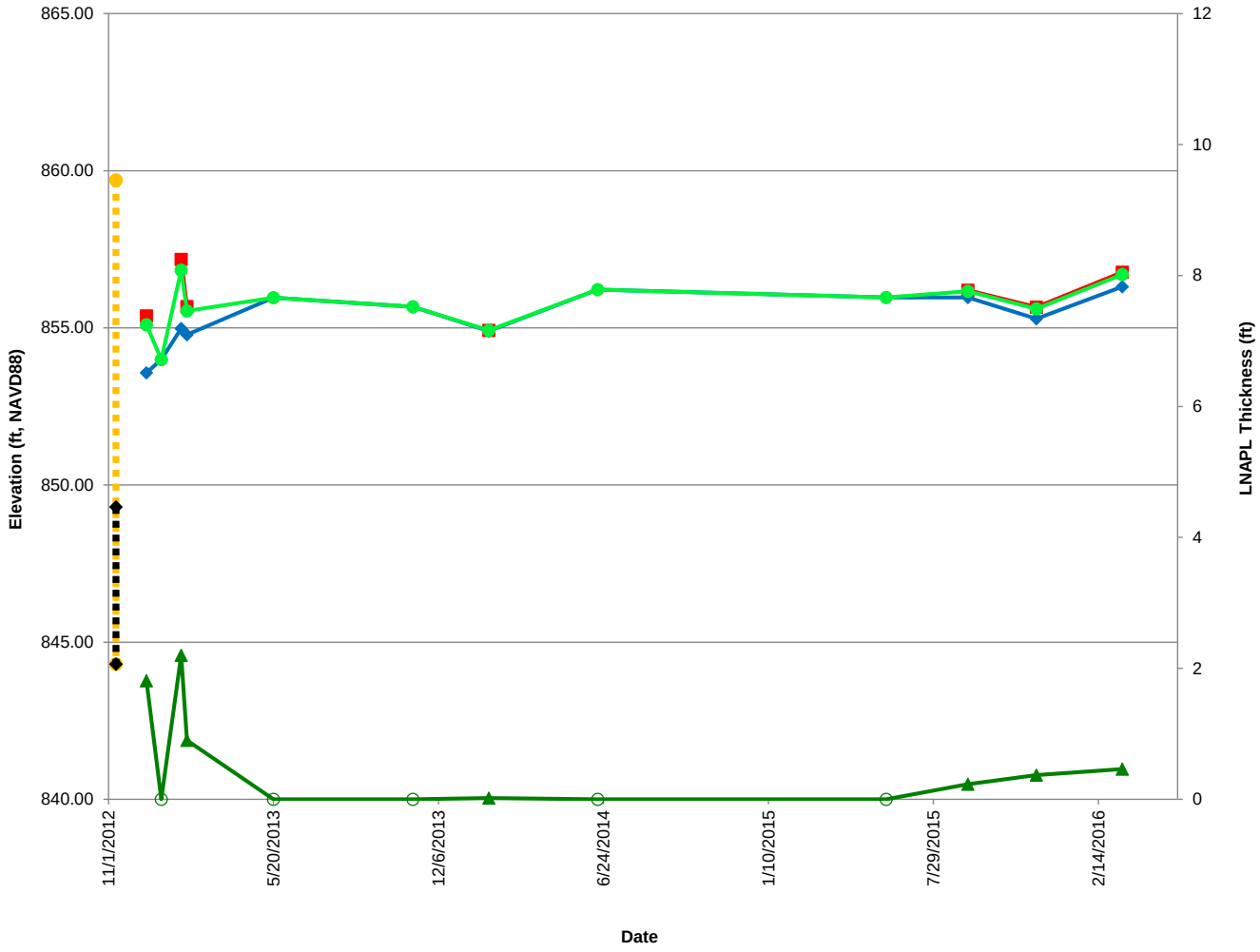


RACER Lansing
Lansing, MI

P2-SB-37 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
14

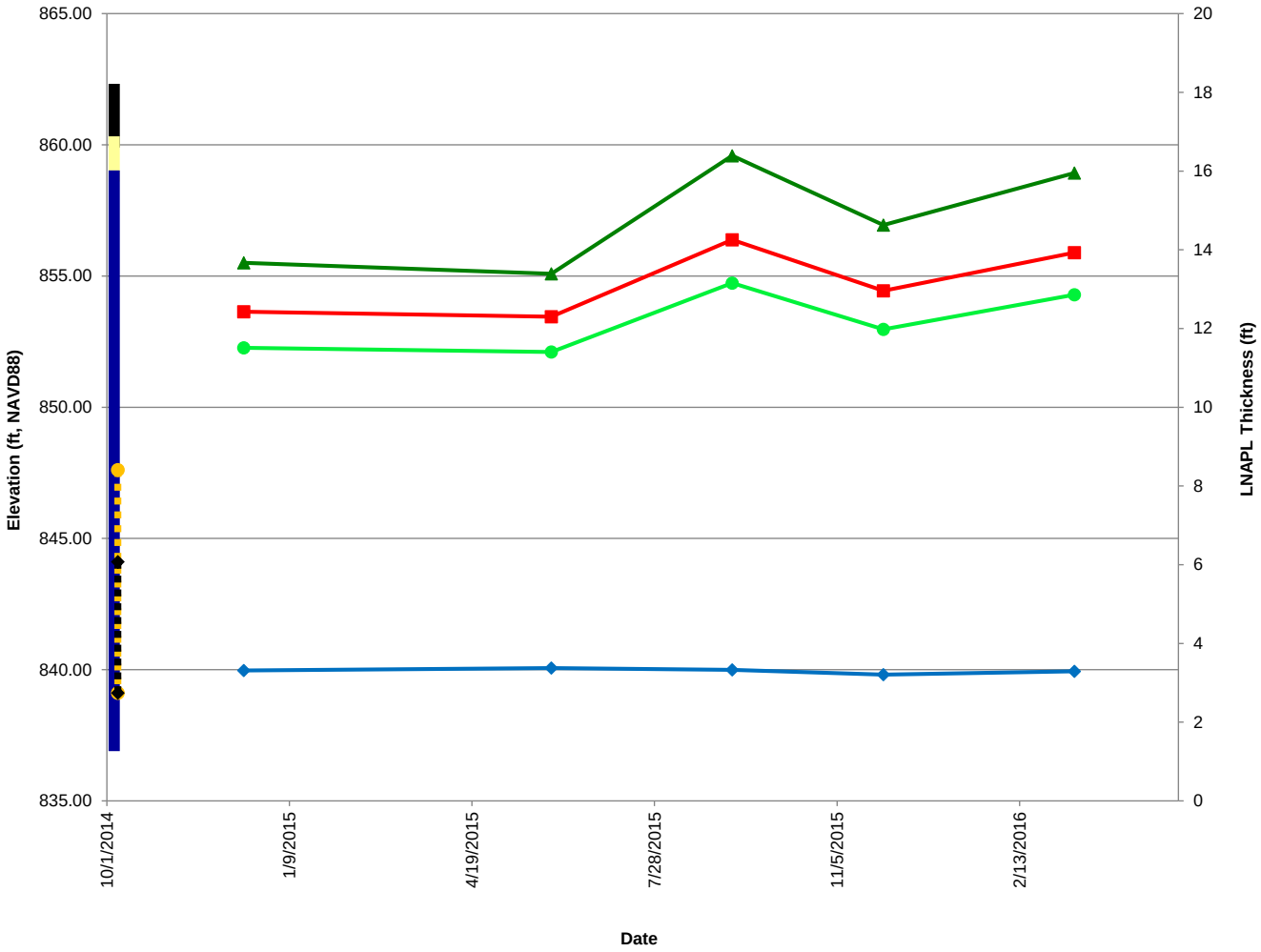


RACER Lansing
Lansing, MI

UNK-14 LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
15

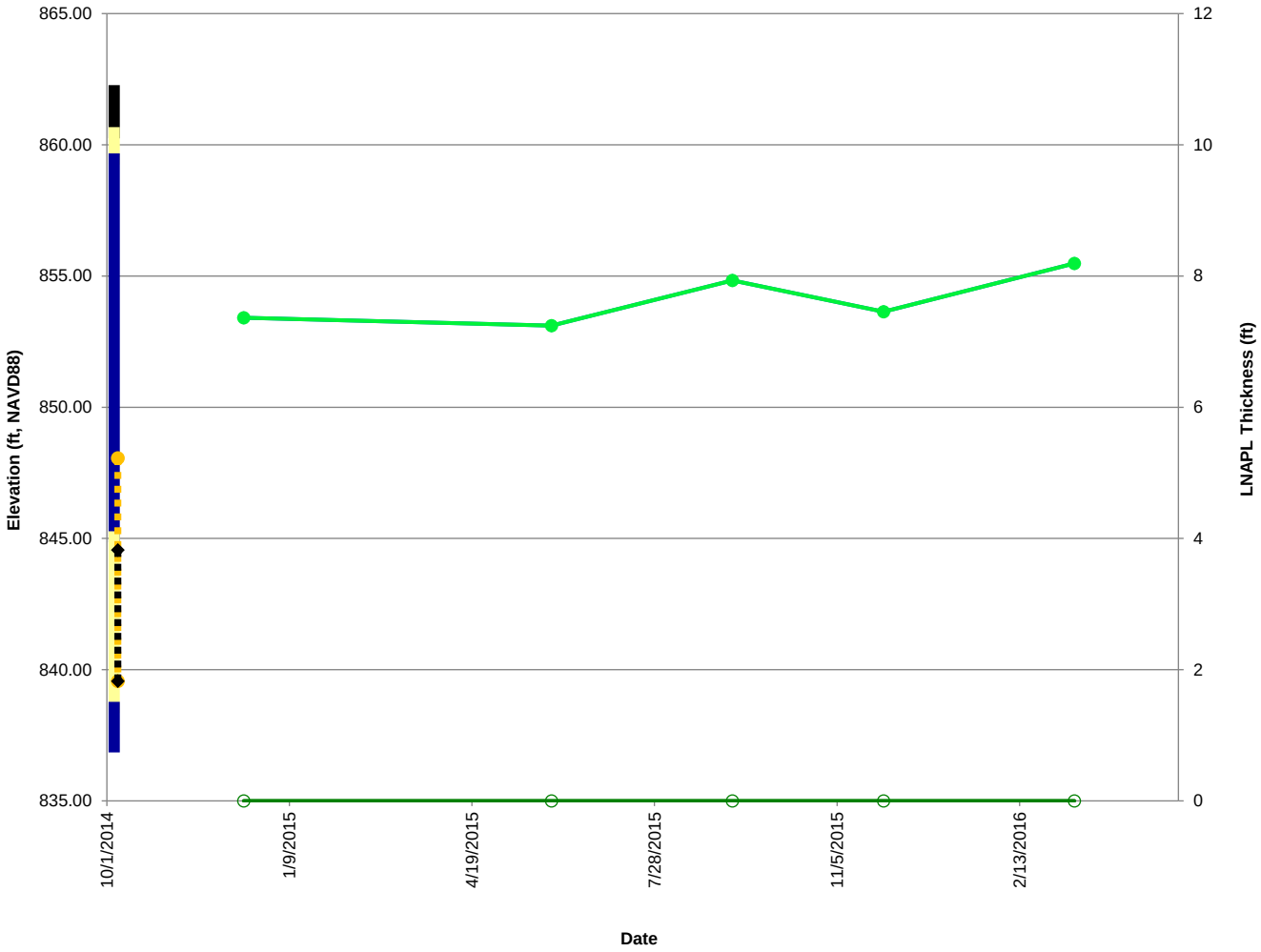


RACER Lansing
Lansing, MI

LMW-14-12D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
16

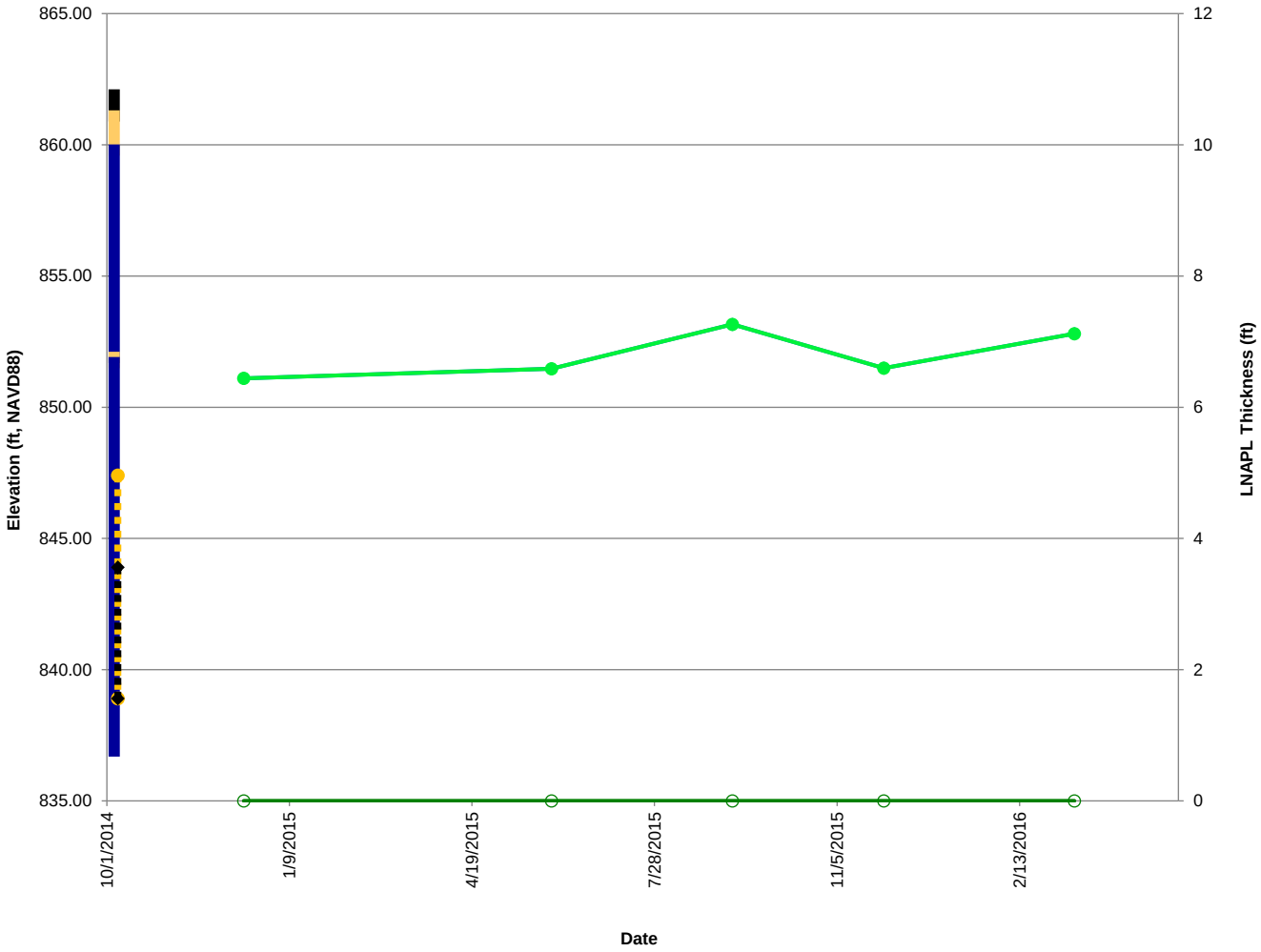


RACER Lansing
Lansing, MI

LMW-14-13D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
17

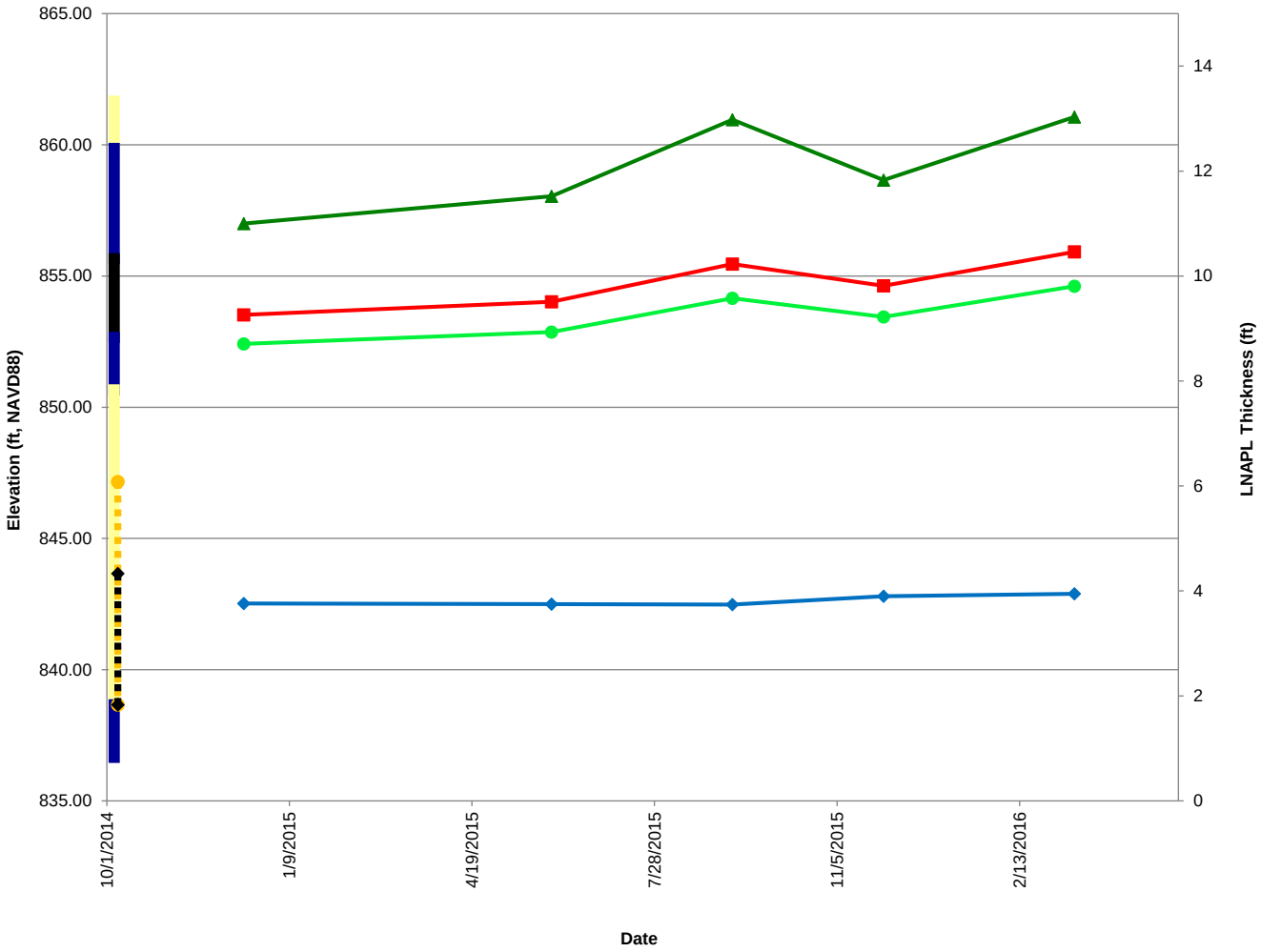


RACER Lansing
Lansing, MI

LMW-14-14D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
18

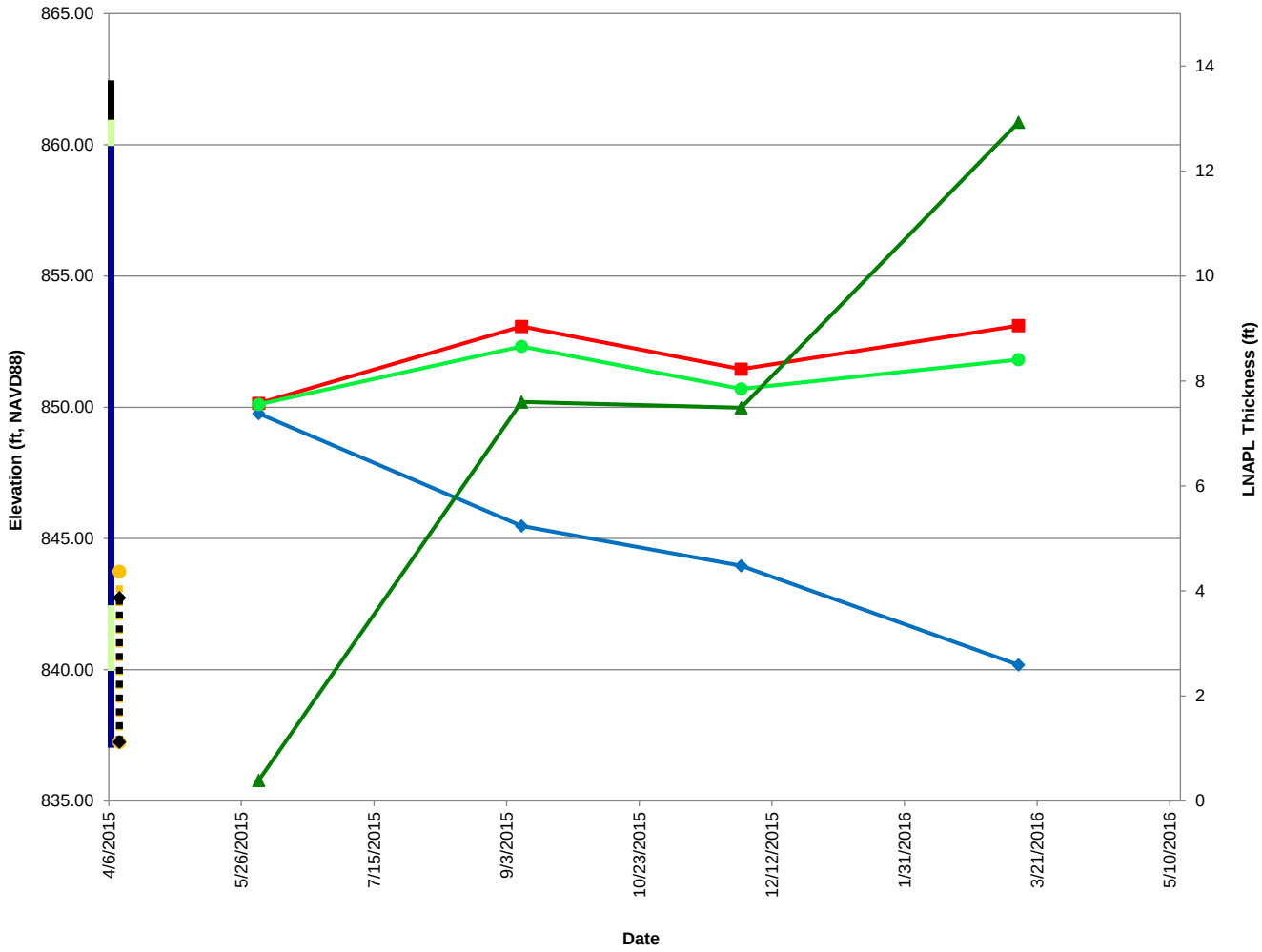


RACER Lansing
Lansing, MI

LMW-14-15D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
19

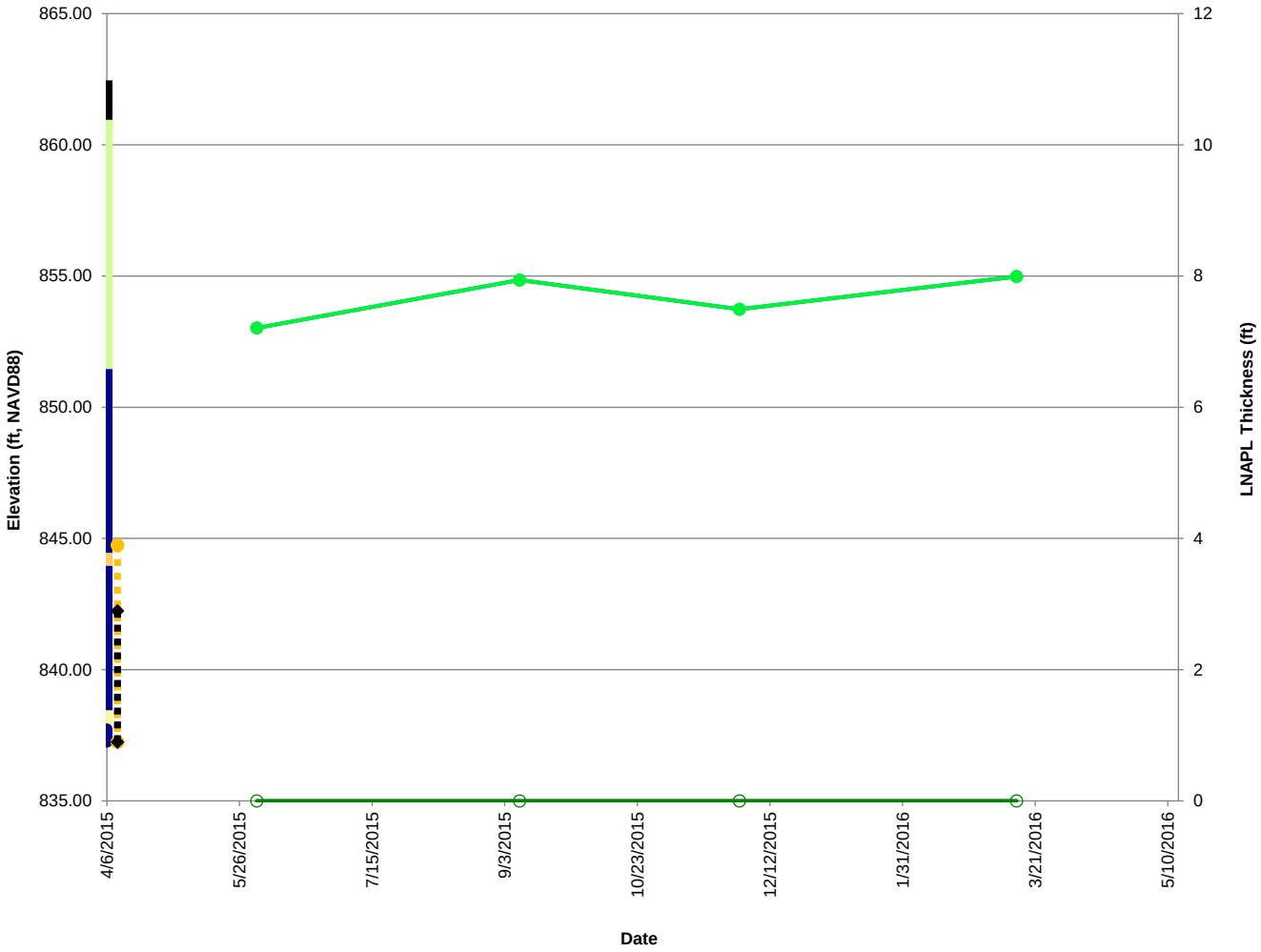


RACER Lansing
Lansing, MI

LMW-15-16D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
20



RACER Lansing
Lansing, MI

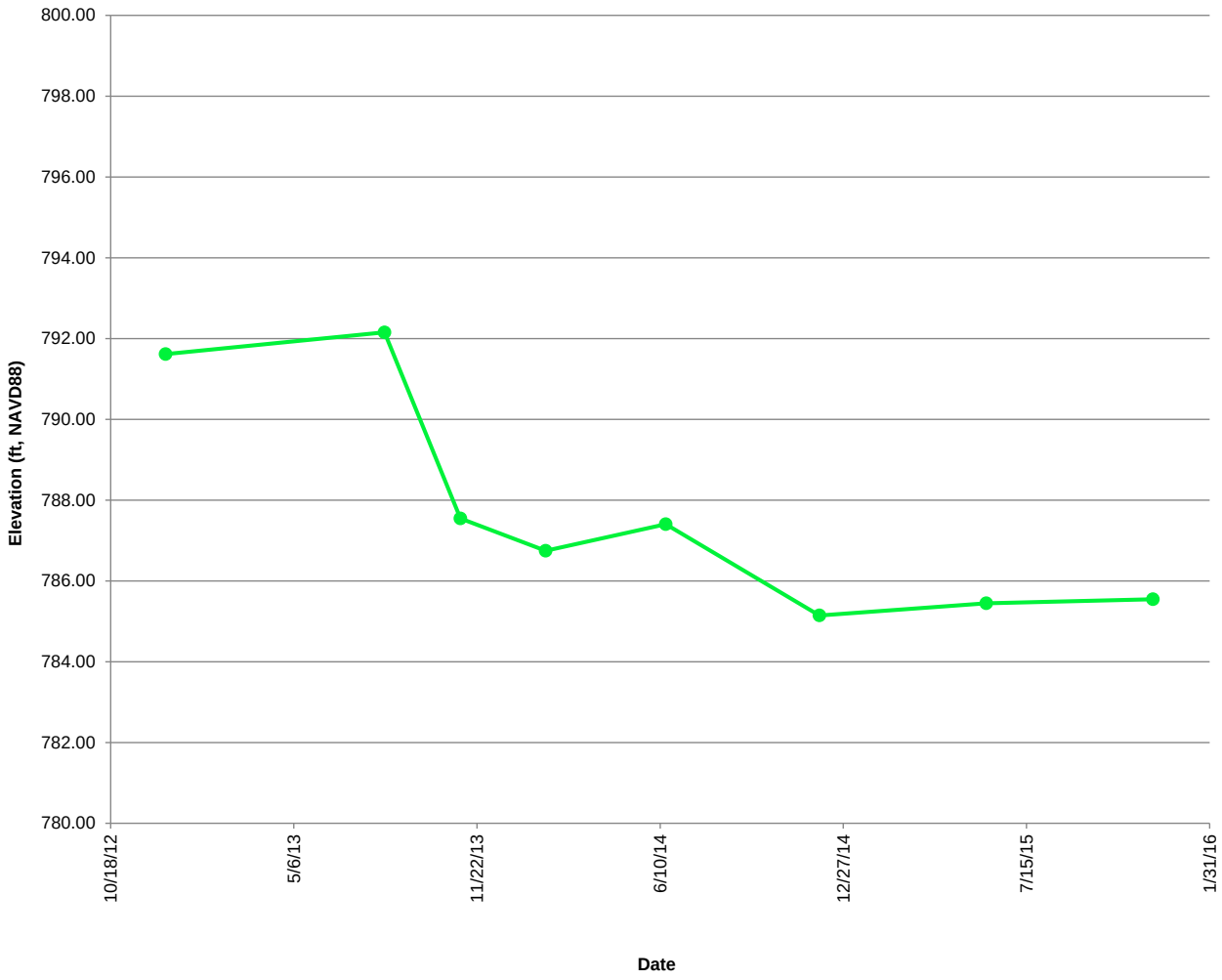
LMW-15-17D LNAPL HYDROGRAPH

ARCADIS Design & Consultancy for natural and built assets

FIGURE
21

APPENDIX E

Groundwater Elevation Trend Graphs

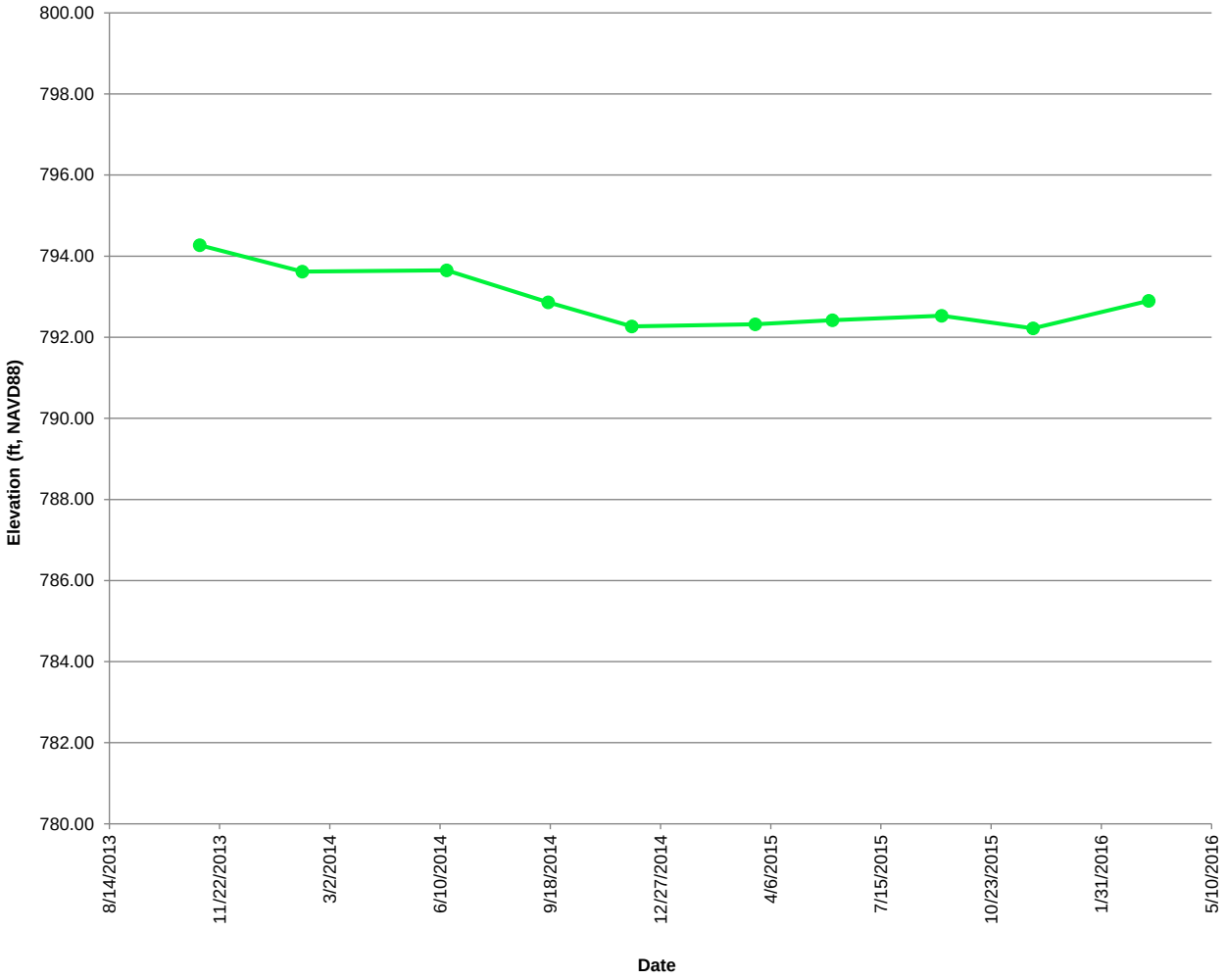


RACER Lansing Plant 2
Lansing, MI

MW-12-01 HYDROGRAPH
BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
1

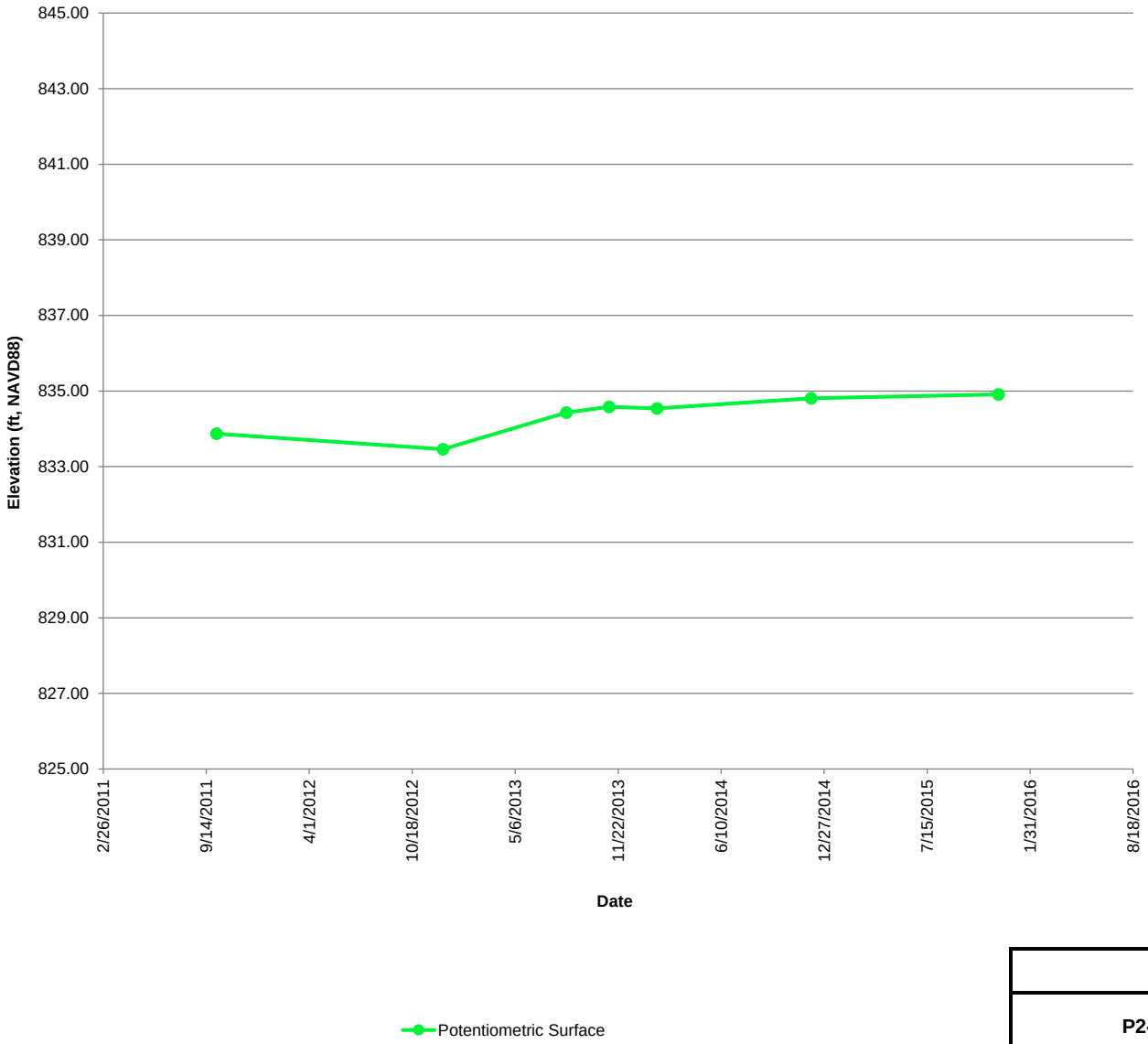


RACER Lansing Plant 2
Lansing, MI

MW-13-43 HYDROGRAPH
DEEP OVERBURDEN/WEATHERED BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
2

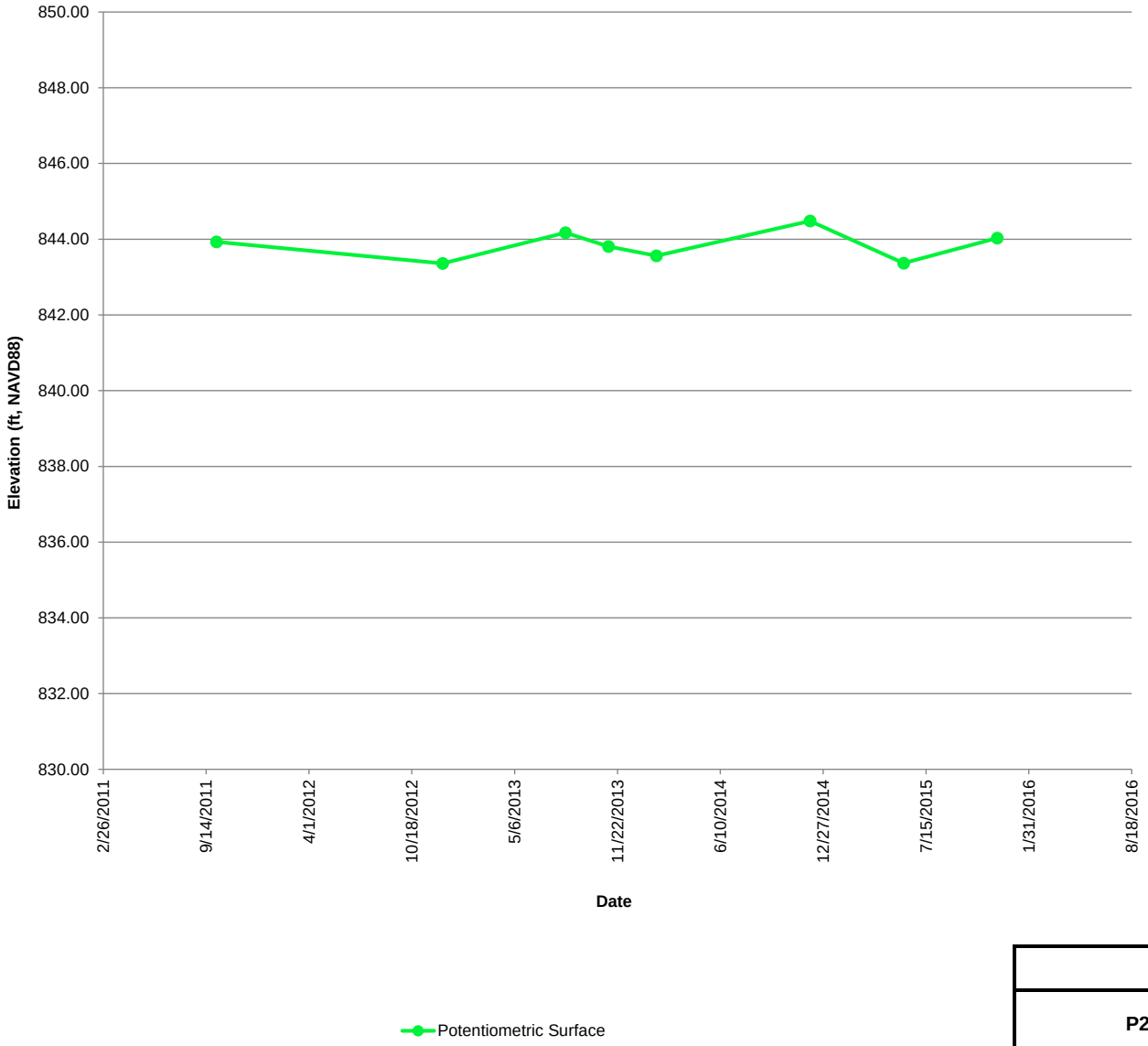


RACER Lansing Plant 2
Lansing, MI

P2-MW-02 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
3

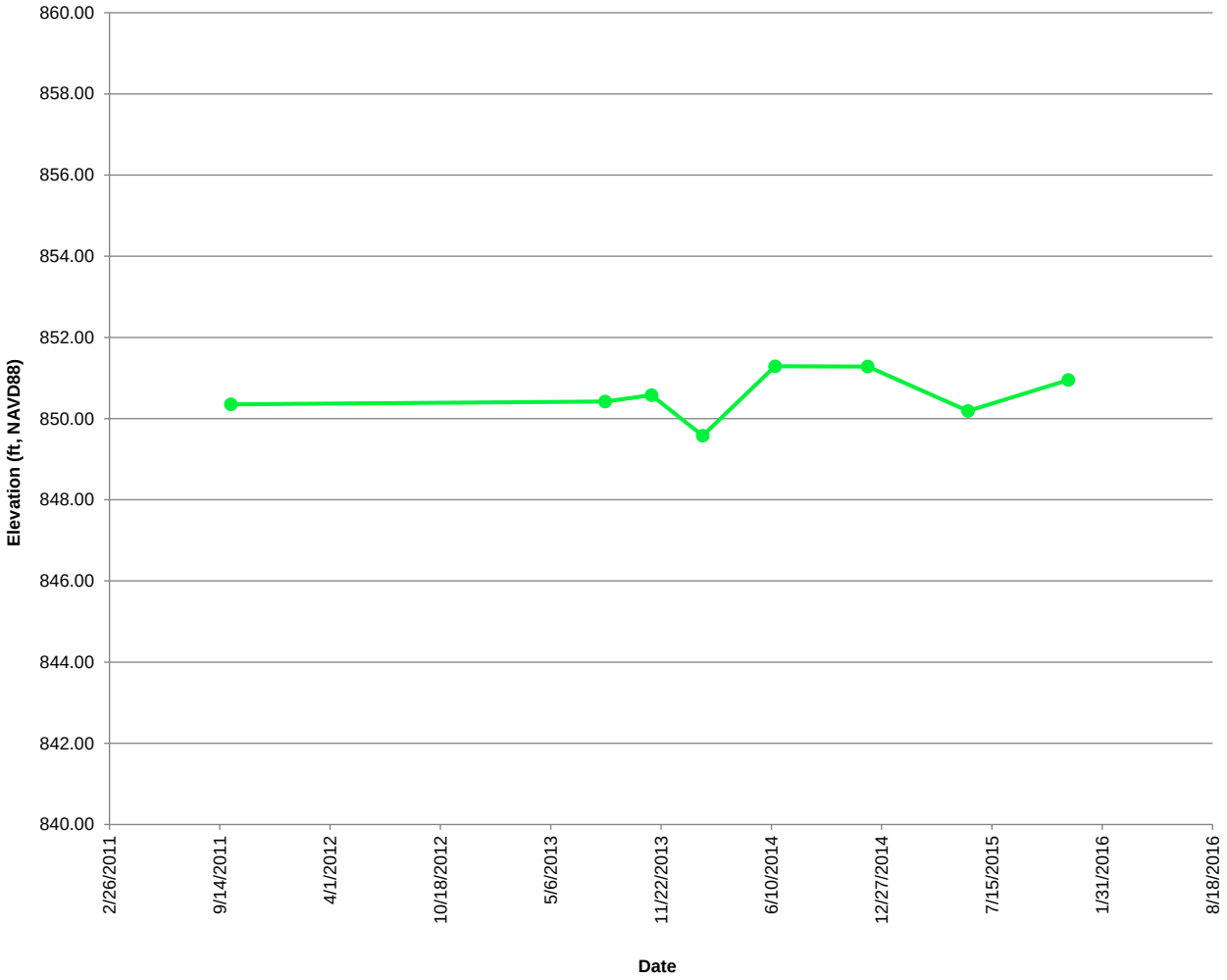


RACER Lansing Plant 2
Lansing, MI

P2-MW-03 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
4

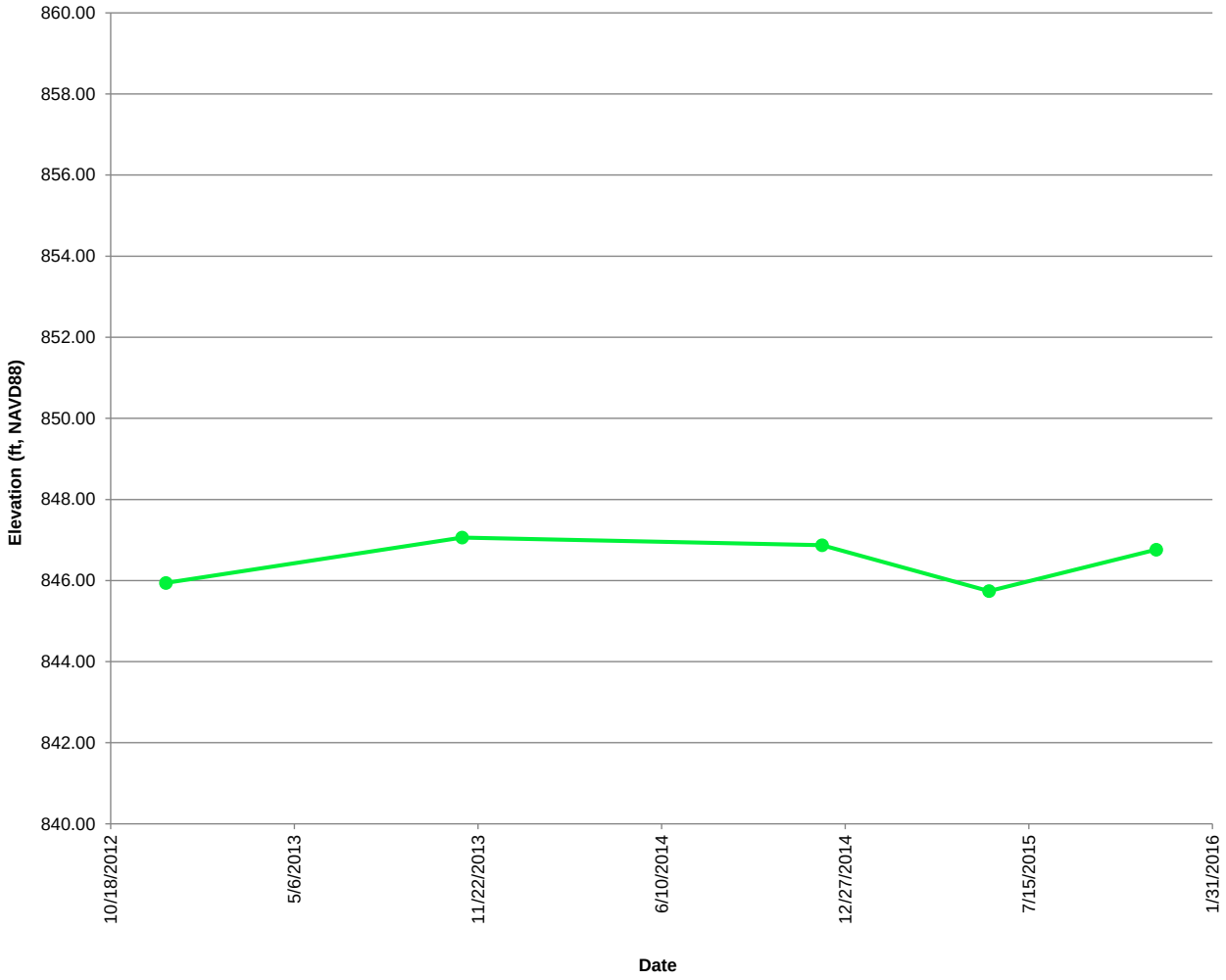


RACER Lansing Plant 2
Lansing, MI

P2-MW-04 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
5

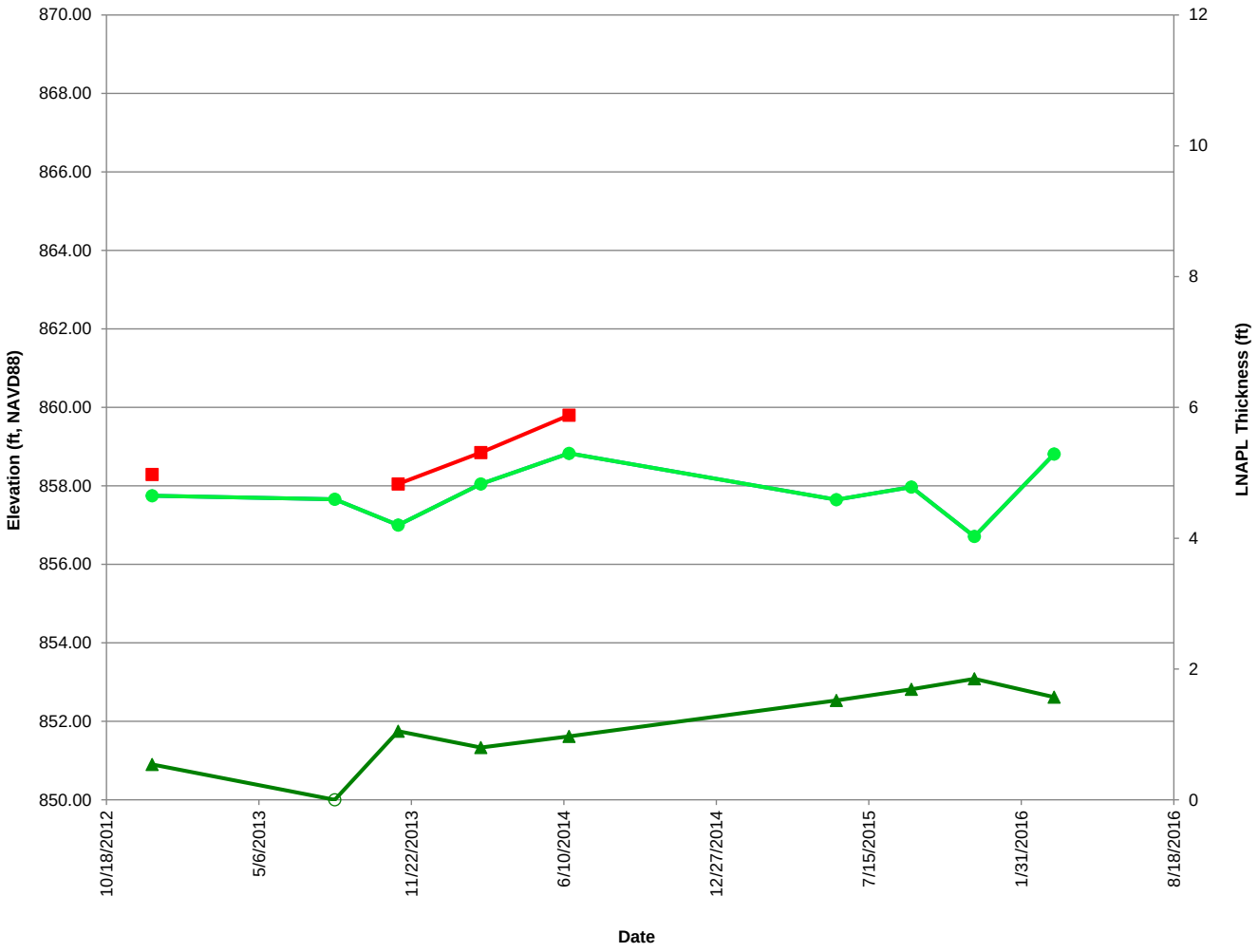


RACER Lansing Plant 2
Lansing, MI

P2-SB-06 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
6

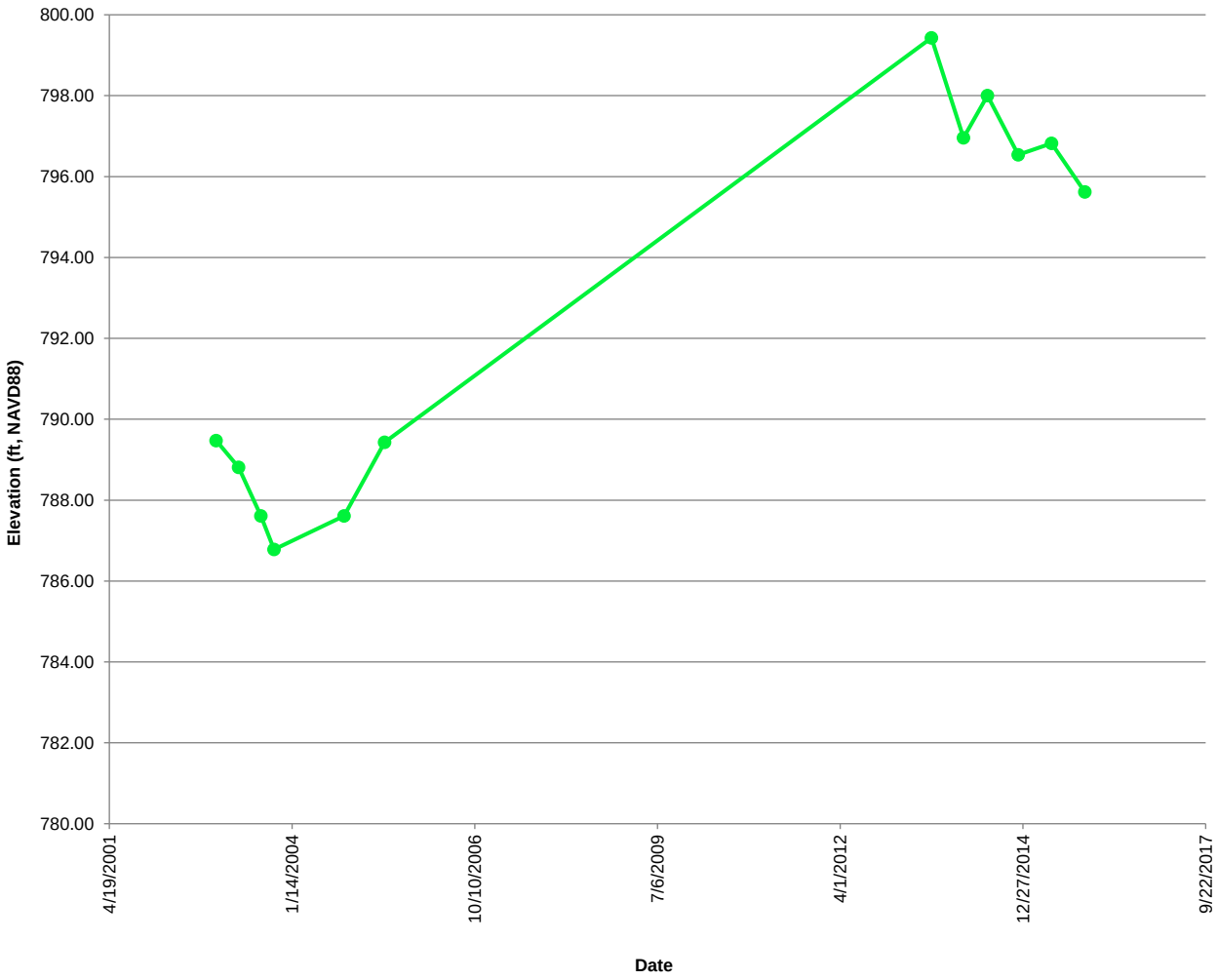


RACER Lansing Plant 2
Lansing, MI

P2-SB-37 LNAPL HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
7

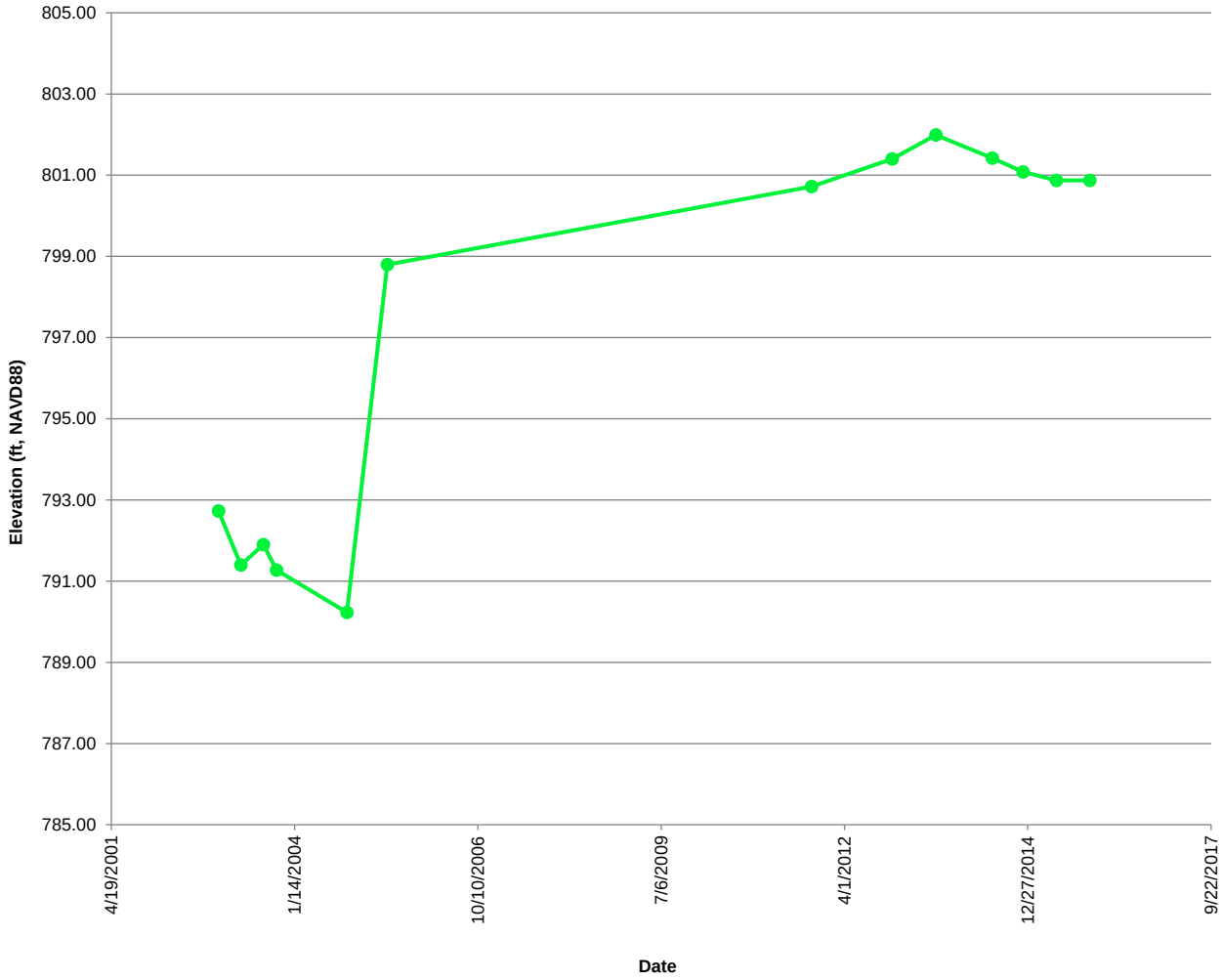


RACER Lansing Plant 3
Lansing, MI

MW-02-04(3) HYDROGRAPH
DEEP OVERBURDEN/WEATHERED BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
8



RACER Lansing Plant 3
Lansing, MI

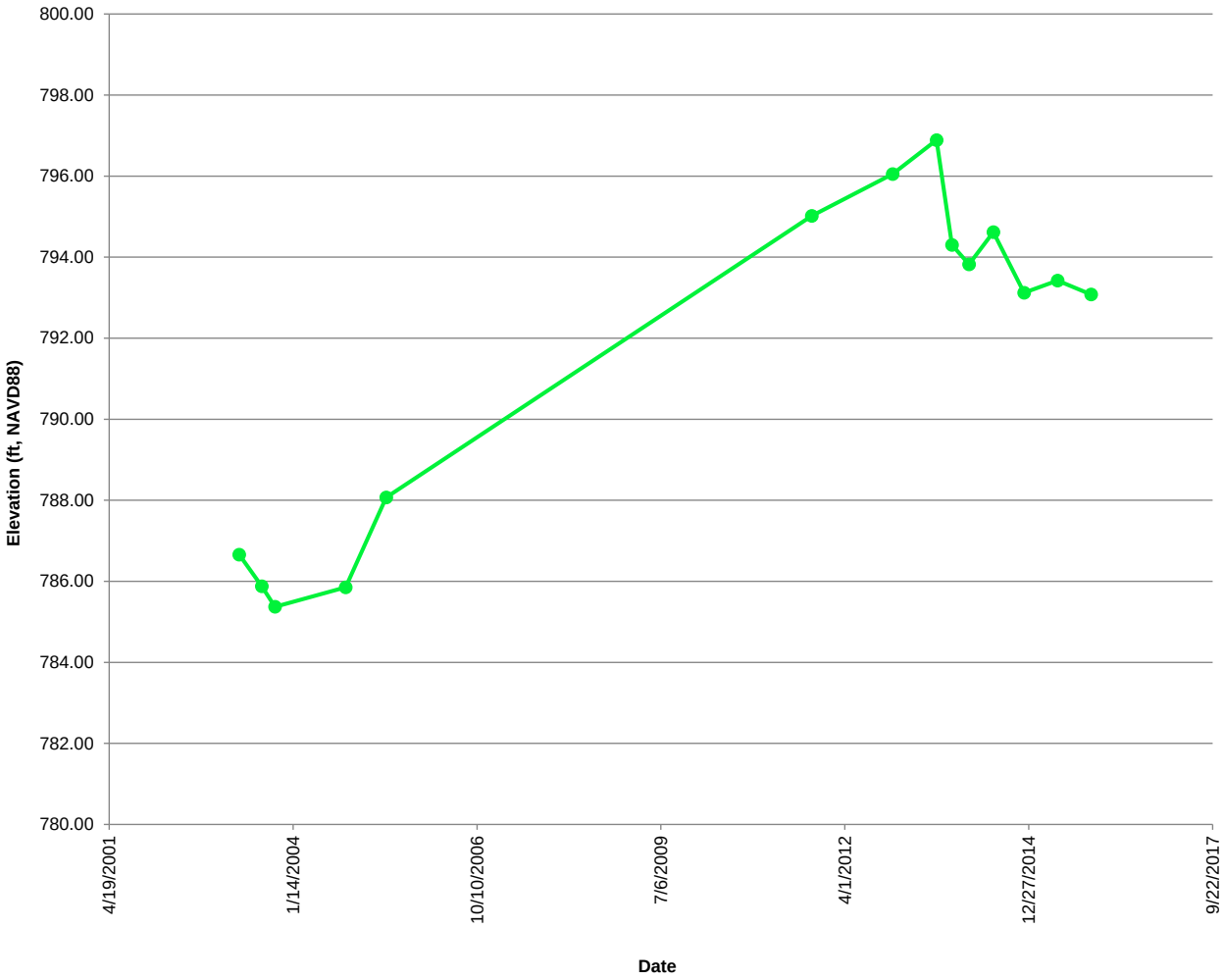
MW-91-2 HYDROGRAPH

BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE

9

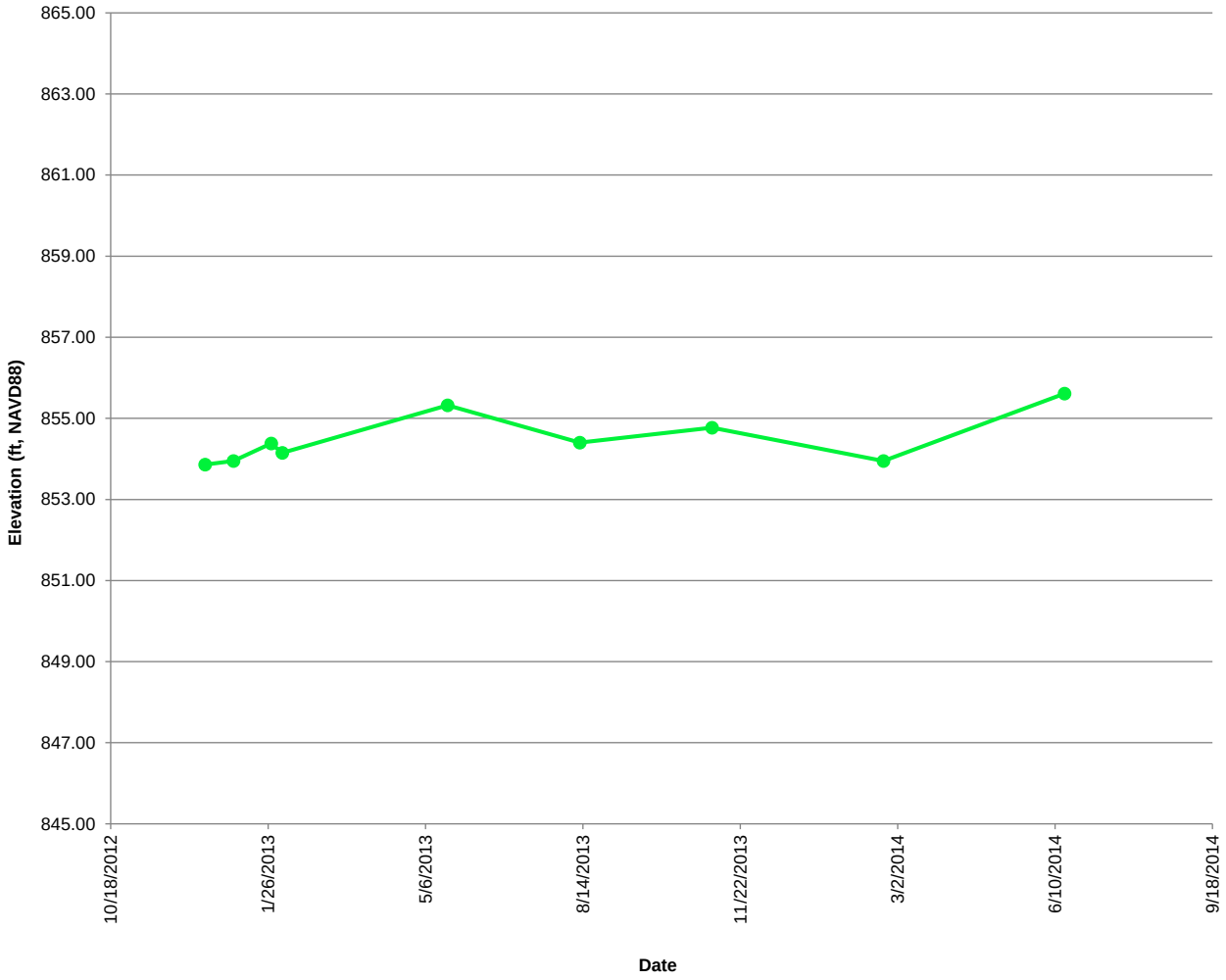


RACER Lansing Plant 3
Lansing, MI

MW-91-5 HYDROGRAPH
BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
10

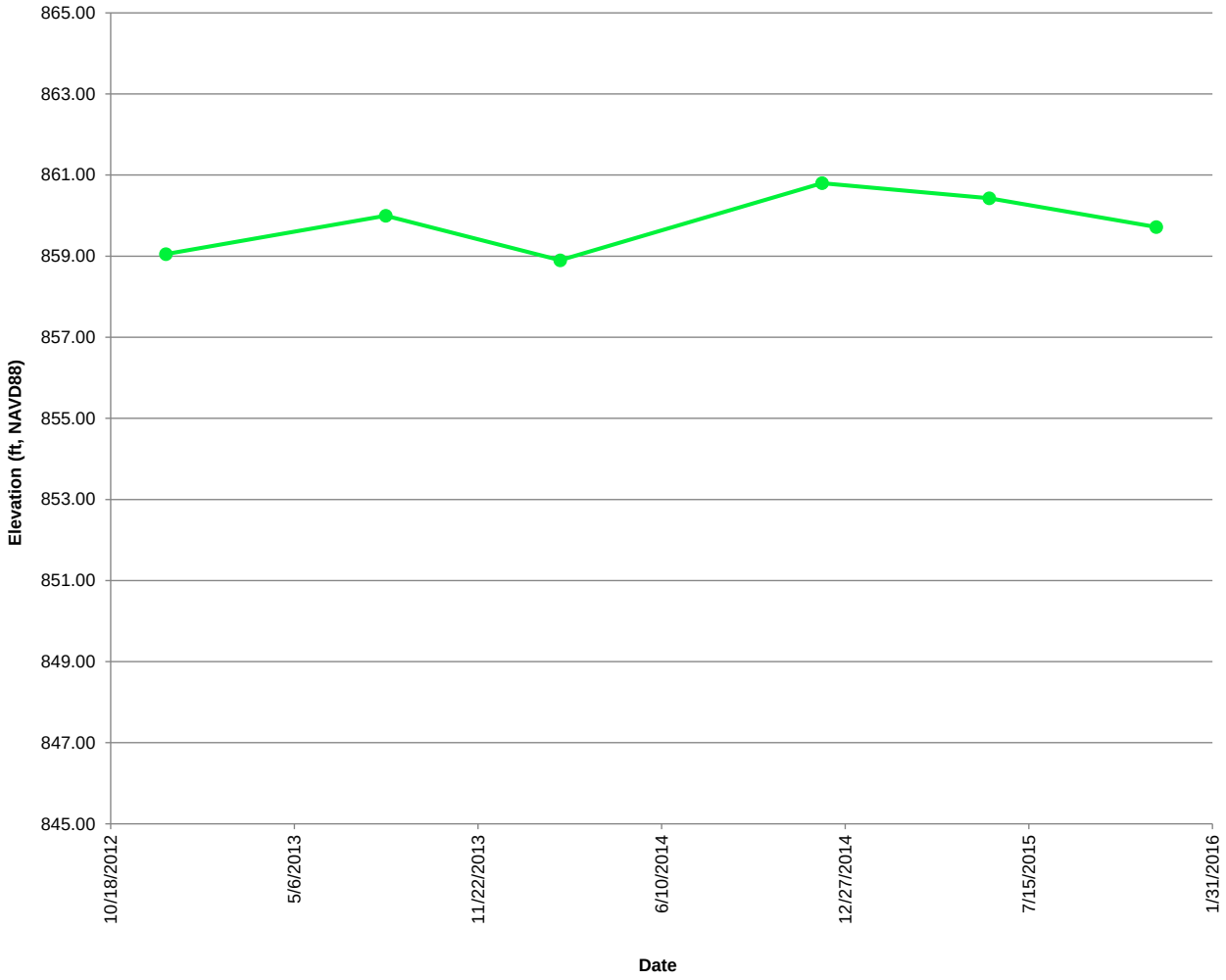


RACER Lansing Plant 3
Lansing, MI

MW-93-1 HYDROGRAPH
BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
11

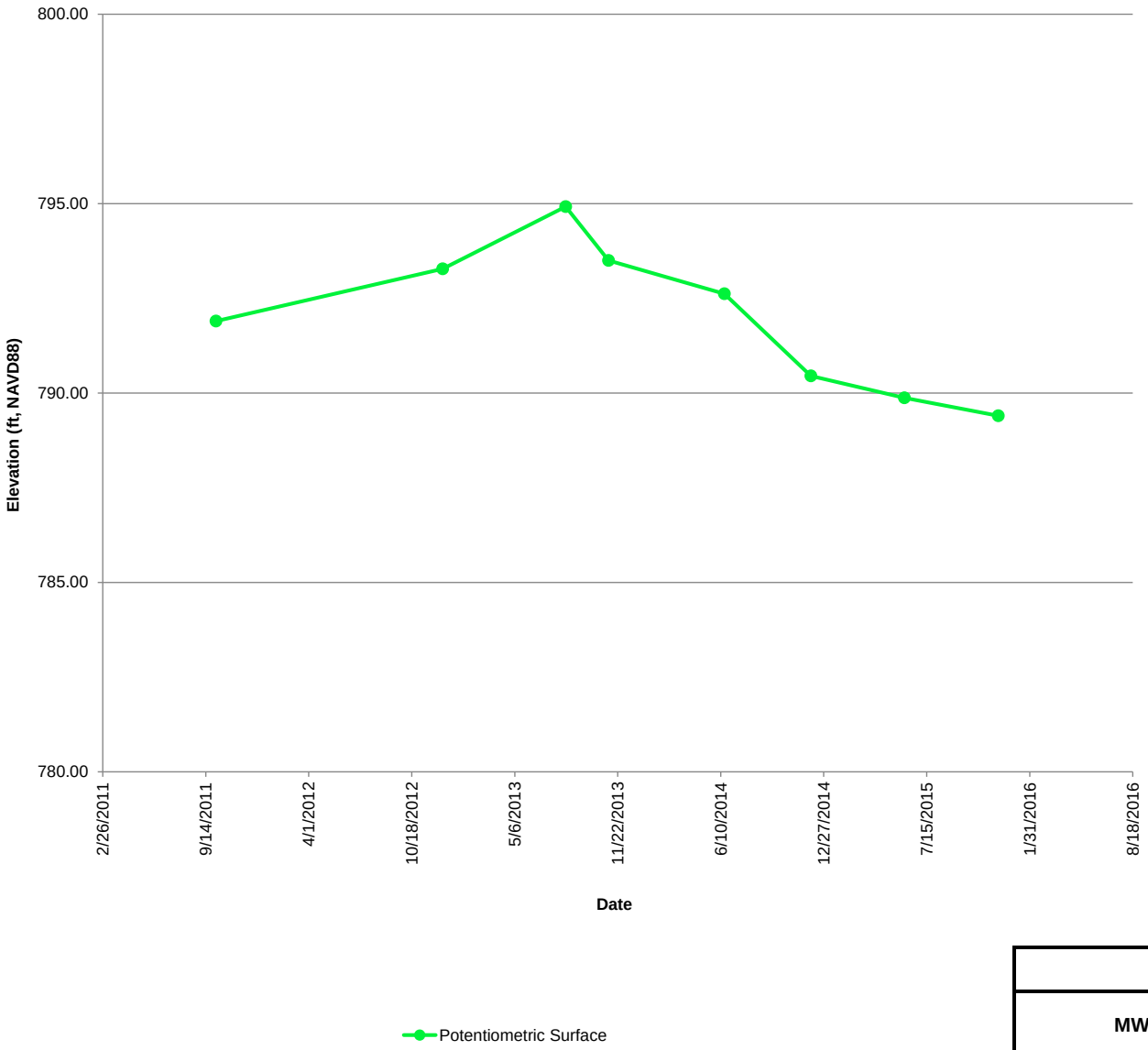


RACER Lansing Plant 3
Lansing, MI

P3-SB-28 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
12

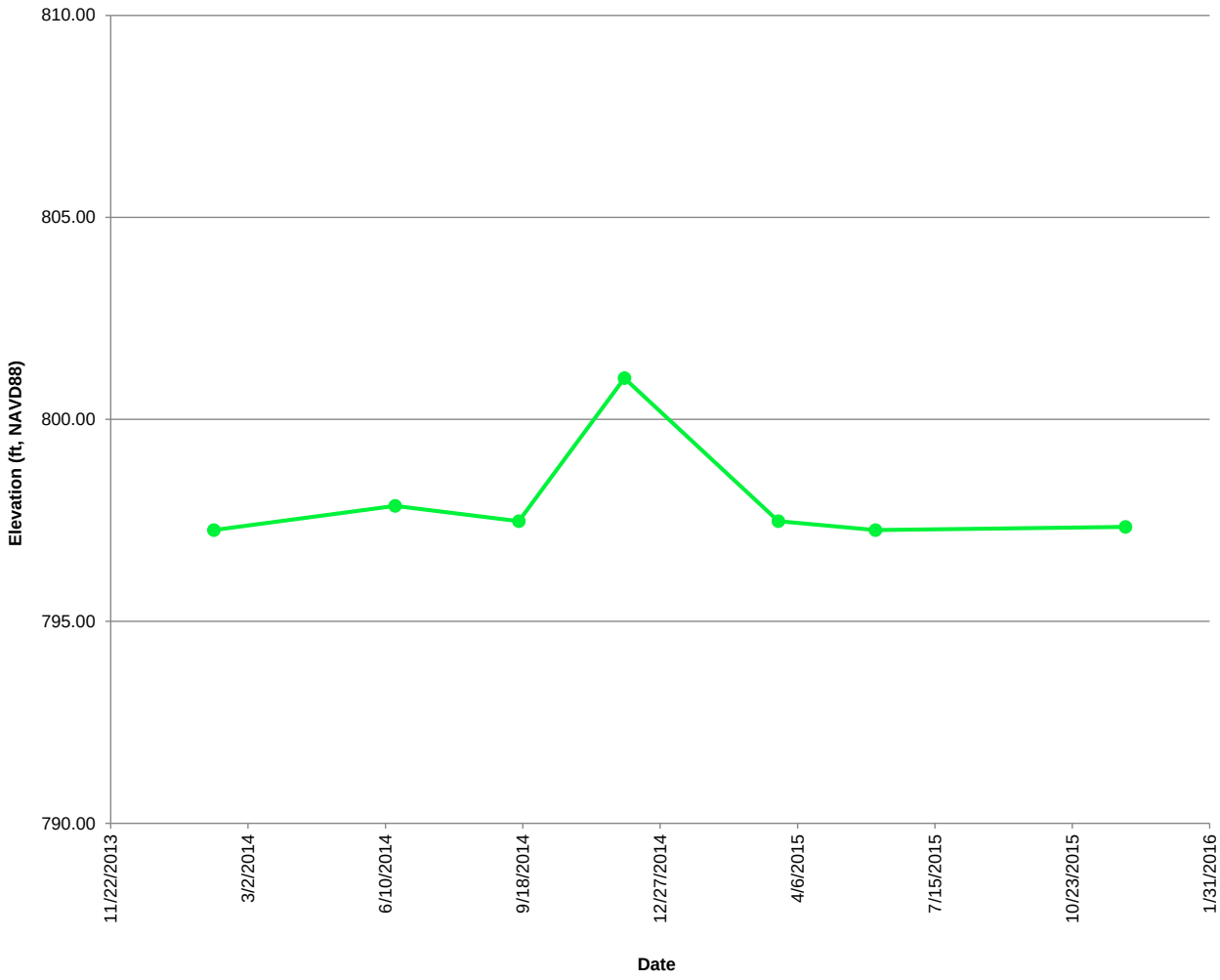


RACER Lansing Plant 6
Lansing, MI

MW-04-01(6) HYDROGRAPH
BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
13

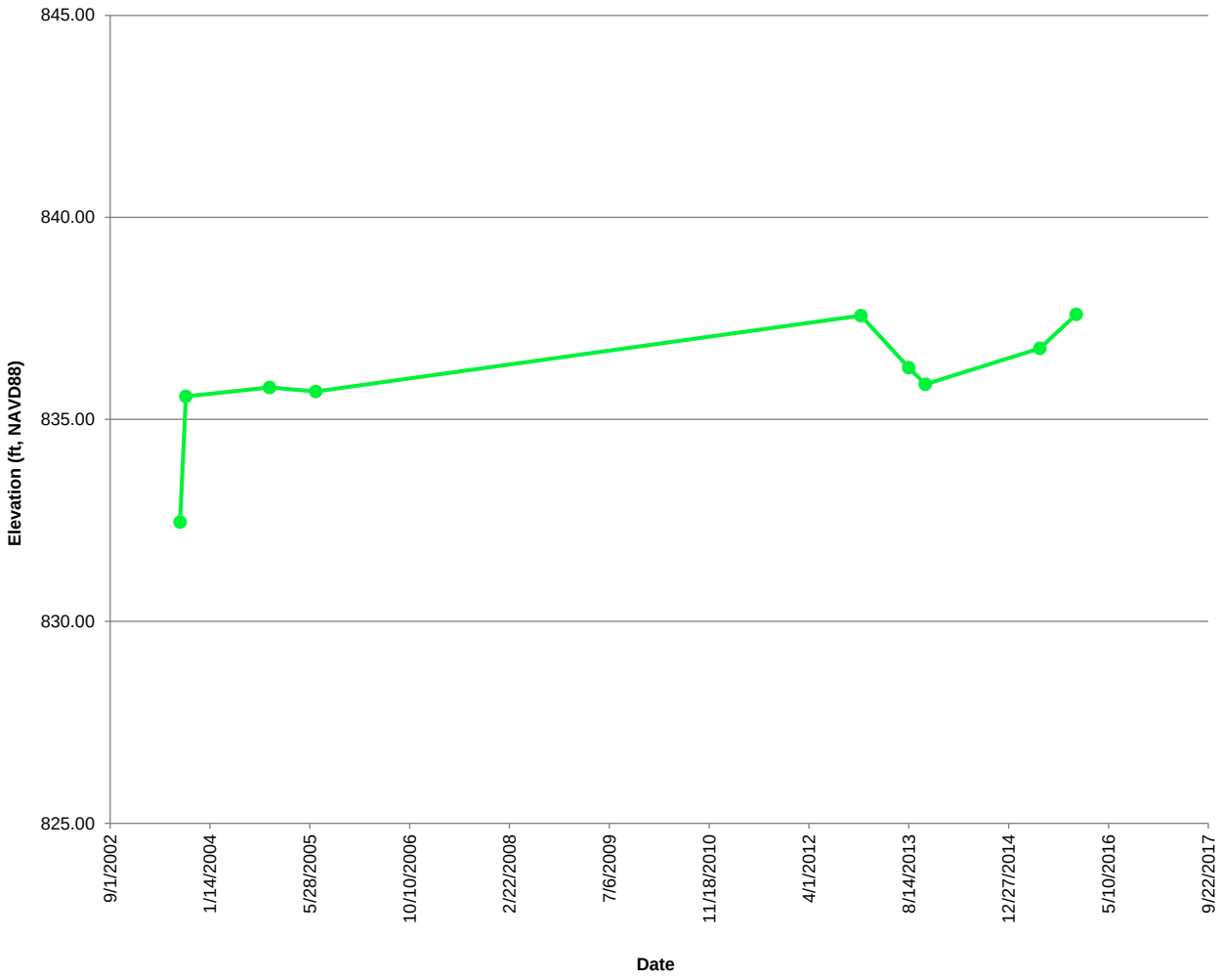


RACER Lansing Plant 6
Lansing, MI

MW-13-53 HYDROGRAPH
DEEP OVERBURDEN/WEATHERED BEDROCK

ARCADIS Design & Consultancy for natural and built assets

FIGURE
14

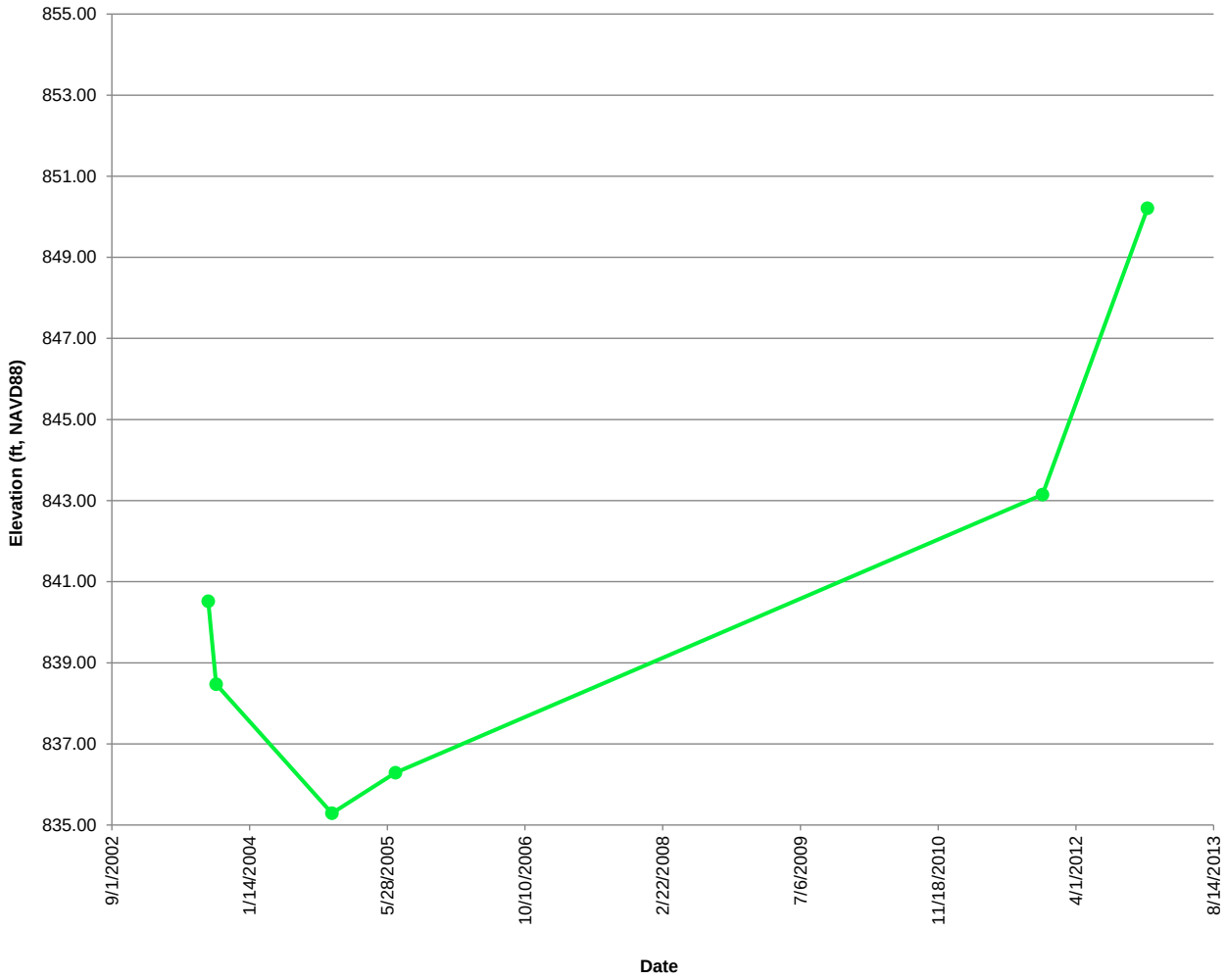


RACER Lansing Plant 6
Lansing, MI

MW-02-01(6) HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
15

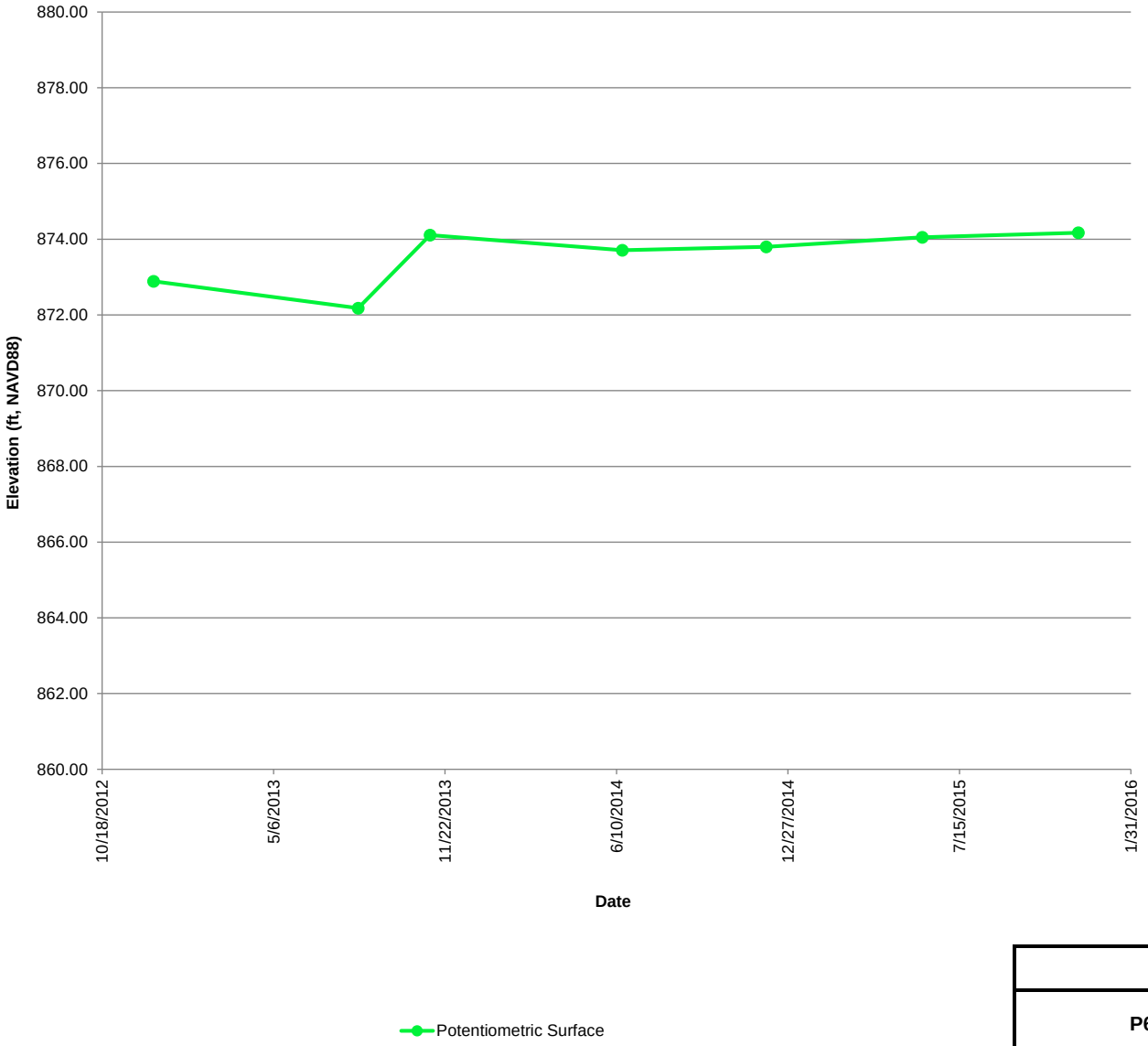


RACER Lansing Plant 6
Lansing, MI

MW-03-05 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
16

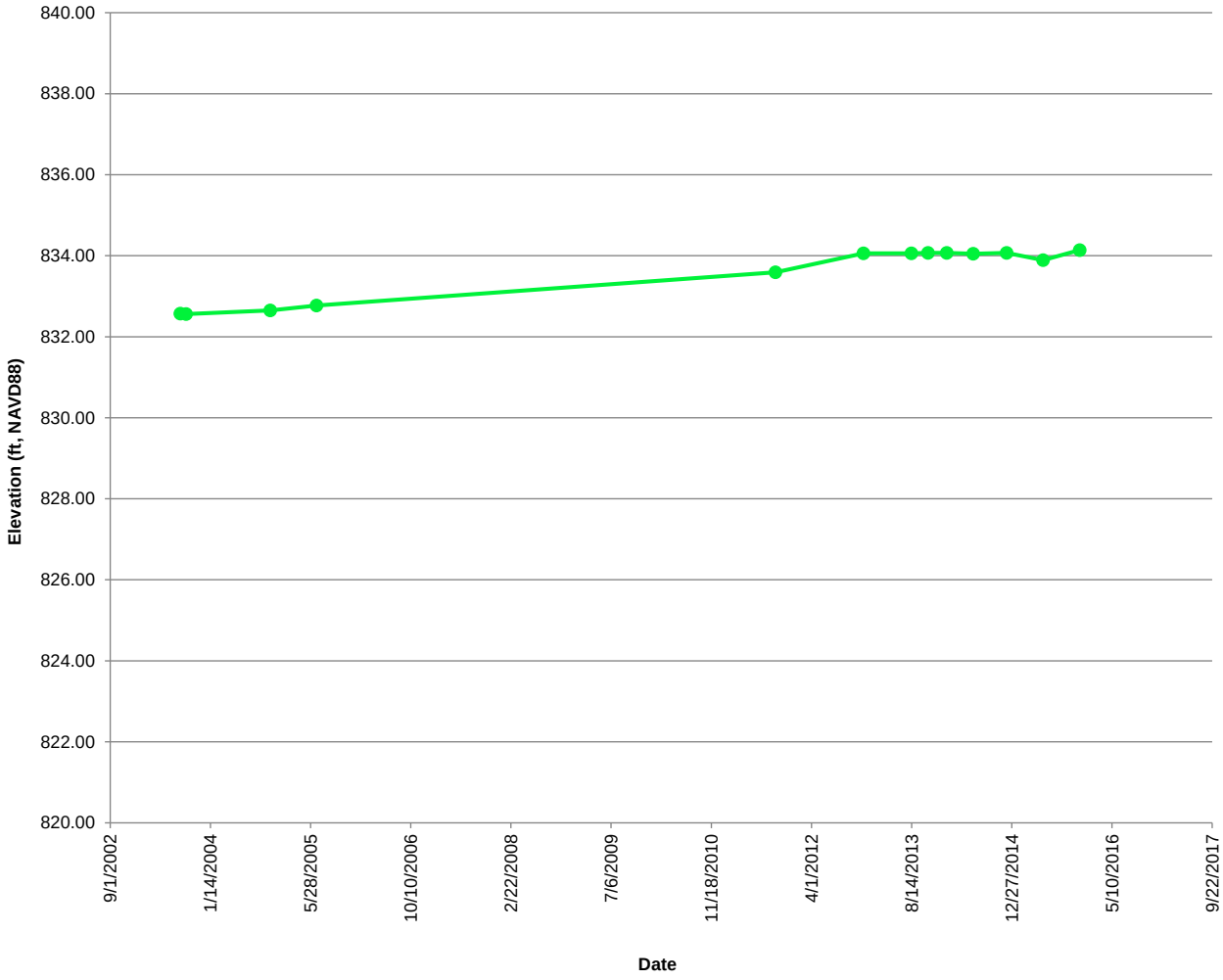


RACER Lansing Plant 6
Lansing, MI

P6-SB-18 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
17



RACER Lansing Plant 6
Lansing, MI

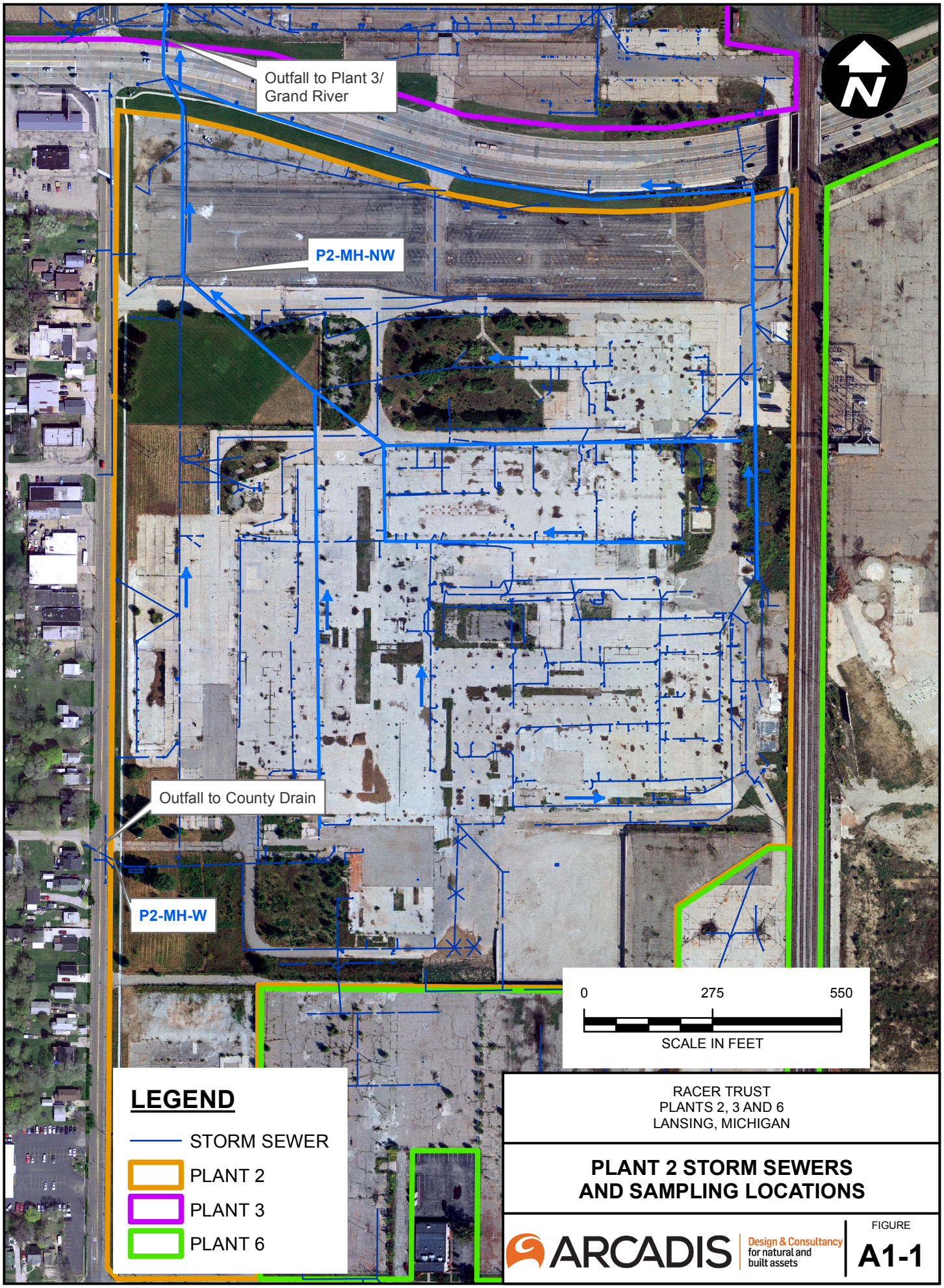
MW-03-06 HYDROGRAPH
PERCHED

ARCADIS Design & Consultancy for natural and built assets

FIGURE
18

APPENDIX F

Fourth Quarter 2015 Storm Sewer Sampling Locations and Analytical Results



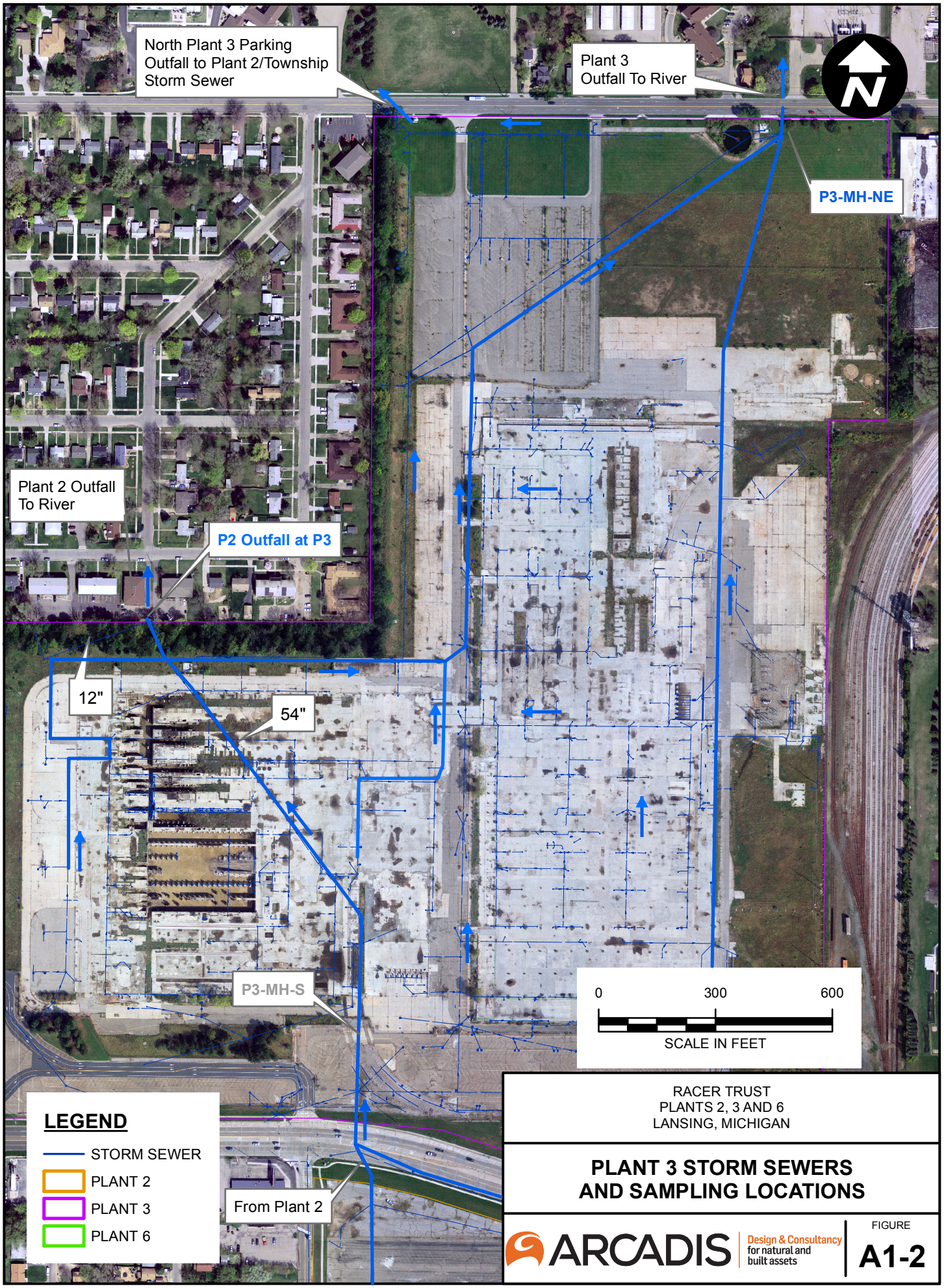
RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 2 STORM SEWERS AND SAMPLING LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-1

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\Quarterly Report Figures\A1-1_Plant 2 SW.mxd PLOTTED: 2/12/2016 11:33:57 AM BY: dolexa



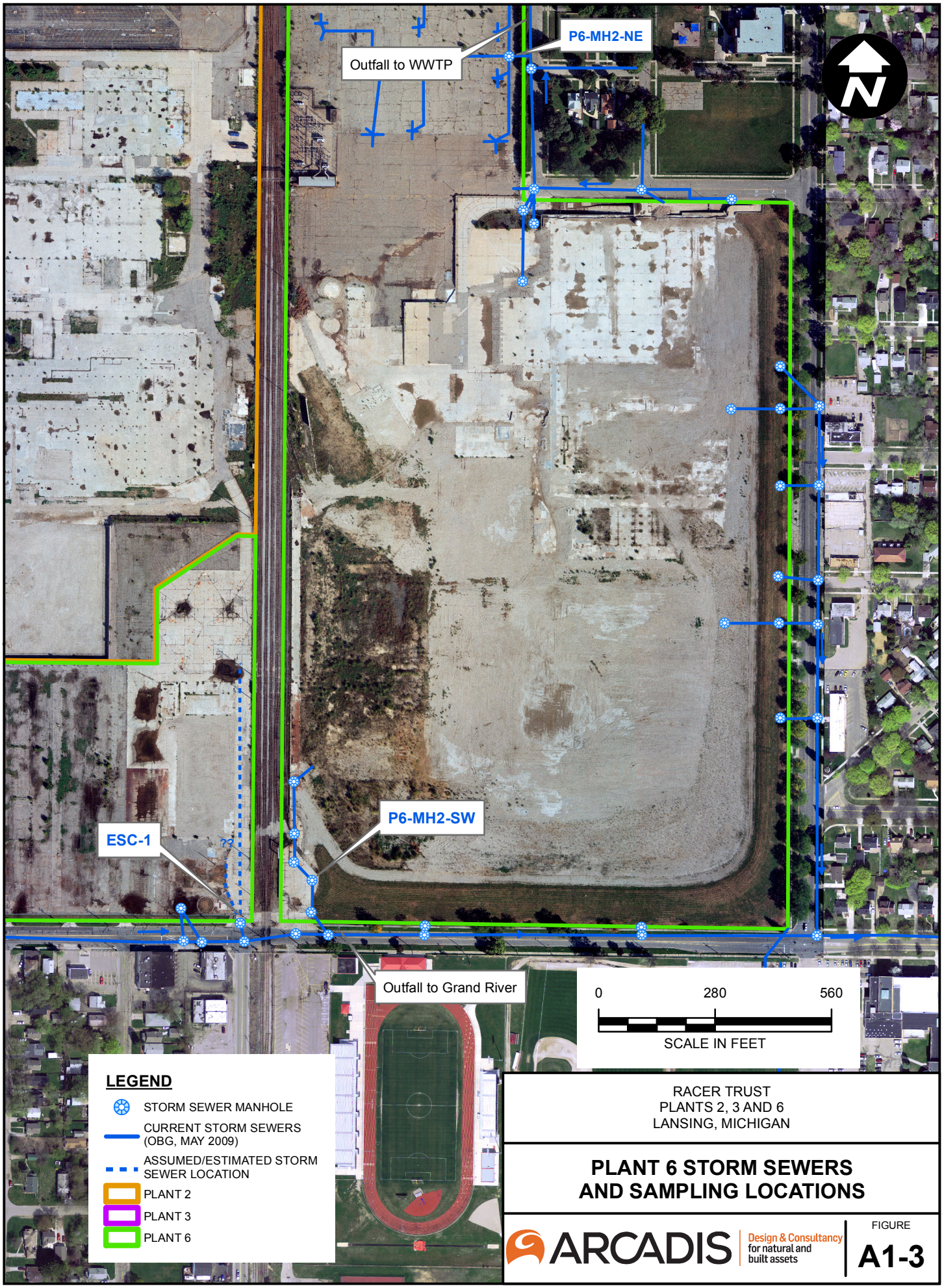
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G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\Quarterly Report Figures\A1-2_Plant 3 SW.mxd PLOTTED: 2/12/2016 11:43:46 AM BY: dolexa

RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 3 STORM SEWERS AND SAMPLING LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-2



RACER TRUST
PLANTS 2, 3 AND 6
LANSING, MICHIGAN

PLANT 6 STORM SEWERS AND SAMPLING LOCATIONS

ARCADIS Design & Consultancy for natural and built assets

FIGURE
A1-3

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\Quarterly Report Figures\A1-3_Plant 6 SW.mxd PLOTTED: 2/12/2016 11:47:11 AM BY: dolexa

Attachment 1
Summary of Storm Sewer Groundwater Sampling Results
RACER Plants 2, 3 and 6
Lansing, Michigan

Location ID:		Groundwater Surface Water Interface	Plant 2		Plant 3		Plant 6		
Date Collected:	Units	(DEQ 2012)	P2-MH-NW 11/20/15	P2-MH-W 11/20/15	P2 Outfall @ P3 11/20/15	P3-MH-NE 11/20/15	P6-MH2-SW 11/20/15	P6-MH2-NE 11/20/15	ESC-1 11/20/15
Volatile Organics									
Acetone	ug/L	1,700	<10	<10	<10	<10	<10	<10	<10
1,4-Dioxane (X)	ug/L	2,800	25	<3	8	5	<3	<3	<3
1,1-Dichloroethane	ug/L	740	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	ug/L	89	<1	<1	<1	<1	<1	<1	<1
Benzene (X)	ug/L	200	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	620	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene	ug/L	18	<1	<1	<1	<1	<1	<1	<1
Methyl cyclohexane	ug/L	- -	<1	<1	<1	<1	<1	<1	<1
Toluene	ug/L	270	<1	<1	<1	<1	<1	<1	<1
Xylene (total)	ug/L	41	<2	<2	<2	<2	<2	<2	<2
Inorganics									
Antimony (X)	mg/L	0.13	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic	mg/L	0.01	0.005	<0.002	0.008	<0.002	0.005	<0.002	0.003
Barium (G)	mg/L	1.2	0.064	0.067	0.125	0.057	0.045	0.039	0.035
Boron (X)	mg/L	7.2	0.22	0.08	0.14	0.23	0.16	0.08	0.08
Cadmium (G, X)	mg/L	0.0045	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Chromium (See Note 2.)	mg/L	0.011	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt	mg/L	0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Copper (G)	mg/L	0.02	<0.005	0.006	<0.005	0.006	<0.005	<0.005	<0.005
Lead (G, X)	mg/L	0.044	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003	<0.003
Manganese (G, X)	mg/L	4.5	0.104	0.126	0.246	0.019	0.08	<0.005	0.005
Mercury	mg/L	0.0000013	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (G)	mg/L	0.12	<0.005	0.011	0.005	0.010	<0.005	<0.005	<0.05
Selenium	mg/L	0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Vanadium	mg/L	0.027	<0.005	<0.005	<0.005	<0.005	0.005	<0.005	<0.005
Zinc (G)	mg/L	0.26	0.038	0.006	0.053	<0.005	<0.005	<0.005	0.005

Notes:

1. Only those constituents of concern (COCs) with detections are listed. If a COC is not listed then the lab results showed non-detect.
2. GSI Criteria obtained from the MDEQ Part 201 generic cleanup Table 1, dated September 28, 2012.
3. The total chromium data is compared to the cleanup criteria for Chromium VI.
4. **Bold** and gray shading denotes a result above of the Groundwater Surface Water Interface Criteria.
5. - - indicates criteria is not developed.

MDEQ Criteria Footnotes: (as revised September 28, 2012)

(G) Groundwater surface water interface (GSI) criterion depends on the water hardness of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life was calculated based on the average of readily available published hardness values calculated to be 257 mg/L. The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV), and the surface water human nondrinking water value (HNDV).

(X) The GSI criterion is not protective for surface water that is used as a drinking water source. ID = Insufficient data to develop a criterion.

- - = Not listed in the MDEQ Criteria Tables.

Acronyms and Abbreviations:

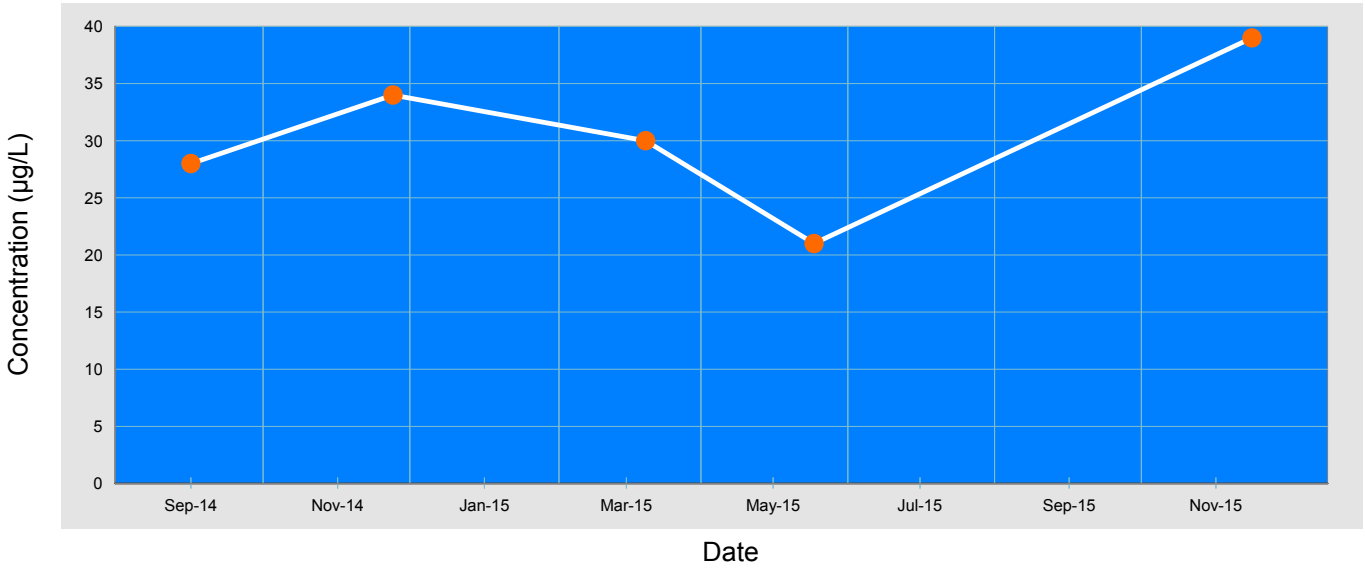
GSI = Groundwater Surface Water Interface NA = Not analyzed

APPENDIX G

Concentration vs. Time Plots

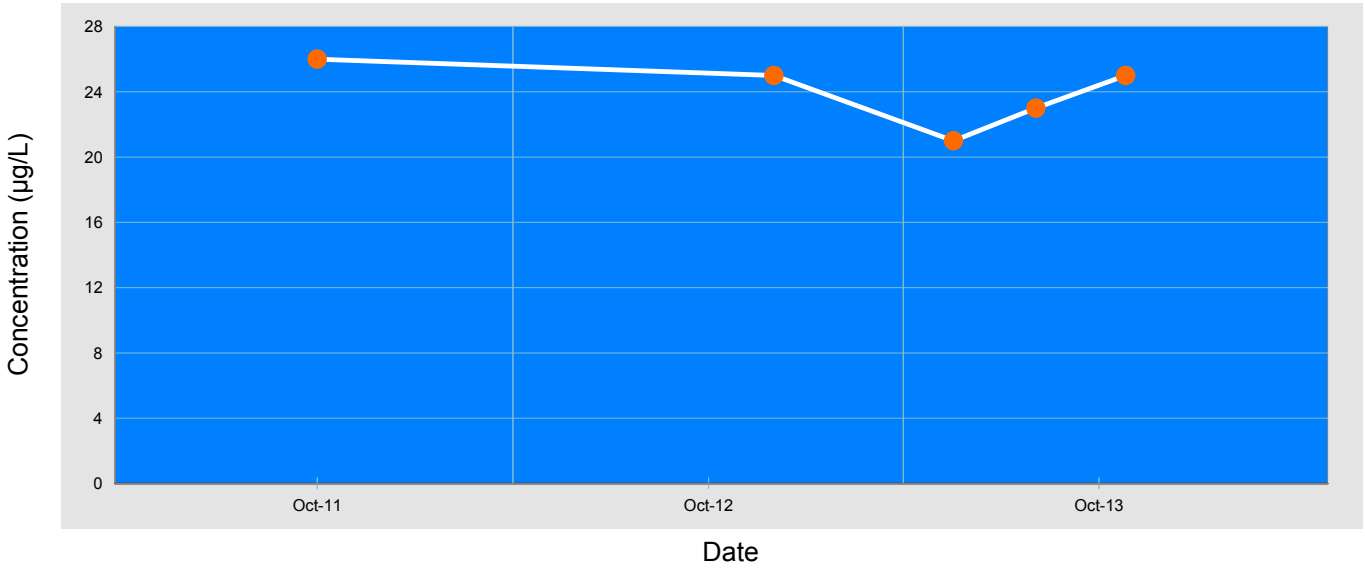
1,1-Dichloroethene

WellID	MW-14-59
Date Range	09/18/2014 - 12/04/2015
Current Result	39
Sample Size	5
Min / Max Result	21 / 39
Max Detected	39
% Detected	100%
S Statistic	2
Probability	0.4080
90% Trend	NO TREND



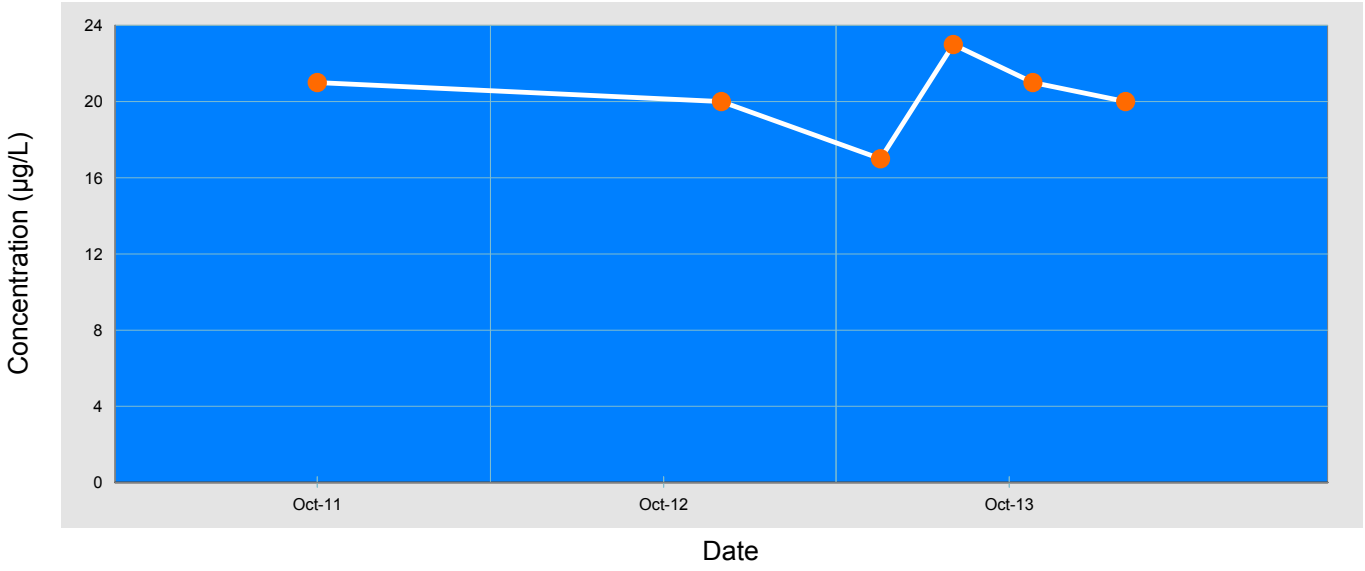
1,4-Dioxane

WellID	MW-02-01(6)
Date Range	10/17/2011 - 11/14/2013
Current Result	25
Sample Size	5
Min / Max Result	21 / 26
Max Detected	26
% Detected	100%
S Statistic	-3
Probability	0.3250
90% Trend	NO TREND

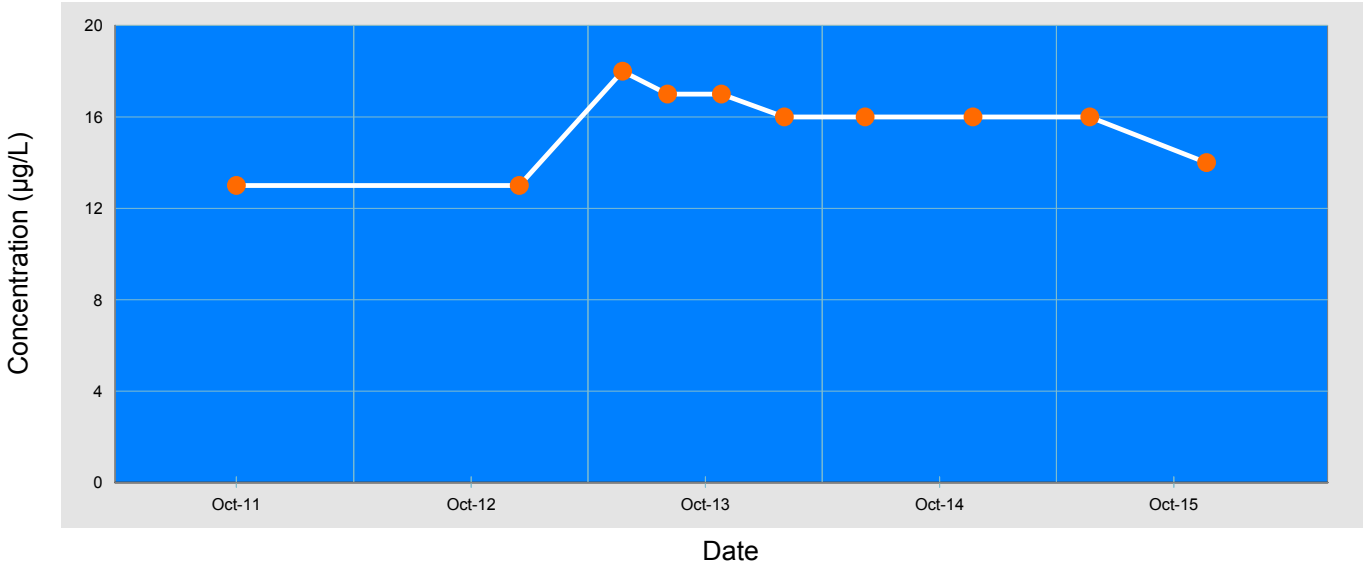


1,4-Dioxane

WellID	MW-02-02(6)
Date Range	10/18/2011 - 02/19/2014
Current Result	20
Sample Size	6
Min / Max Result	17 / 23
Max Detected	23
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

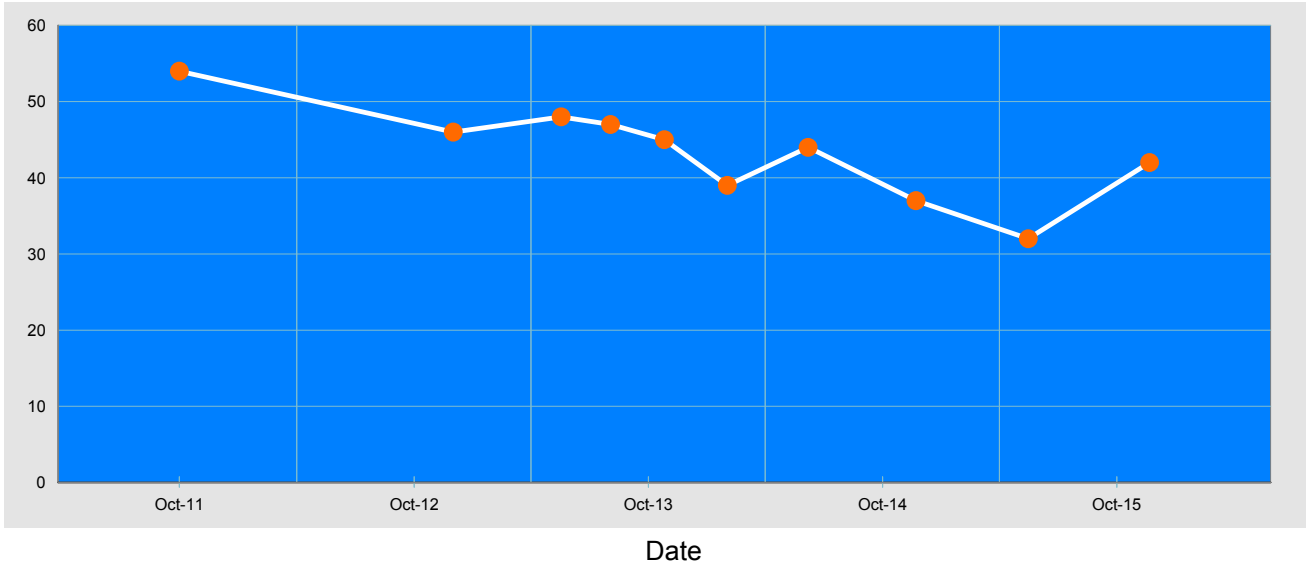


WellID	MW-02-03(6)
Date Range	10/18/2011 - 12/09/2015
Current Result	14
Sample Size	10
Min / Max Result	13 / 18
Max Detected	18
% Detected	100%
S Statistic	-5
Probability	0.3640
90% Trend	NO TREND

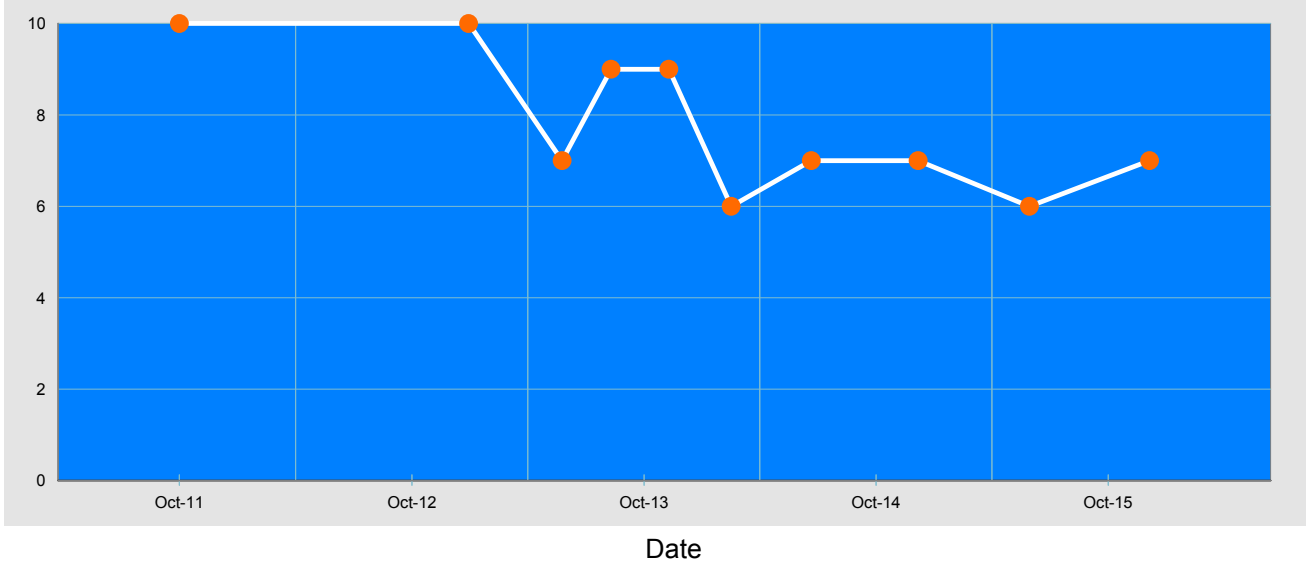


1,4-Dioxane

WellID	MW-03-04
Date Range	10/17/2011 - 12/08/2015
Current Result	42
Sample Size	10
Min / Max Result	32 / 54
Max Detected	54
% Detected	100%
S Statistic	-33
Probability	0.0011
90% Trend	

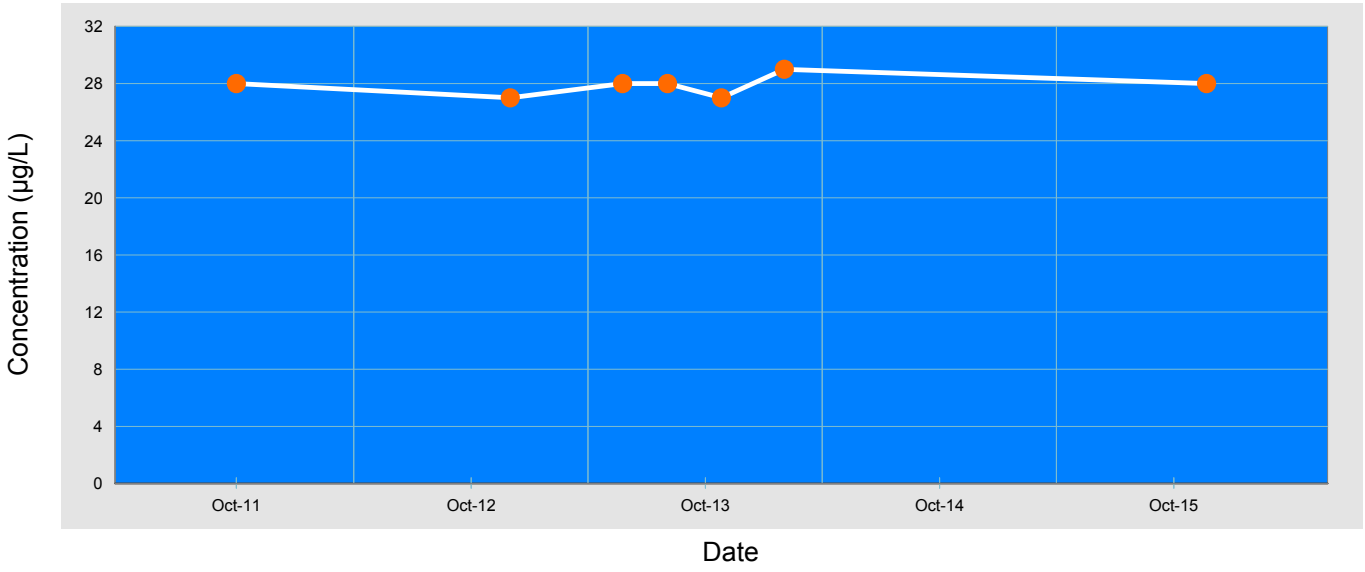


WellID	MW-03-06
Date Range	10/07/2011 - 12/08/2015
Current Result	7
Sample Size	10
Min / Max Result	6 / 10
Max Detected	10
% Detected	100%
S Statistic	-24
Probability	0.0190
90% Trend	

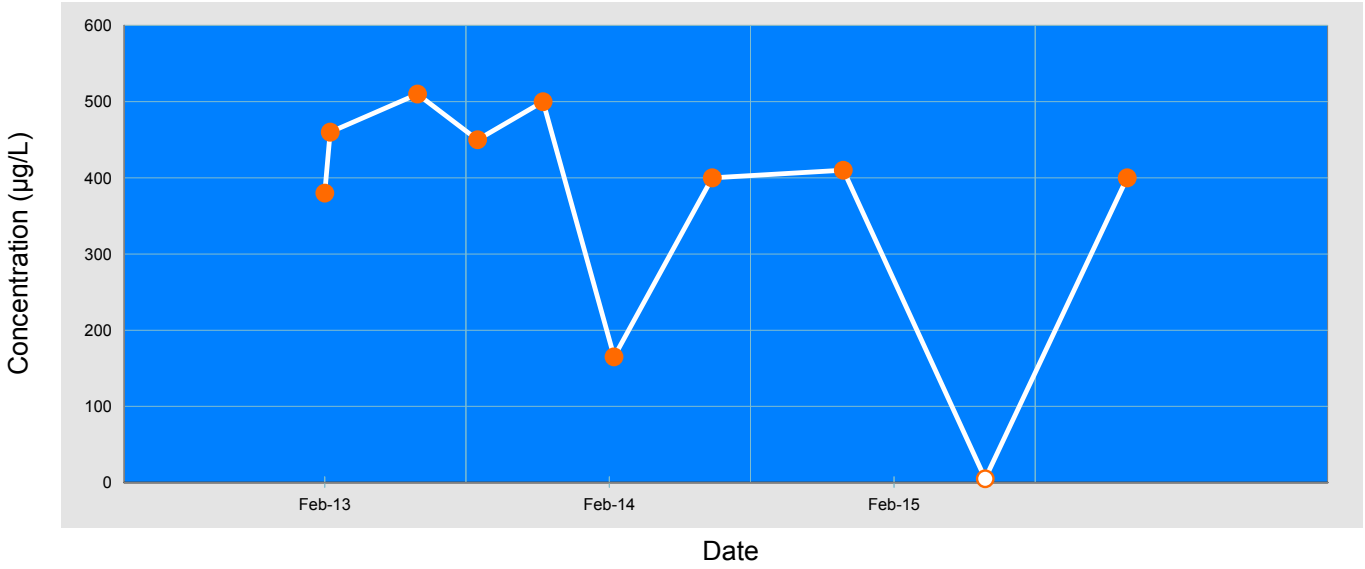


1,4-Dioxane

WellID	MW-03-07
Date Range	10/18/2011 - 12/08/2015
Current Result	28
Sample Size	7
Min / Max Result	27 / 29
Max Detected	29
% Detected	100%
S Statistic	4
Probability	0.3335
90% Trend	NO TREND

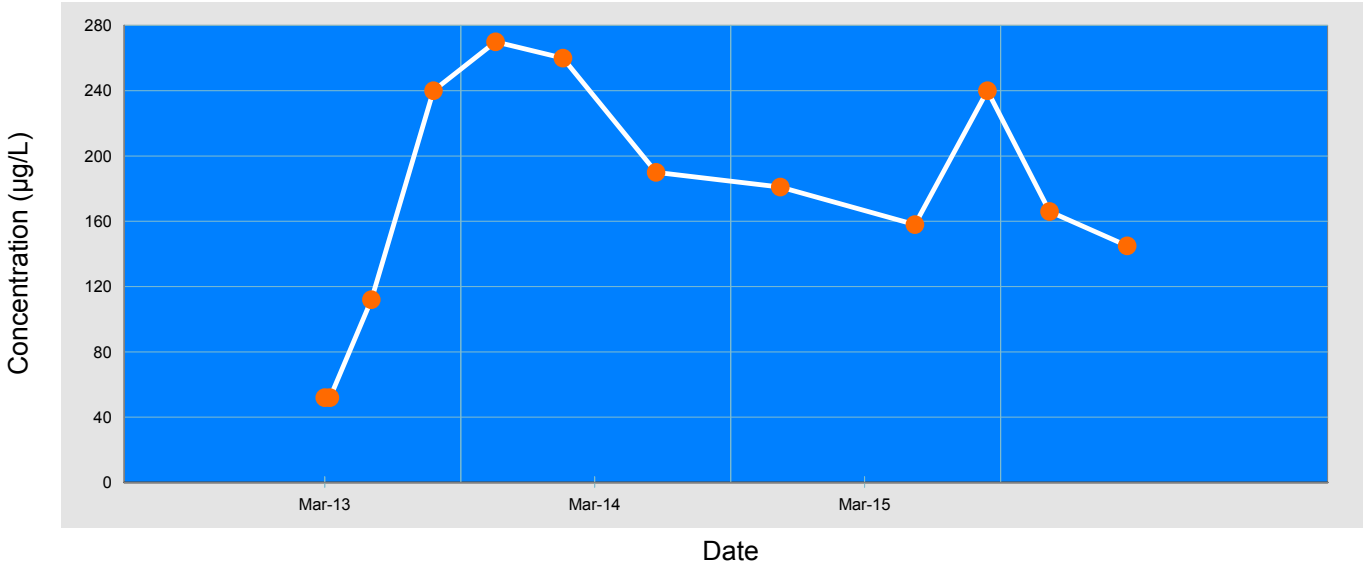


WellID	MW-12-21
Date Range	02/08/2013 - 12/03/2015
Current Result	400
Sample Size	10
Min / Max Result	<5 / 510
Max Detected	510
% Detected	90%
S Statistic	-14
Probability	0.1270
90% Trend	NO TREND

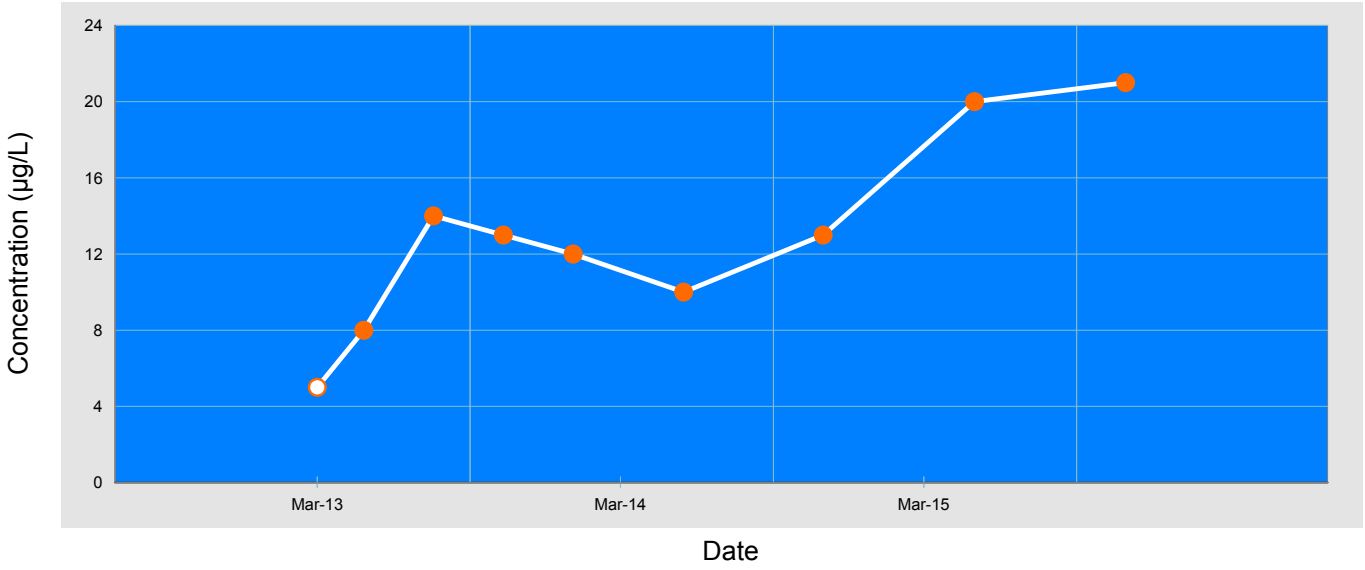


1,4-Dioxane

WellID	MW-13-22
Date Range	03/28/2013 - 03/15/2016
Current Result	145
Sample Size	12
Min / Max Result	52 / 270
Max Detected	270
% Detected	100%
S Statistic	6
Probability	0.3652
90% Trend	NO TREND

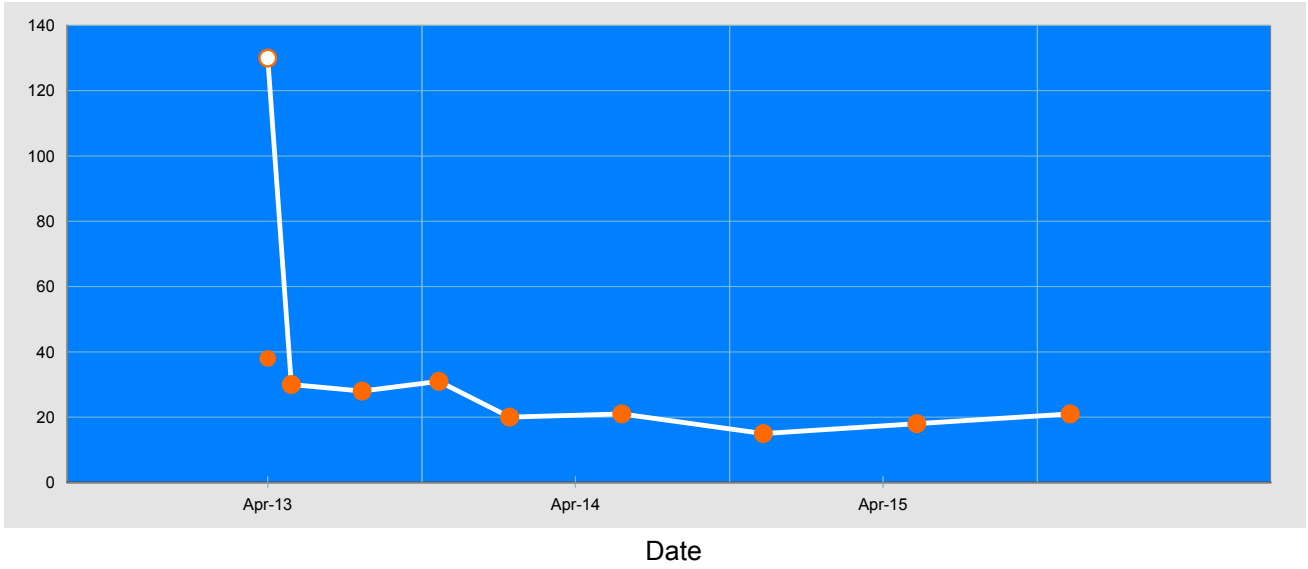


WellID	MW-13-25
Date Range	04/02/2013 - 12/04/2015
Current Result	21
Sample Size	10
Min / Max Result	<5 / 21
Max Detected	21
% Detected	80%
S Statistic	29
Probability	0.0046
90% Trend	

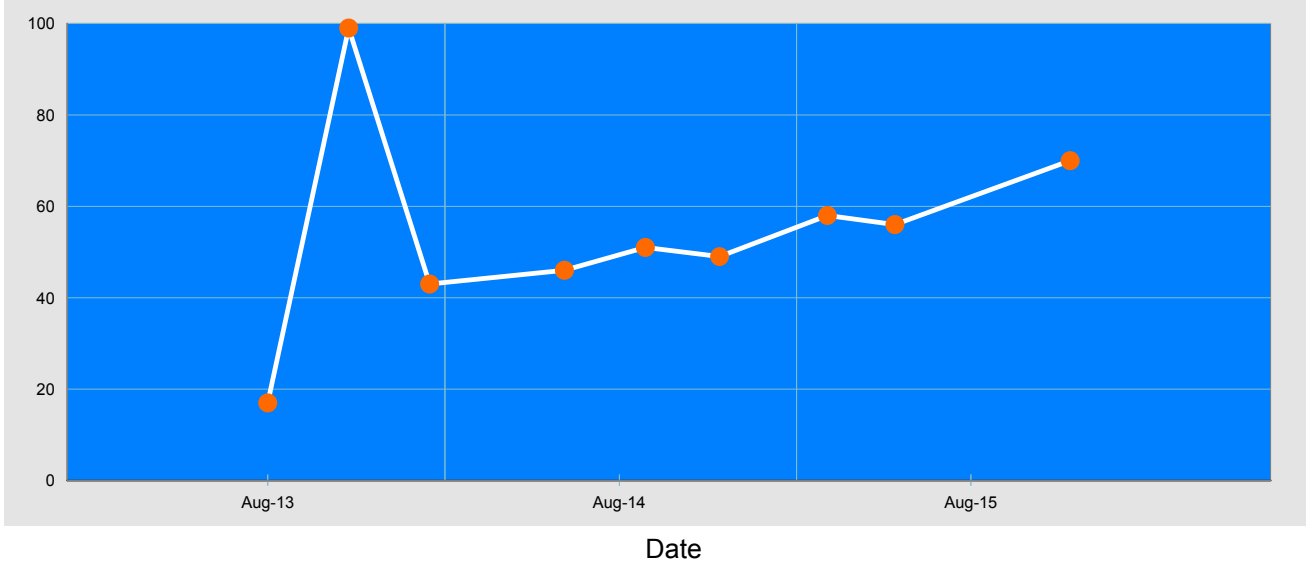


1,4-Dioxane

WellID	MW-13-29
Date Range	04/23/2013 - 12/04/2015
Current Result	21
Sample Size	10
Min / Max Result	15 / 130
Max Detected	130
% Detected	100%
S Statistic	-30
Probability	0.0035
90% Trend	

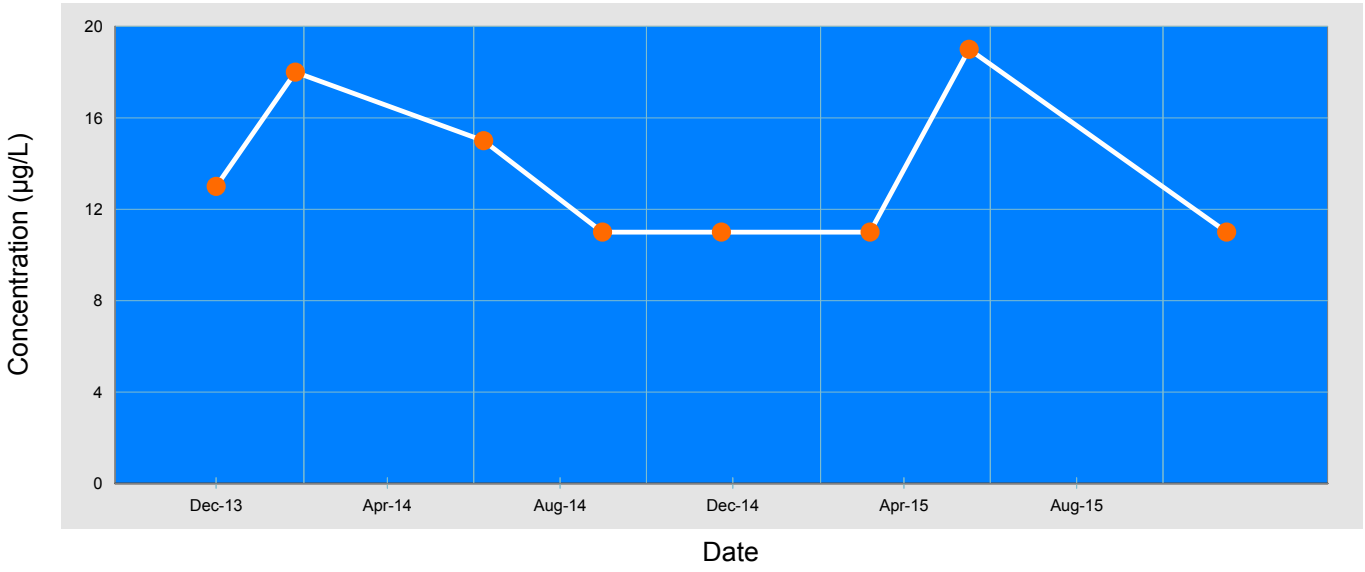


WellID	MW-13-34
Date Range	08/20/2013 - 12/01/2015
Current Result	70
Sample Size	9
Min / Max Result	17 / 99
Max Detected	99
% Detected	100%
S Statistic	18
Probability	0.0380
90% Trend	

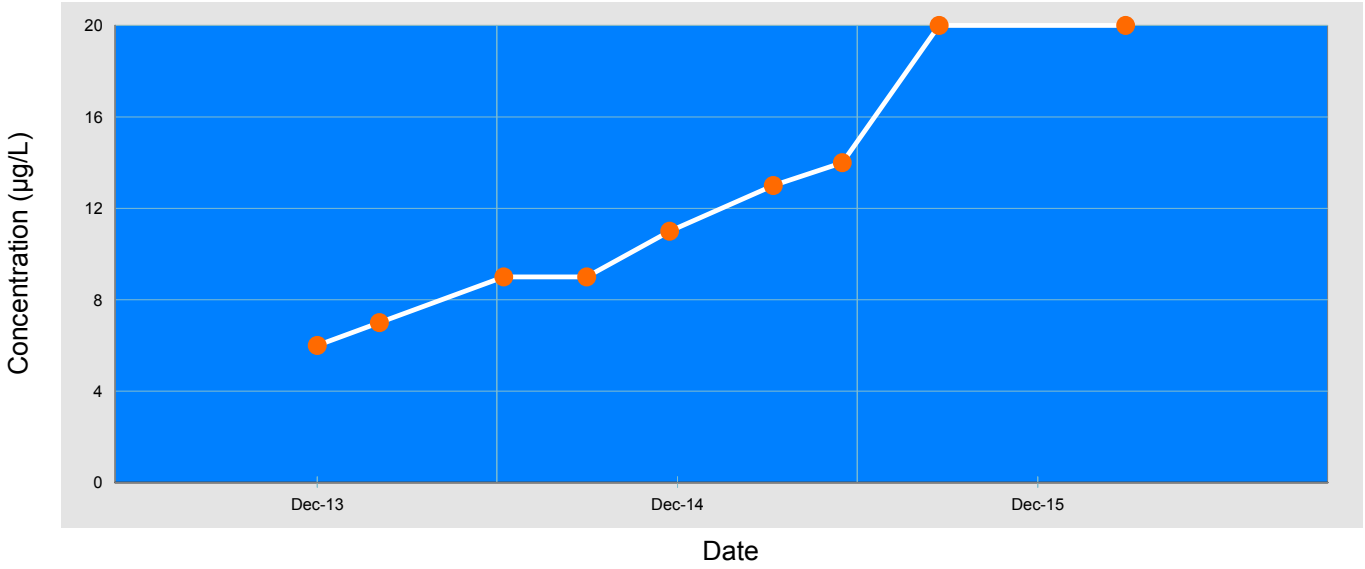


1,4-Dioxane

WellID	MW-13-41
Date Range	12/17/2013 - 12/02/2015
Current Result	11
Sample Size	8
Min / Max Result	11 / 19
Max Detected	19
% Detected	100%
S Statistic	-6
Probability	0.2740
90% Trend	NO TREND

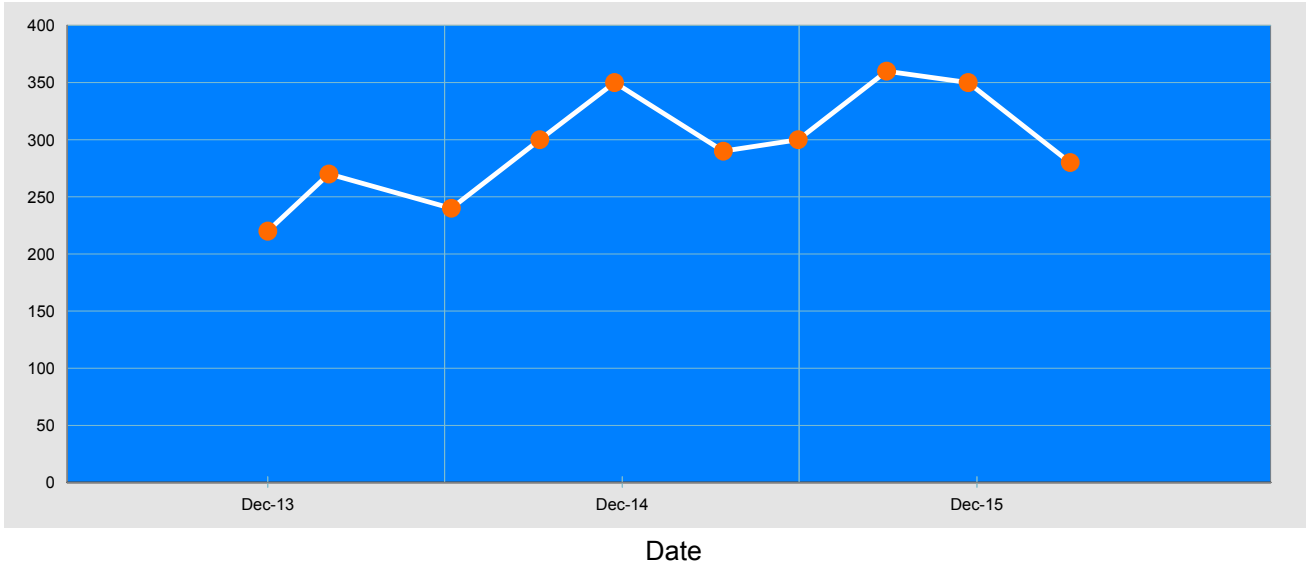


WellID	MW-13-42
Date Range	12/17/2013 - 03/15/2016
Current Result	20
Sample Size	9
Min / Max Result	6 / 20
Max Detected	20
% Detected	100%
S Statistic	34
Probability	0.0000
90% Trend	

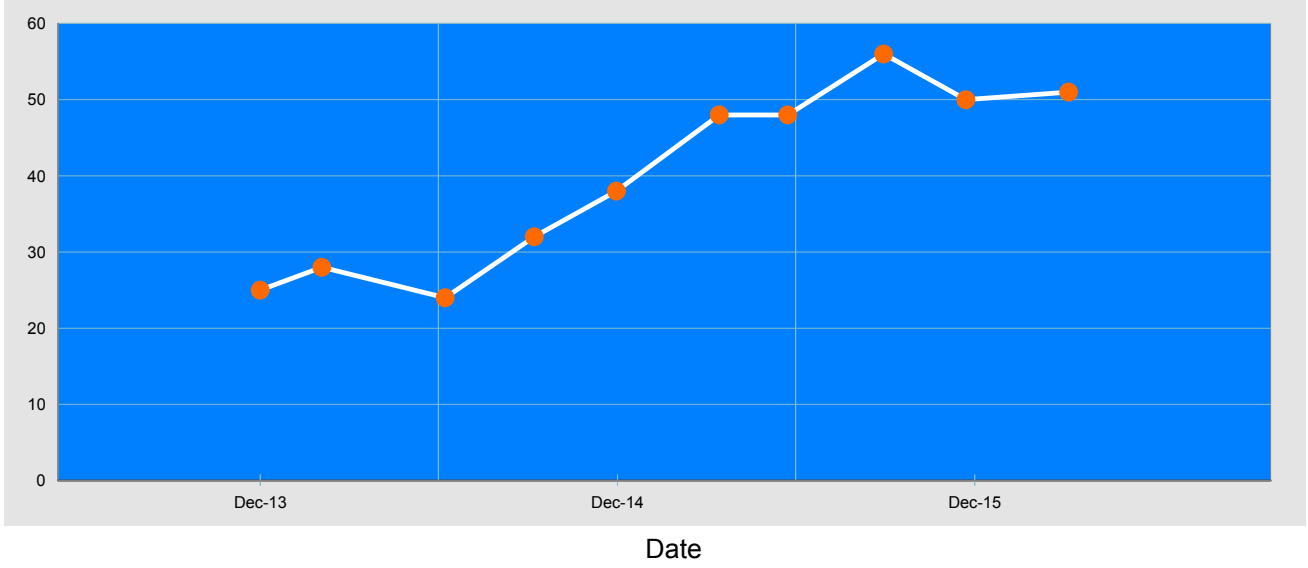


1,4-Dioxane

WellID	MW-13-43
Date Range	12/13/2013 - 03/16/2016
Current Result	280
Sample Size	10
Min / Max Result	220 / 360
Max Detected	360
% Detected	100%
S Statistic	21
Probability	0.0360
90% Trend	

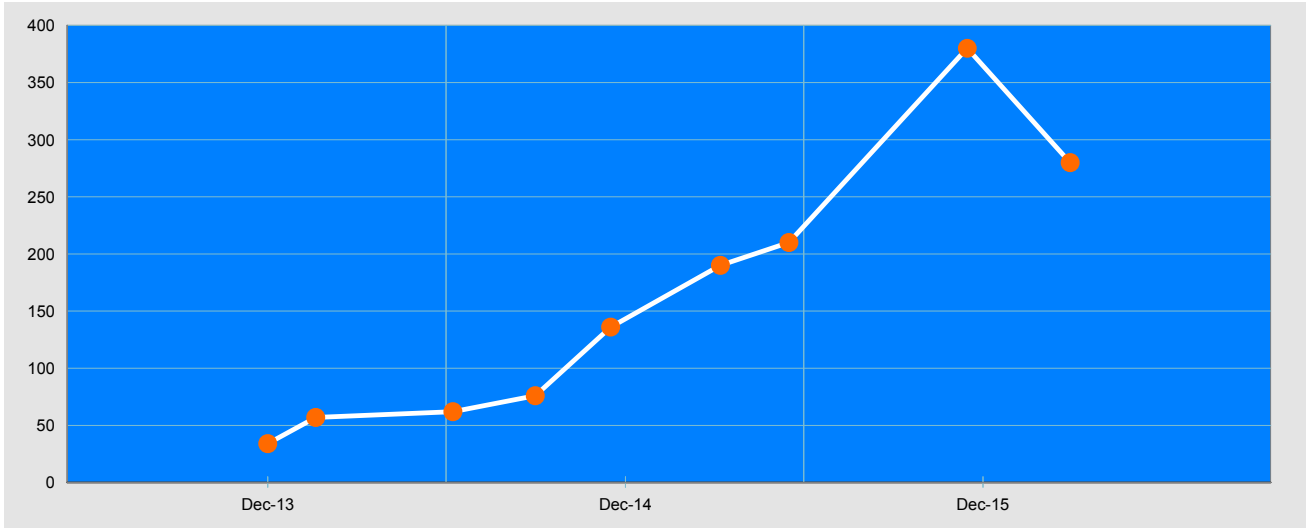


WellID	MW-13-45
Date Range	12/13/2013 - 03/15/2016
Current Result	51
Sample Size	10
Min / Max Result	24 / 56
Max Detected	56
% Detected	100%
S Statistic	36
Probability	0.0003
90% Trend	

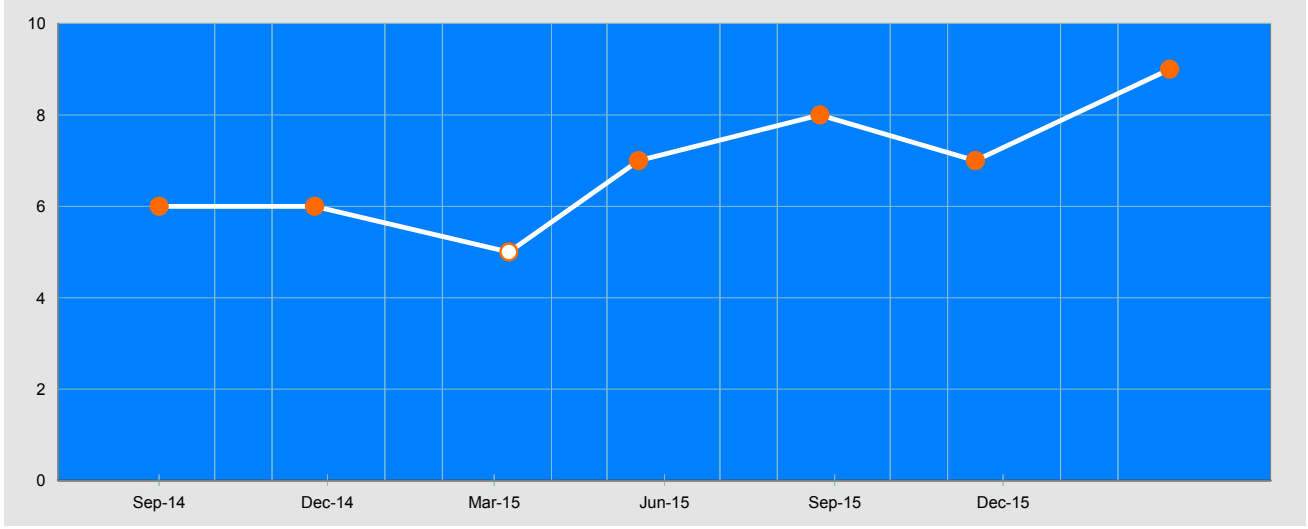


1,4-Dioxane

WellID	MW-13-48
Date Range	12/19/2013 - 03/15/2016
Current Result	280
Sample Size	9
Min / Max Result	34 / 380
Max Detected	380
% Detected	100%
S Statistic	34
Probability	0.0000
90% Trend	

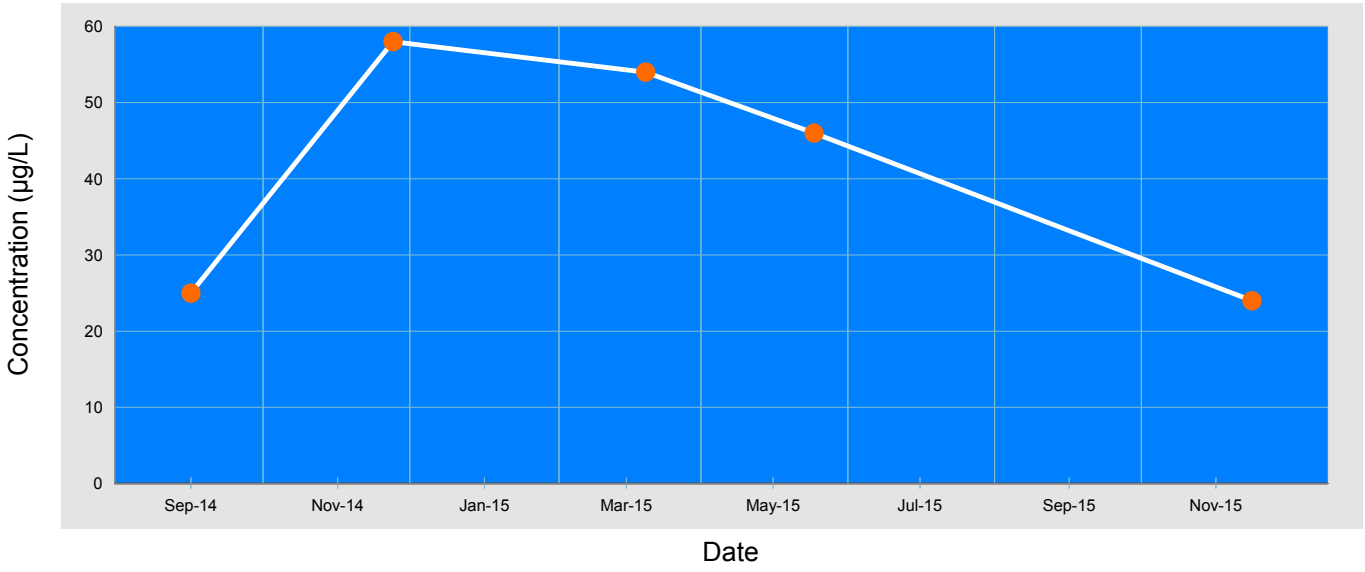


WellID	MW-14-56
Date Range	09/18/2014 - 03/16/2016
Current Result	9
Sample Size	7
Min / Max Result	<5 / 9
Max Detected	9
% Detected	86%
S Statistic	13
Probability	0.0350
90% Trend	

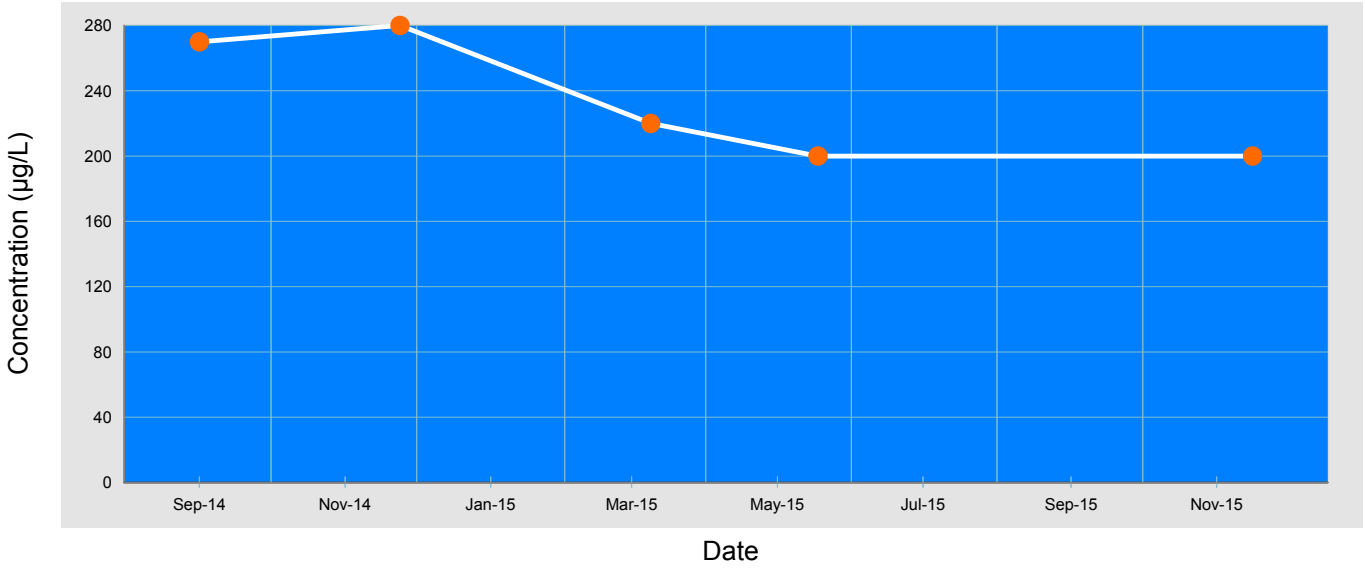


1,4-Dioxane

WellID	MW-14-58
Date Range	09/17/2014 - 12/03/2015
Current Result	24
Sample Size	5
Min / Max Result	24 / 58
Max Detected	58
% Detected	100%
S Statistic	-4
Probability	0.2420
90% Trend	NO TREND

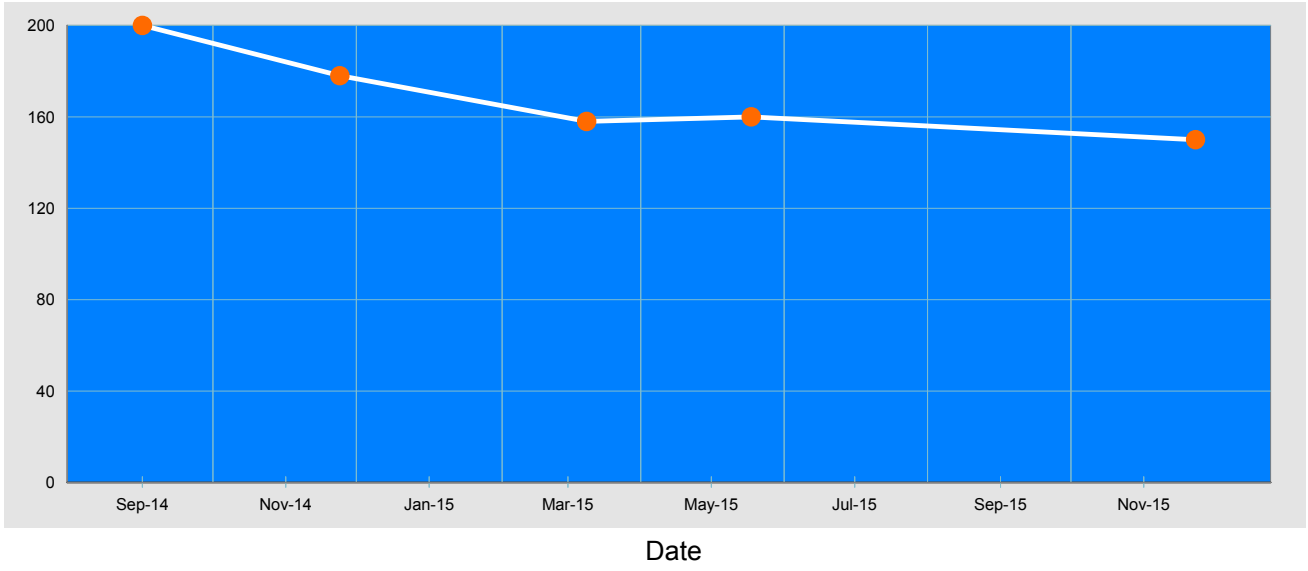


WellID	MW-14-59
Date Range	09/18/2014 - 12/04/2015
Current Result	200
Sample Size	5
Min / Max Result	200 / 280
Max Detected	280
% Detected	100%
S Statistic	-7
Probability	0.0800
90% Trend	

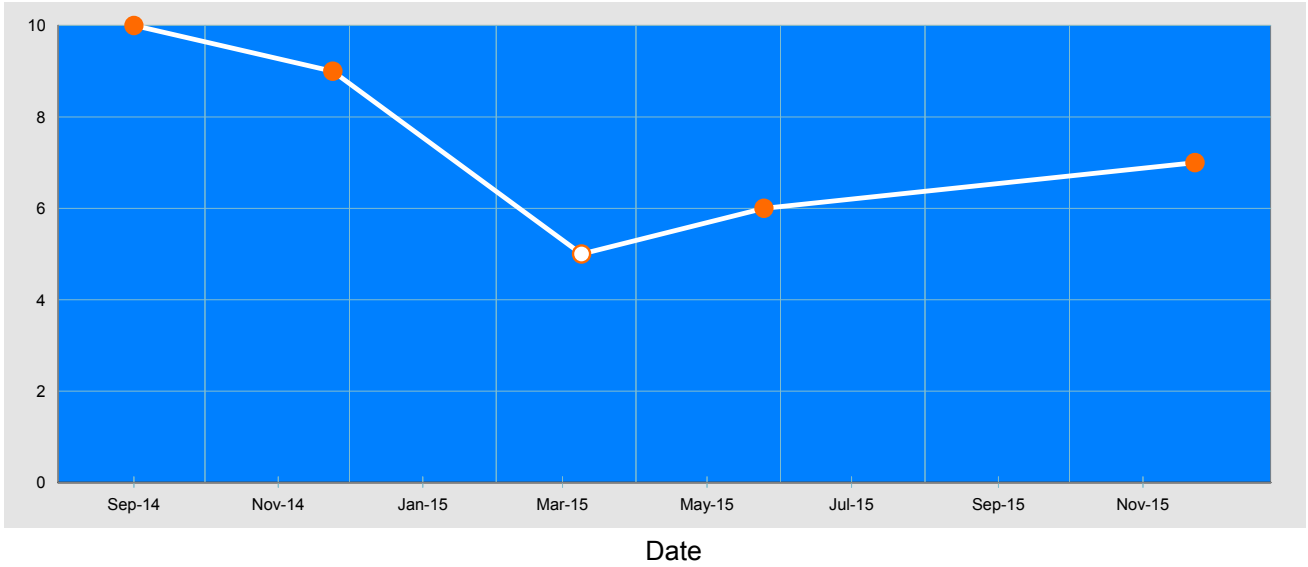


1,4-Dioxane

WellID	MW-14-60
Date Range	09/19/2014 - 12/07/2015
Current Result	150
Sample Size	5
Min / Max Result	150 / 200
Max Detected	200
% Detected	100%
S Statistic	-8
Probability	0.0420
90% Trend	

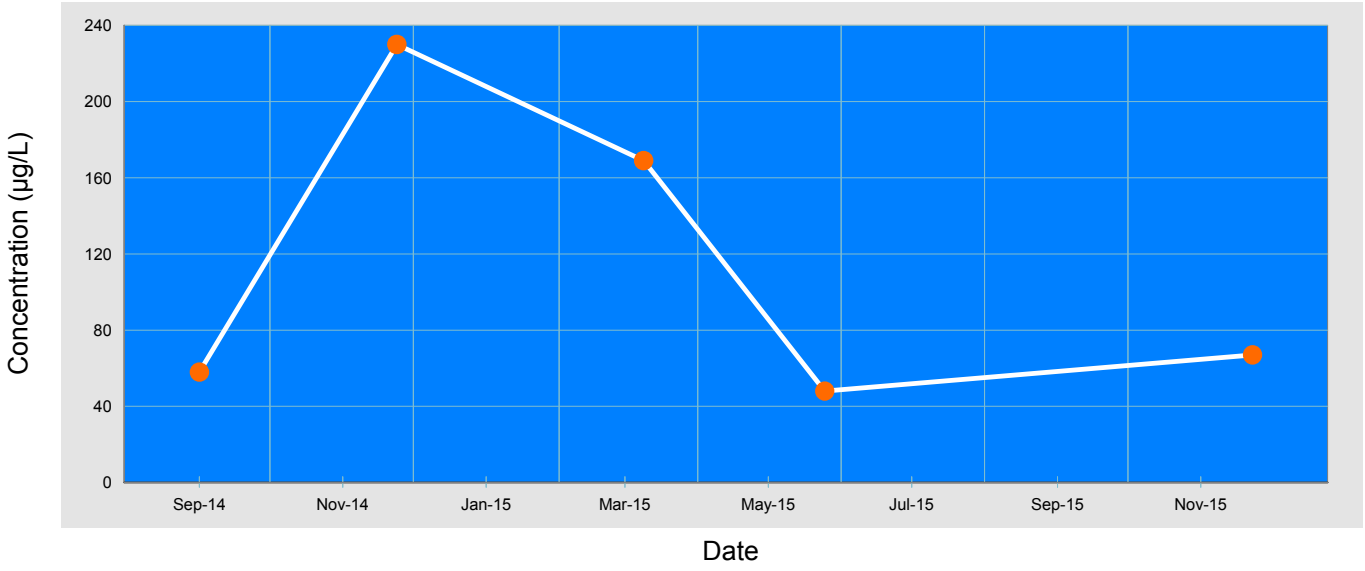


WellID	MW-14-61
Date Range	09/19/2014 - 12/07/2015
Current Result	7
Sample Size	5
Min / Max Result	<5 / 10
Max Detected	10
% Detected	80%
S Statistic	-4
Probability	0.2420
90% Trend	**NO TREND**

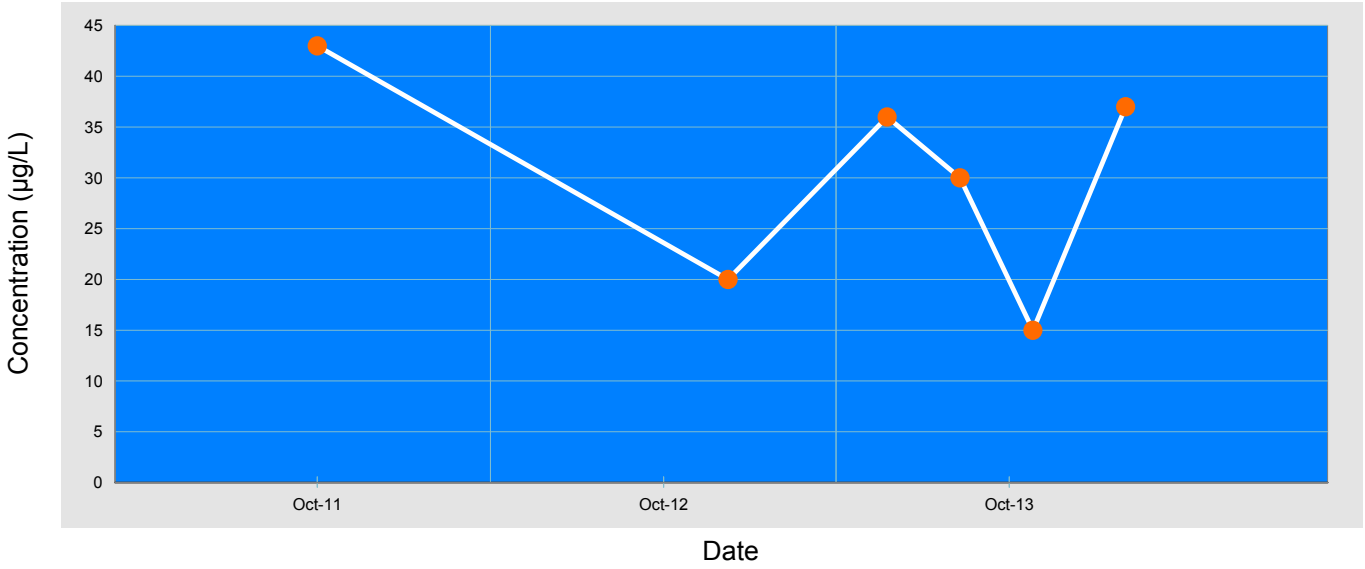


1,4-Dioxane

WellID	MW-14-62
Date Range	09/19/2014 - 12/09/2015
Current Result	67
Sample Size	5
Min / Max Result	48 / 230
Max Detected	230
% Detected	100%
S Statistic	-2
Probability	0.4080
90% Trend	NO TREND

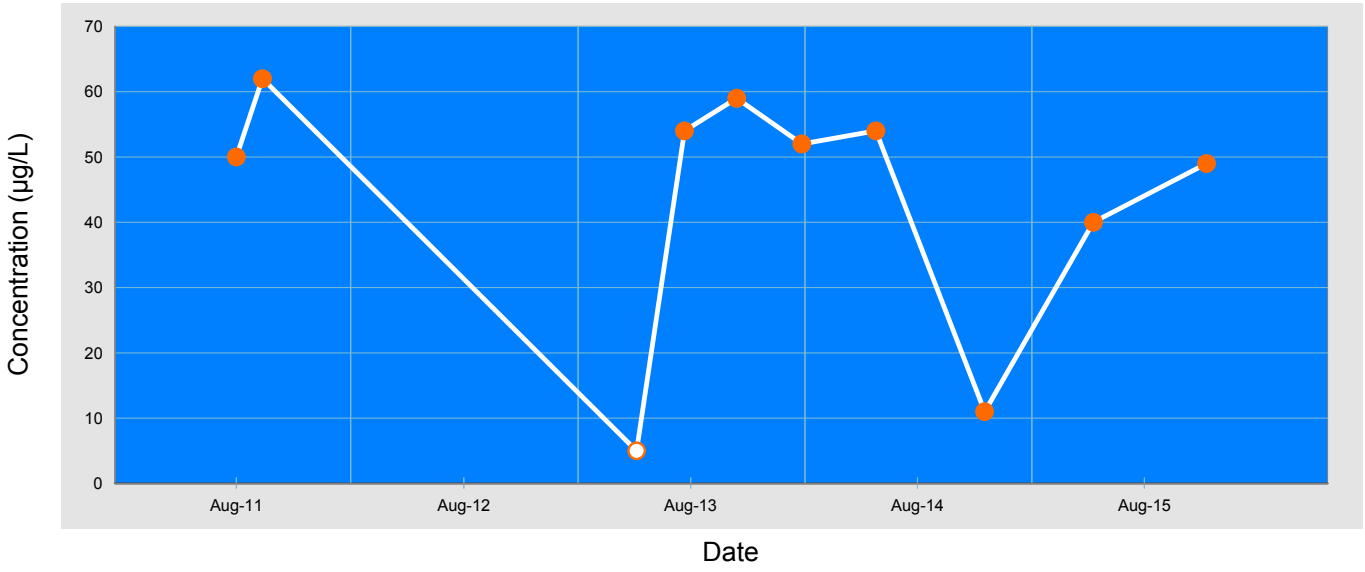


WellID	P2-MW-03
Date Range	10/10/2011 - 02/14/2014
Current Result	37
Sample Size	6
Min / Max Result	15 / 43
Max Detected	43
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

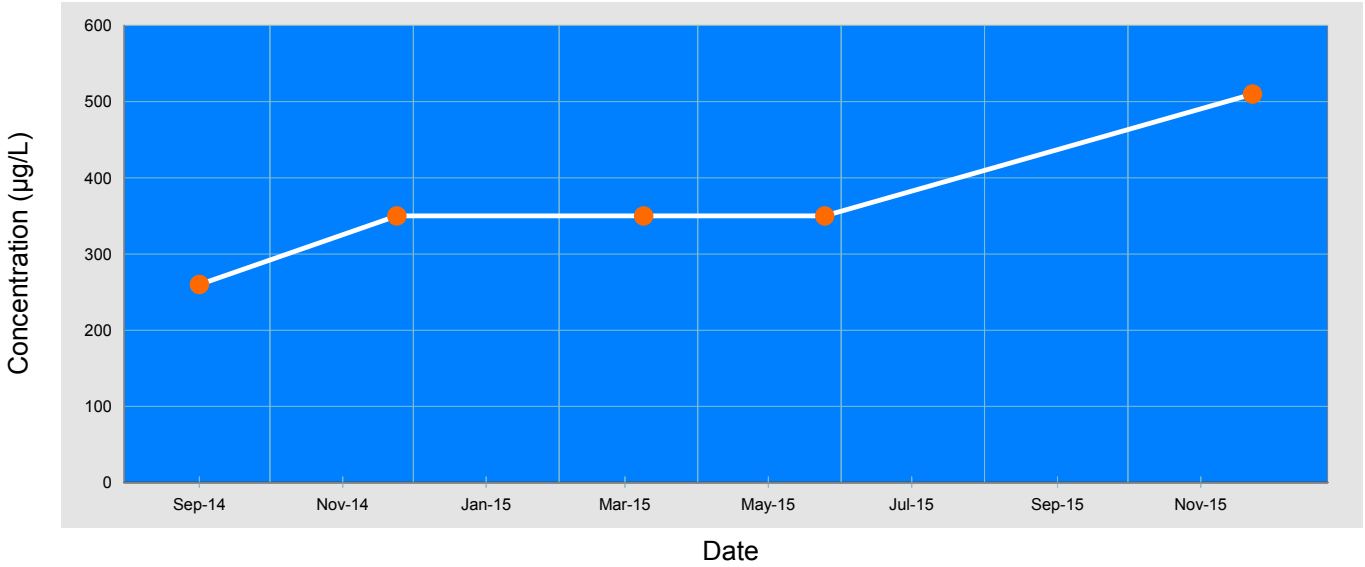


1,4-Dioxane

WellID	P2-MW-04
Date Range	08/25/2011 - 12/01/2015
Current Result	49
Sample Size	10
Min / Max Result	<5 / 62
Max Detected	62
% Detected	90%
S Statistic	-10
Probability	0.2160
90% Trend	NO TREND

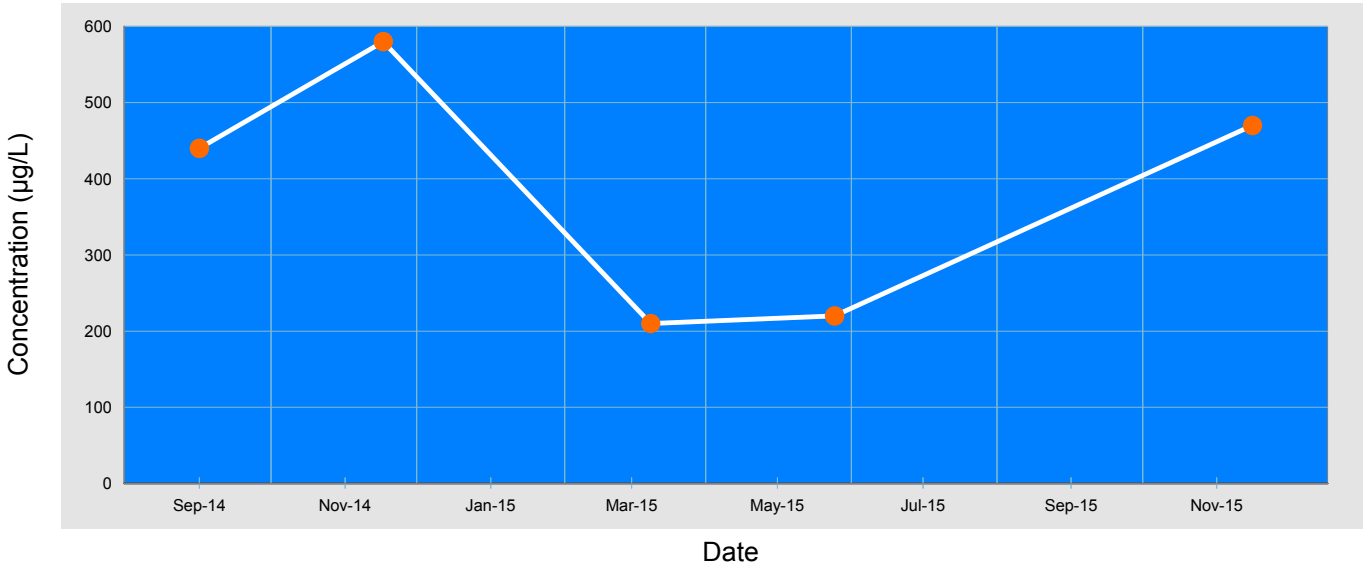


WellID	PW-14-01
Date Range	09/19/2014 - 12/08/2015
Current Result	510
Sample Size	5
Min / Max Result	260 / 510
Max Detected	510
% Detected	100%
S Statistic	7
Probability	0.0800
90% Trend	

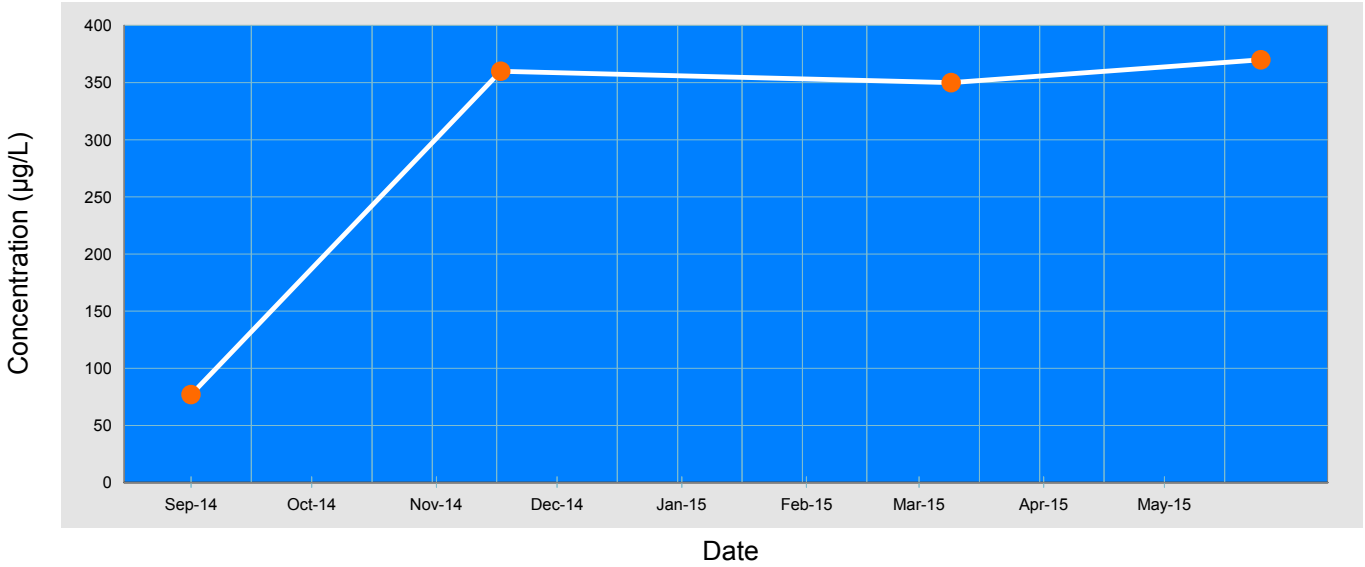


1,4-Dioxane

WellID	PW-14-02
Date Range	09/18/2014 - 12/03/2015
Current Result	470
Sample Size	5
Min / Max Result	210 / 580
Max Detected	580
% Detected	100%
S Statistic	0
Probability	0.5920
90% Trend	NO TREND

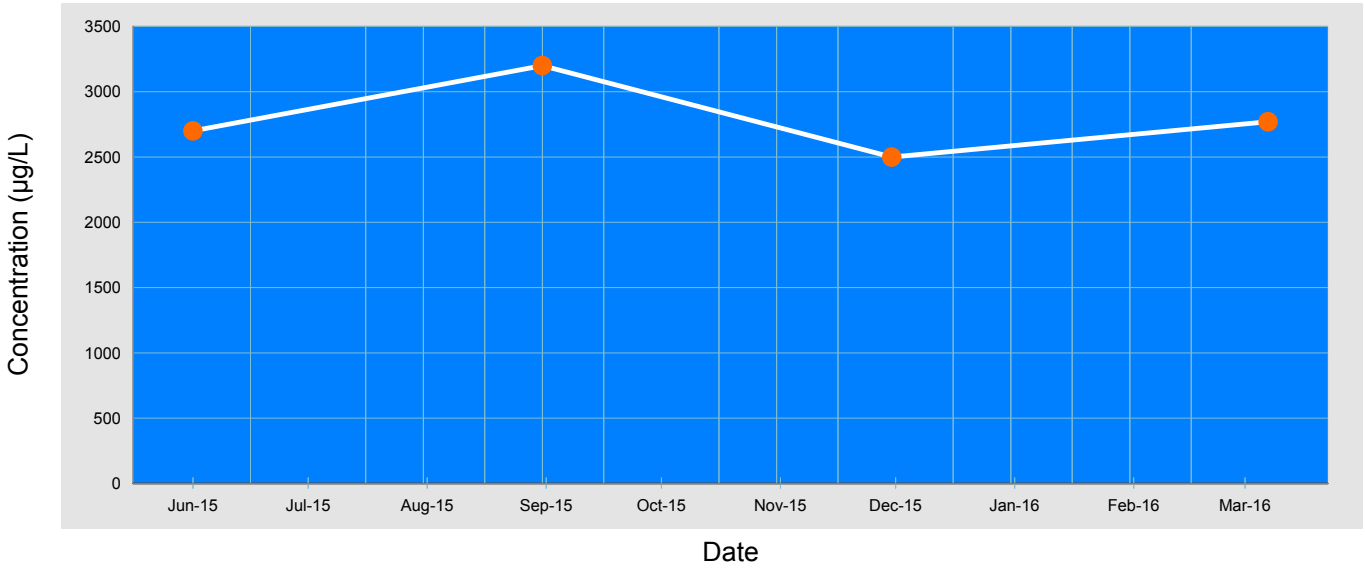


WellID	PW-14-03
Date Range	09/18/2014 - 06/09/2015
Current Result	370
Sample Size	8
Min / Max Result	77 / 370
Max Detected	370
% Detected	100%
S Statistic	16
Probability	0.0310
90% Trend	



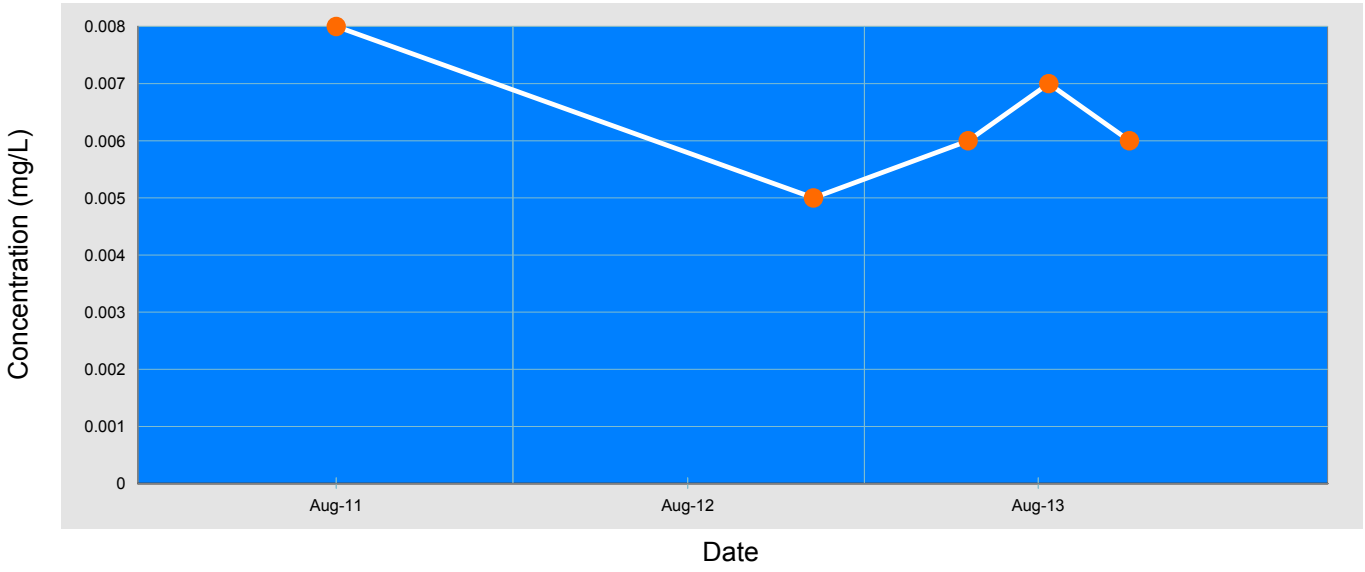
1,4-Dioxane

WellID	TW-14-02
Date Range	06/11/2015 - 03/16/2016
Current Result	2770
Sample Size	4
Min / Max Result	2500 / 3200
Max Detected	3200
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND



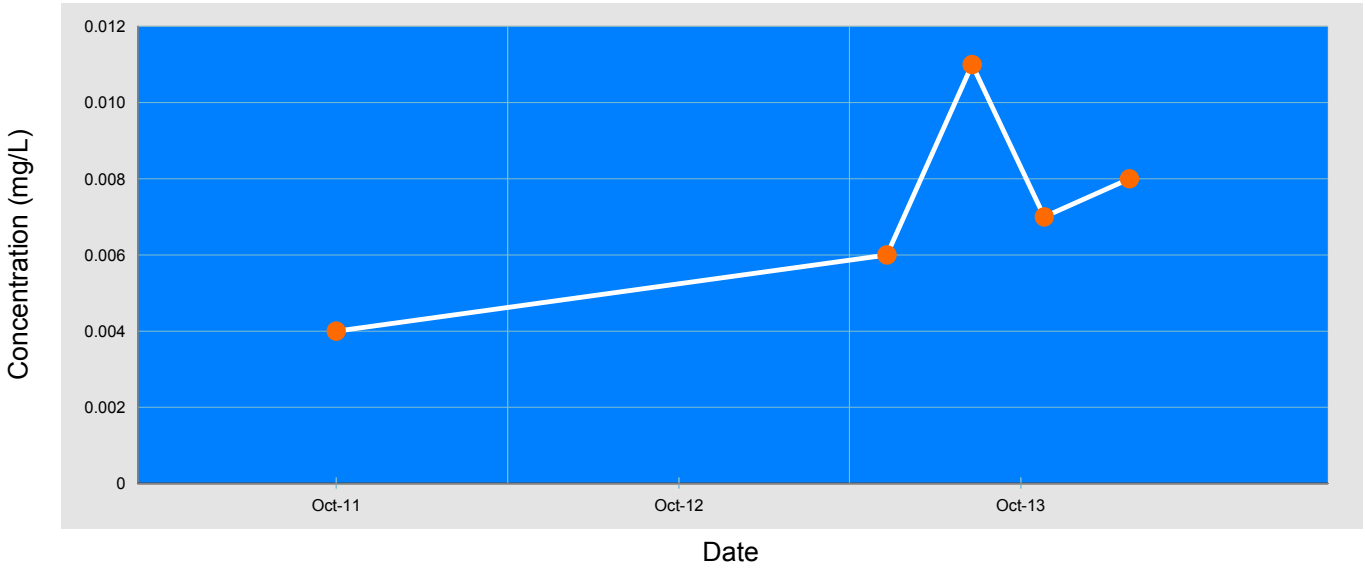
Antimony

WellID	P6-SB-18
Date Range	08/08/2011 - 11/11/2013
Current Result	0.006
Sample Size	5
Min / Max Result	0.005 / 0.008
Max Detected	0.008
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

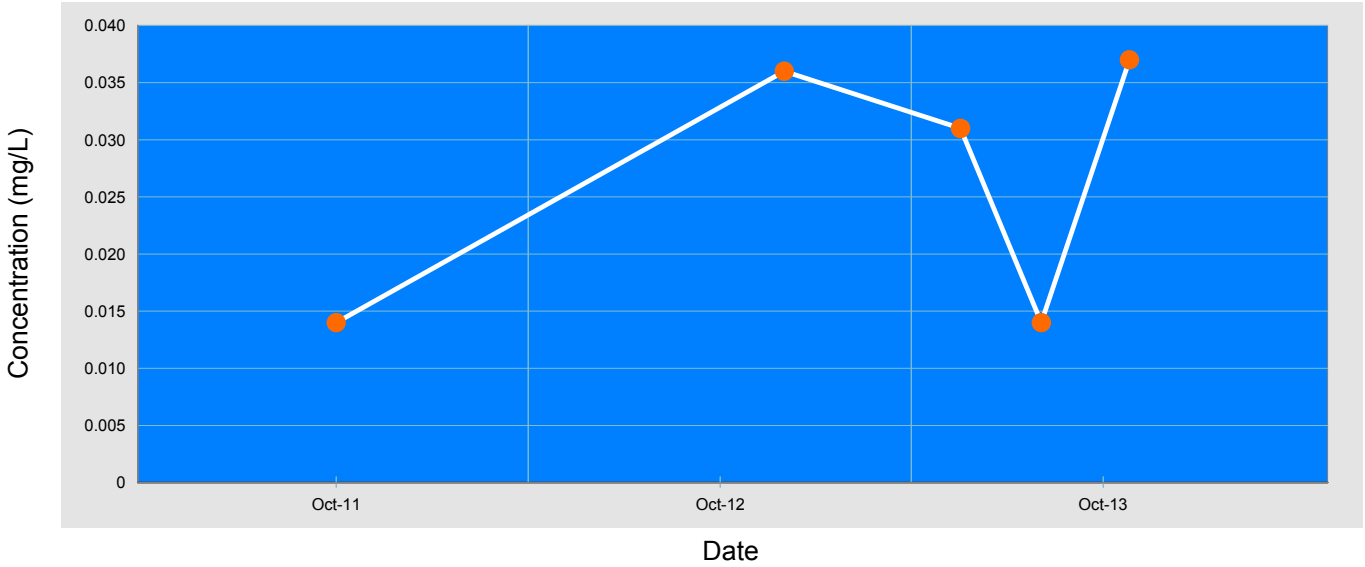


Arsenic

WellID	MW-02-01(3)
Date Range	10/12/2011 - 02/06/2014
Current Result	0.008
Sample Size	5
Min / Max Result	0.004 / 0.011
Max Detected	0.011
% Detected	100%
S Statistic	6
Probability	0.1170
90% Trend	NO TREND

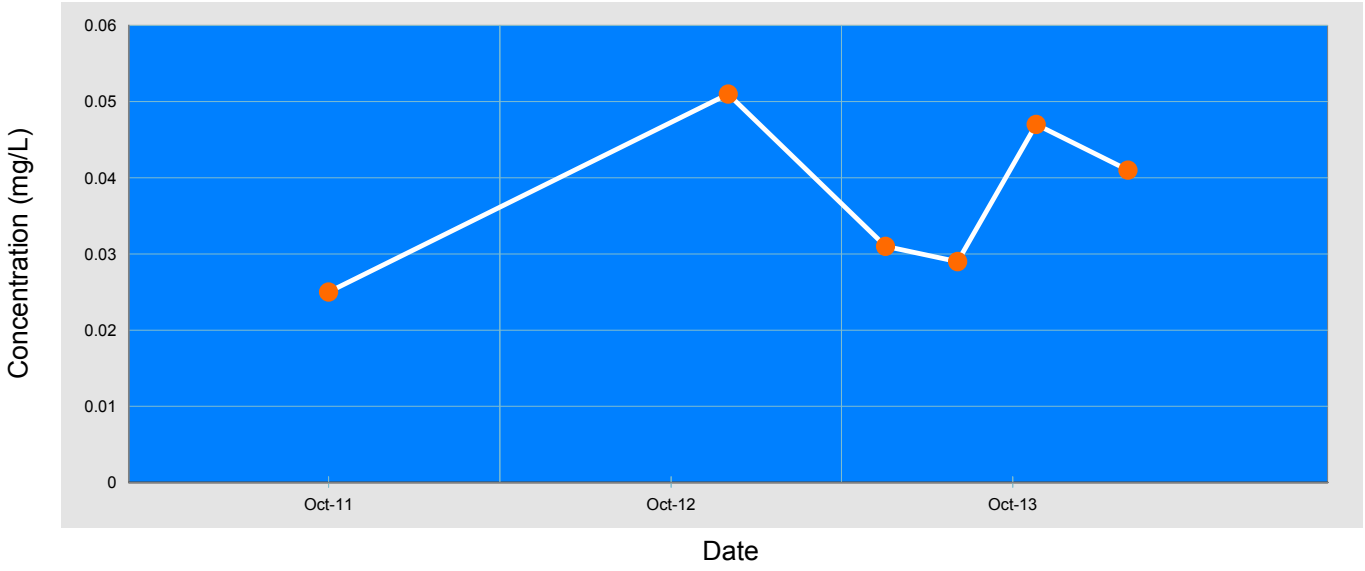


WellID	MW-02-01(6)
Date Range	10/17/2011 - 11/14/2013
Current Result	0.037
Sample Size	5
Min / Max Result	0.014 / 0.037
Max Detected	0.037
% Detected	100%
S Statistic	3
Probability	0.3250
90% Trend	NO TREND

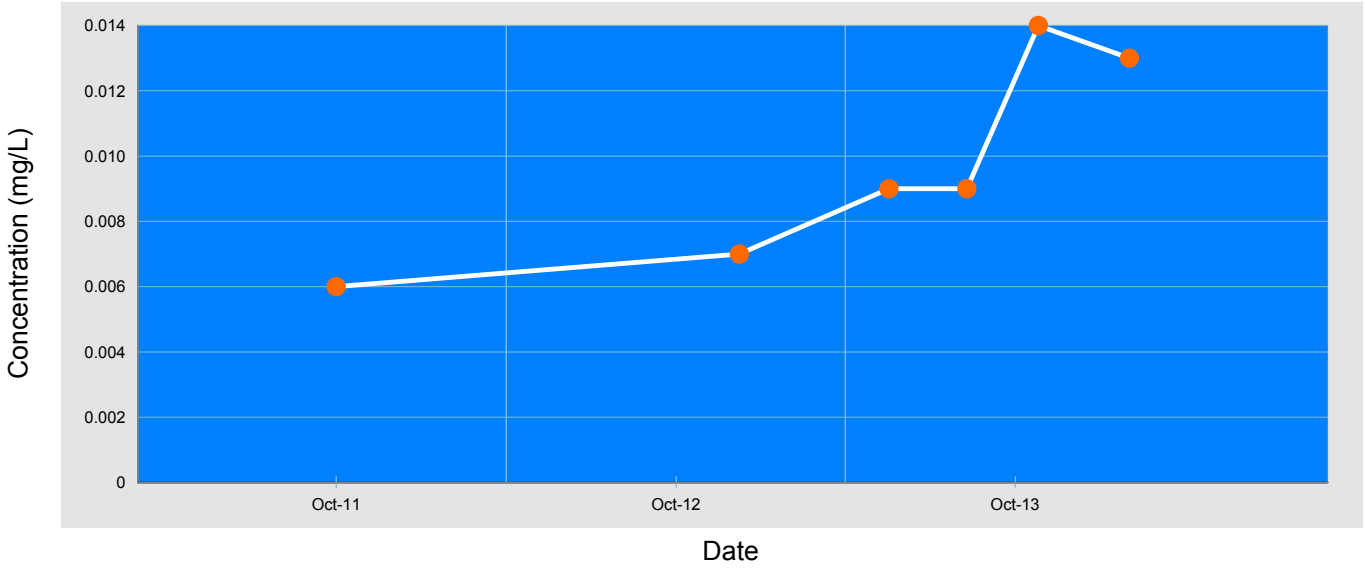


Arsenic

WellID	MW-02-02(6)
Date Range	10/18/2011 - 02/19/2014
Current Result	0.041
Sample Size	6
Min / Max Result	0.025 / 0.051
Max Detected	0.051
% Detected	100%
S Statistic	3
Probability	0.3600
90% Trend	NO TREND

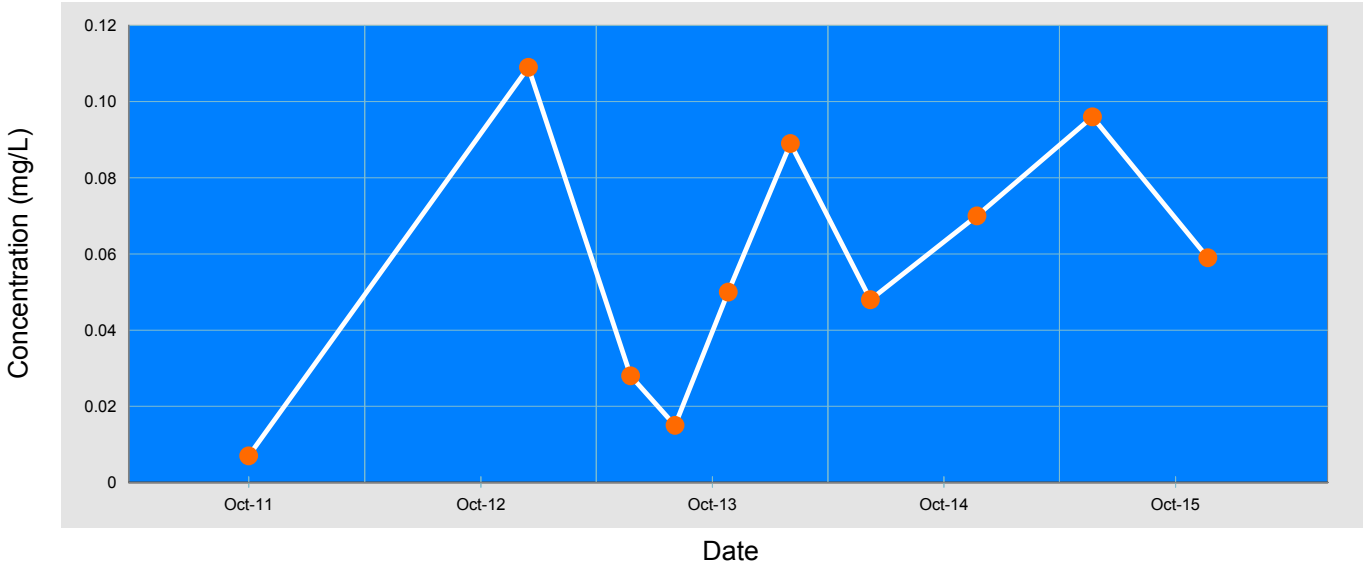


WellID	MW-02-03(3)
Date Range	10/12/2011 - 02/11/2014
Current Result	0.013
Sample Size	6
Min / Max Result	0.006 / 0.014
Max Detected	0.014
% Detected	100%
S Statistic	12
Probability	0.0182
90% Trend	

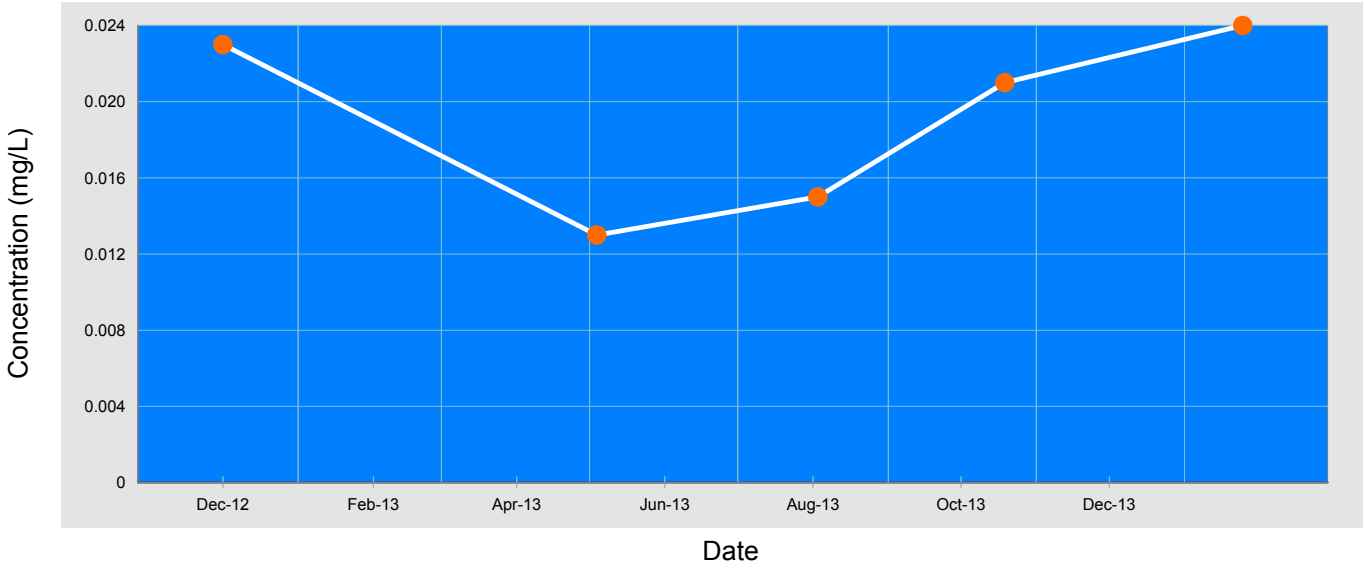


Arsenic

WellID	MW-02-03(6)
Date Range	10/18/2011 - 12/09/2015
Current Result	0.059
Sample Size	10
Min / Max Result	0.007 / 0.109
Max Detected	0.109
% Detected	100%
S Statistic	15
Probability	0.1080
90% Trend	NO TREND

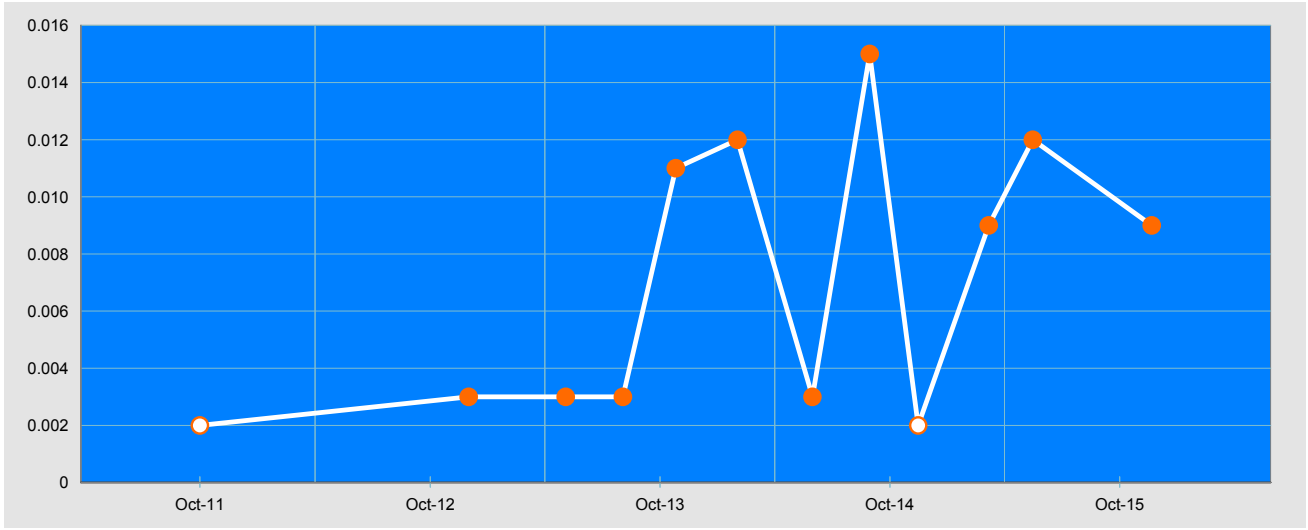


WellID	MW-02-04(3)
Date Range	12/19/2012 - 02/11/2014
Current Result	0.024
Sample Size	5
Min / Max Result	0.013 / 0.024
Max Detected	0.024
% Detected	100%
S Statistic	4
Probability	0.2420
90% Trend	NO TREND

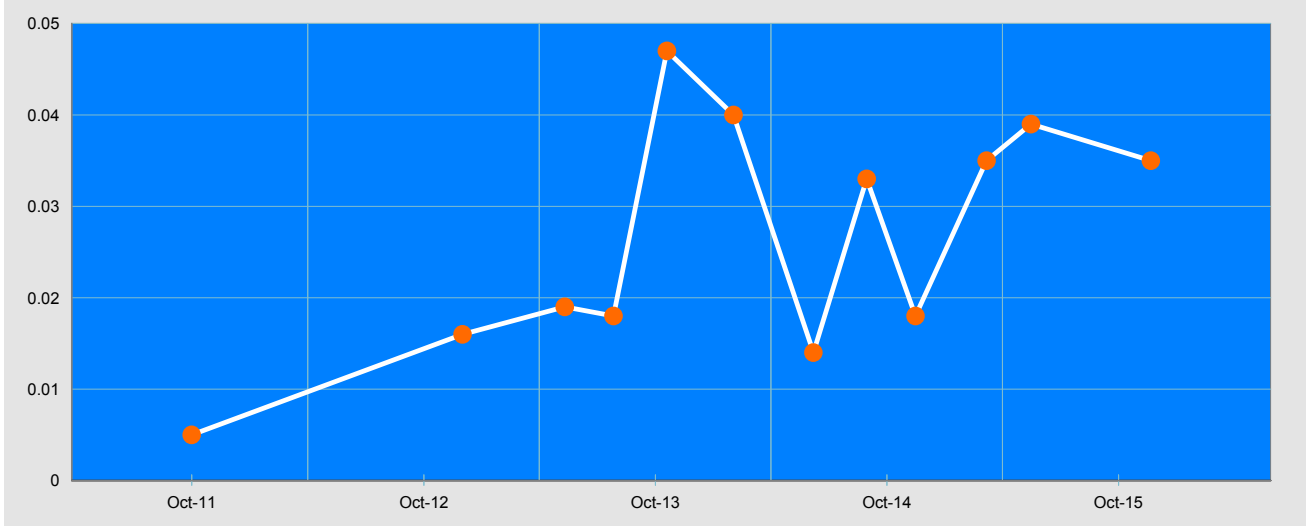


Arsenic

WellID	MW-03(2)
Date Range	10/18/2011 - 12/08/2015
Current Result	0.009
Sample Size	12
Min / Max Result	<0.002 / 0.015
Max Detected	0.015
% Detected	83%
S Statistic	23
Probability	0.0604
90% Trend	

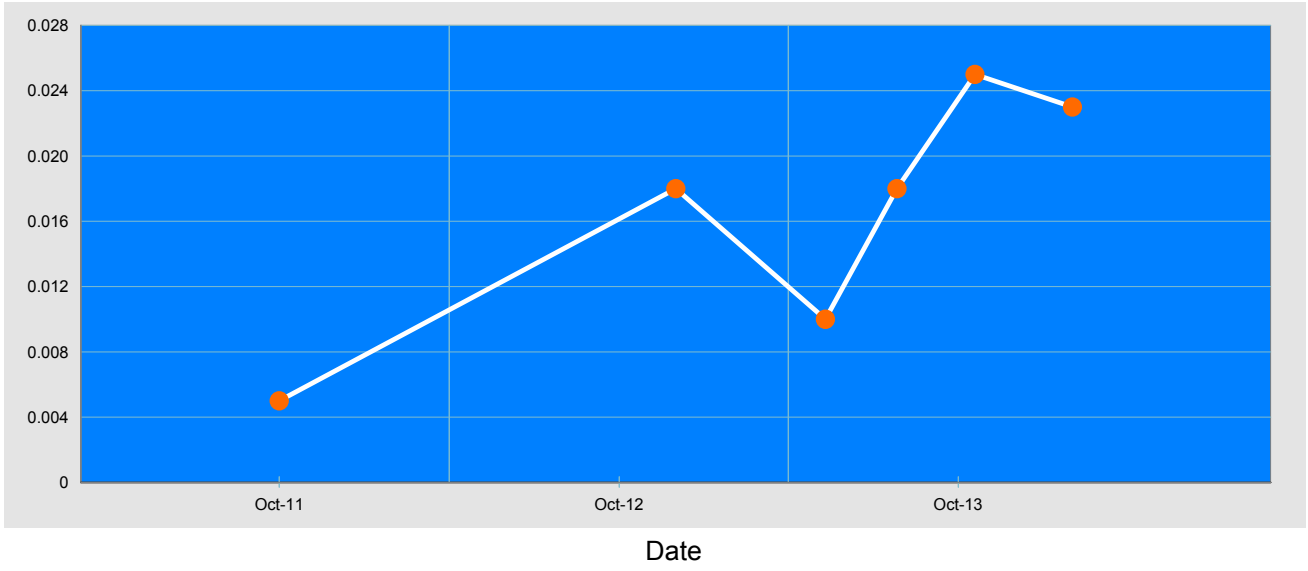


WellID	MW-03-01
Date Range	10/17/2011 - 12/07/2015
Current Result	0.035
Sample Size	12
Min / Max Result	0.005 / 0.047
Max Detected	0.047
% Detected	100%
S Statistic	24
Probability	0.0565
90% Trend	

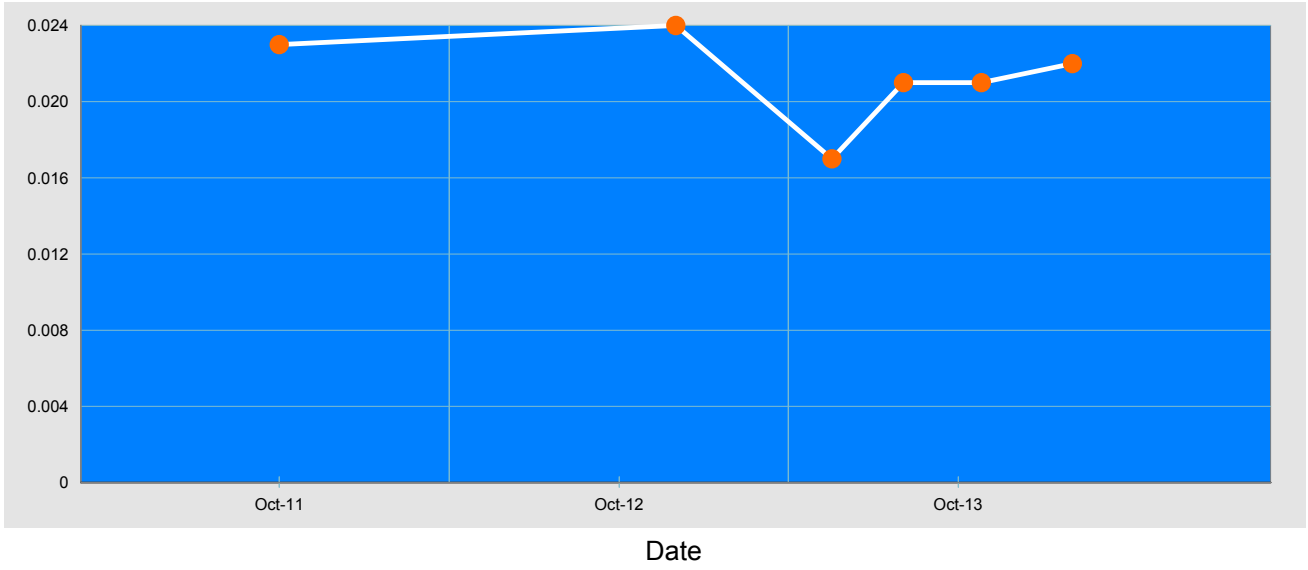


Arsenic

WellID	MW-03-02
Date Range	10/17/2011 - 02/18/2014
Current Result	0.023
Sample Size	6
Min / Max Result	0.005 / 0.025
Max Detected	0.025
% Detected	100%
S Statistic	10
Probability	0.0480
90% Trend	

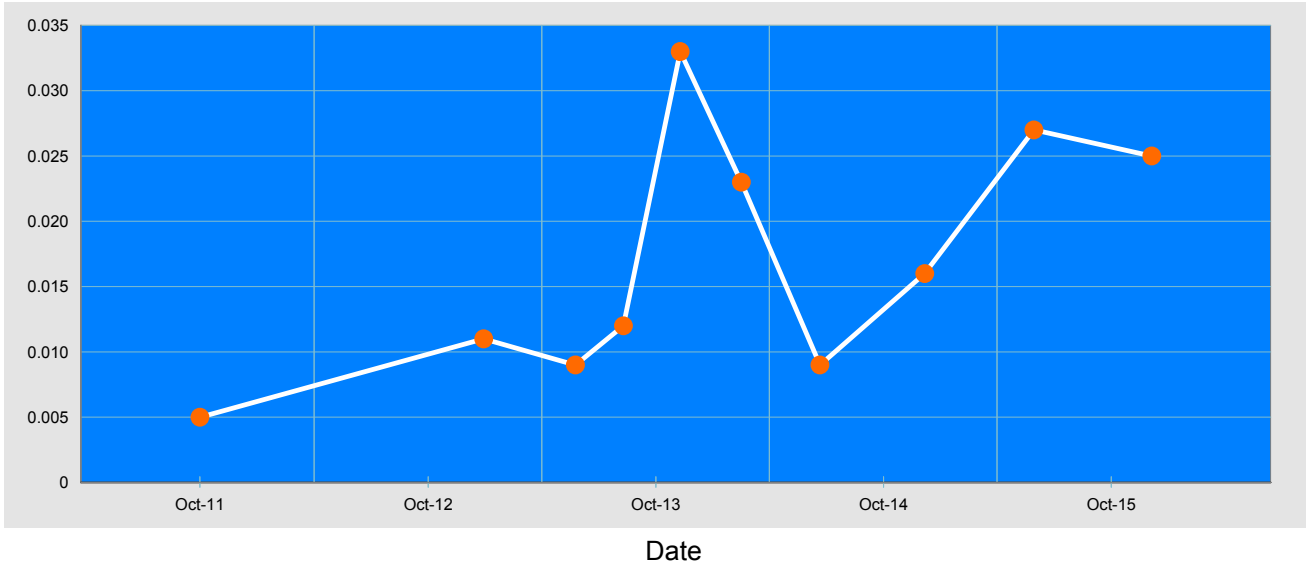


WellID	MW-03-04
Date Range	10/17/2011 - 02/18/2014
Current Result	0.022
Sample Size	6
Min / Max Result	0.017 / 0.024
Max Detected	0.024
% Detected	100%
S Statistic	-2
Probability	0.4300
90% Trend	**NO TREND**

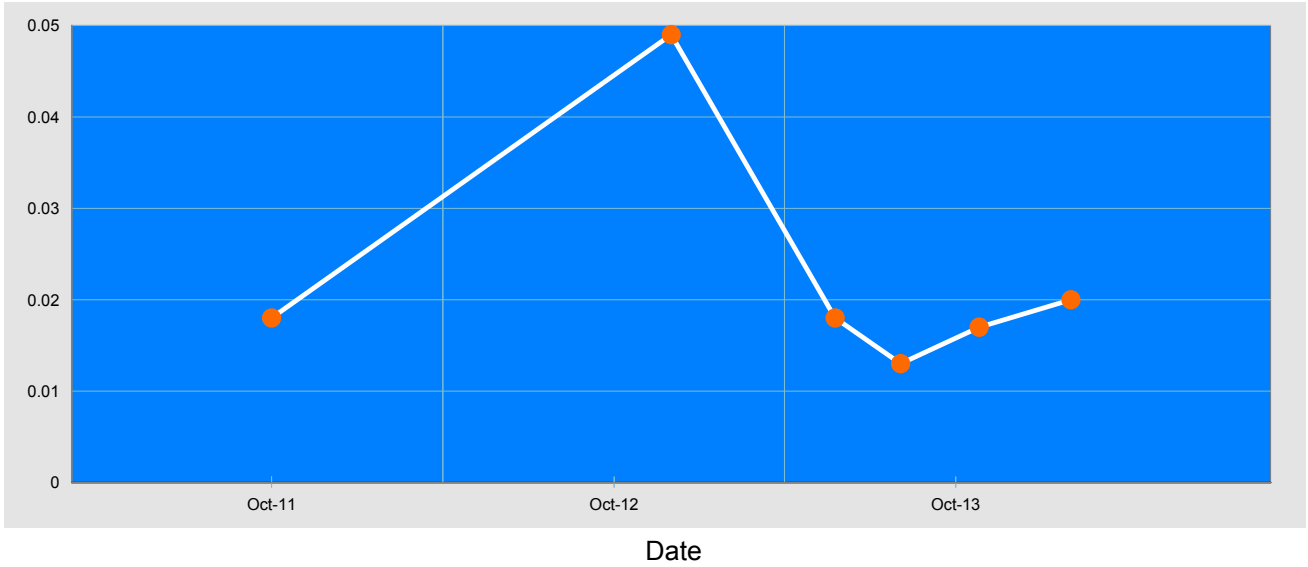


Arsenic

WellID	MW-03-06
Date Range	10/07/2011 - 12/08/2015
Current Result	0.025
Sample Size	10
Min / Max Result	0.005 / 0.033
Max Detected	0.033
% Detected	100%
S Statistic	22
Probability	0.0300
90% Trend	

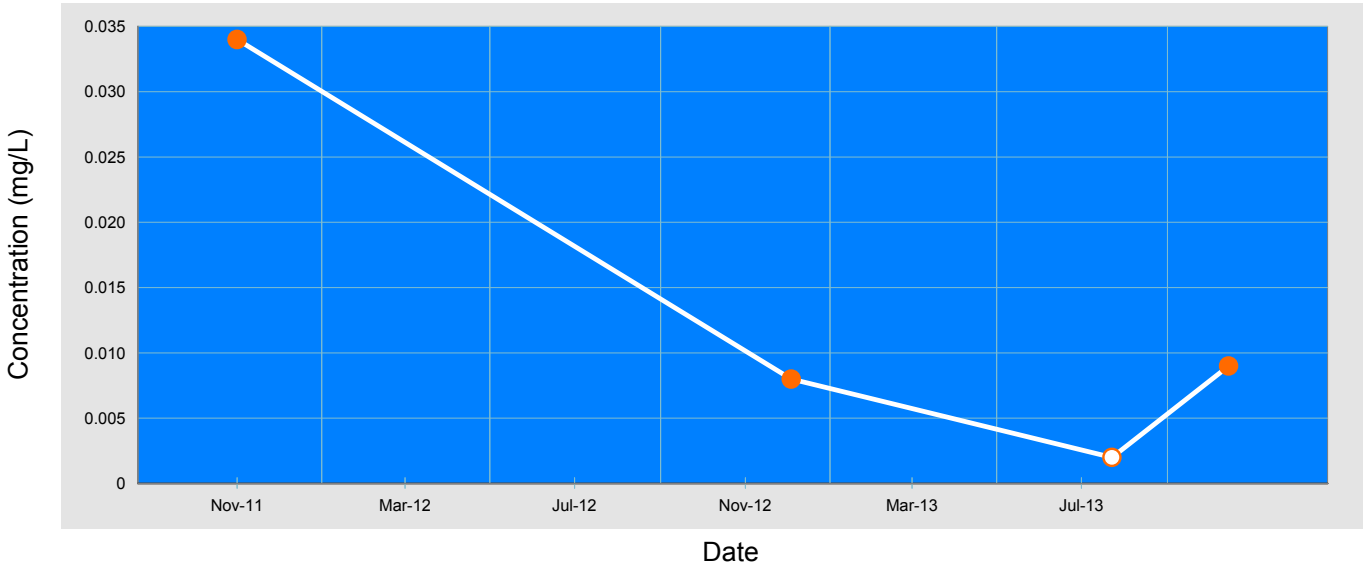


WellID	MW-03-07
Date Range	10/18/2011 - 02/19/2014
Current Result	0.020
Sample Size	6
Min / Max Result	0.013 / 0.049
Max Detected	0.049
% Detected	100%
S Statistic	-2
Probability	0.4300
90% Trend	NO TREND

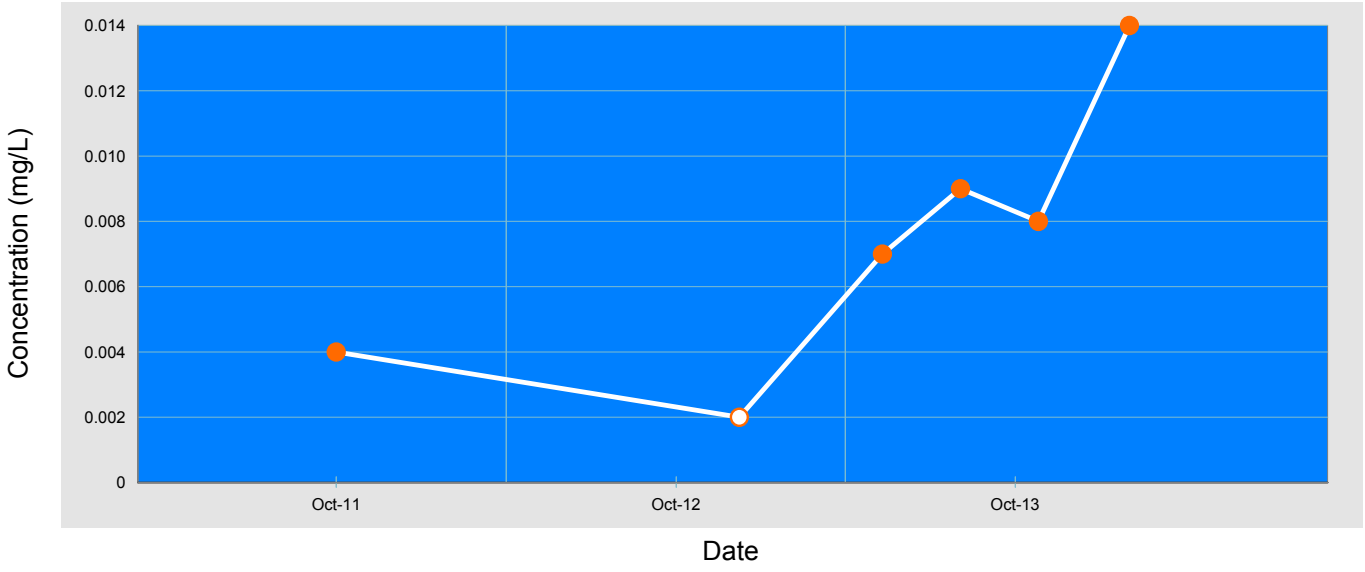


Arsenic

WellID	MW-03-08
Date Range	12/02/2011 - 11/15/2013
Current Result	0.009
Sample Size	4
Min / Max Result	<0.002 / 0.034
Max Detected	0.034
% Detected	75%
S Statistic	-2
Probability	0.3750
90% Trend	NO TREND

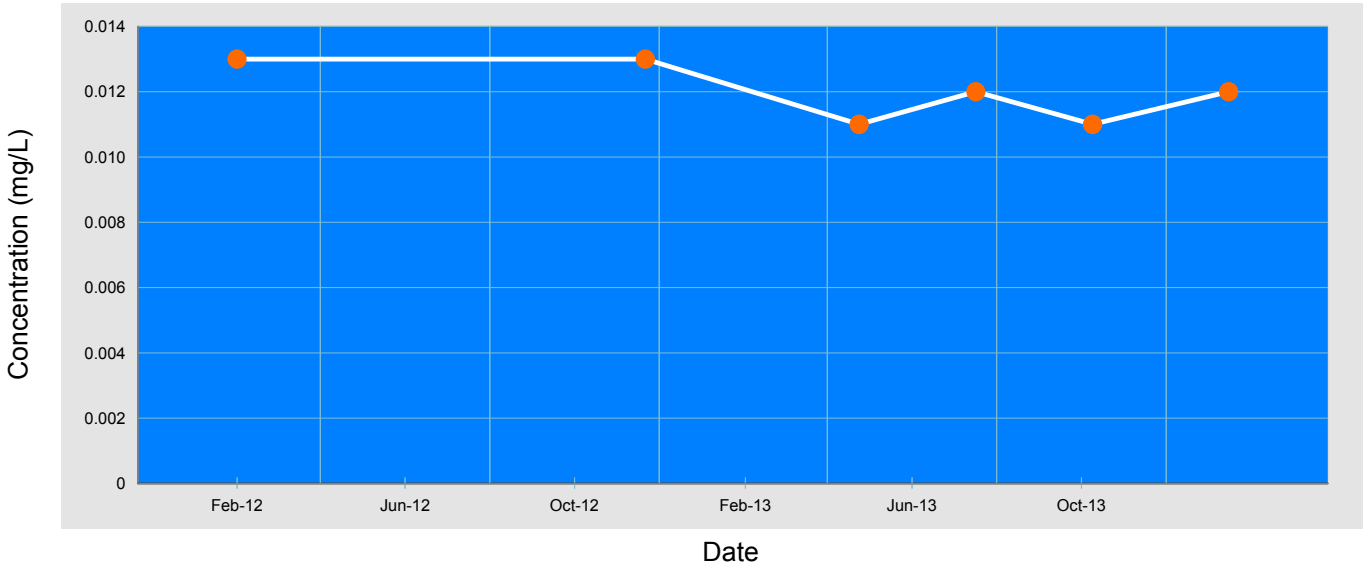


WellID	MW-04-02(3)
Date Range	10/11/2011 - 02/11/2014
Current Result	0.014
Sample Size	6
Min / Max Result	<0.002 / 0.014
Max Detected	0.014
% Detected	83%
S Statistic	11
Probability	0.0280
90% Trend	

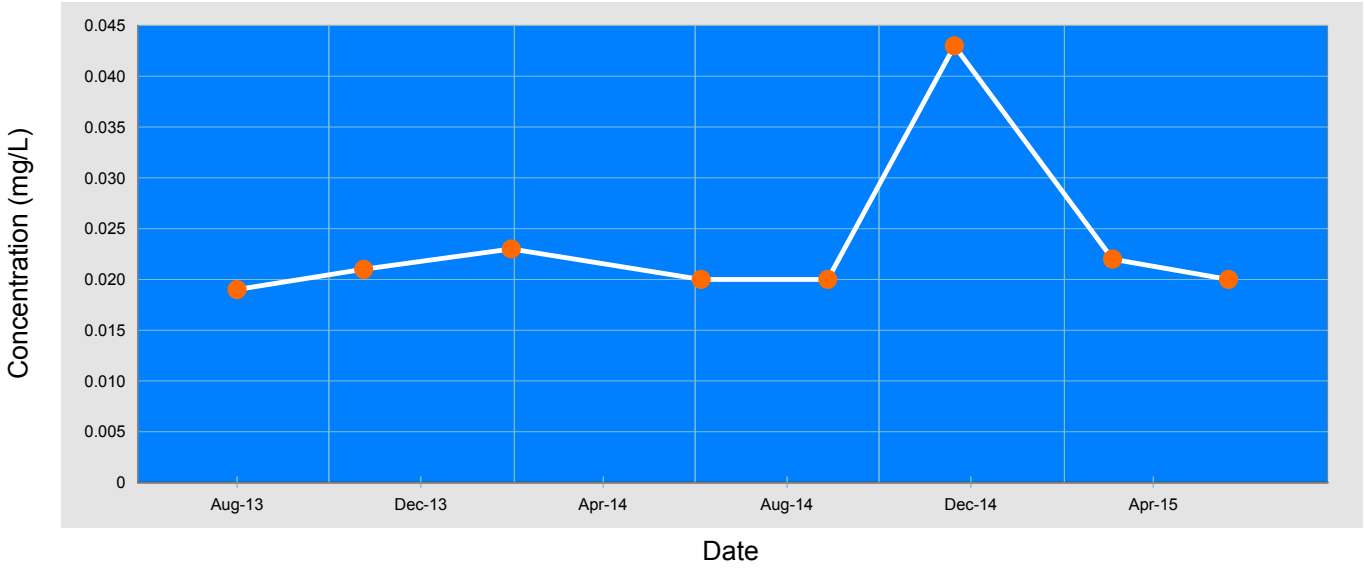


Arsenic

WellID	MW-04-04(3)
Date Range	03/01/2012 - 02/10/2014
Current Result	0.012
Sample Size	6
Min / Max Result	0.011 / 0.013
Max Detected	0.013
% Detected	100%
S Statistic	-6
Probability	0.1860
90% Trend	NO TREND

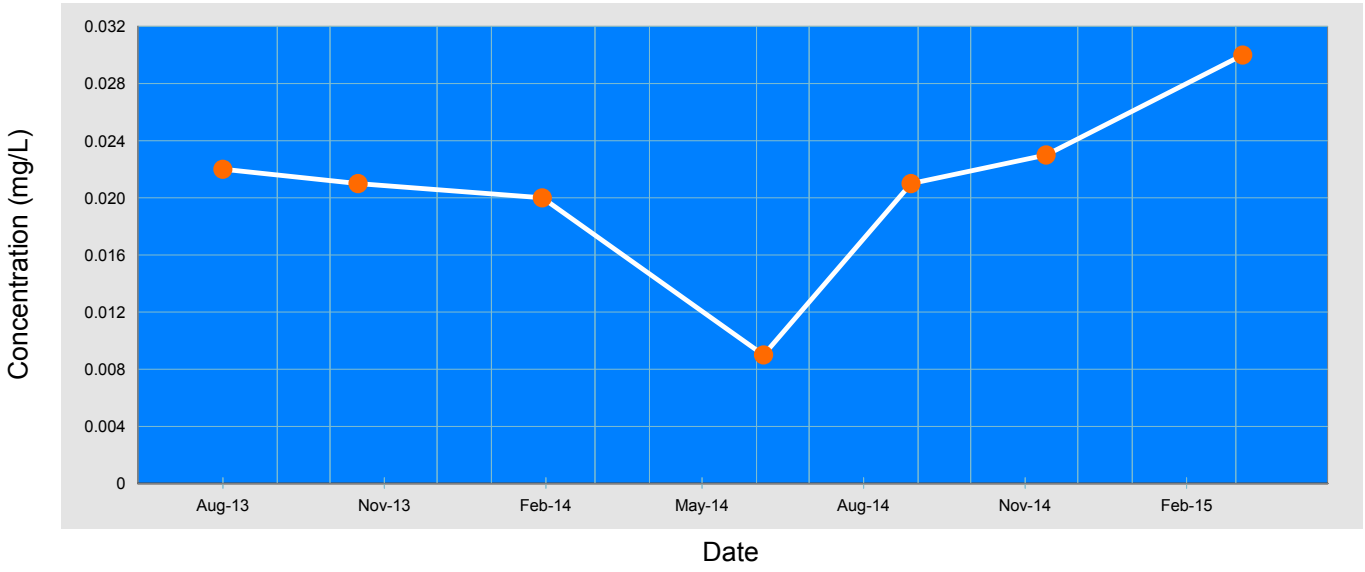


WellID	MW-04-04R
Date Range	08/23/2013 - 06/08/2015
Current Result	0.020
Sample Size	8
Min / Max Result	0.019 / 0.043
Max Detected	0.043
% Detected	100%
S Statistic	5
Probability	0.3170
90% Trend	NO TREND

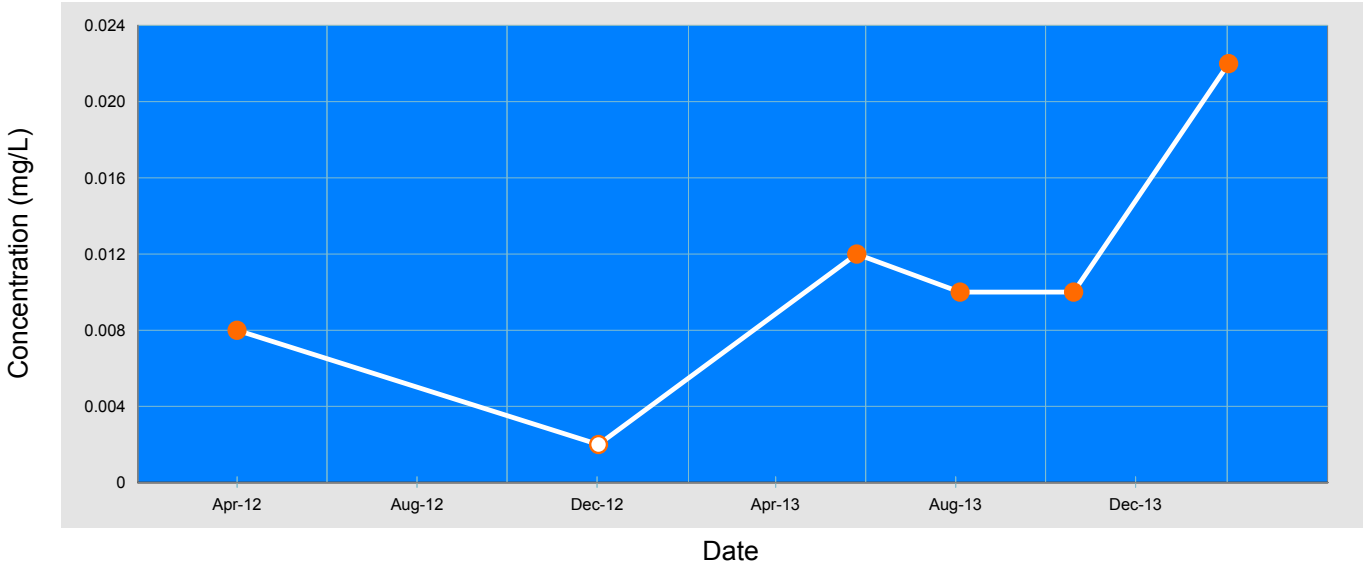


Arsenic

WellID	MW-04-06R
Date Range	08/23/2013 - 03/24/2015
Current Result	0.030
Sample Size	7
Min / Max Result	0.009 / 0.030
Max Detected	0.03
% Detected	100%
S Statistic	6
Probability	0.2360
90% Trend	NO TREND

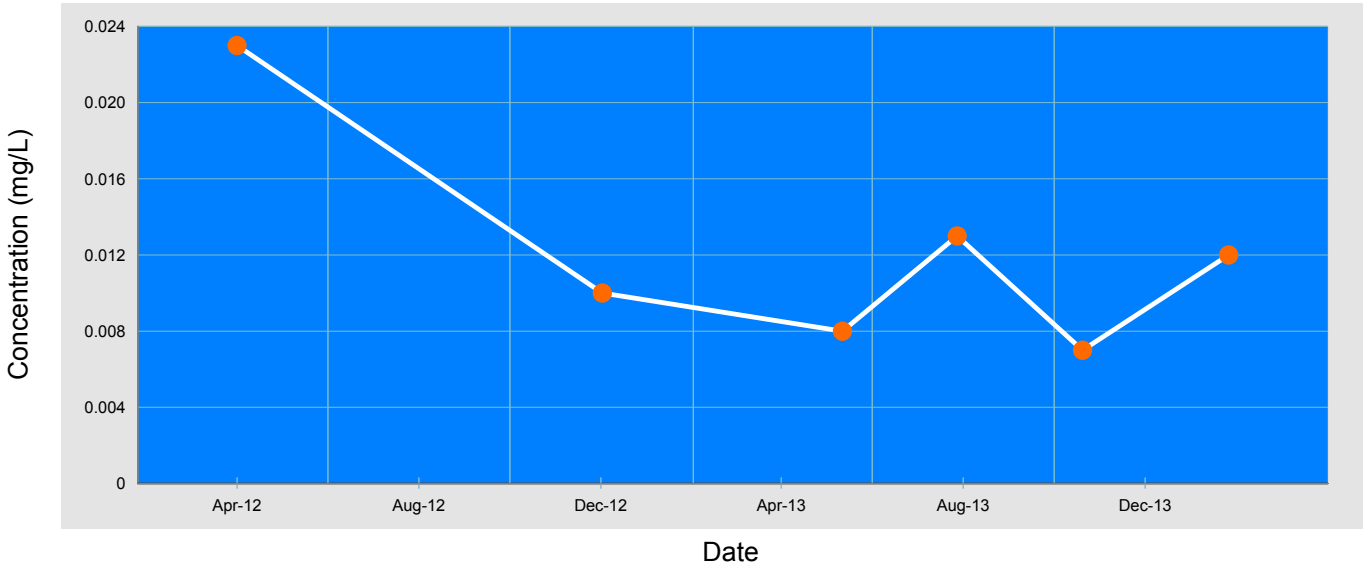


WellID	MW-12-01
Date Range	04/18/2012 - 02/17/2014
Current Result	0.022
Sample Size	6
Min / Max Result	<0.002 / 0.022
Max Detected	0.022
% Detected	83%
S Statistic	8
Probability	0.1020
90% Trend	NO TREND

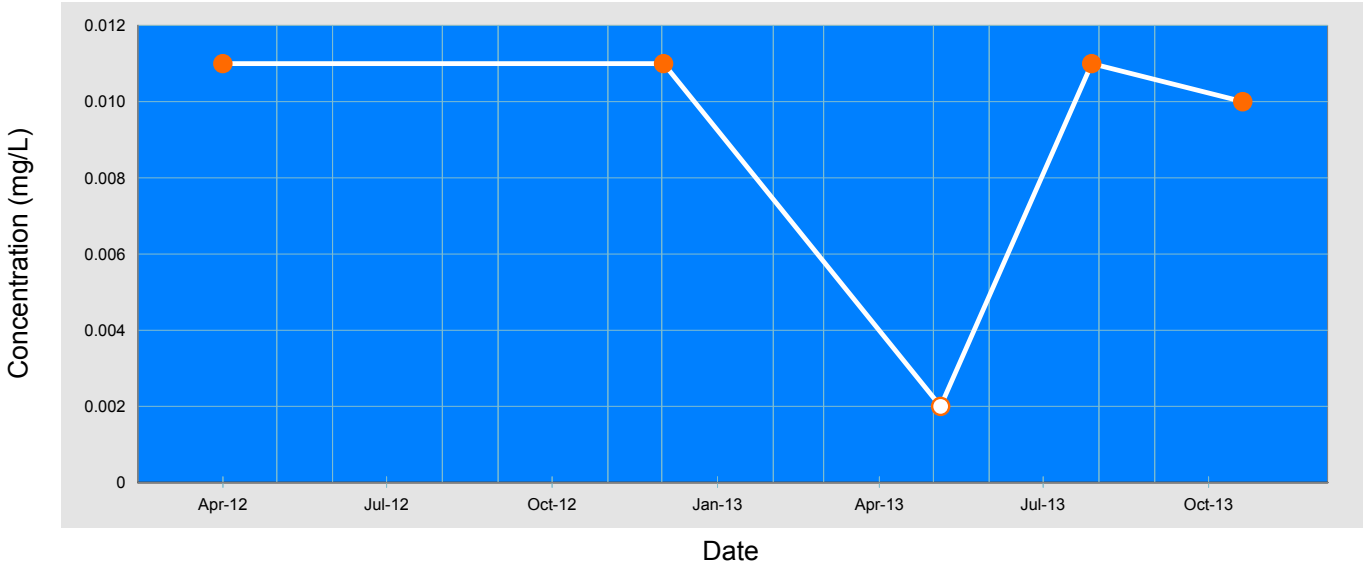


Arsenic

WellID	MW-12-02
Date Range	04/17/2012 - 02/13/2014
Current Result	0.012
Sample Size	6
Min / Max Result	0.007 / 0.023
Max Detected	0.023
% Detected	100%
S Statistic	-5
Probability	0.2350
90% Trend	NO TREND

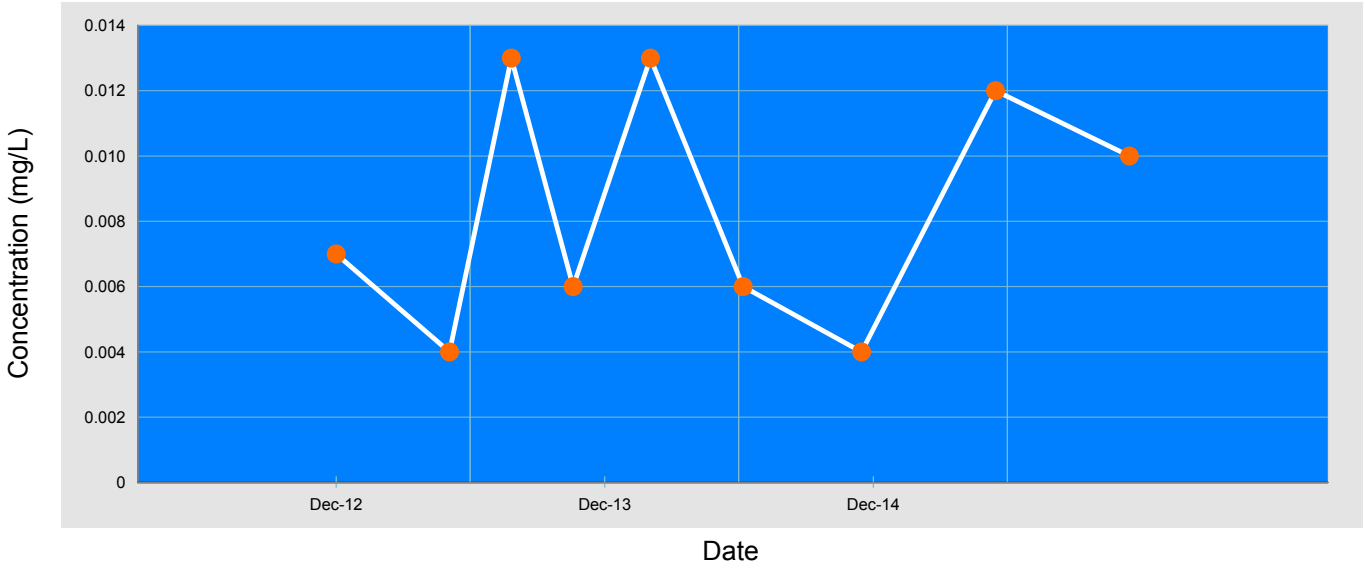


WellID	MW-12-04
Date Range	04/17/2012 - 11/05/2013
Current Result	0.010
Sample Size	5
Min / Max Result	<0.002 / 0.011
Max Detected	0.011
% Detected	80%
S Statistic	-3
Probability	0.3250
90% Trend	NO TREND

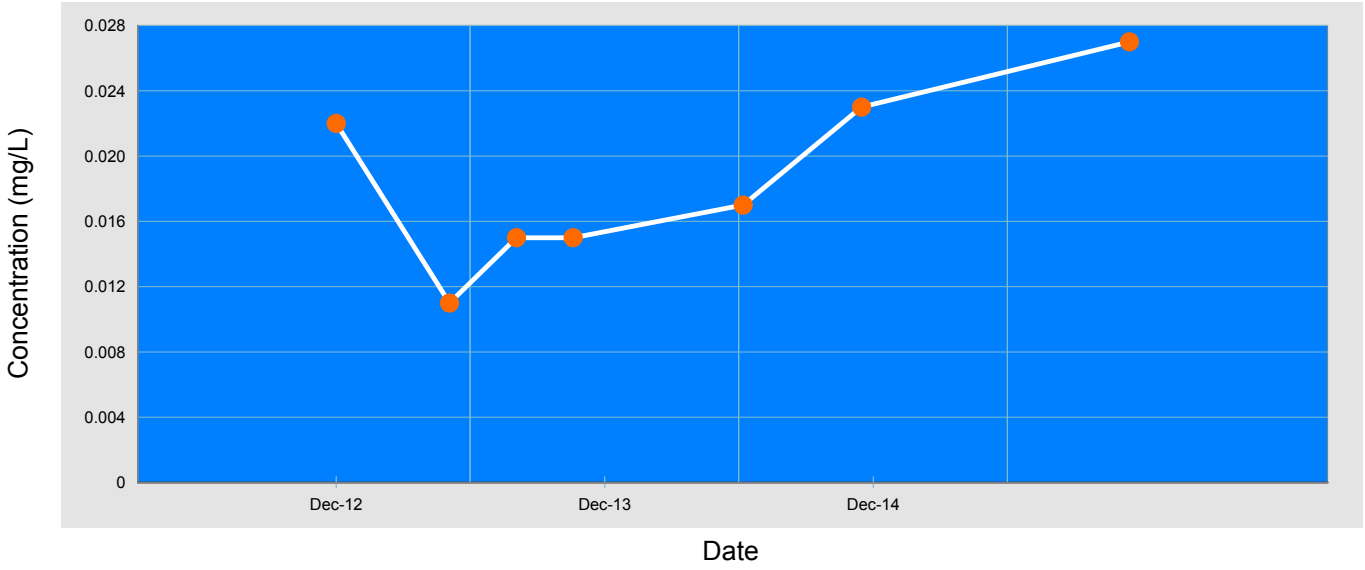


Arsenic

WellID	MW-12-11
Date Range	12/18/2012 - 12/04/2015
Current Result	0.010
Sample Size	9
Min / Max Result	0.004 / 0.013
Max Detected	0.013
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

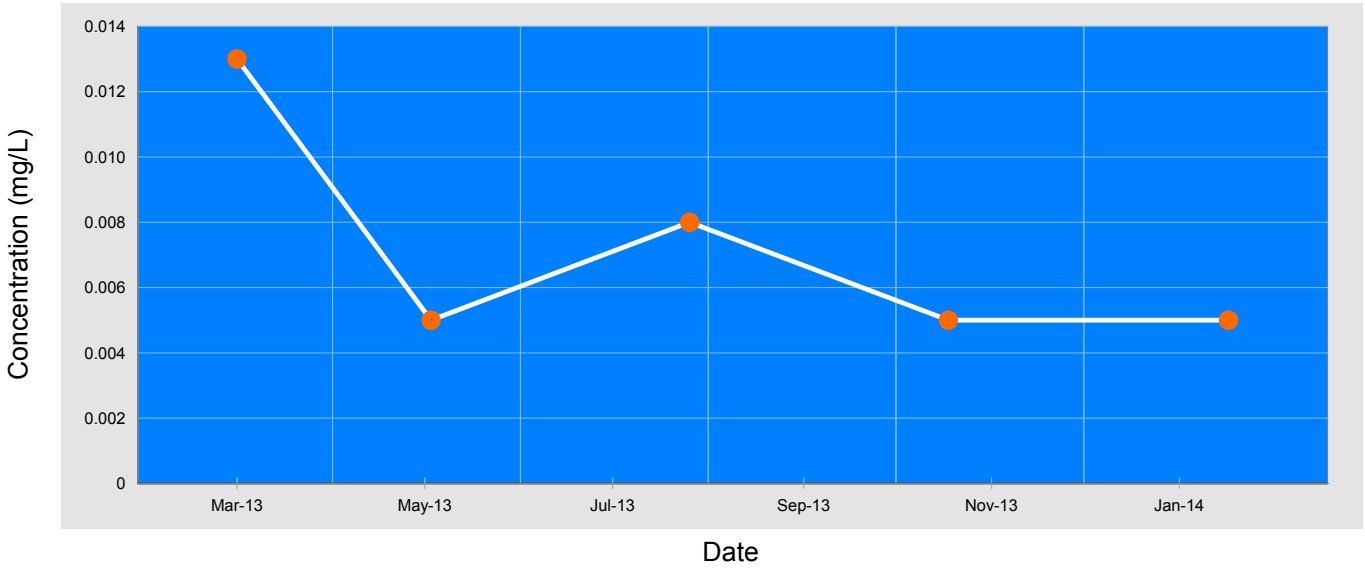


WellID	MW-12-16
Date Range	12/18/2012 - 12/02/2015
Current Result	0.027
Sample Size	7
Min / Max Result	0.011 / 0.027
Max Detected	0.027
% Detected	100%
S Statistic	12
Probability	0.0515
90% Trend	

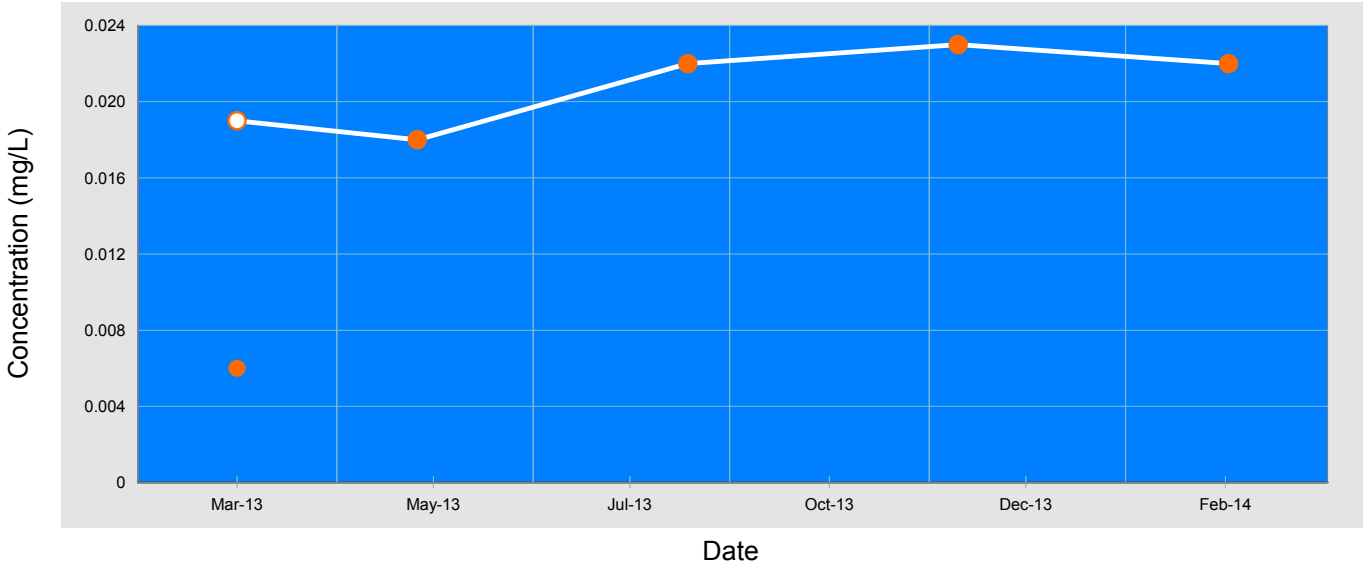


Arsenic

WellID	MW-13-22
Date Range	03/28/2013 - 02/10/2014
Current Result	0.005
Sample Size	5
Min / Max Result	0.005 / 0.013
Max Detected	0.013
% Detected	100%
S Statistic	-5
Probability	0.1800
90% Trend	NO TREND

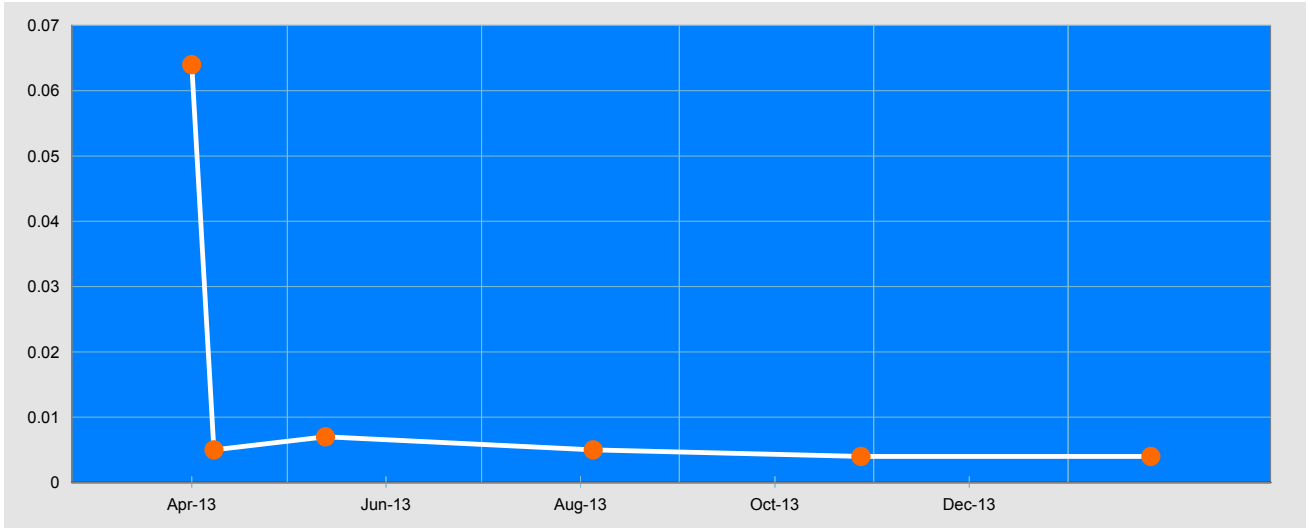


WellID	MW-13-25
Date Range	04/02/2013 - 02/07/2014
Current Result	0.022
Sample Size	6
Min / Max Result	0.006 / 0.023
Max Detected	0.023
% Detected	100%
S Statistic	8
Probability	0.1020
90% Trend	NO TREND

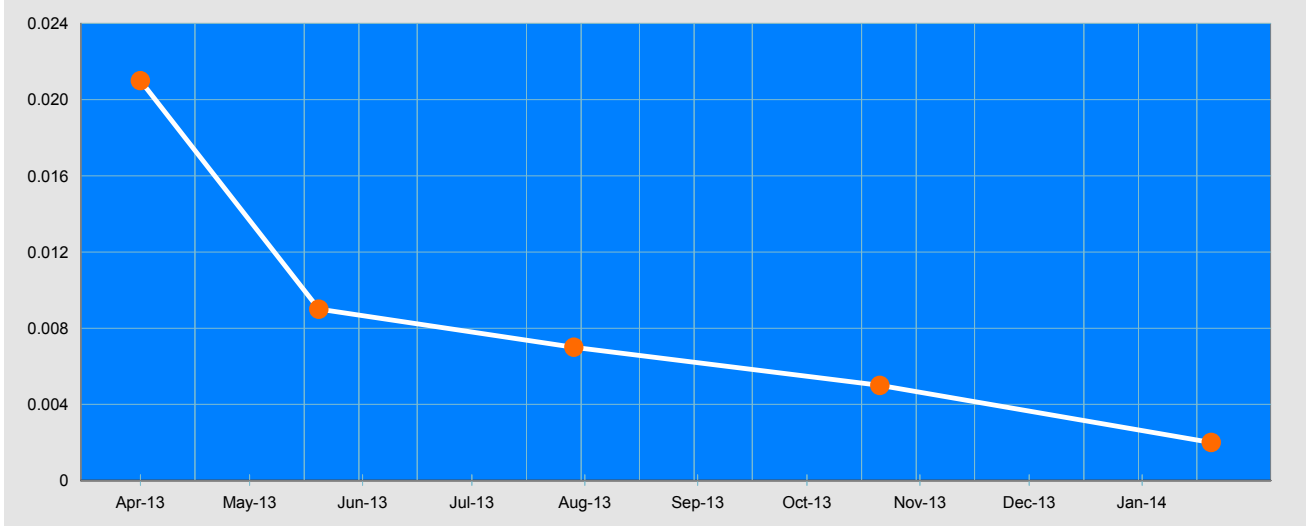


Arsenic

WellID	MW-13-27
Date Range	04/15/2013 - 02/11/2014
Current Result	0.004
Sample Size	6
Min / Max Result	0.004 / 0.064
Max Detected	0.064
% Detected	100%
S Statistic	-11
Probability	0.0280
90% Trend	

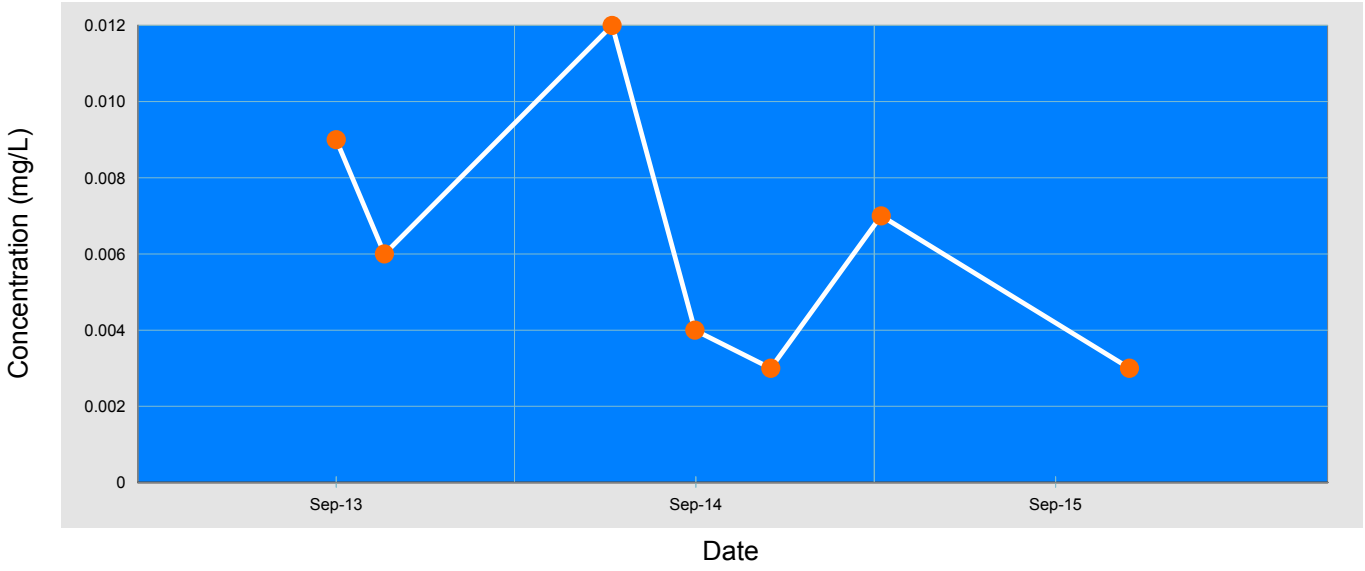


WellID	MW-13-28
Date Range	04/23/2013 - 02/10/2014
Current Result	0.002
Sample Size	5
Min / Max Result	0.002 / 0.021
Max Detected	0.021
% Detected	100%
S Statistic	-10
Probability	0.0083
90% Trend	

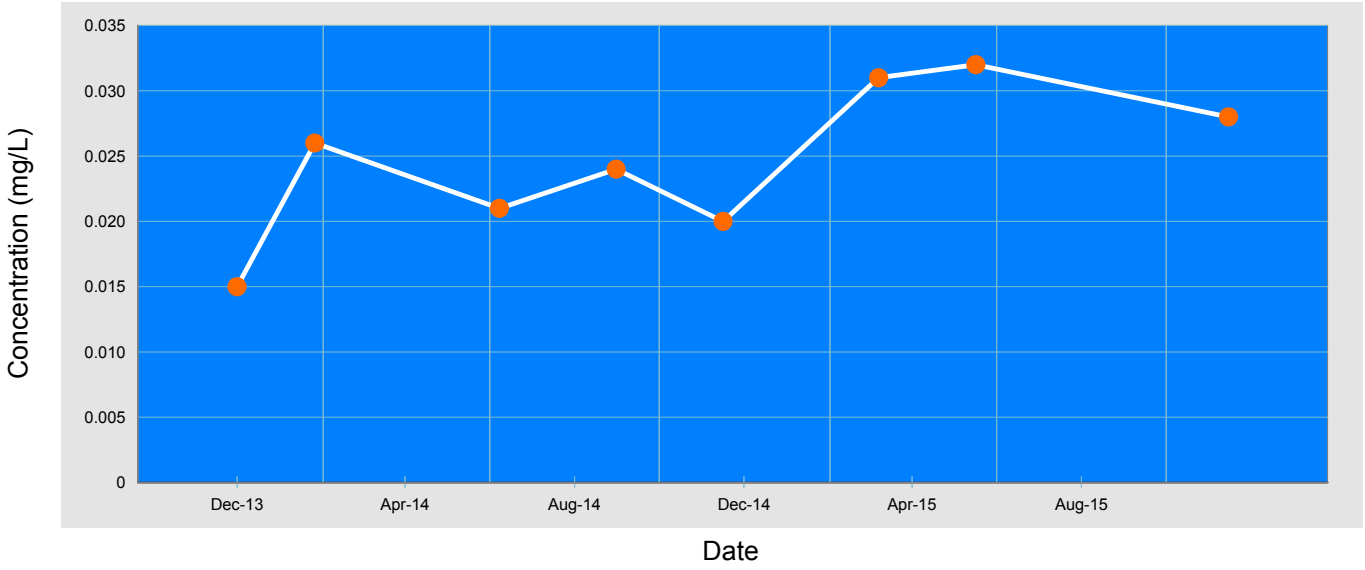


Arsenic

WellID	MW-13-35
Date Range	09/20/2013 - 12/02/2015
Current Result	0.003
Sample Size	7
Min / Max Result	0.003 / 0.012
Max Detected	0.012
% Detected	100%
S Statistic	-10
Probability	0.0935
90% Trend	

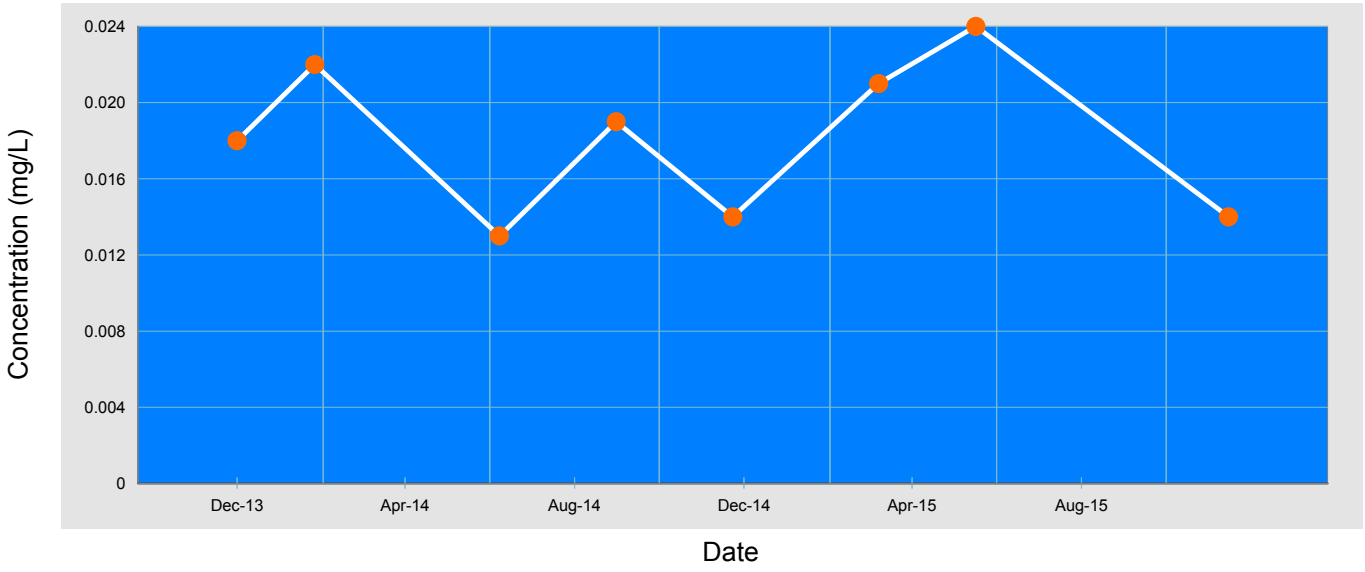


WellID	MW-13-40
Date Range	12/17/2013 - 12/02/2015
Current Result	0.028
Sample Size	8
Min / Max Result	0.015 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	14
Probability	0.0540
90% Trend	

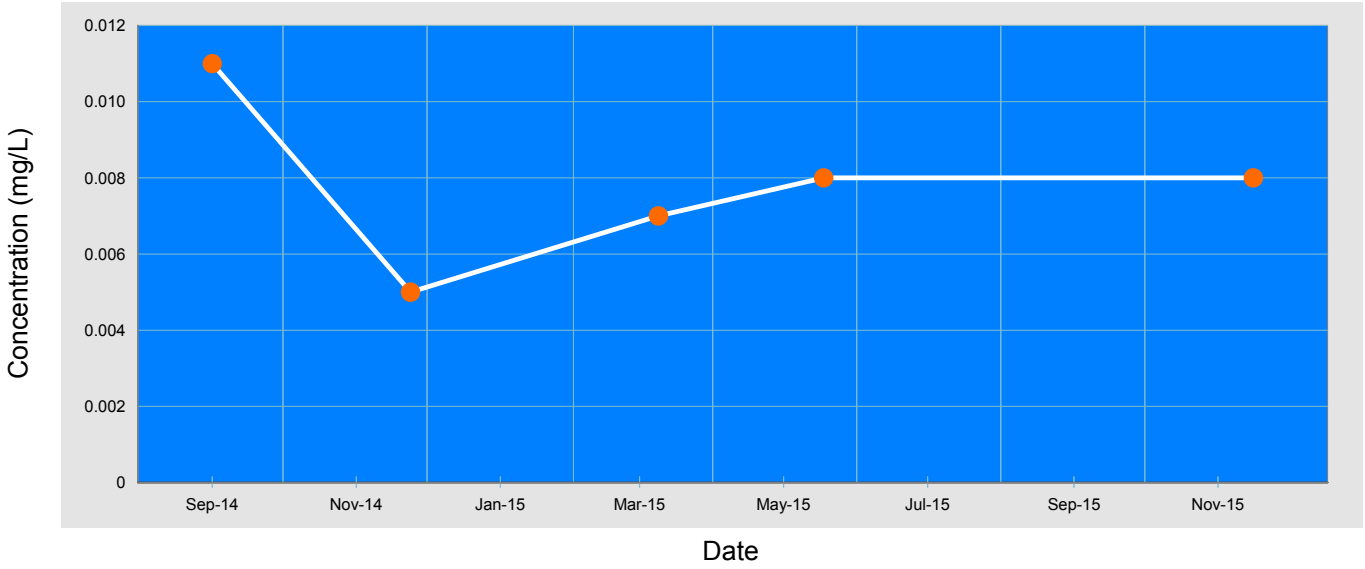


Arsenic

WellID	MW-13-41
Date Range	12/17/2013 - 12/02/2015
Current Result	0.014
Sample Size	8
Min / Max Result	0.013 / 0.024
Max Detected	0.024
% Detected	100%
S Statistic	3
Probability	0.4060
90% Trend	NO TREND

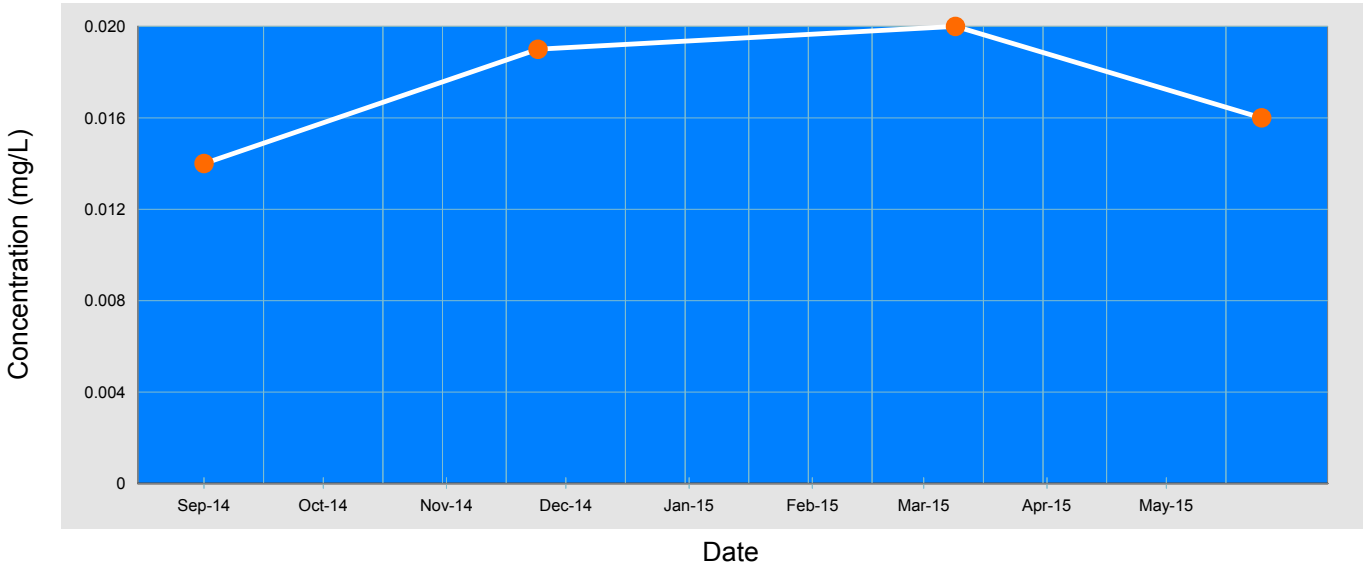


WellID	MW-14-58
Date Range	09/17/2014 - 12/03/2015
Current Result	0.008
Sample Size	5
Min / Max Result	0.005 / 0.011
Max Detected	0.011
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

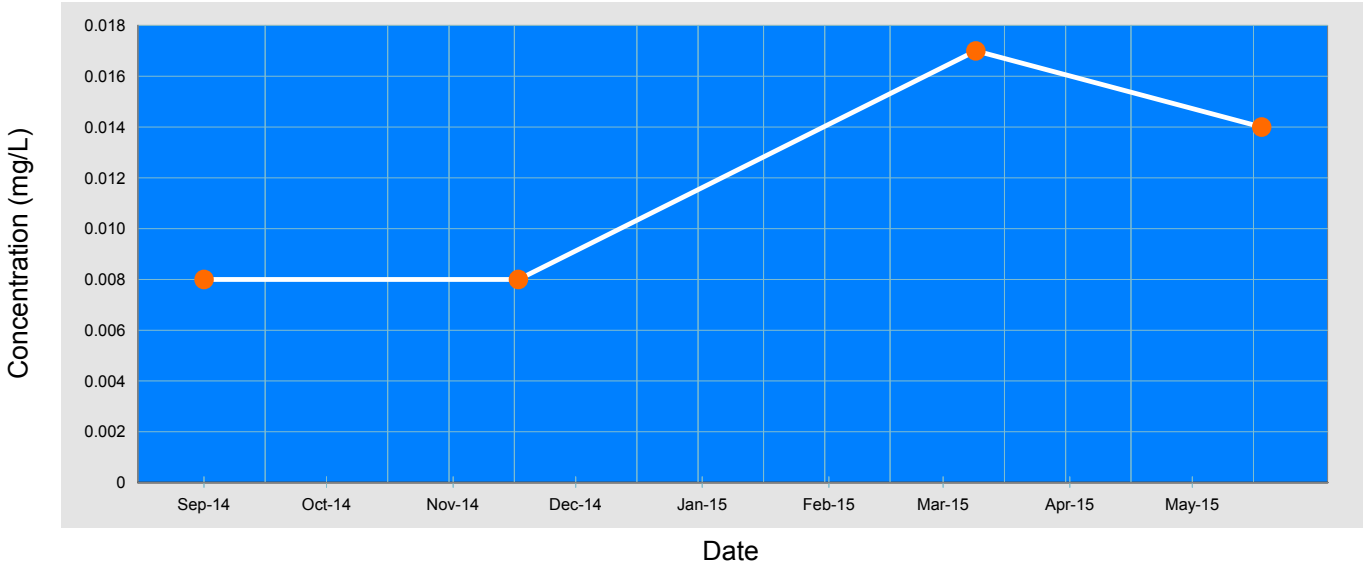


Arsenic

WellID	MW-14-61
Date Range	09/19/2014 - 06/09/2015
Current Result	0.016
Sample Size	4
Min / Max Result	0.014 / 0.020
Max Detected	0.02
% Detected	100%
S Statistic	2
Probability	0.3750
90% Trend	NO TREND

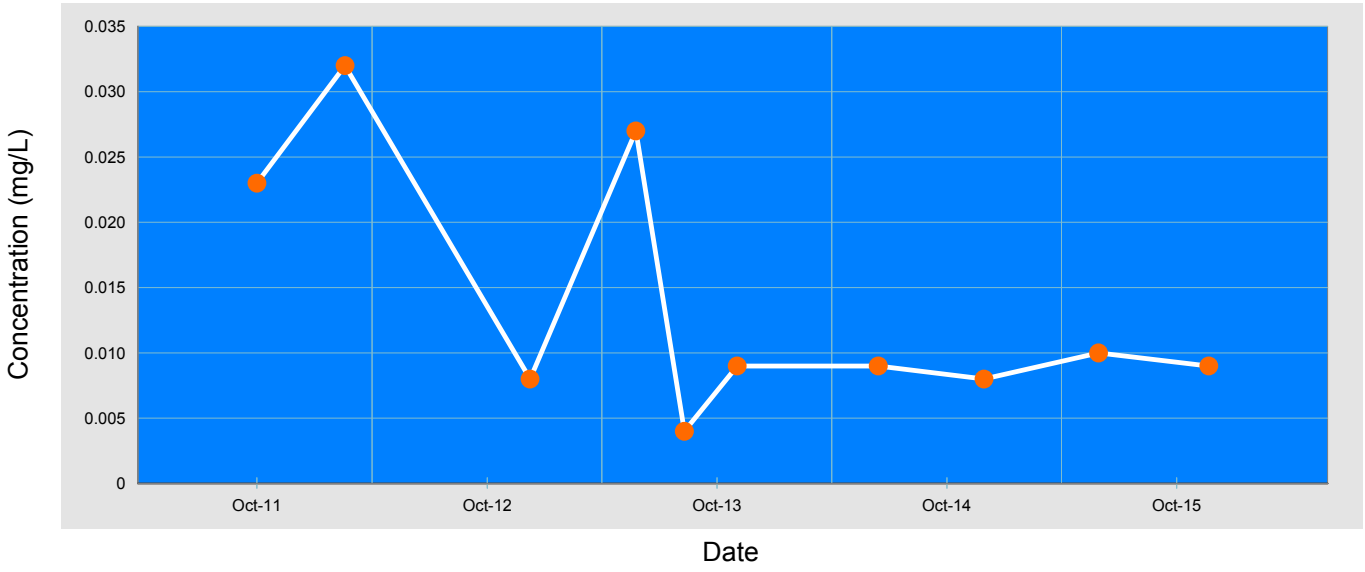


WellID	MW-14-64
Date Range	09/17/2014 - 06/02/2015
Current Result	0.014
Sample Size	4
Min / Max Result	0.008 / 0.017
Max Detected	0.017
% Detected	100%
S Statistic	3
Probability	0.2710
90% Trend	NO TREND

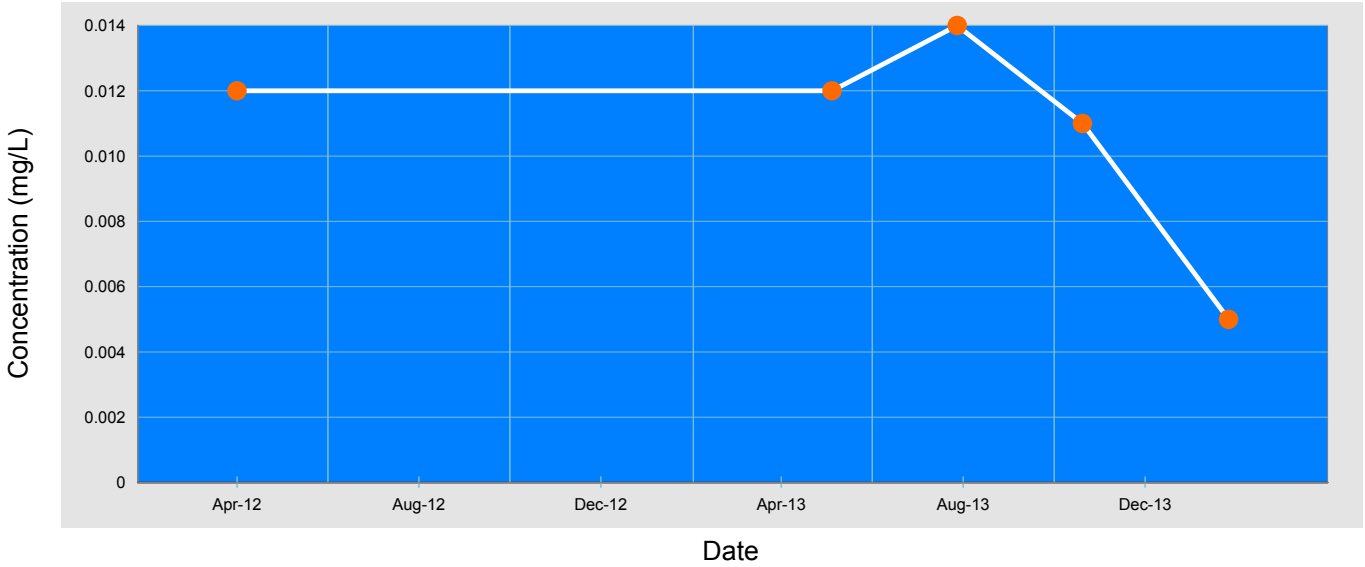


Arsenic

WellID	MW-91-2
Date Range	10/13/2011 - 12/02/2015
Current Result	0.009
Sample Size	10
Min / Max Result	0.004 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	-9
Probability	0.2420
90% Trend	NO TREND

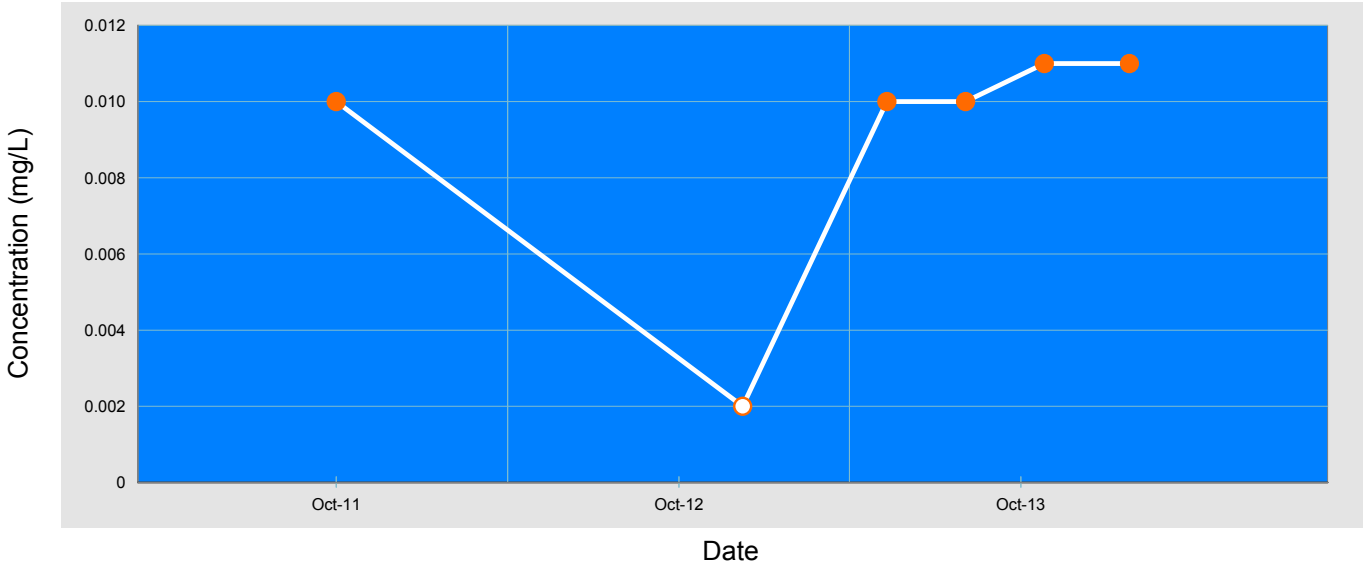


WellID	MW-91-4
Date Range	04/17/2012 - 02/10/2014
Current Result	0.005
Sample Size	5
Min / Max Result	0.005 / 0.014
Max Detected	0.014
% Detected	100%
S Statistic	-5
Probability	0.1800
90% Trend	NO TREND

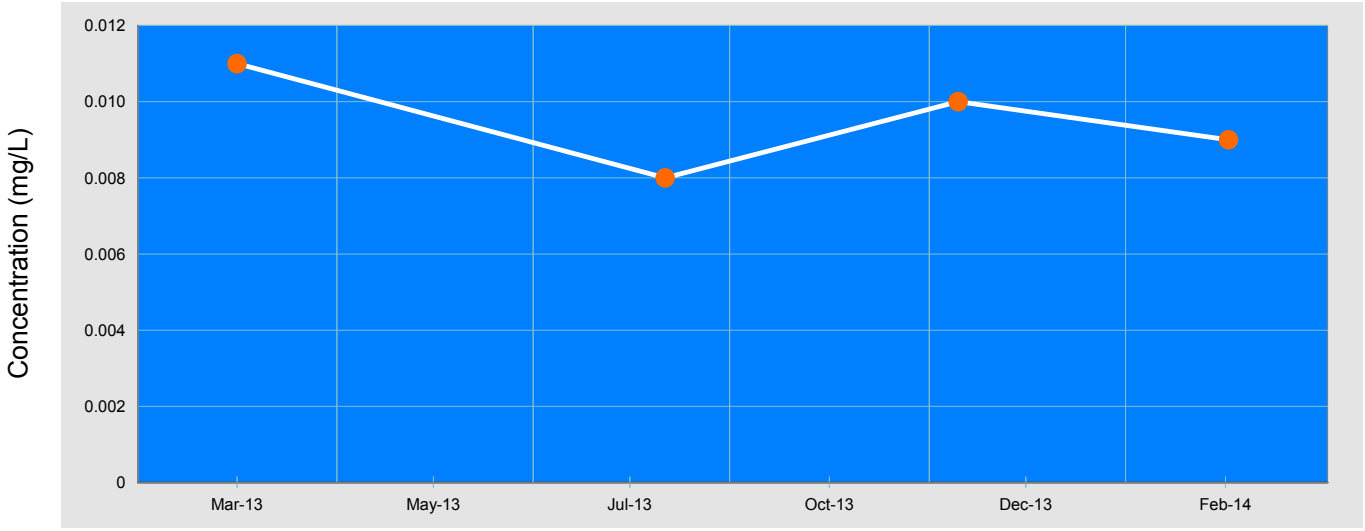


Arsenic

WellID	MW-91-5
Date Range	10/12/2011 - 02/07/2014
Current Result	0.011
Sample Size	6
Min / Max Result	<0.002 / 0.011
Max Detected	0.011
% Detected	83%
S Statistic	9
Probability	0.0680
90% Trend	

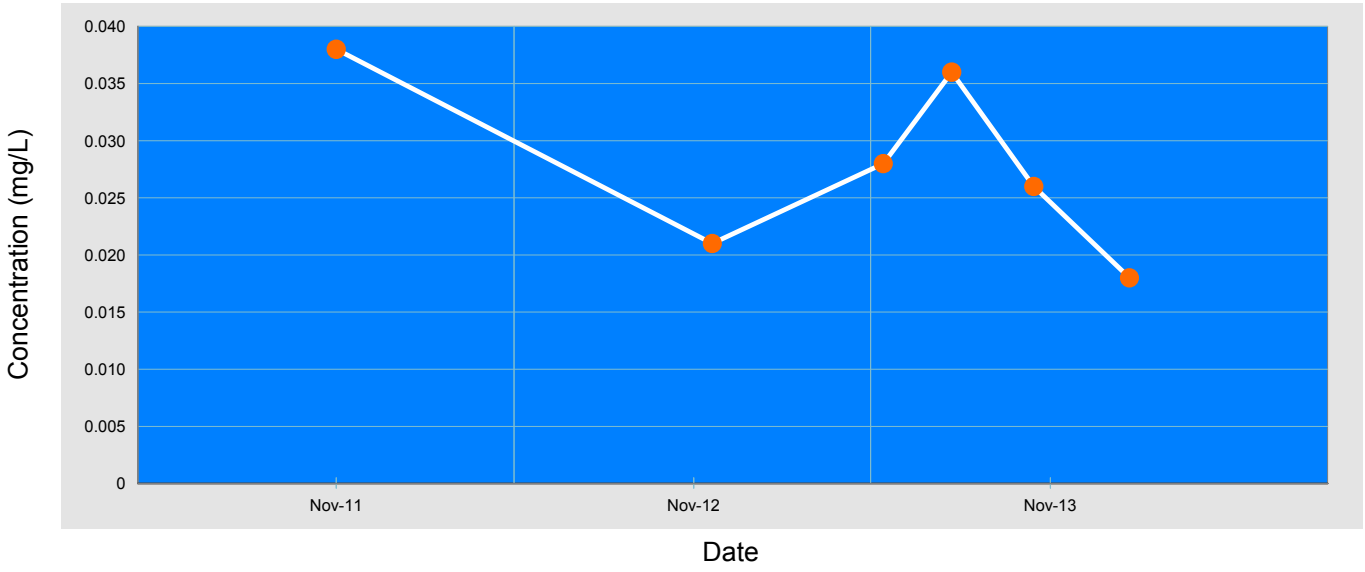


WellID	MW-91-6
Date Range	04/04/2013 - 02/07/2014
Current Result	0.009
Sample Size	4
Min / Max Result	0.008 / 0.011
Max Detected	0.011
% Detected	100%
S Statistic	-2
Probability	0.3750
90% Trend	**NO TREND**

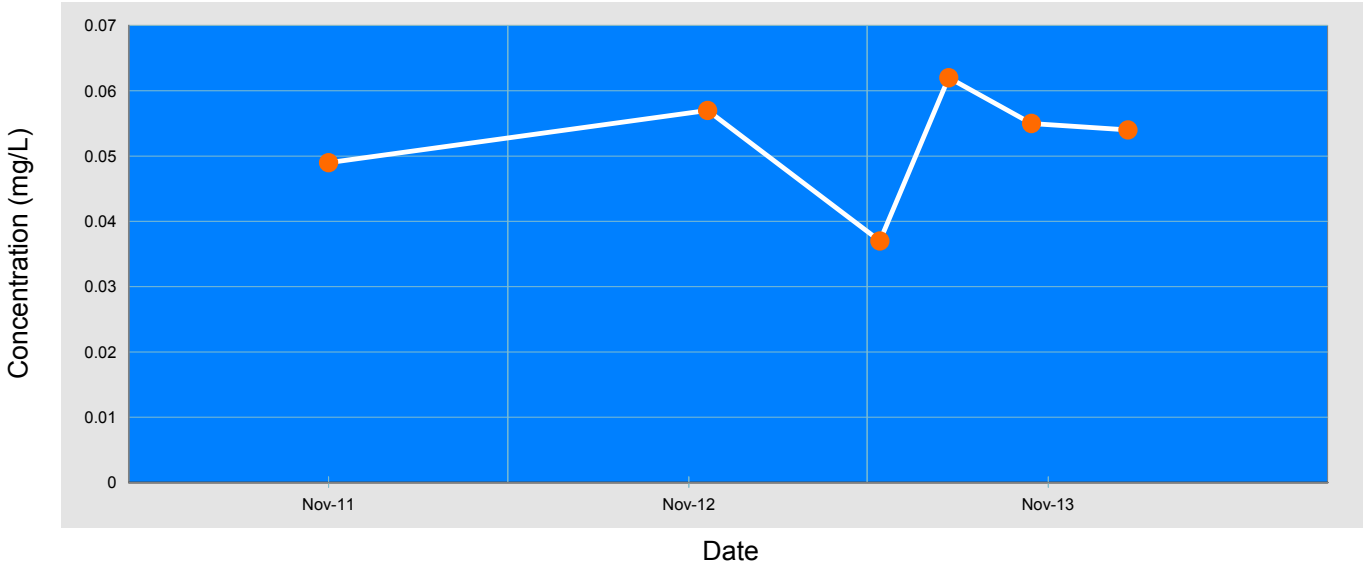


Arsenic

WellID	MWBP-10A-UST1-4
Date Range	12/02/2011 - 02/19/2014
Current Result	0.018
Sample Size	6
Min / Max Result	0.018 / 0.038
Max Detected	0.038
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	**NO TREND**

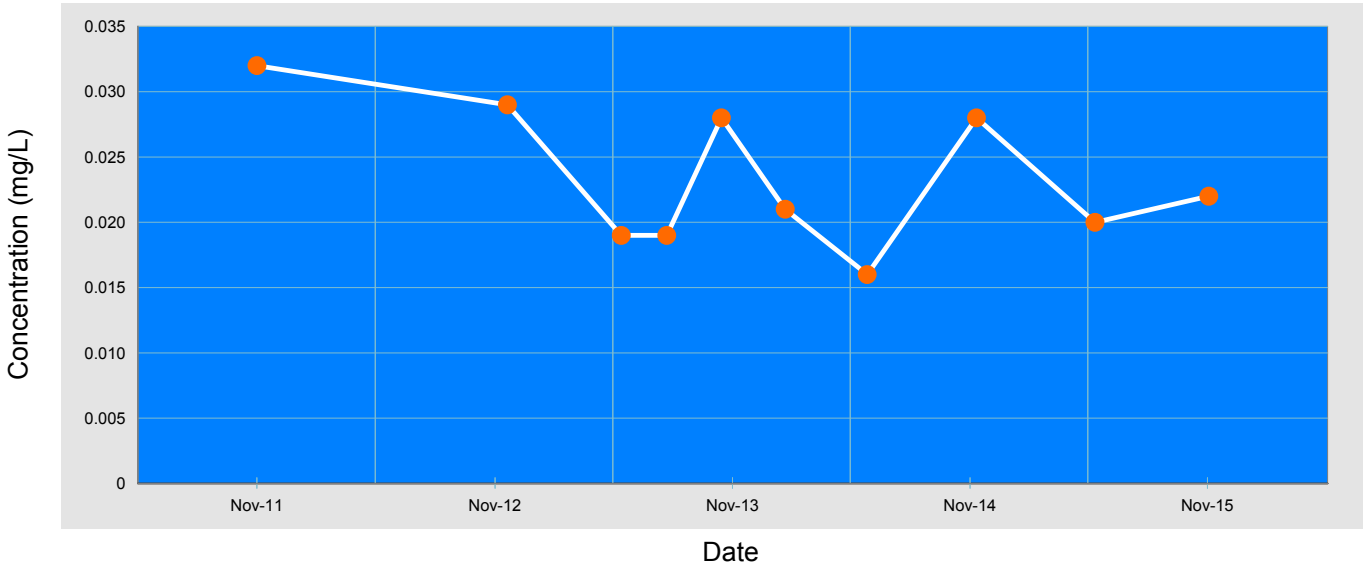


WellID	MWBP-10-UST1-4
Date Range	12/02/2011 - 02/20/2014
Current Result	0.054
Sample Size	6
Min / Max Result	0.037 / 0.062
Max Detected	0.062
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	**NO TREND**

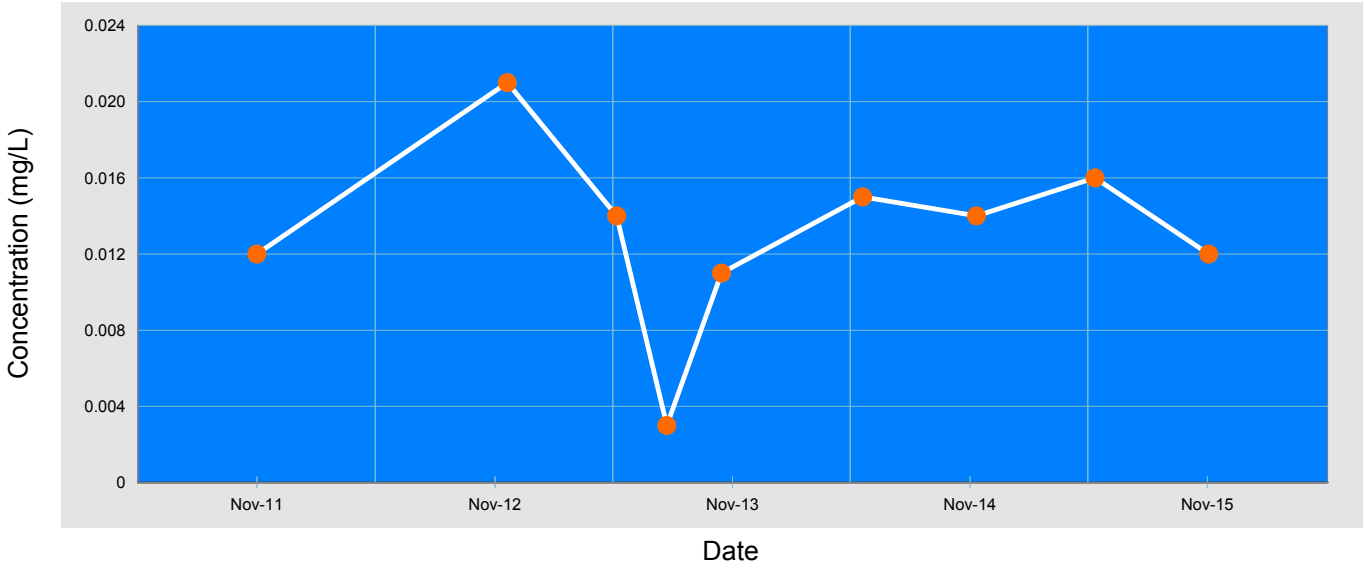


Arsenic

WellID	MWBP-11-UST1-4
Date Range	11/29/2011 - 12/01/2015
Current Result	0.022
Sample Size	10
Min / Max Result	0.016 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	-11
Probability	0.1900
90% Trend	**NO TREND**

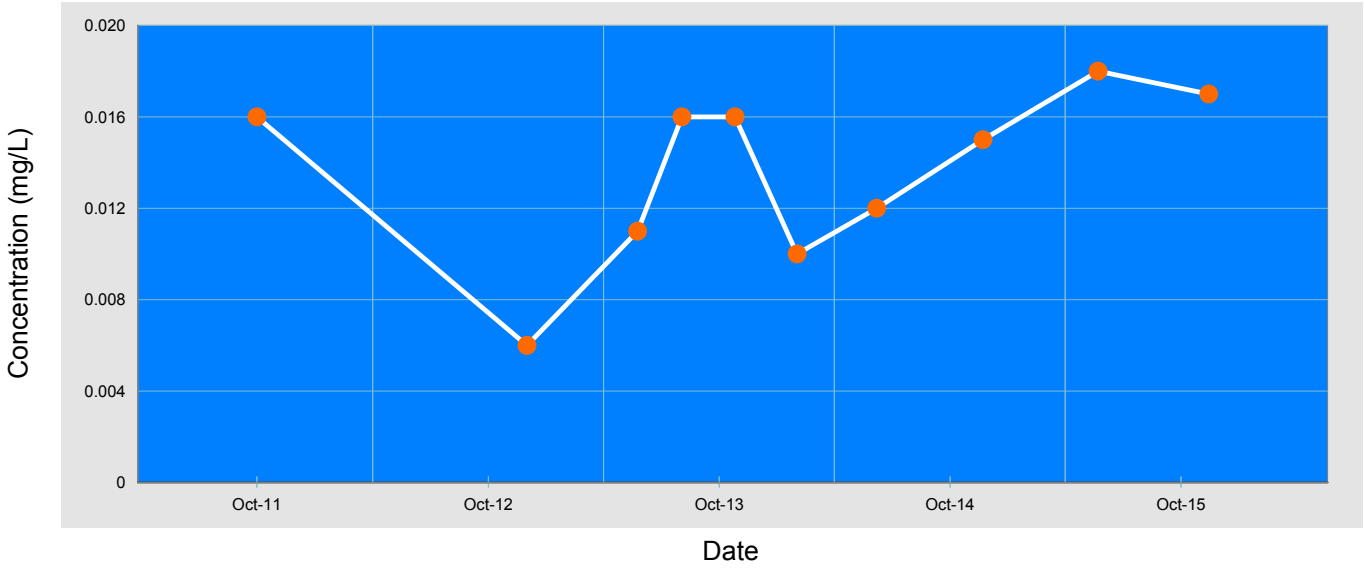


WellID	MWBP-12A-UST1-4
Date Range	12/02/2011 - 12/02/2015
Current Result	0.012
Sample Size	9
Min / Max Result	0.003 / 0.021
Max Detected	0.021
% Detected	100%
S Statistic	2
Probability	0.4600
90% Trend	**NO TREND**

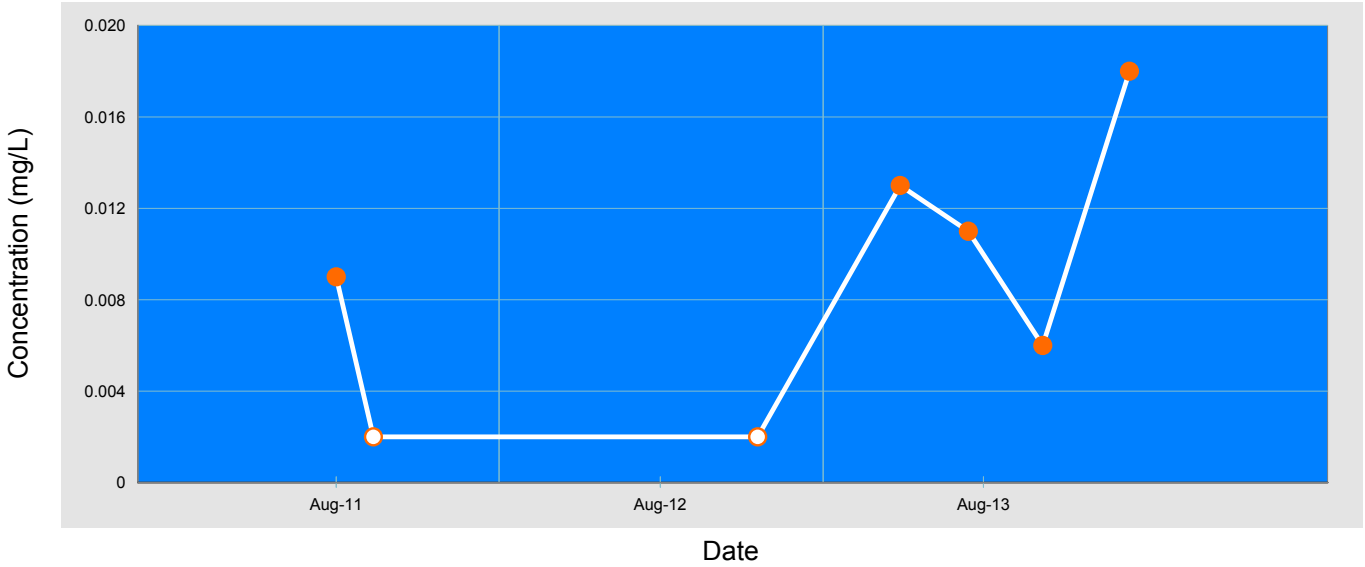


Arsenic

WellID	MWBP-12-UST1-4
Date Range	10/18/2011 - 12/01/2015
Current Result	0.017
Sample Size	10
Min / Max Result	0.006 / 0.018
Max Detected	0.018
% Detected	100%
S Statistic	16
Probability	0.0930
90% Trend	

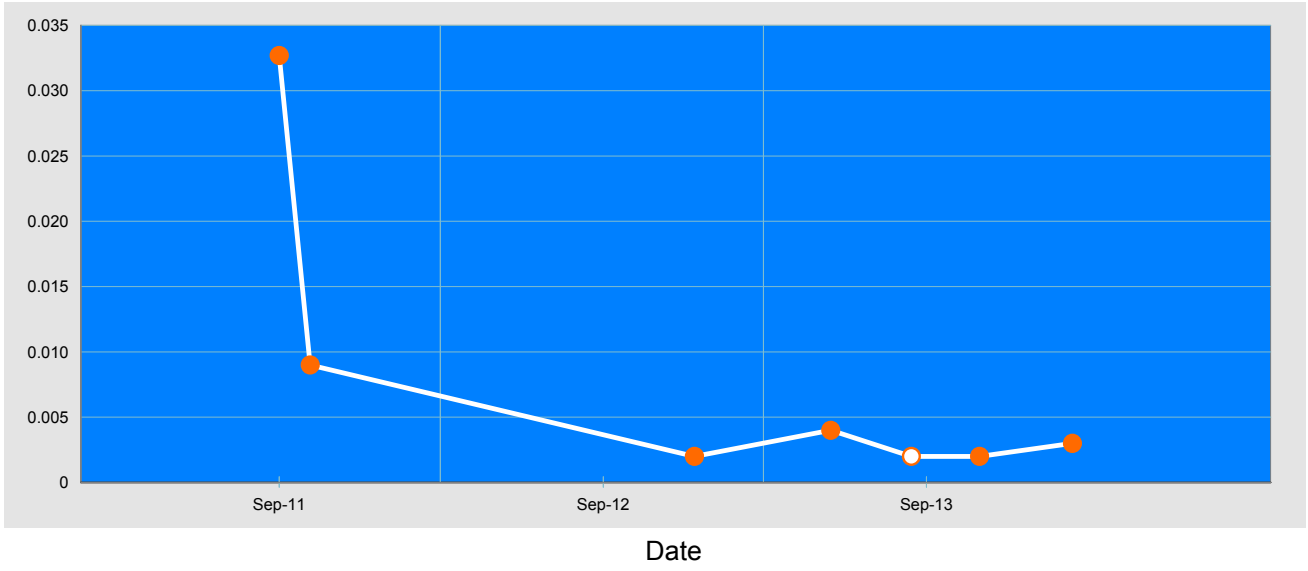


WellID	P2-MW-01
Date Range	08/29/2011 - 02/13/2014
Current Result	0.018
Sample Size	7
Min / Max Result	<0.002 / 0.018
Max Detected	0.018
% Detected	71%
S Statistic	8
Probability	0.1550
90% Trend	**NO TREND**

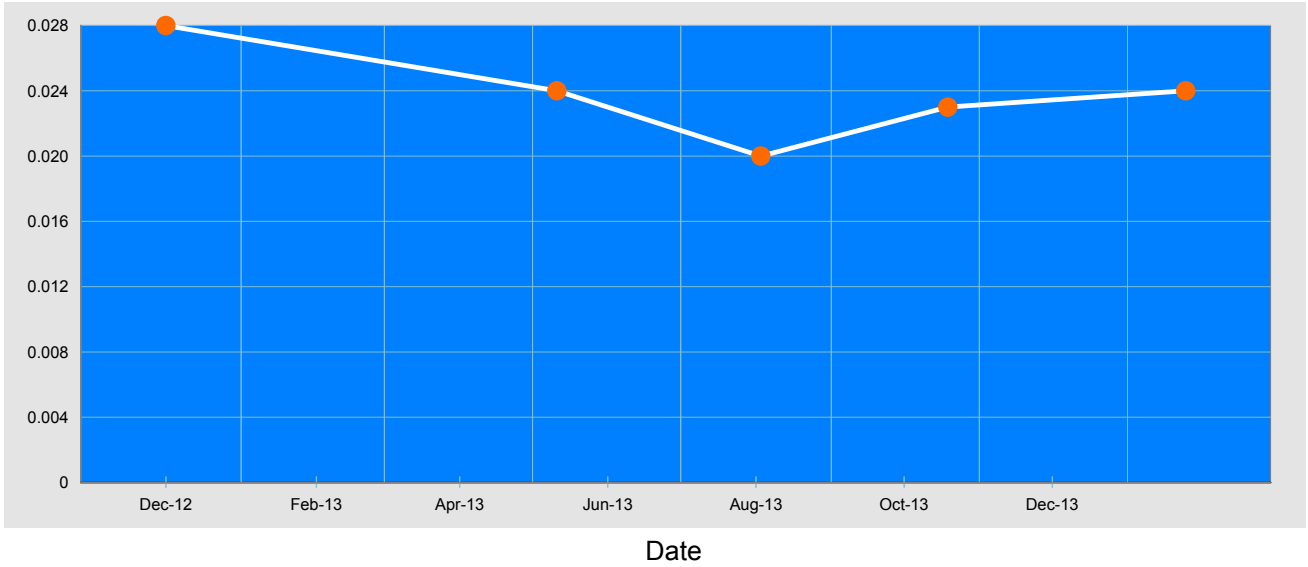


Arsenic

WellID	P2-MW-02
Date Range	09/07/2011 - 02/17/2014
Current Result	0.003
Sample Size	7
Min / Max Result	<0.002 / 0.0327
Max Detected	0.0327
% Detected	86%
S Statistic	-10
Probability	0.0935
90% Trend	

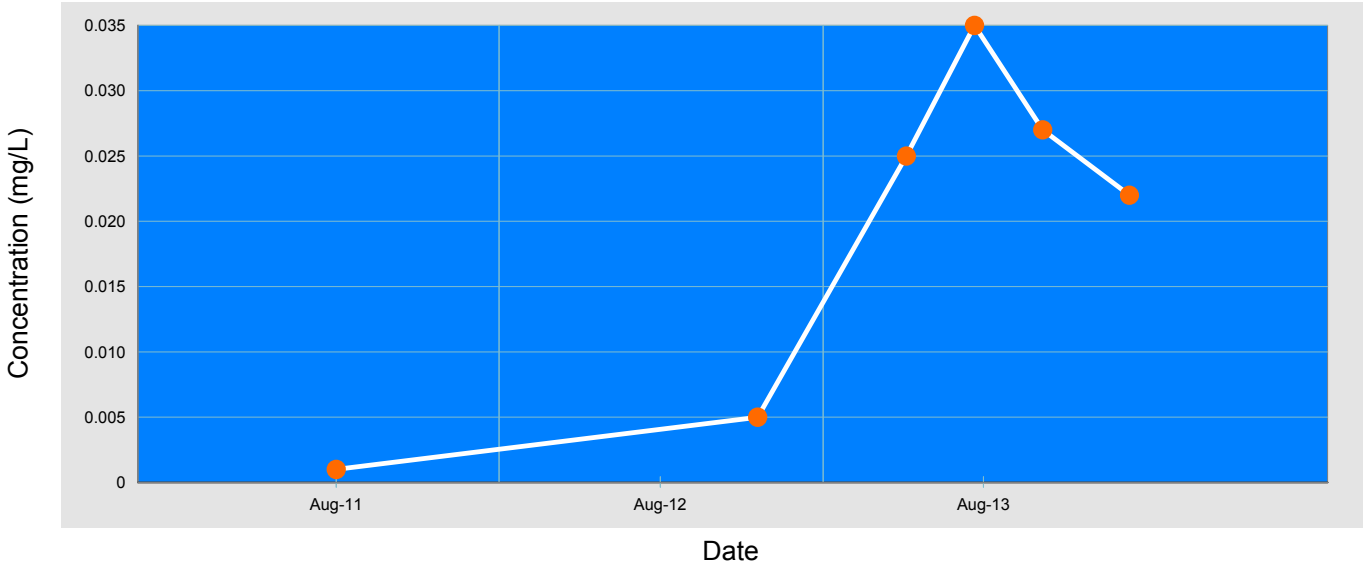


WellID	P2-SB-03
Date Range	12/20/2012 - 02/14/2014
Current Result	0.024
Sample Size	5
Min / Max Result	0.020 / 0.028
Max Detected	0.028
% Detected	100%
S Statistic	-3
Probability	0.3250
90% Trend	**NO TREND**

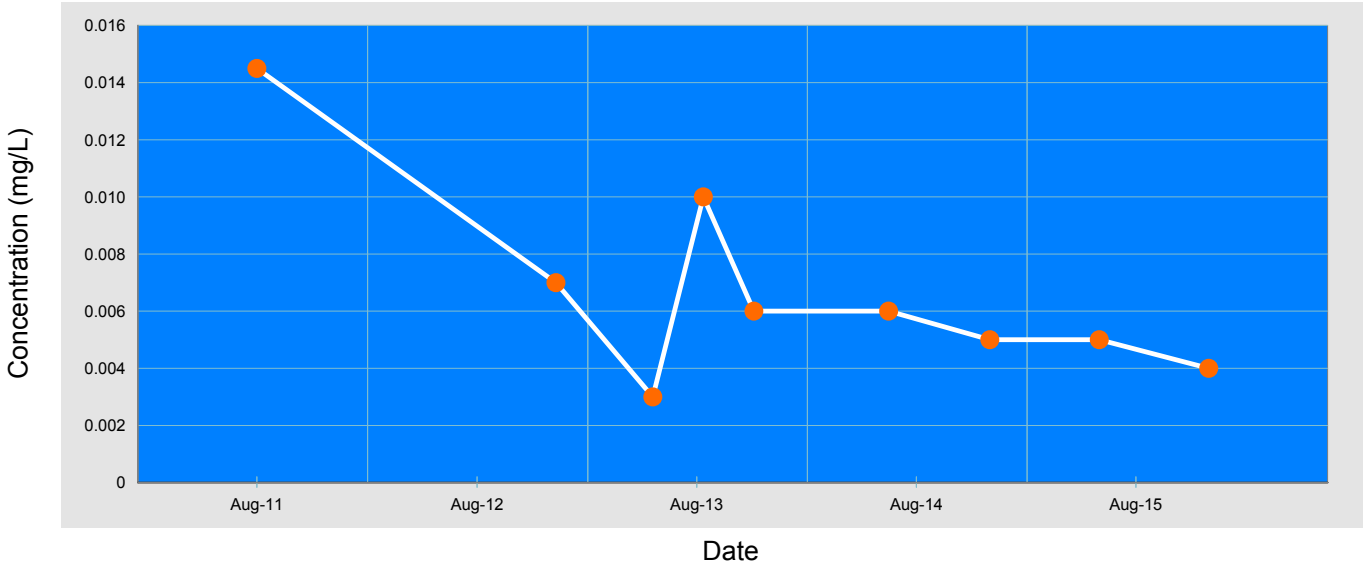


Arsenic

WellID	P2-SB-20
Date Range	08/31/2011 - 02/13/2014
Current Result	0.022
Sample Size	6
Min / Max Result	0.001 / 0.035
Max Detected	0.035
% Detected	100%
S Statistic	7
Probability	0.1360
90% Trend	NO TREND

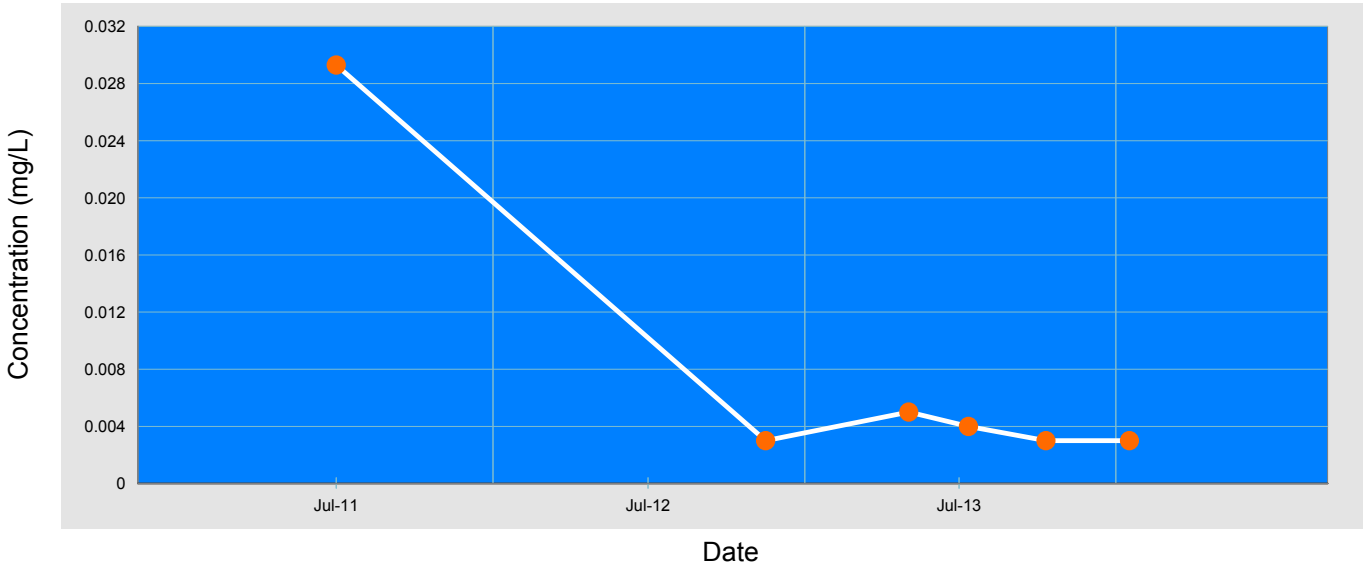


WellID	P6-SB-18
Date Range	08/08/2011 - 12/07/2015
Current Result	0.004
Sample Size	9
Min / Max Result	0.003 / 0.0145
Max Detected	0.0145
% Detected	100%
S Statistic	-20
Probability	0.0220
90% Trend	

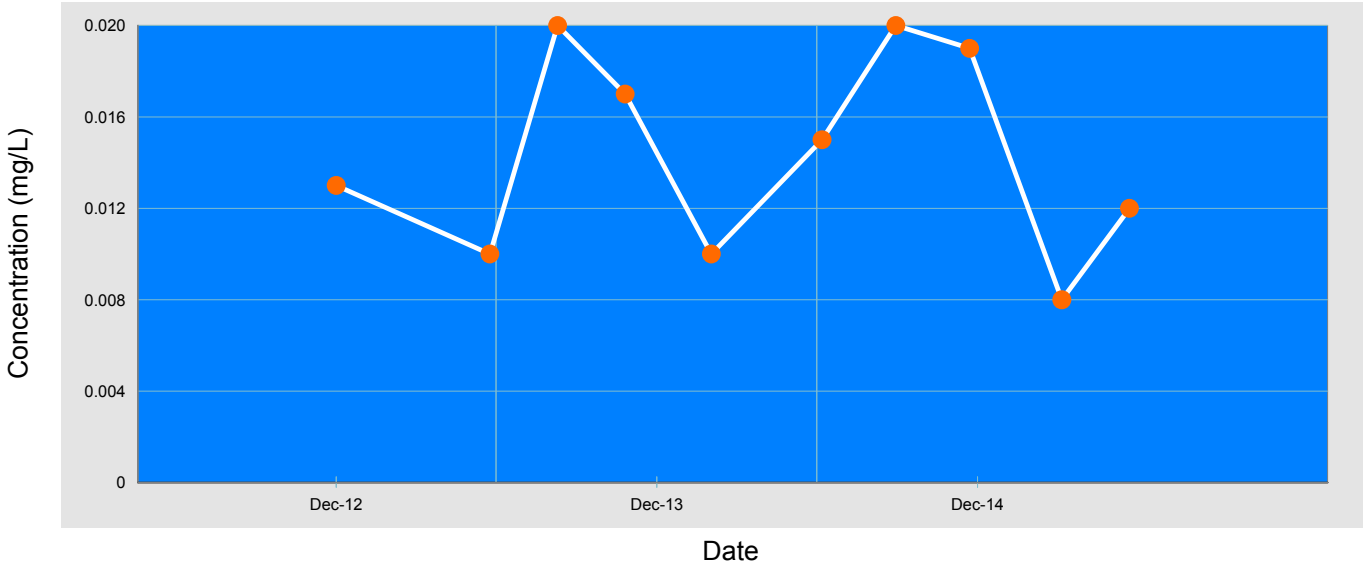


Arsenic

WellID	P6-SB-21
Date Range	08/04/2011 - 02/20/2014
Current Result	0.003
Sample Size	6
Min / Max Result	0.003 / 0.0293
Max Detected	0.0293
% Detected	100%
S Statistic	-8
Probability	0.1020
90% Trend	NO TREND

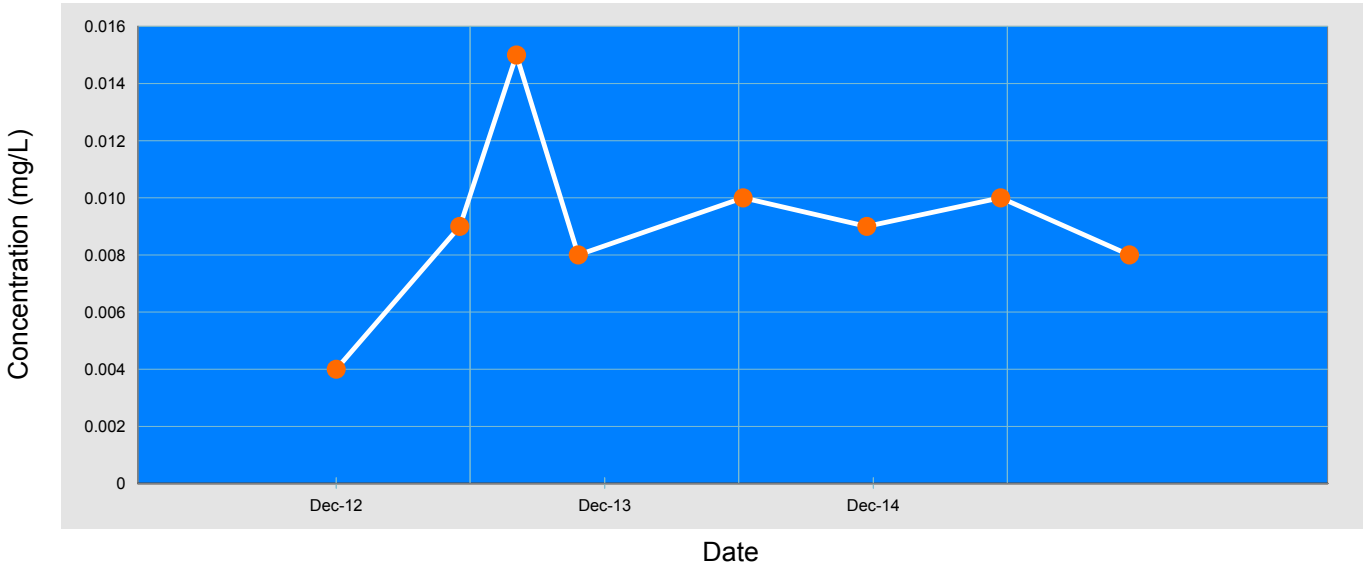


WellID	P6-SB-32
Date Range	12/19/2012 - 06/09/2015
Current Result	0.012
Sample Size	10
Min / Max Result	0.008 / 0.020
Max Detected	0.02
% Detected	100%
S Statistic	-3
Probability	0.4310
90% Trend	NO TREND

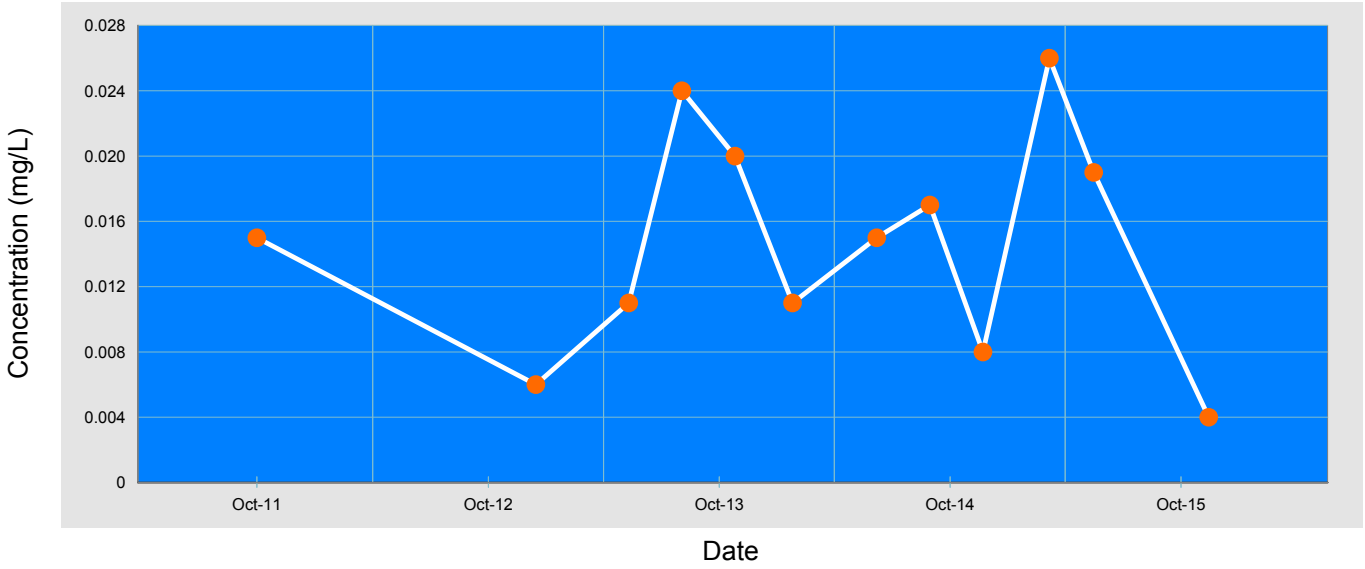


Arsenic

WellID	P6-SB-35
Date Range	12/19/2012 - 12/03/2015
Current Result	0.008
Sample Size	8
Min / Max Result	0.004 / 0.015
Max Detected	0.015
% Detected	100%
S Statistic	3
Probability	0.4060
90% Trend	NO TREND

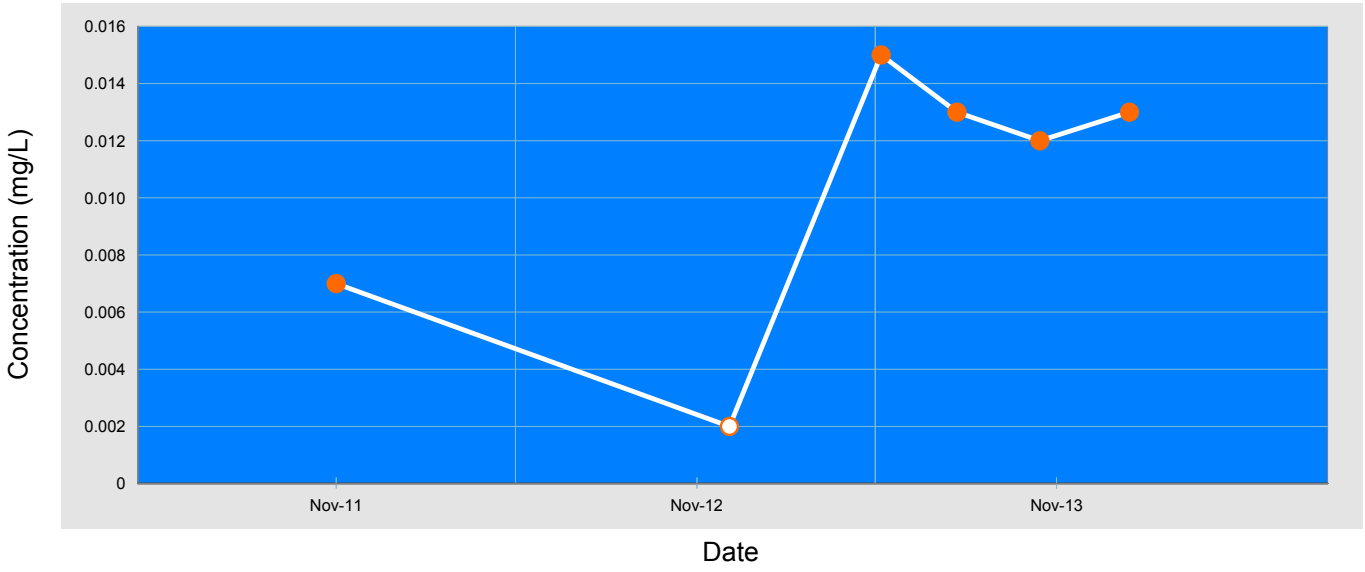


WellID	UNK-09
Date Range	10/19/2011 - 12/03/2015
Current Result	0.004
Sample Size	12
Min / Max Result	0.004 / 0.026
Max Detected	0.026
% Detected	100%
S Statistic	2
Probability	0.4725
90% Trend	NO TREND



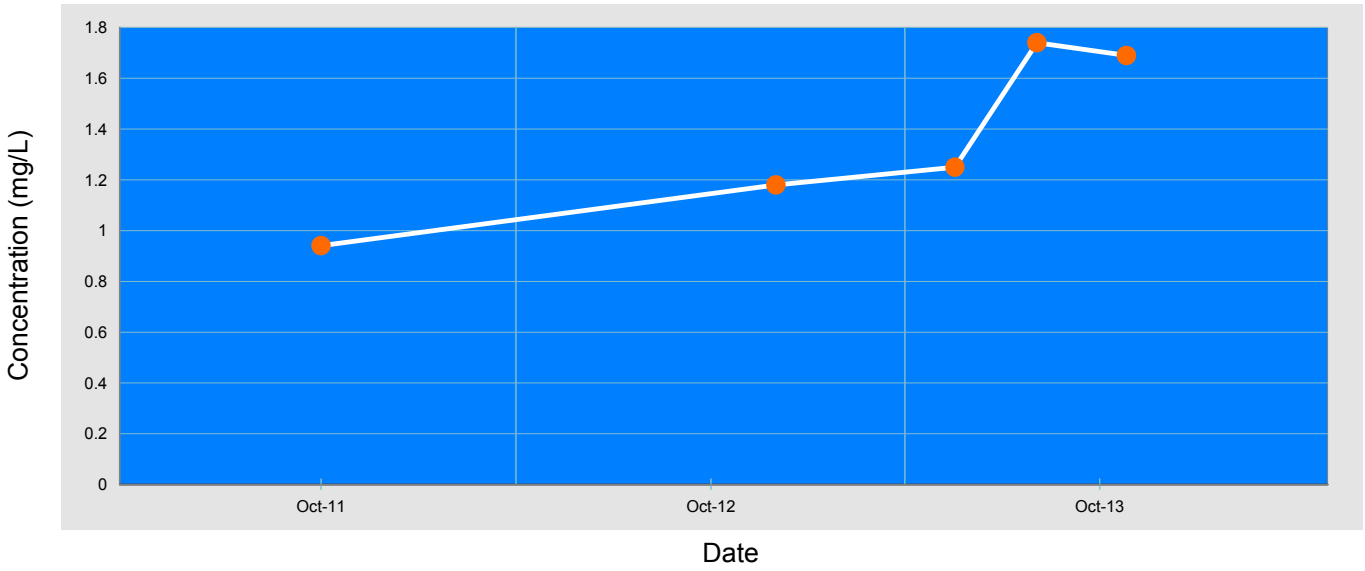
Arsenic

WellID	UNK-11
Date Range	11/29/2011 - 02/11/2014
Current Result	0.013
Sample Size	6
Min / Max Result	<0.002 / 0.015
Max Detected	0.015
% Detected	83%
S Statistic	4
Probability	0.2980
90% Trend	NO TREND



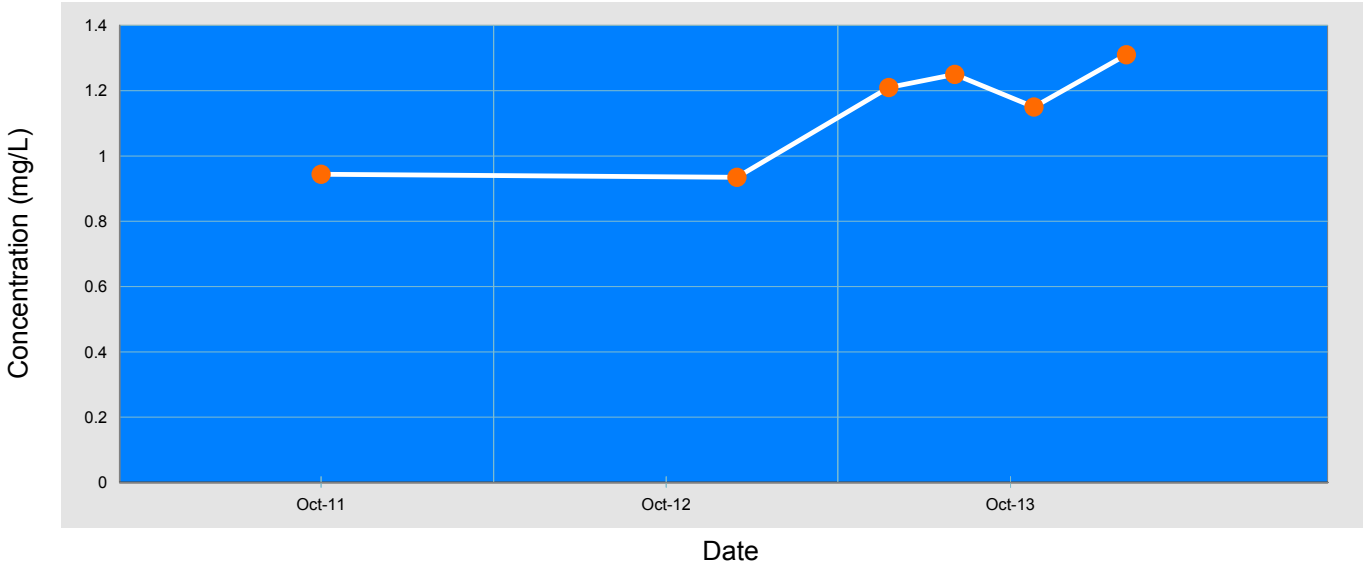
Barium

WellID	MW-02-01(6)
Date Range	10/17/2011 - 11/14/2013
Current Result	1.69
Sample Size	5
Min / Max Result	0.941 / 1.74
Max Detected	1.74
% Detected	100%
S Statistic	8
Probability	0.0420
90% Trend	



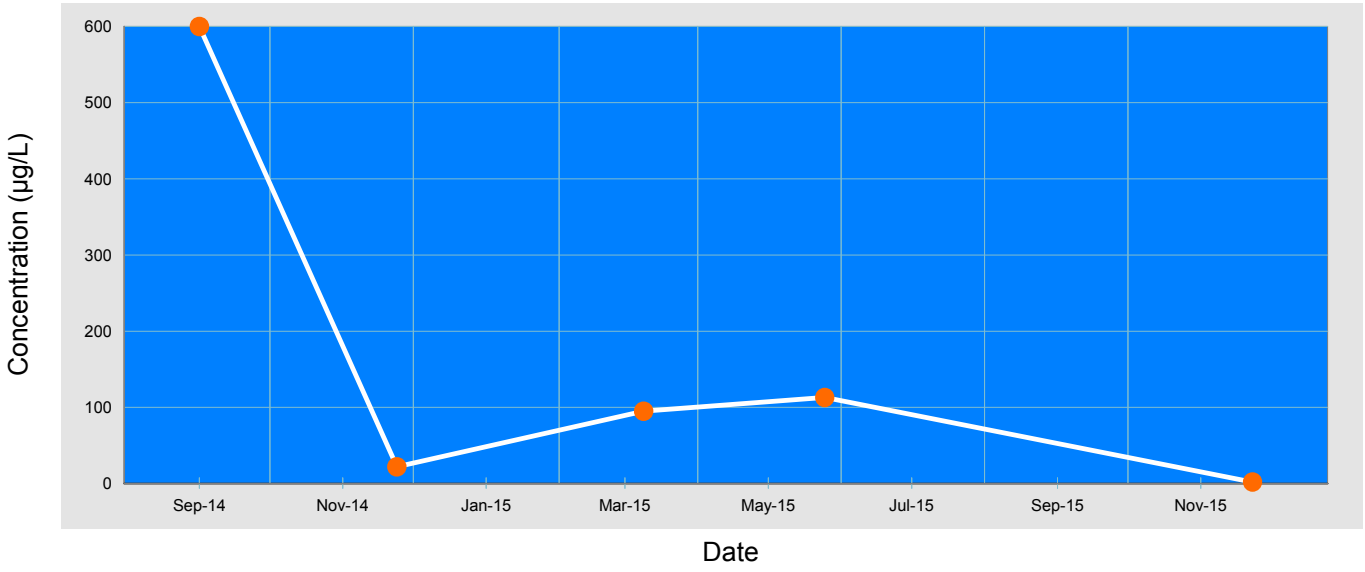
Barium

WellID	MW-02-03(6)
Date Range	10/18/2011 - 02/19/2014
Current Result	1.31
Sample Size	6
Min / Max Result	0.935 / 1.31
Max Detected	1.31
% Detected	100%
S Statistic	9
Probability	0.0680
90% Trend	



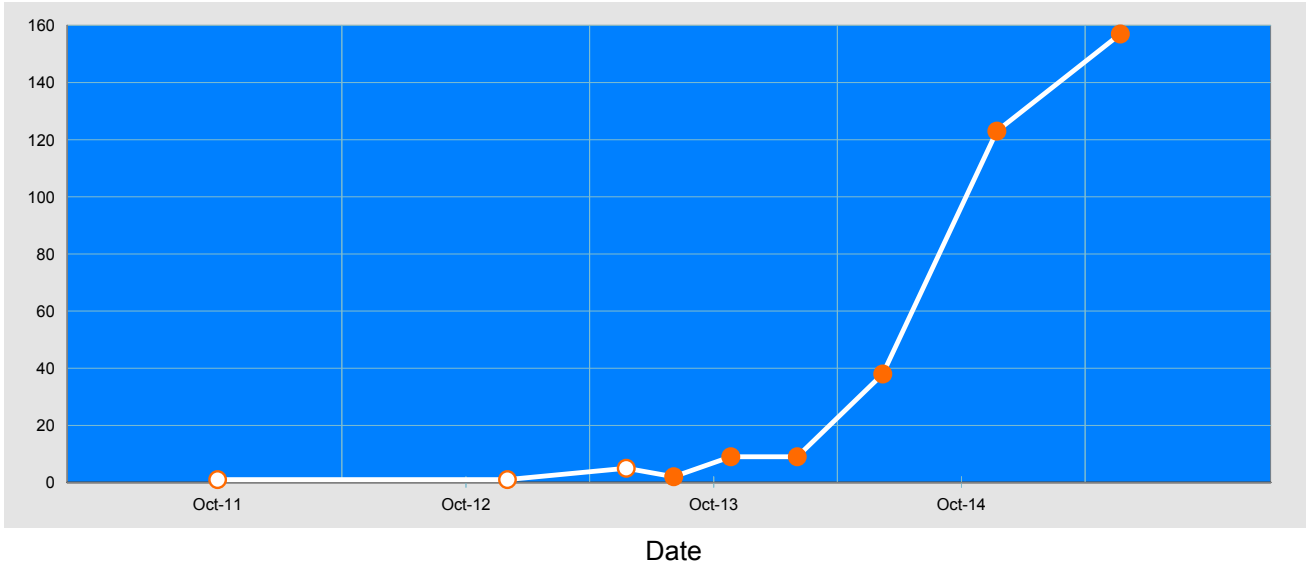
Benzene

WellID	MW-14-54
Date Range	09/19/2014 - 12/08/2015
Current Result	2
Sample Size	5
Min / Max Result	2 / 600
Max Detected	600
% Detected	100%
S Statistic	-4
Probability	0.2420
90% Trend	**NO TREND**



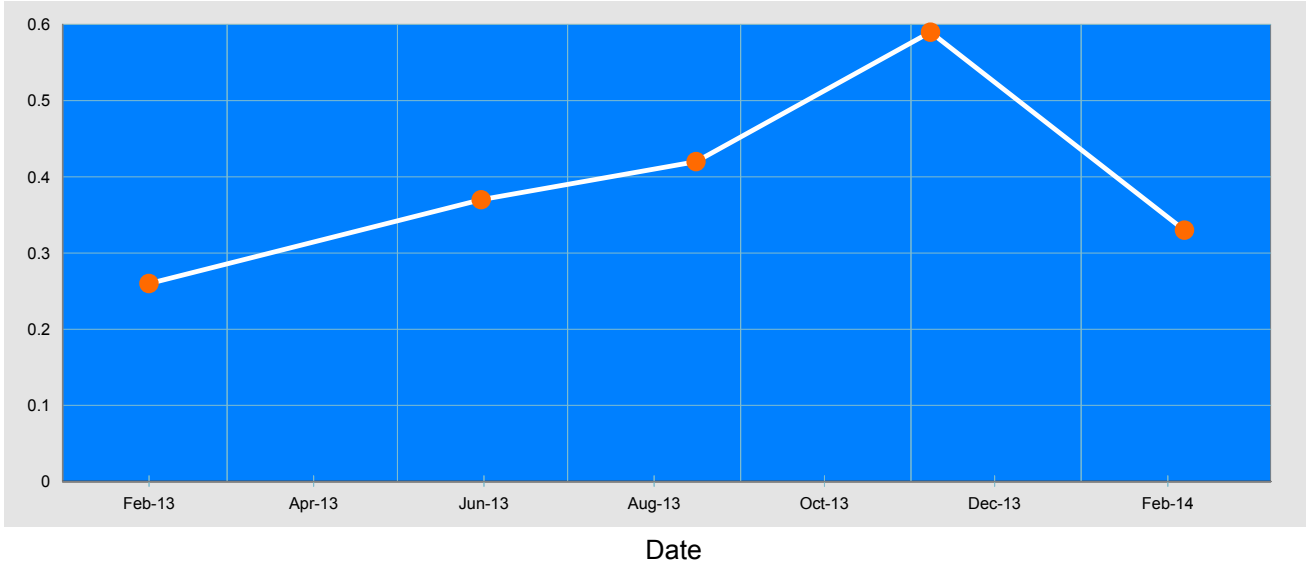
Benzene

WellID	MWBP-12-UST1-4
Date Range	10/18/2011 - 06/09/2015
Current Result	157
Sample Size	9
Min / Max Result	<5 / 157
Max Detected	157
% Detected	67%
S Statistic	32
Probability	0.0001
90% Trend	



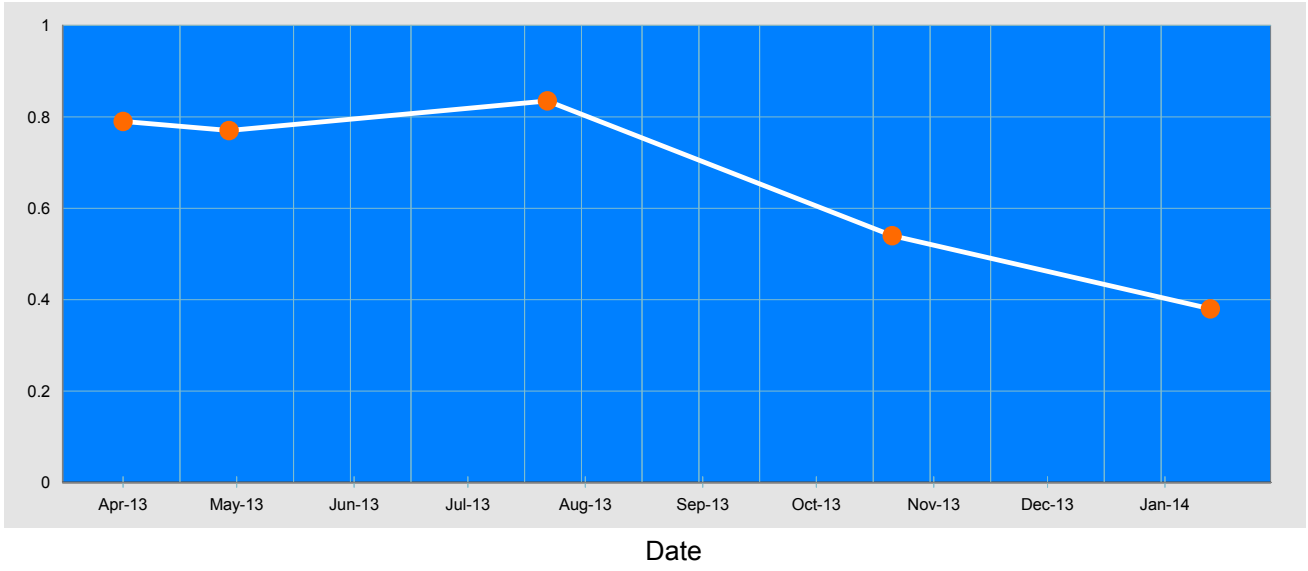
Boron

WellID	MW-12-21
Date Range	02/08/2013 - 02/10/2014
Current Result	0.33
Sample Size	5
Min / Max Result	0.26 / 0.59
Max Detected	0.59
% Detected	100%
S Statistic	4
Probability	0.2420
90% Trend	**NO TREND**

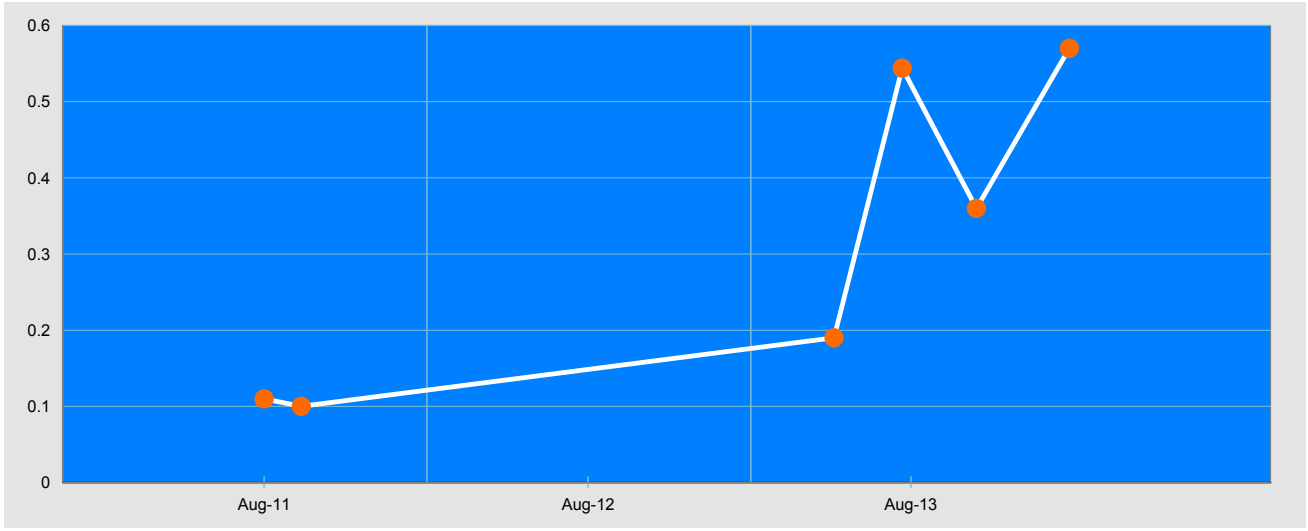


Boron

WellID	MW-13-29
Date Range	04/23/2013 - 02/07/2014
Current Result	0.38
Sample Size	6
Min / Max Result	0.19 / 0.835
Max Detected	0.835
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

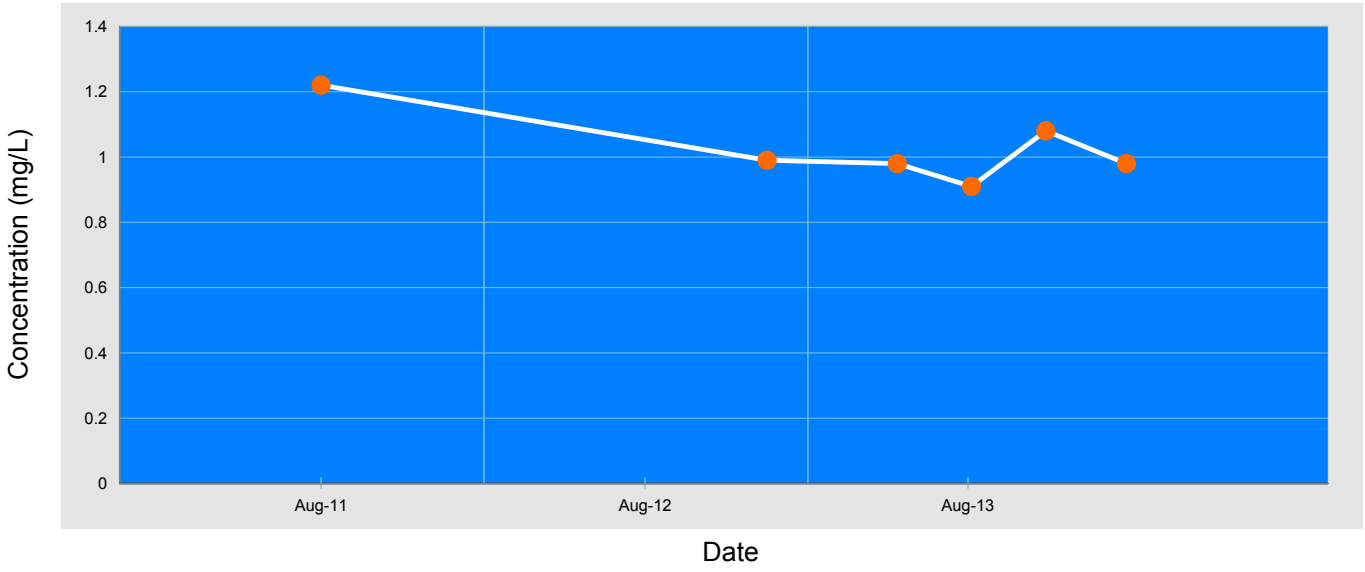


WellID	P2-MW-04
Date Range	08/25/2011 - 02/17/2014
Current Result	0.57
Sample Size	6
Min / Max Result	0.10 / 0.57
Max Detected	0.57
% Detected	100%
S Statistic	11
Probability	0.0280
90% Trend	



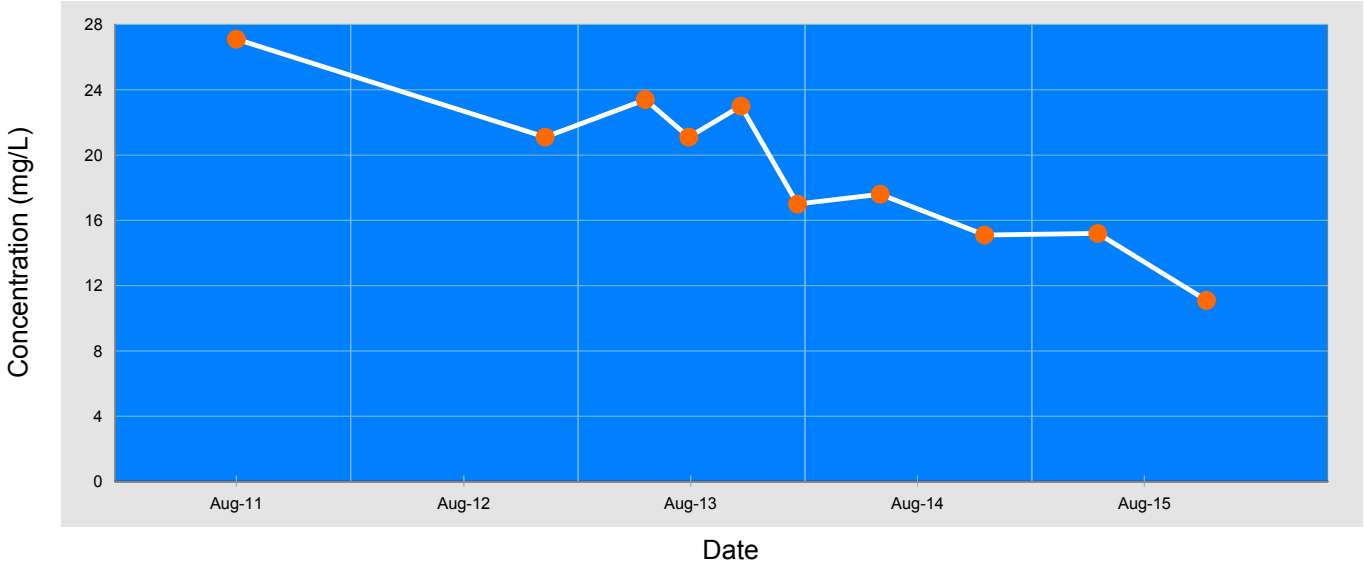
Boron

WellID	P3-SB-07
Date Range	08/18/2011 - 02/12/2014
Current Result	0.98
Sample Size	6
Min / Max Result	0.91 / 1.22
Max Detected	1.22
% Detected	100%
S Statistic	-6
Probability	0.1860
90% Trend	NO TREND



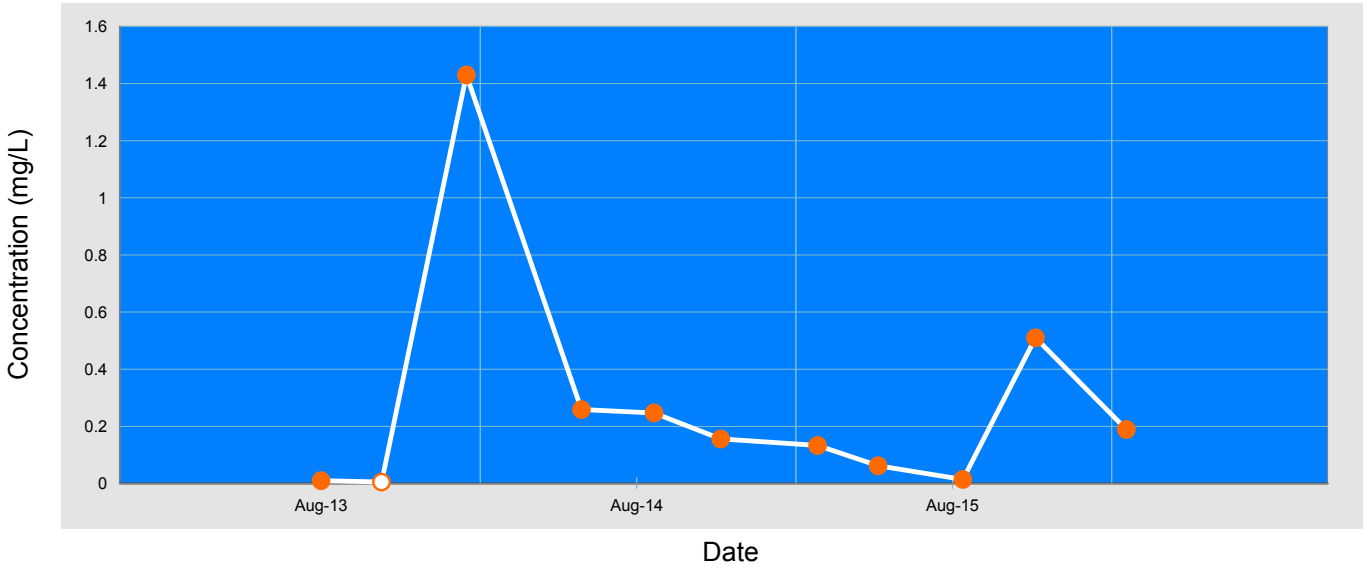
Chromium

WellID	CH-14-RO
Date Range	08/22/2011 - 12/02/2015
Current Result	11.1
Sample Size	10
Min / Max Result	11.1 / 27.1
Max Detected	27.1
% Detected	100%
S Statistic	-34
Probability	0.0008
90% Trend	

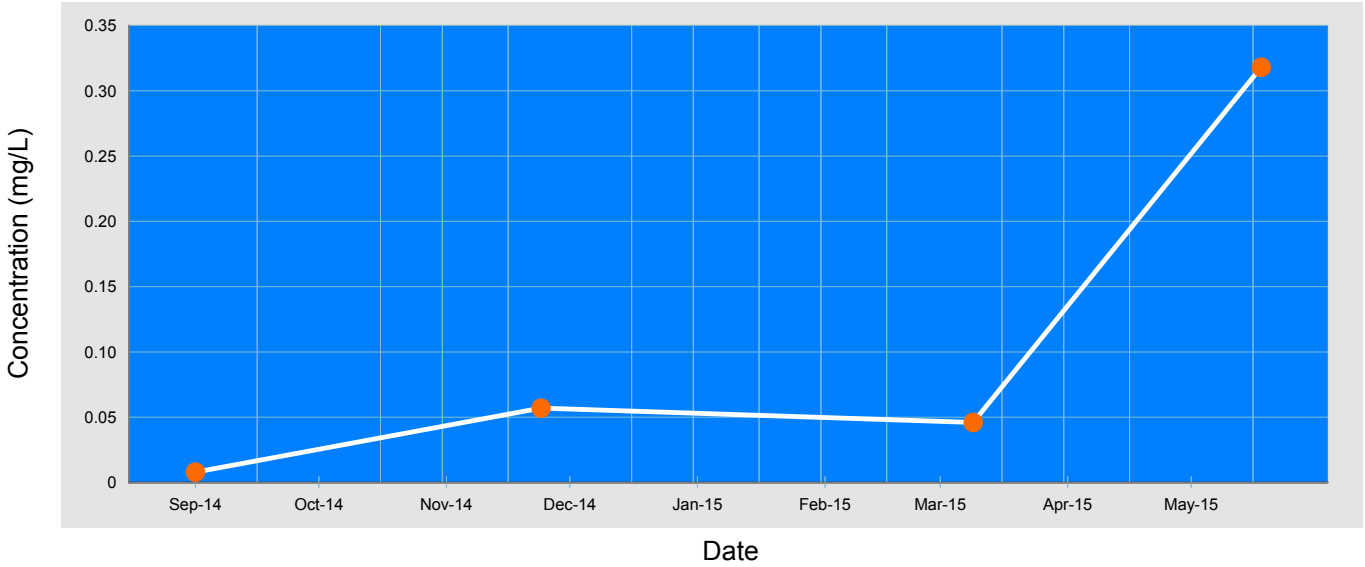


Chromium

WellID	MW-13-32
Date Range	08/27/2013 - 03/15/2016
Current Result	0.189
Sample Size	11
Min / Max Result	<0.005 / 1.43
Max Detected	1.43
% Detected	91%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

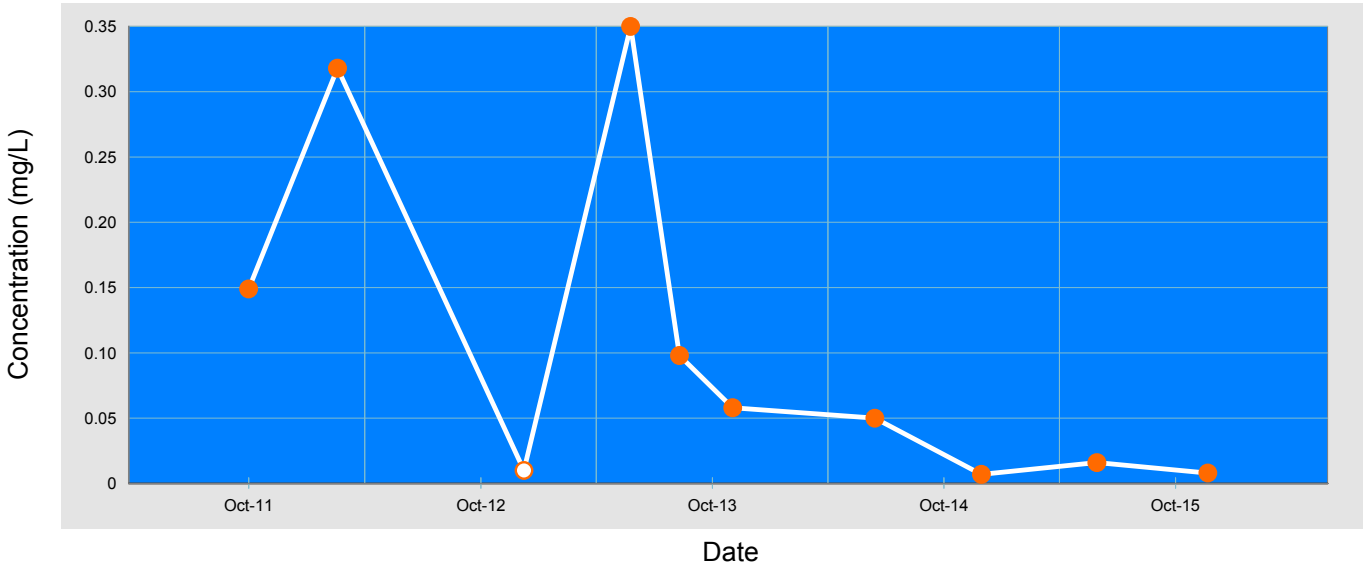


WellID	MW-14-56
Date Range	09/18/2014 - 06/03/2015
Current Result	0.318
Sample Size	4
Min / Max Result	0.008 / 0.318
Max Detected	0.318
% Detected	100%
S Statistic	4
Probability	0.1670
90% Trend	NO TREND



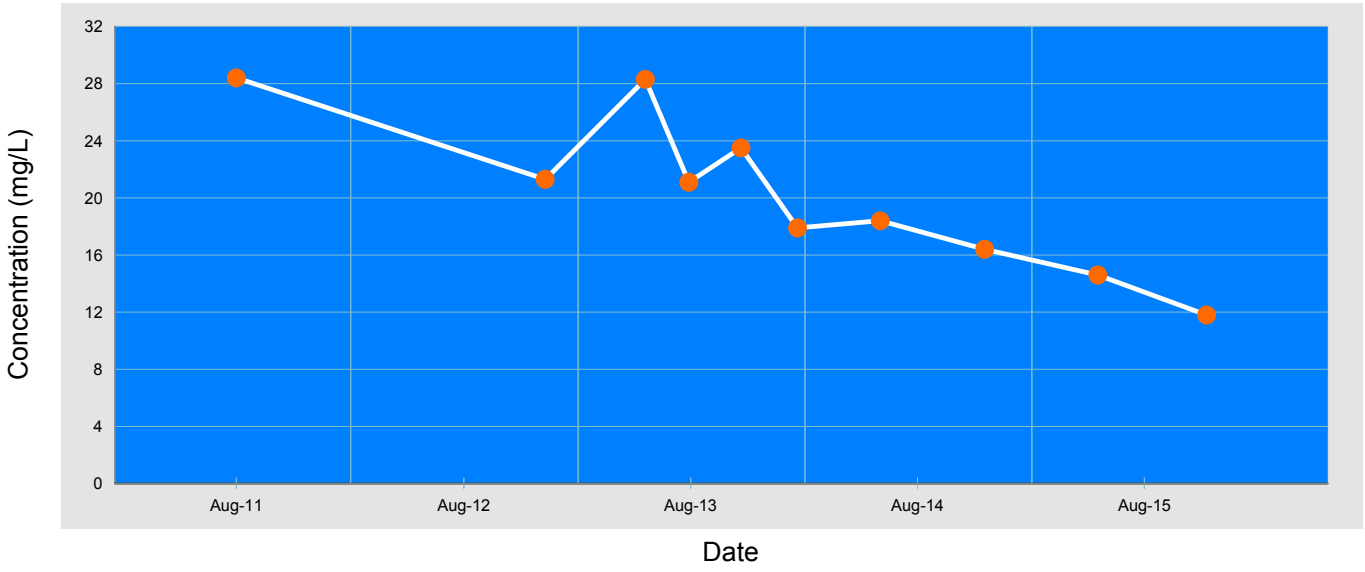
Chromium

WellID	MW-91-2
Date Range	10/13/2011 - 12/02/2015
Current Result	0.008
Sample Size	10
Min / Max Result	<0.010 / 0.350
Max Detected	0.35
% Detected	90%
S Statistic	-21
Probability	0.0360
90% Trend	



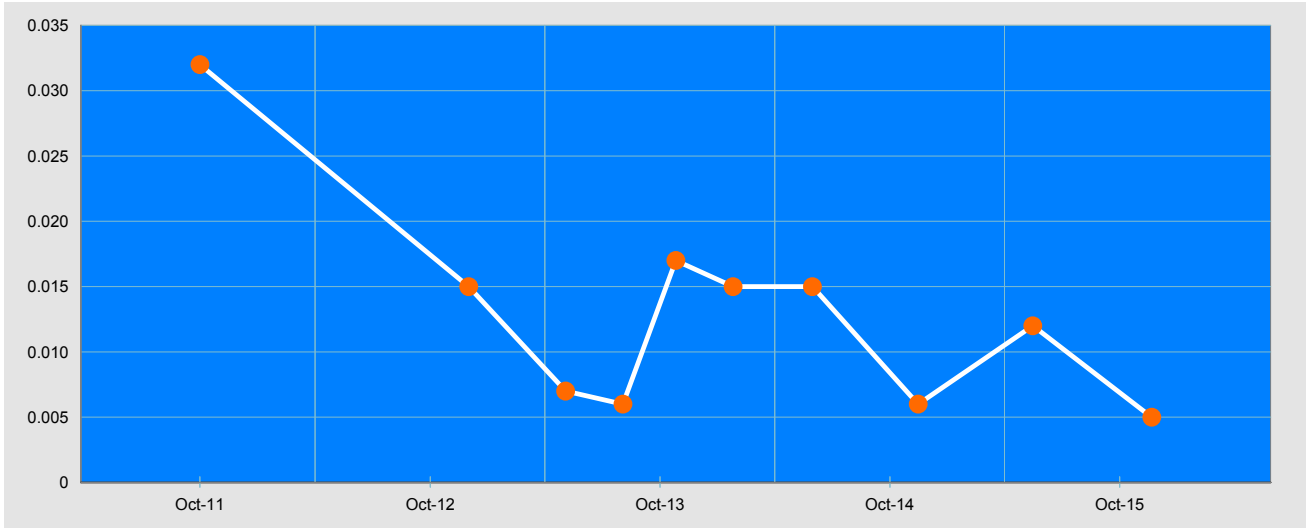
Chromium VI (hexava

WellID	CH-14-RO
Date Range	08/22/2011 - 12/02/2015
Current Result	11.8
Sample Size	10
Min / Max Result	11.8 / 28.4
Max Detected	28.4
% Detected	100%
S Statistic	-37
Probability	0.0002
90% Trend	

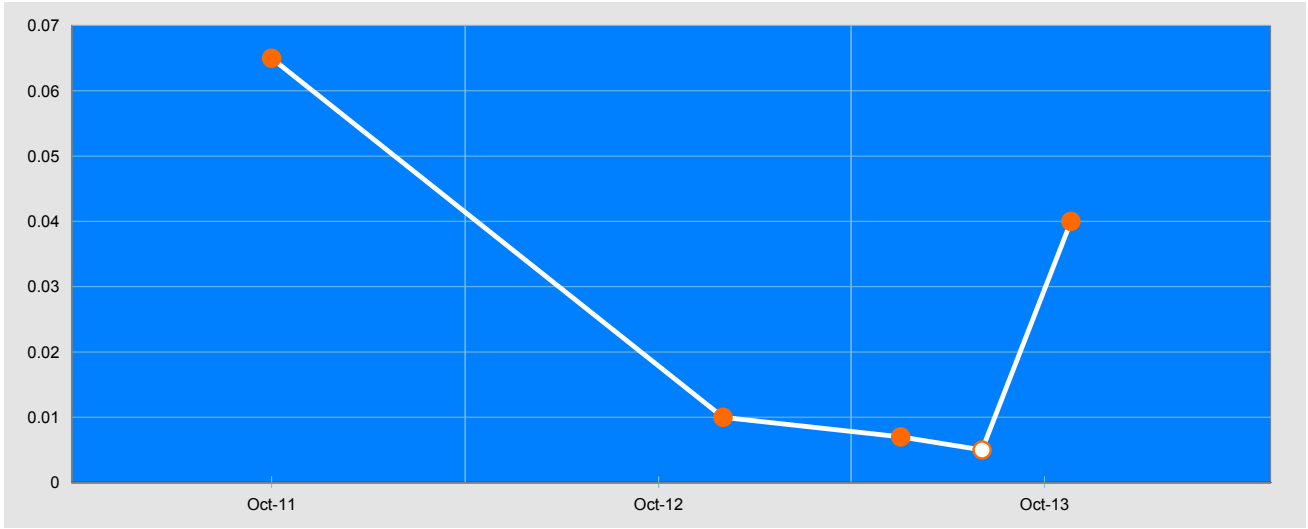


Copper

WellID	MW-01(2)
Date Range	10/18/2011 - 12/08/2015
Current Result	0.005
Sample Size	10
Min / Max Result	0.005 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	-21
Probability	0.0360
90% Trend	

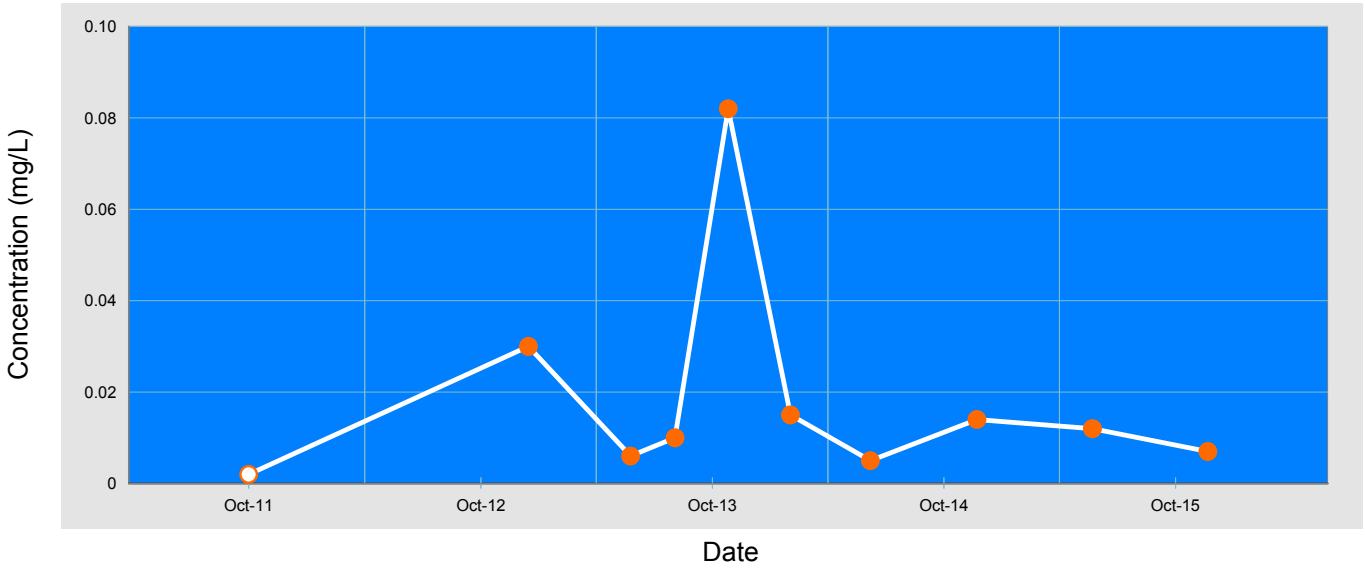


WellID	MW-02-01(6)
Date Range	10/17/2011 - 11/14/2013
Current Result	0.040
Sample Size	5
Min / Max Result	<0.005 / 0.065
Max Detected	0.065
% Detected	80%
S Statistic	-4
Probability	0.2420
90% Trend	**NO TREND**

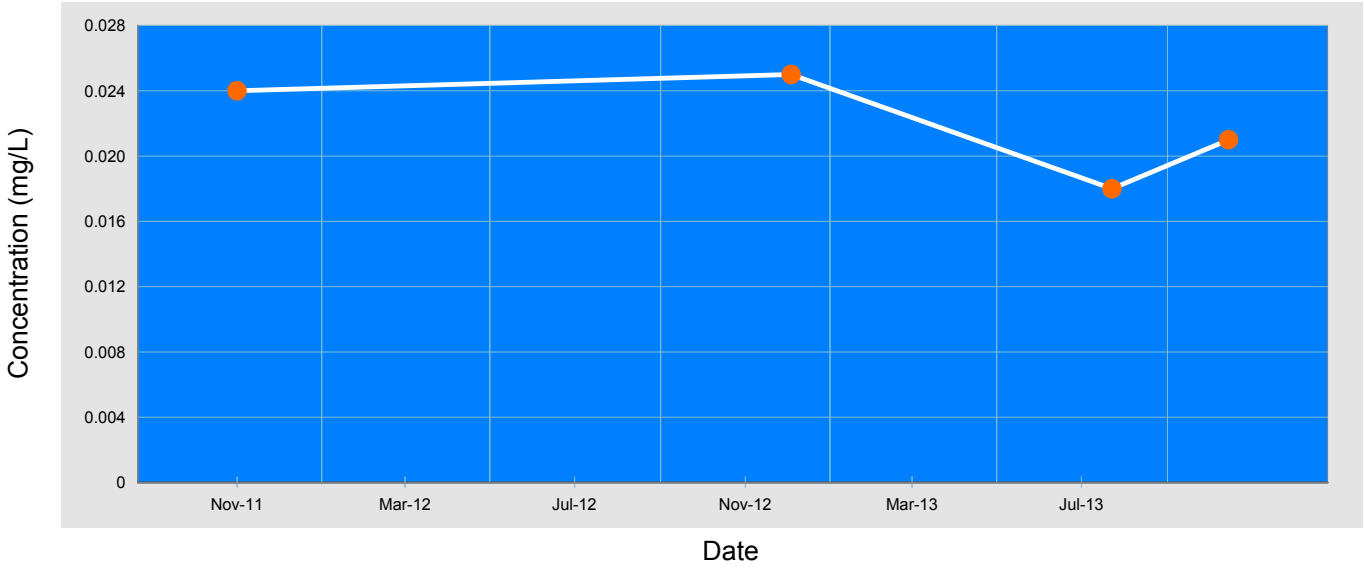


Copper

WellID	MW-02-03(6)
Date Range	10/18/2011 - 12/09/2015
Current Result	0.007
Sample Size	10
Min / Max Result	<0.002 / 0.082
Max Detected	0.082
% Detected	90%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

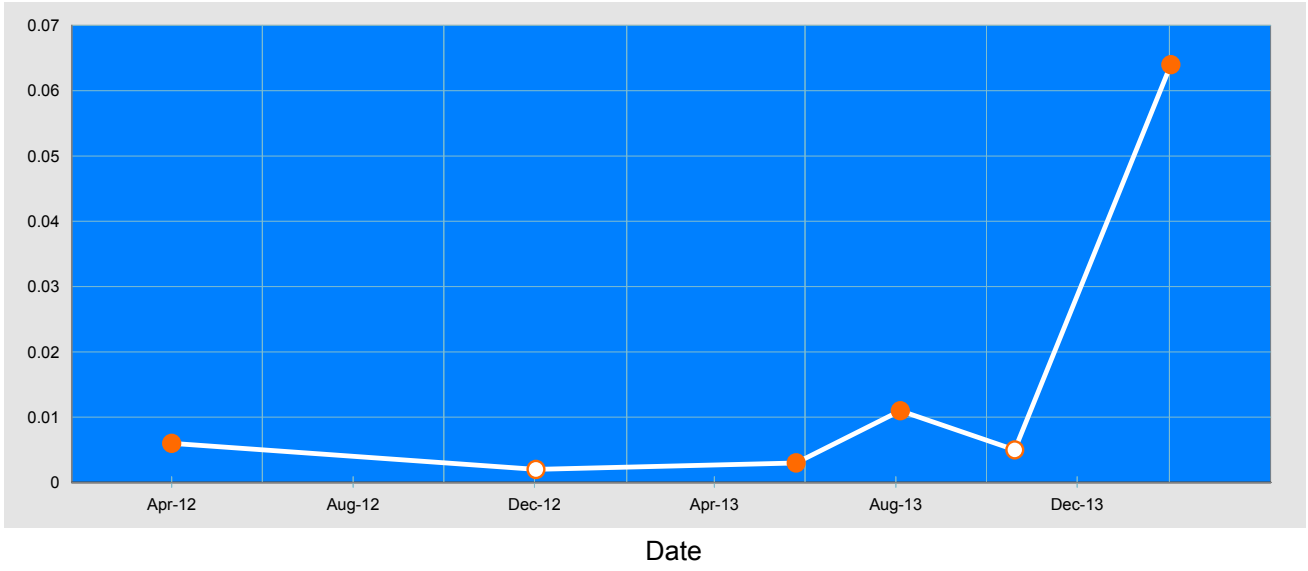


WellID	MW-03-08
Date Range	12/02/2011 - 11/15/2013
Current Result	0.021
Sample Size	4
Min / Max Result	0.018 / 0.025
Max Detected	0.025
% Detected	100%
S Statistic	-2
Probability	0.3750
90% Trend	NO TREND

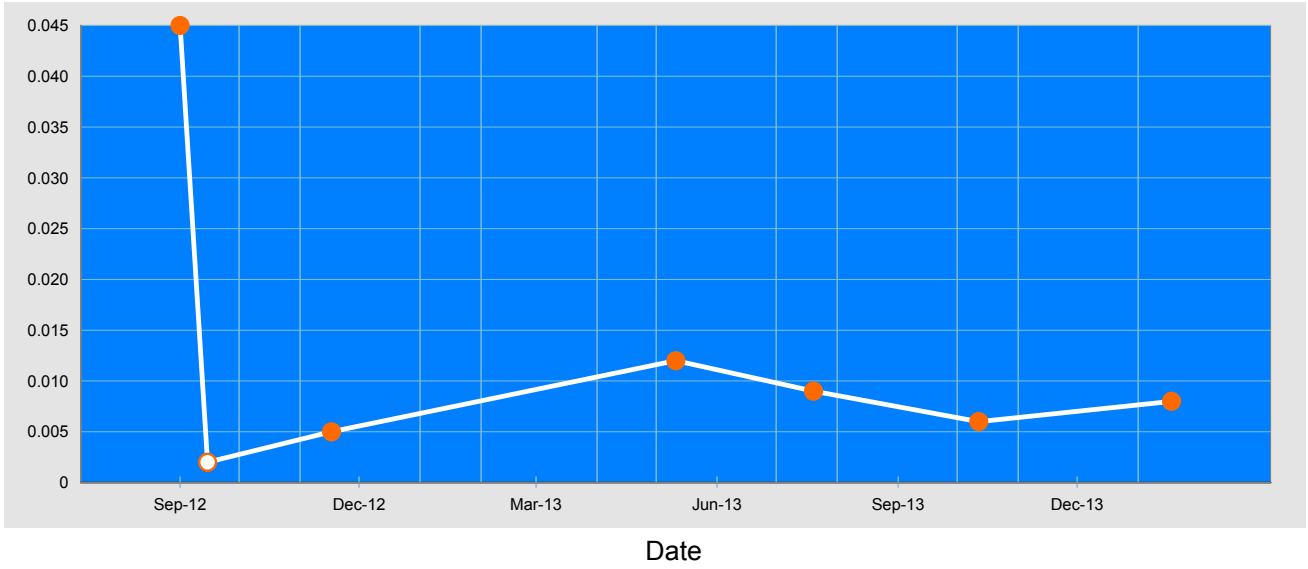


Copper

WellID	MW-12-01
Date Range	04/18/2012 - 02/17/2014
Current Result	0.064
Sample Size	6
Min / Max Result	<0.005 / 0.064
Max Detected	0.064
% Detected	67%
S Statistic	4
Probability	0.2980
90% Trend	NO TREND

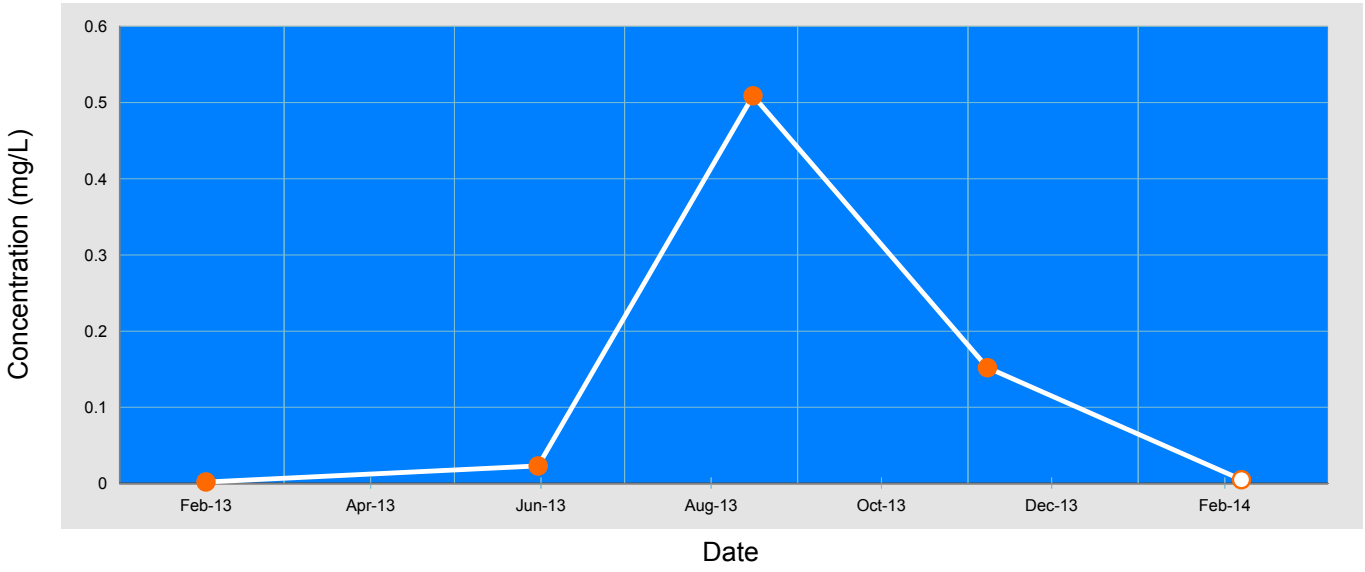


WellID	MW-12-05
Date Range	10/04/2012 - 02/18/2014
Current Result	0.008
Sample Size	7
Min / Max Result	<0.002 / 0.045
Max Detected	0.045
% Detected	86%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

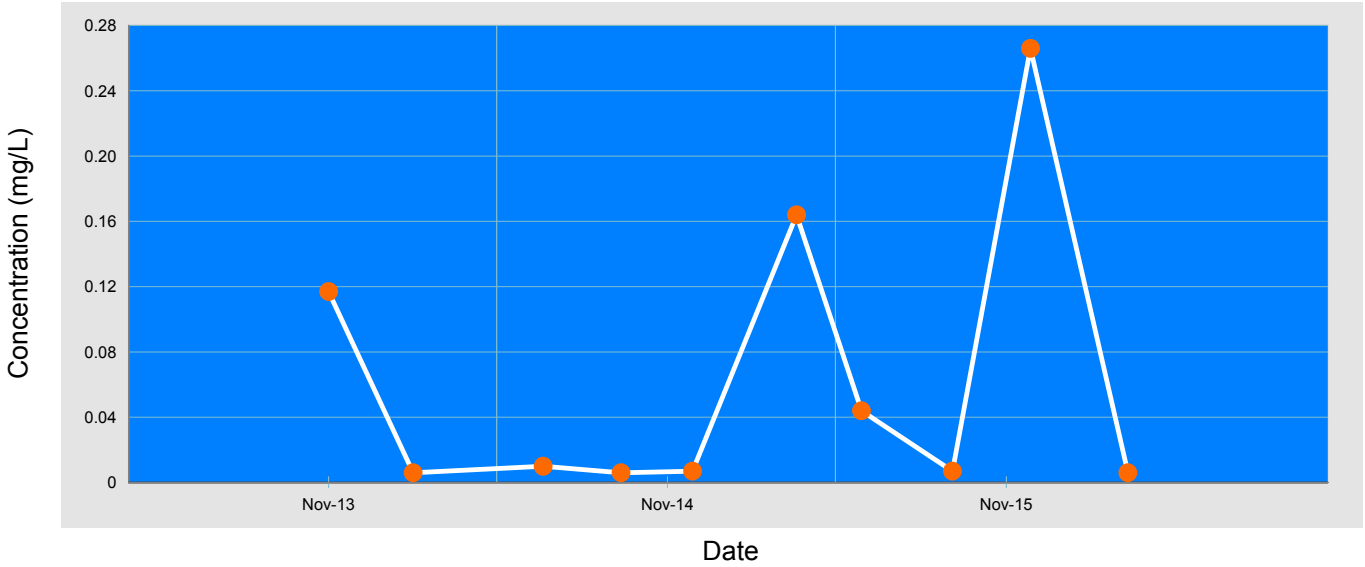


Copper

WellID	MW-12-21
Date Range	02/08/2013 - 02/10/2014
Current Result	<0.005
Sample Size	5
Min / Max Result	<0.005 / 0.509
Max Detected	0.509
% Detected	80%
S Statistic	0
Probability	0.5920
90% Trend	NO TREND

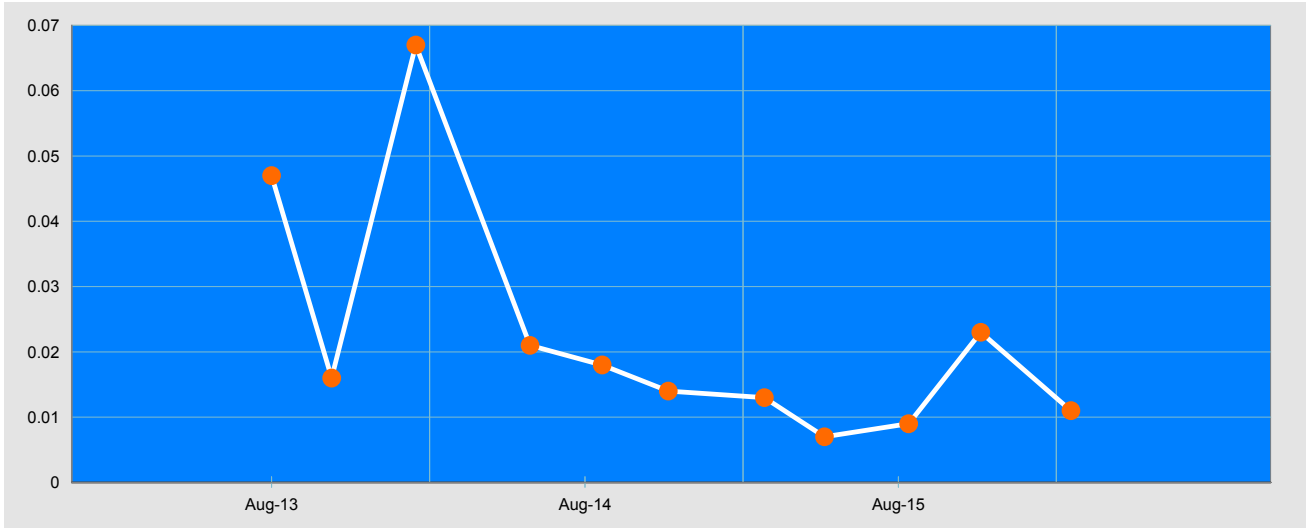


WellID	MW-13-31
Date Range	11/07/2013 - 03/15/2016
Current Result	0.006
Sample Size	10
Min / Max Result	0.006 / 0.266
Max Detected	0.266
% Detected	100%
S Statistic	3
Probability	0.4310
90% Trend	NO TREND

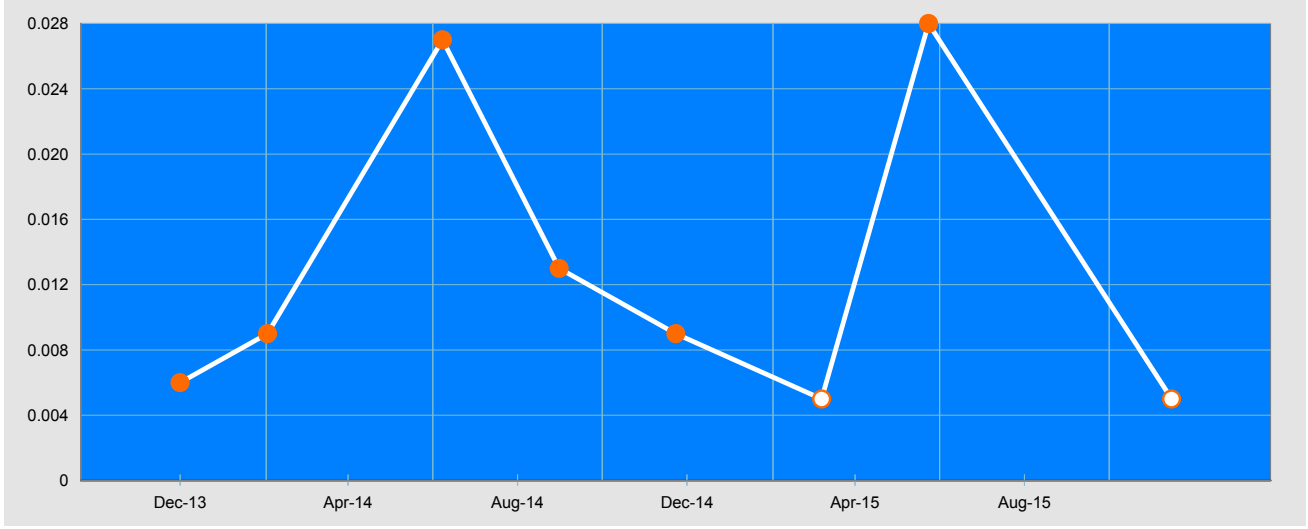


Copper

WellID	MW-13-32
Date Range	08/27/2013 - 03/15/2016
Current Result	0.011
Sample Size	11
Min / Max Result	0.007 / 0.067
Max Detected	0.067
% Detected	100%
S Statistic	-27
Probability	0.0215
90% Trend	

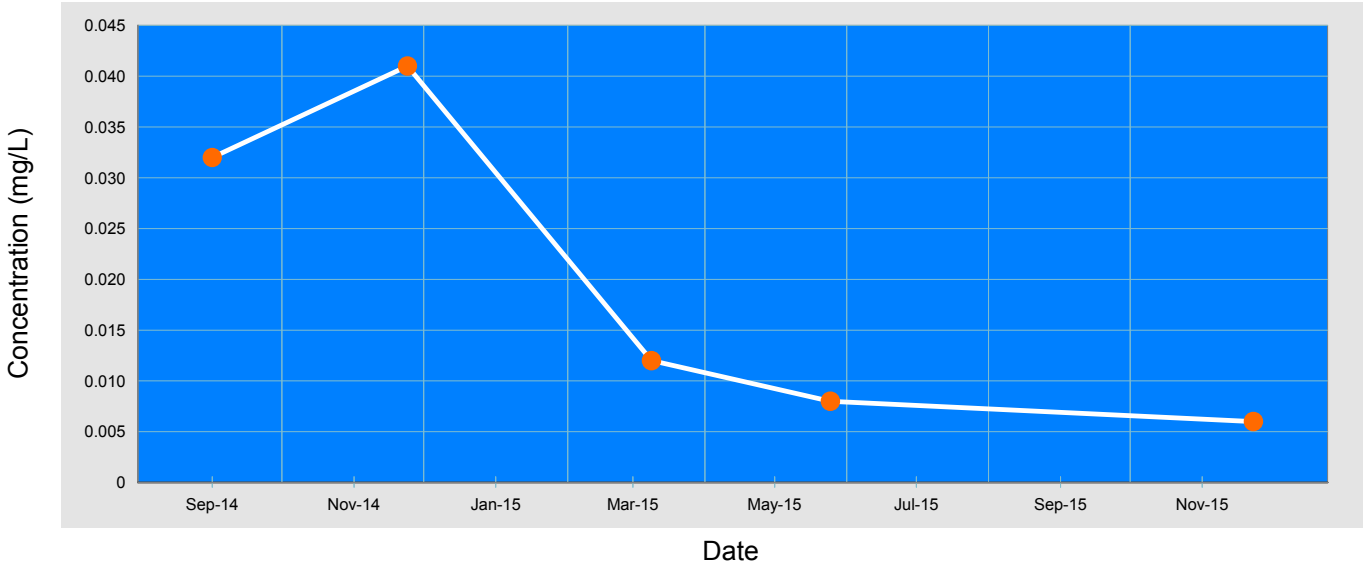


WellID	MW-13-36R
Date Range	12/18/2013 - 12/02/2015
Current Result	<0.005
Sample Size	8
Min / Max Result	<0.005 / 0.028
Max Detected	0.028
% Detected	75%
S Statistic	-2
Probability	0.4520
90% Trend	NO TREND

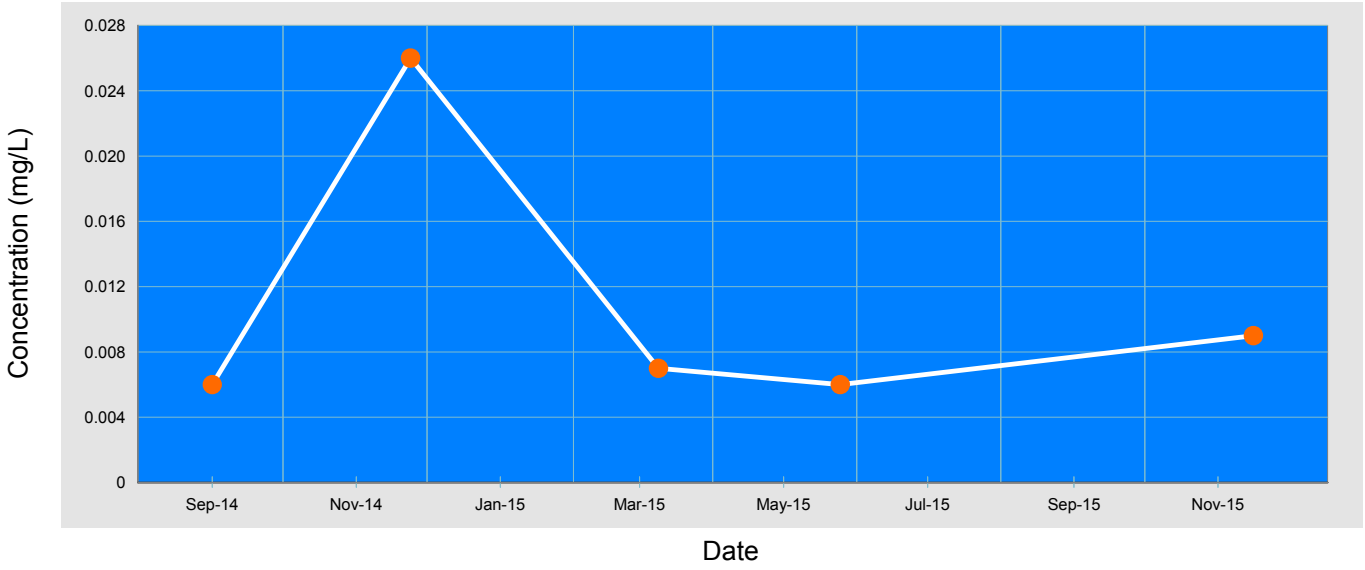


Copper

WellID	MW-14-65
Date Range	09/17/2014 - 12/07/2015
Current Result	0.006
Sample Size	5
Min / Max Result	0.006 / 0.041
Max Detected	0.041
% Detected	100%
S Statistic	-8
Probability	0.0420
90% Trend	

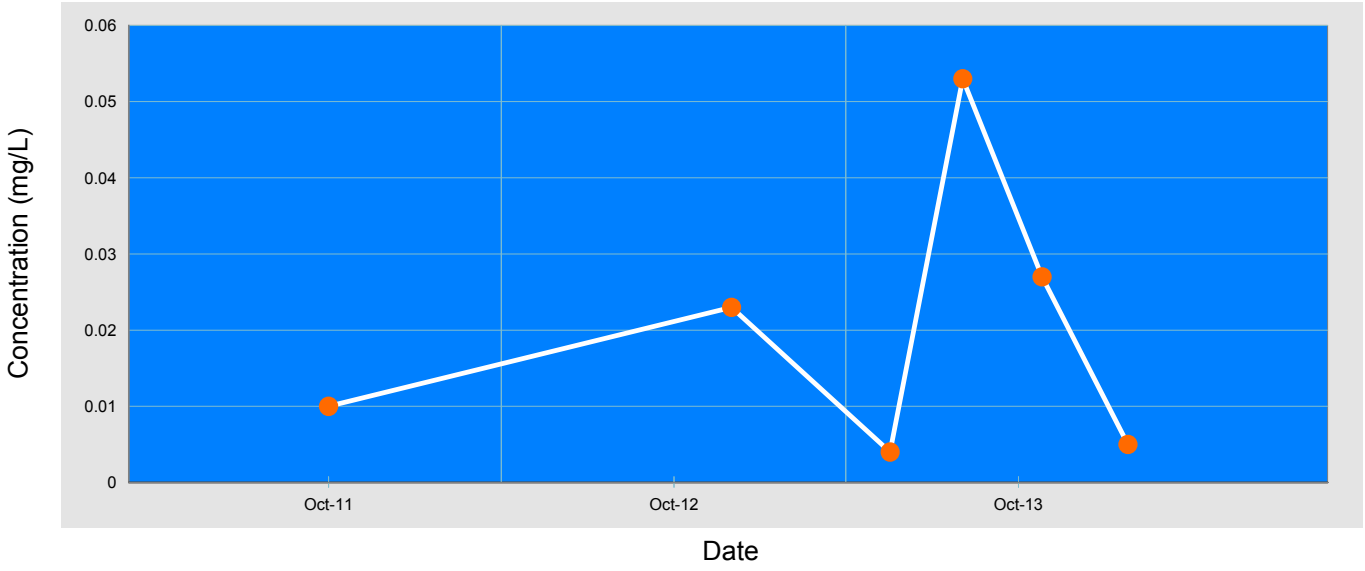


WellID	MW-14-67
Date Range	09/18/2014 - 12/03/2015
Current Result	0.009
Sample Size	5
Min / Max Result	0.006 / 0.026
Max Detected	0.026
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	**NO TREND**

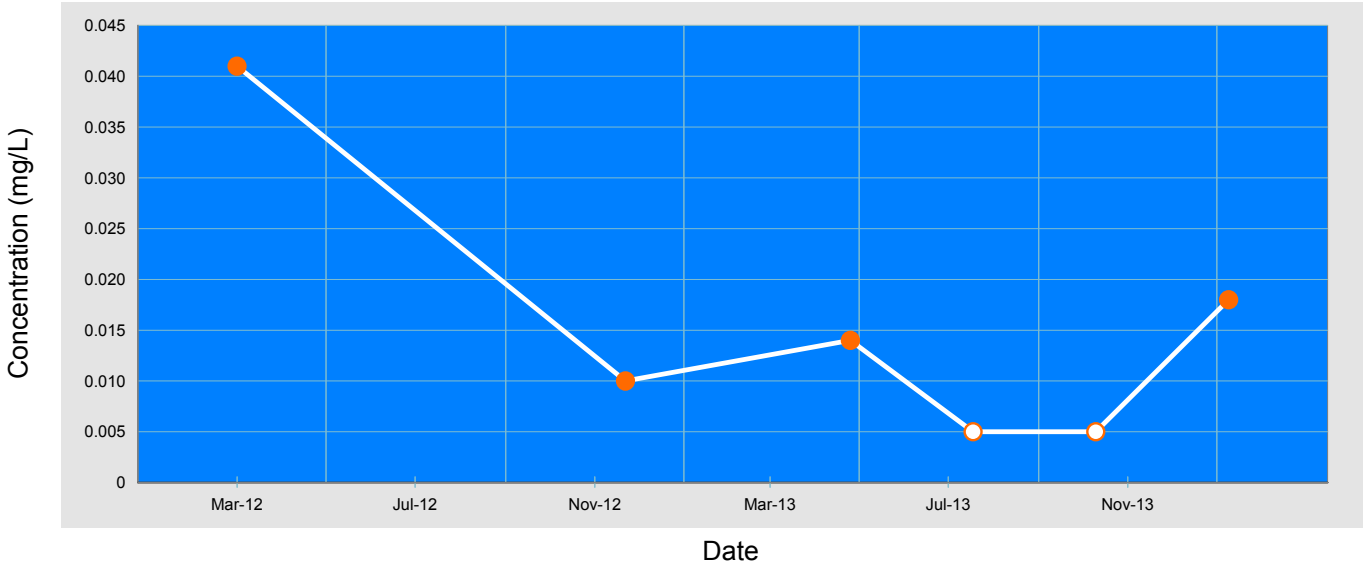


Copper

WellID	MW-19
Date Range	10/19/2011 - 02/11/2014
Current Result	0.005
Sample Size	6
Min / Max Result	0.004 / 0.053
Max Detected	0.053
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

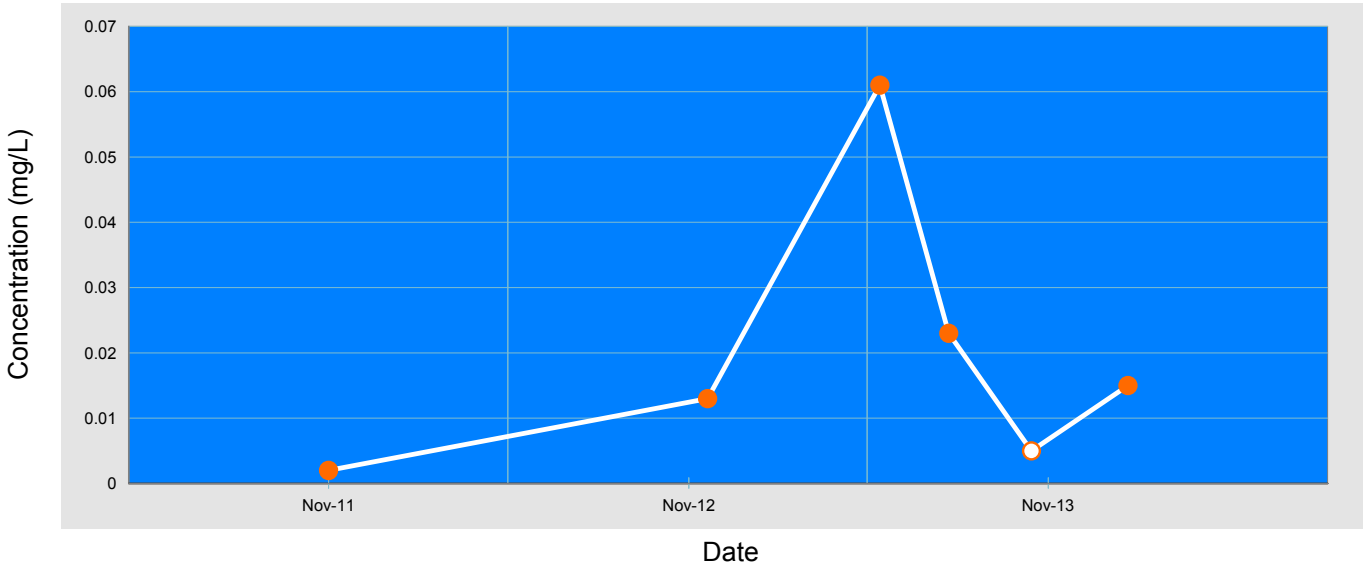


WellID	MW-88-1
Date Range	03/27/2012 - 02/06/2014
Current Result	0.018
Sample Size	6
Min / Max Result	<0.005 / 0.041
Max Detected	0.041
% Detected	67%
S Statistic	-4
Probability	0.2980
90% Trend	NO TREND

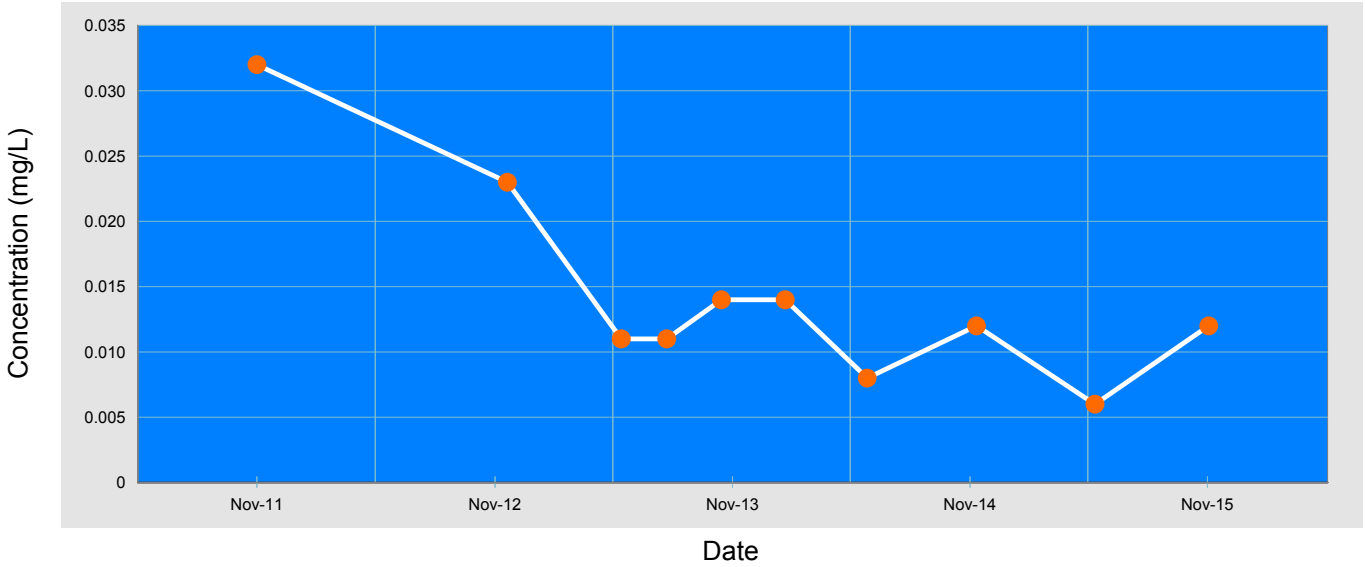


Copper

WellID	MWBP-10A-UST1-4
Date Range	12/02/2011 - 02/19/2014
Current Result	0.015
Sample Size	6
Min / Max Result	<0.005 / 0.061
Max Detected	0.061
% Detected	83%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

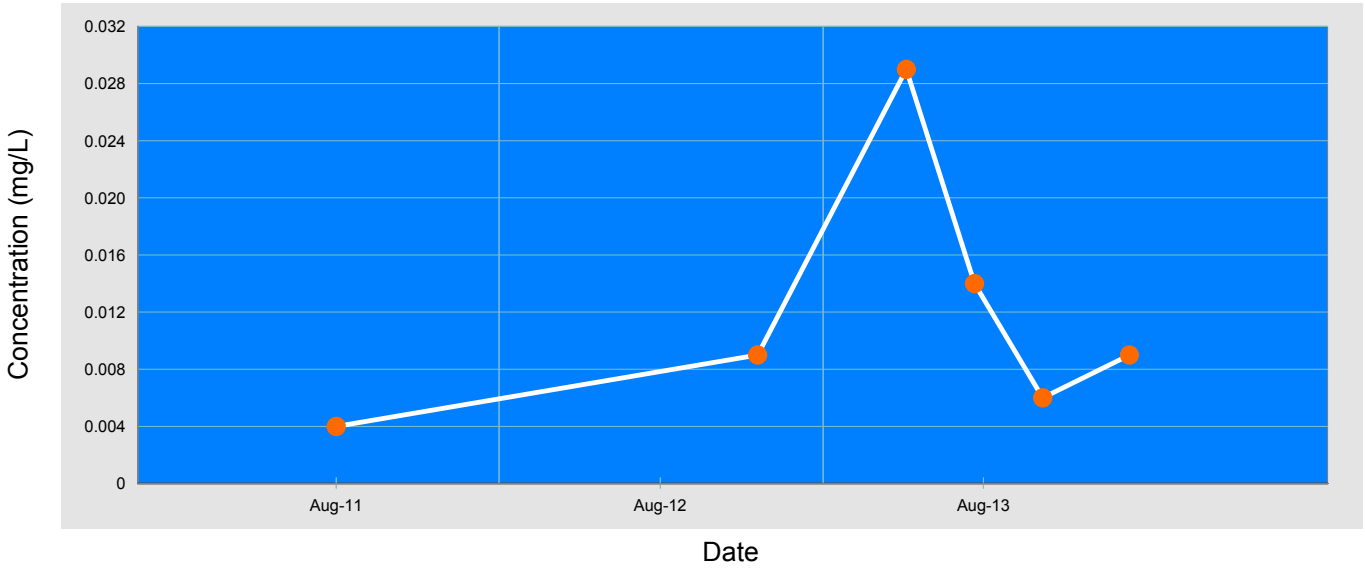


WellID	MWBP-11-UST1-4
Date Range	11/29/2011 - 12/01/2015
Current Result	0.012
Sample Size	10
Min / Max Result	0.006 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	-20
Probability	0.0450
90% Trend	

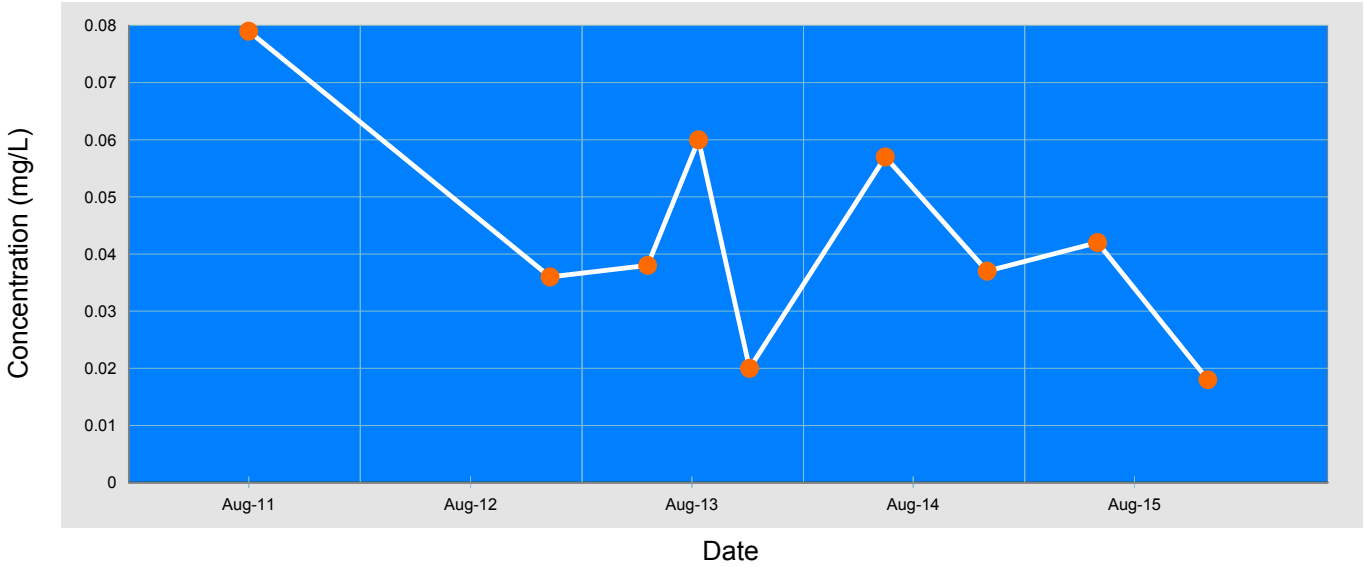


Copper

WellID	P2-SB-20
Date Range	08/31/2011 - 02/13/2014
Current Result	0.009
Sample Size	6
Min / Max Result	0.004 / 0.029
Max Detected	0.029
% Detected	100%
S Statistic	2
Probability	0.4300
90% Trend	NO TREND

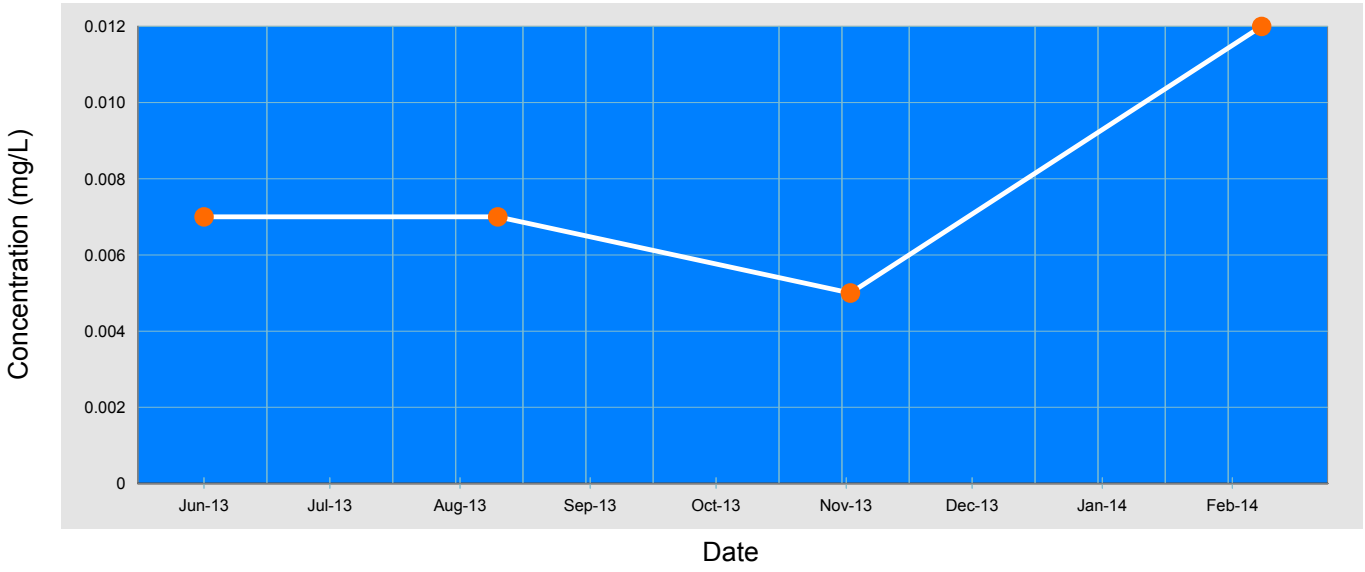


WellID	P6-SB-18
Date Range	08/08/2011 - 12/07/2015
Current Result	0.018
Sample Size	9
Min / Max Result	0.018 / 0.079
Max Detected	0.079
% Detected	100%
S Statistic	-12
Probability	0.1300
90% Trend	NO TREND



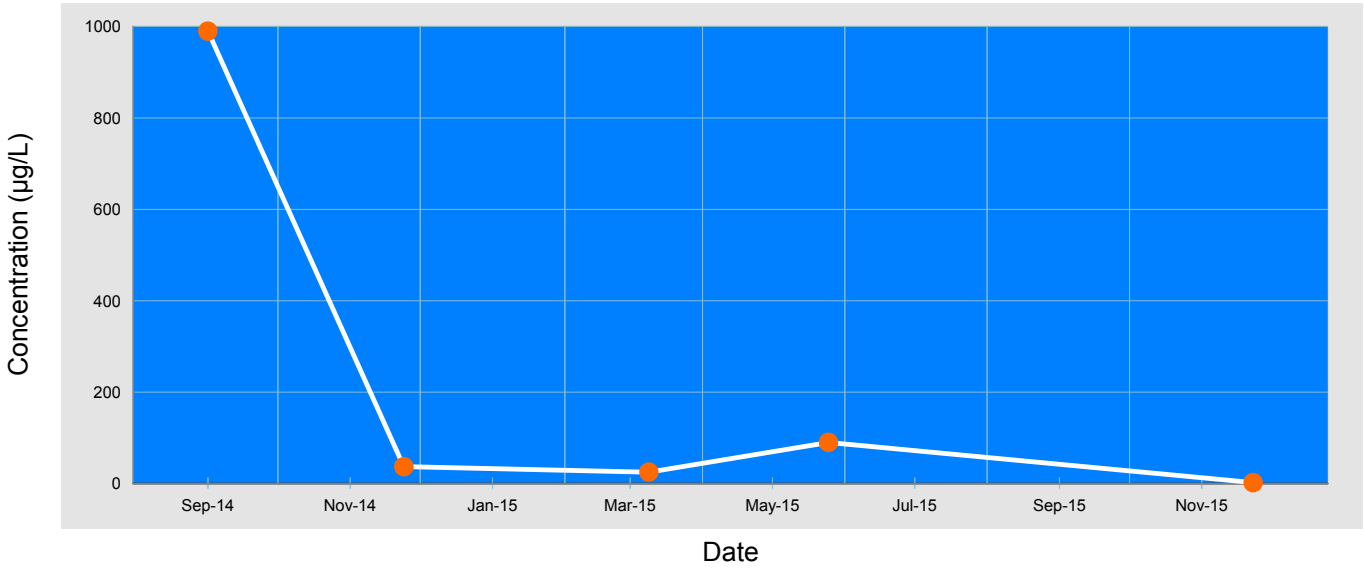
Copper

WellID	UNK-03
Date Range	06/12/2013 - 02/20/2014
Current Result	0.012
Sample Size	4
Min / Max Result	0.005 / 0.012
Max Detected	0.012
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND



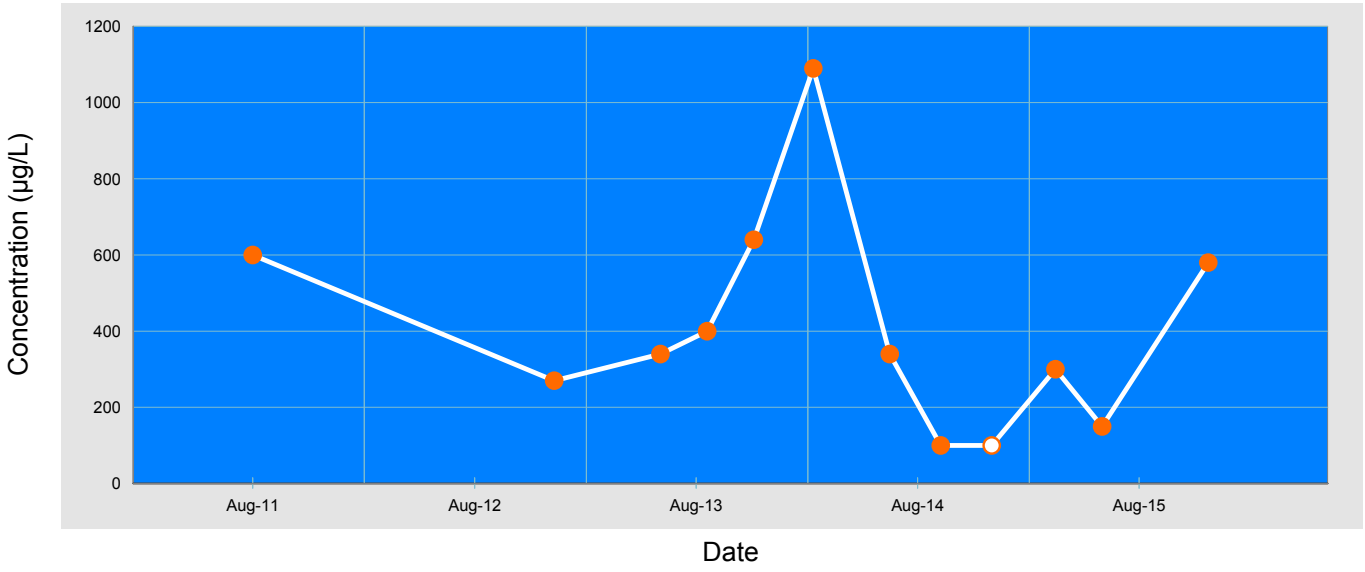
Ethylbenzene

WellID	MW-14-54
Date Range	09/19/2014 - 12/08/2015
Current Result	2
Sample Size	5
Min / Max Result	2 / 990
Max Detected	990
% Detected	100%
S Statistic	-6
Probability	0.1170
90% Trend	NO TREND



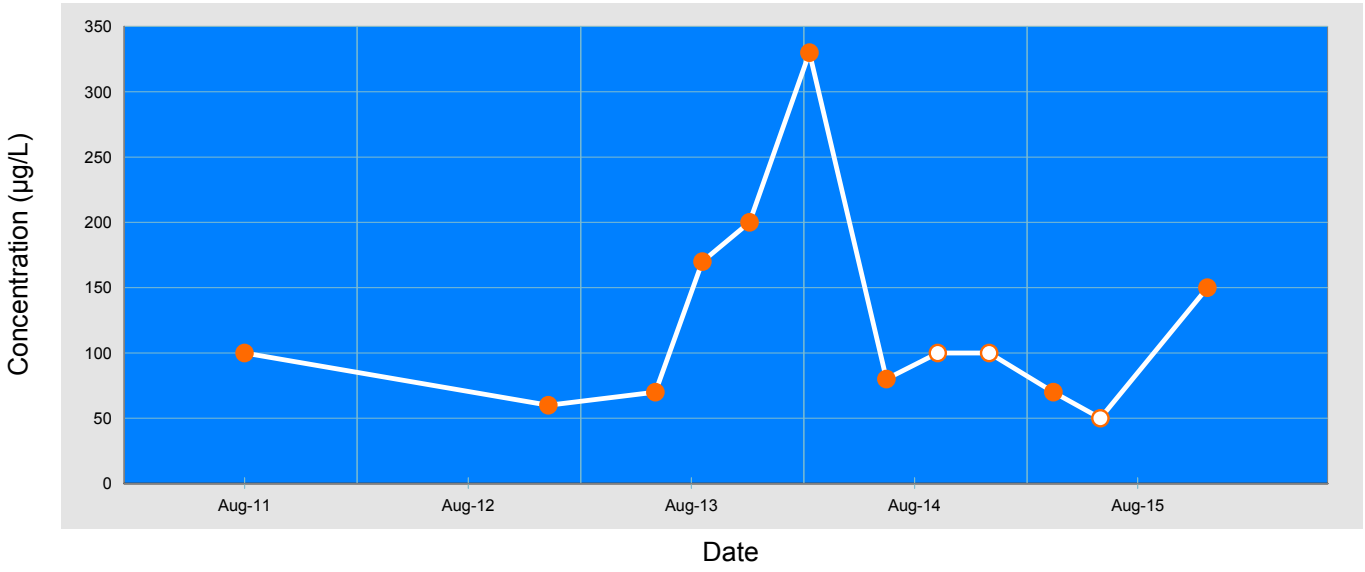
Ethylbenzene

WellID	P6-SB-32
Date Range	08/11/2011 - 12/01/2015
Current Result	580
Sample Size	13
Min / Max Result	<100 / 1090
Max Detected	1090
% Detected	92%
S Statistic	-18
Probability	0.1489
90% Trend	NO TREND



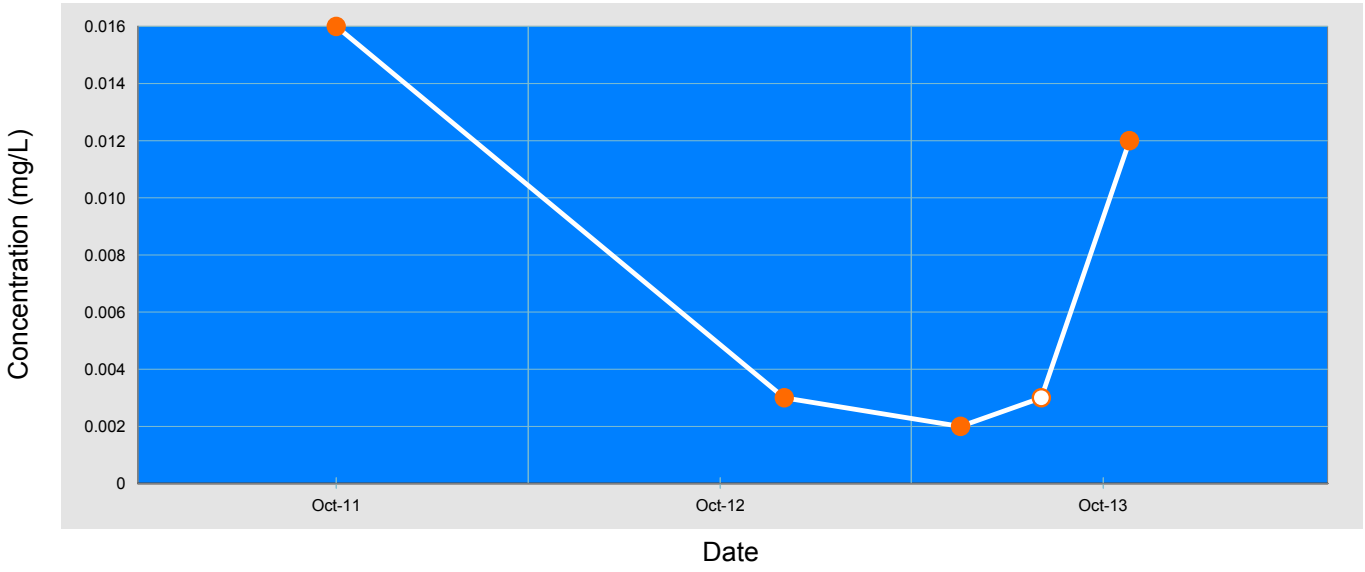
Isopropyl benzene

WellID	P6-SB-32
Date Range	08/11/2011 - 12/01/2015
Current Result	150
Sample Size	13
Min / Max Result	<50 / 330
Max Detected	330
% Detected	69%
S Statistic	-3
Probability	0.4505
90% Trend	NO TREND

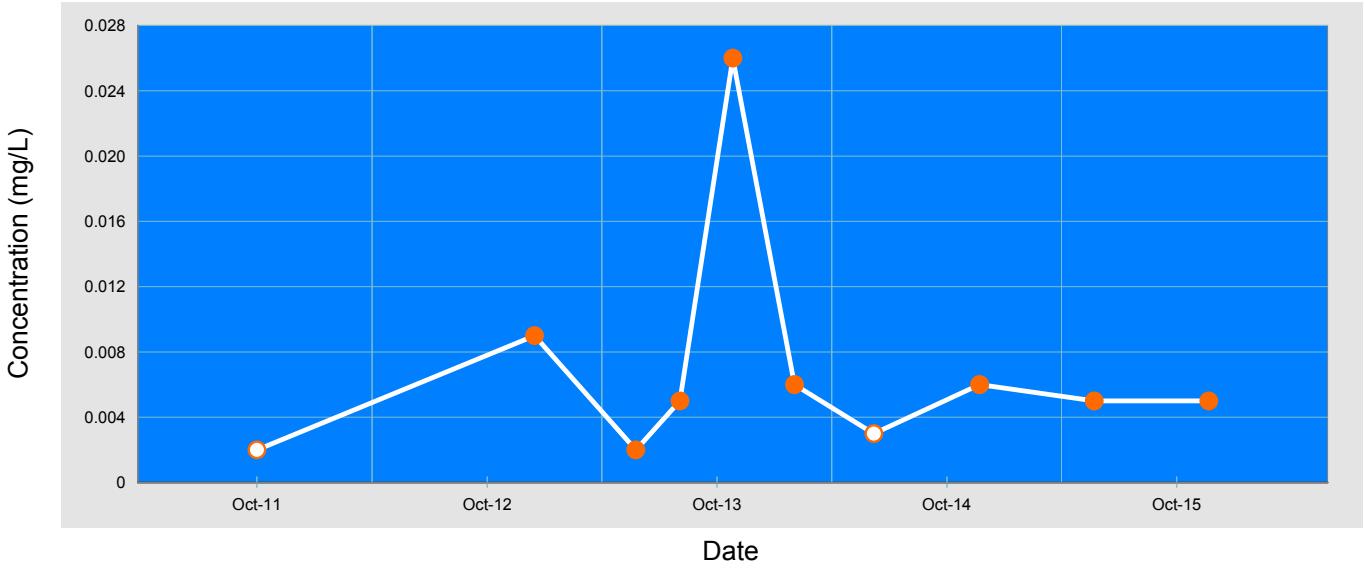


Lead

WellID	MW-02-01(6)
Date Range	10/17/2011 - 11/14/2013
Current Result	0.012
Sample Size	5
Min / Max Result	<0.003 / 0.016
Max Detected	0.016
% Detected	80%
S Statistic	-4
Probability	0.2420
90% Trend	NO TREND

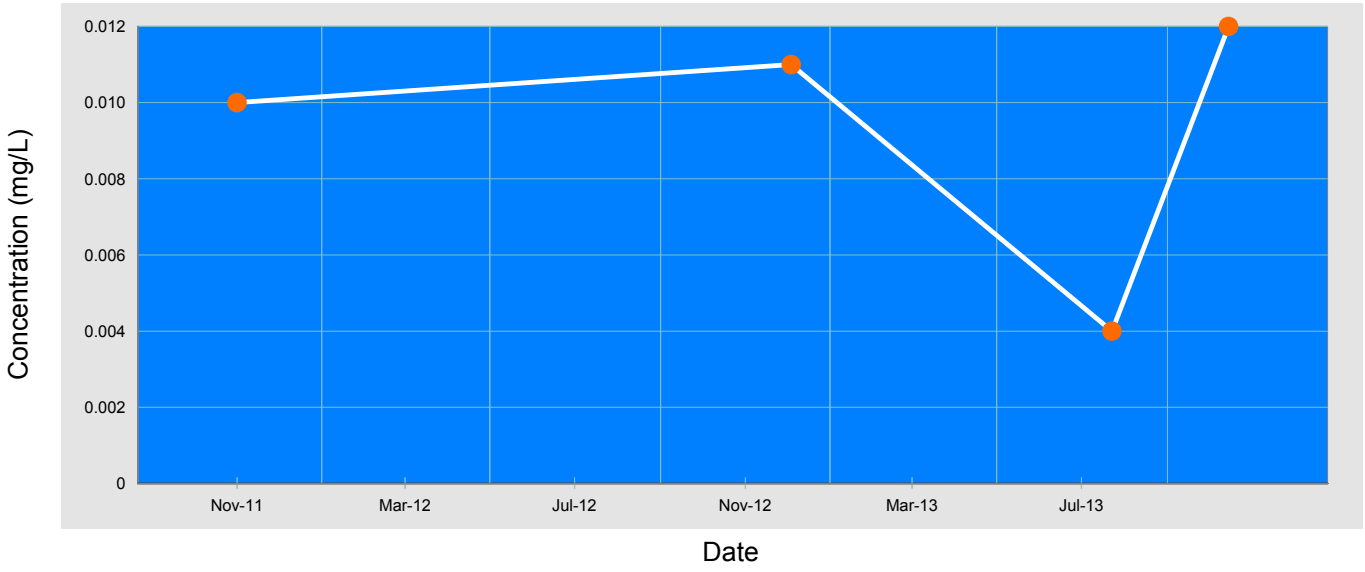


WellID	MW-02-03(6)
Date Range	10/18/2011 - 12/09/2015
Current Result	0.005
Sample Size	10
Min / Max Result	<0.003 / 0.026
Max Detected	0.026
% Detected	80%
S Statistic	2
Probability	0.4660
90% Trend	NO TREND

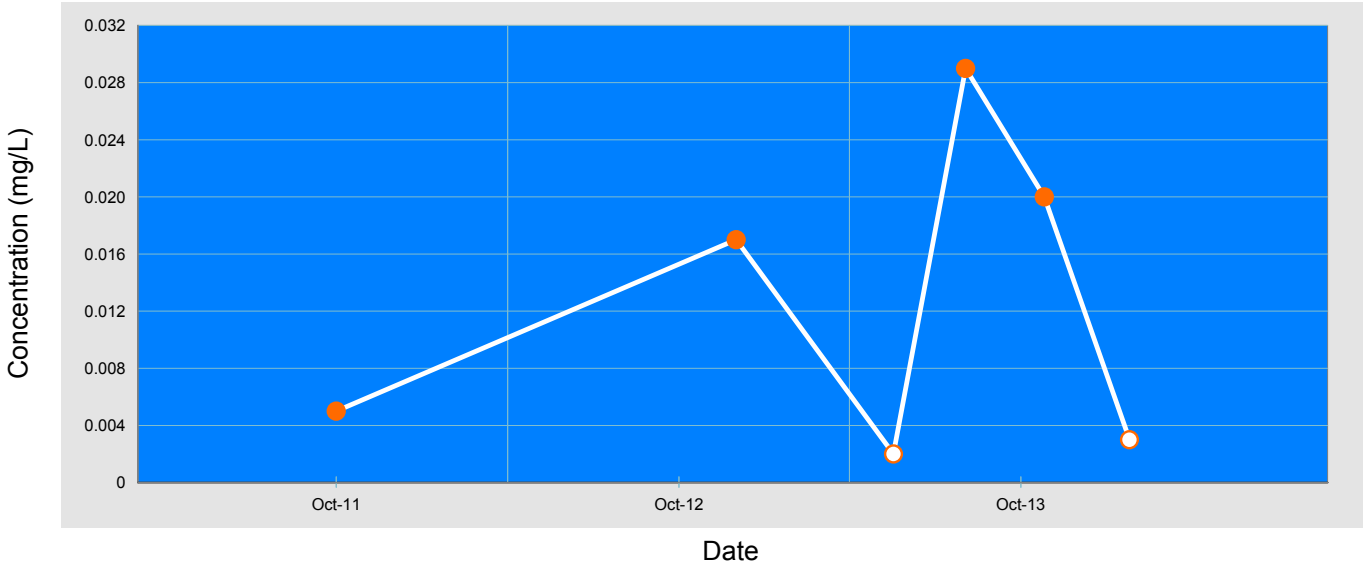


Lead

WellID	MW-03-08
Date Range	12/02/2011 - 11/15/2013
Current Result	0.012
Sample Size	4
Min / Max Result	0.004 / 0.012
Max Detected	0.012
% Detected	100%
S Statistic	2
Probability	0.3750
90% Trend	NO TREND

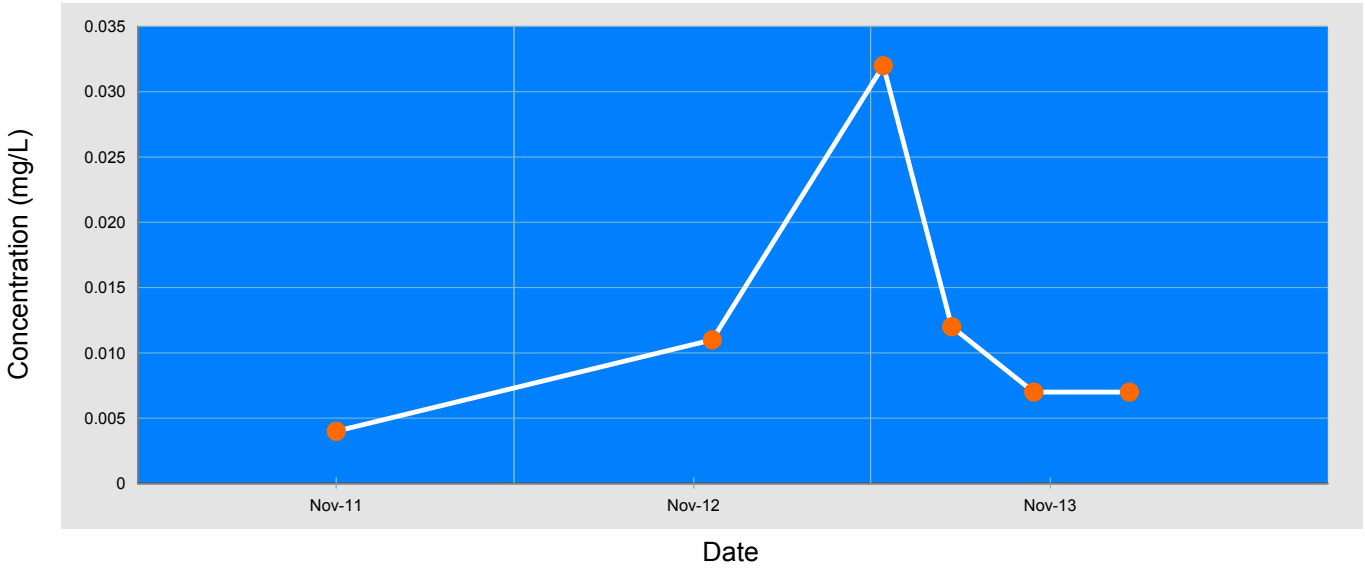


WellID	MW-19
Date Range	10/19/2011 - 02/11/2014
Current Result	<0.003
Sample Size	6
Min / Max Result	<0.003 / 0.029
Max Detected	0.029
% Detected	67%
S Statistic	0
Probability	0.5770
90% Trend	NO TREND

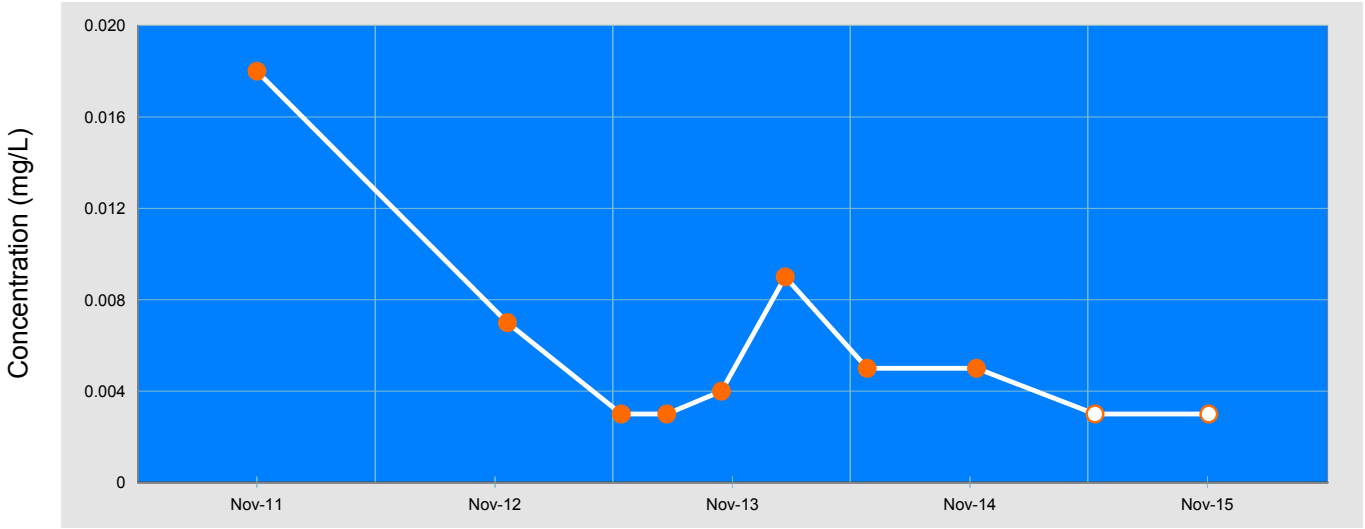


Lead

WellID	MWBP-10A-UST1-4
Date Range	12/02/2011 - 02/19/2014
Current Result	0.007
Sample Size	6
Min / Max Result	0.004 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	0
Probability	0.5770
90% Trend	NO TREND

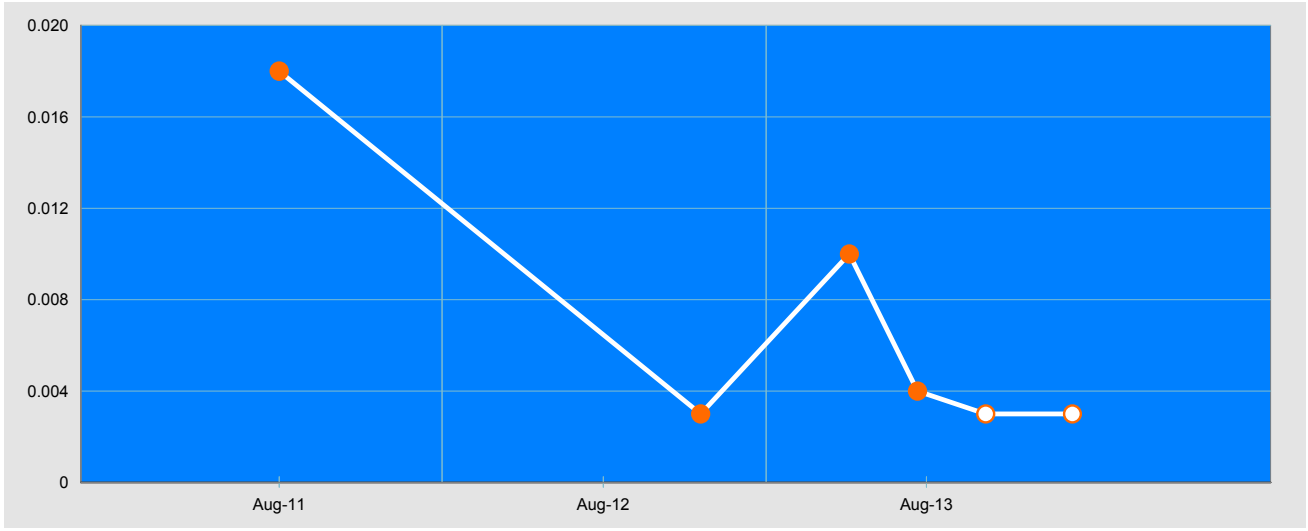


WellID	MWBP-11-UST1-4
Date Range	11/29/2011 - 12/01/2015
Current Result	<0.003
Sample Size	10
Min / Max Result	<0.003 / 0.018
Max Detected	0.018
% Detected	80%
S Statistic	-18
Probability	0.0660
90% Trend	

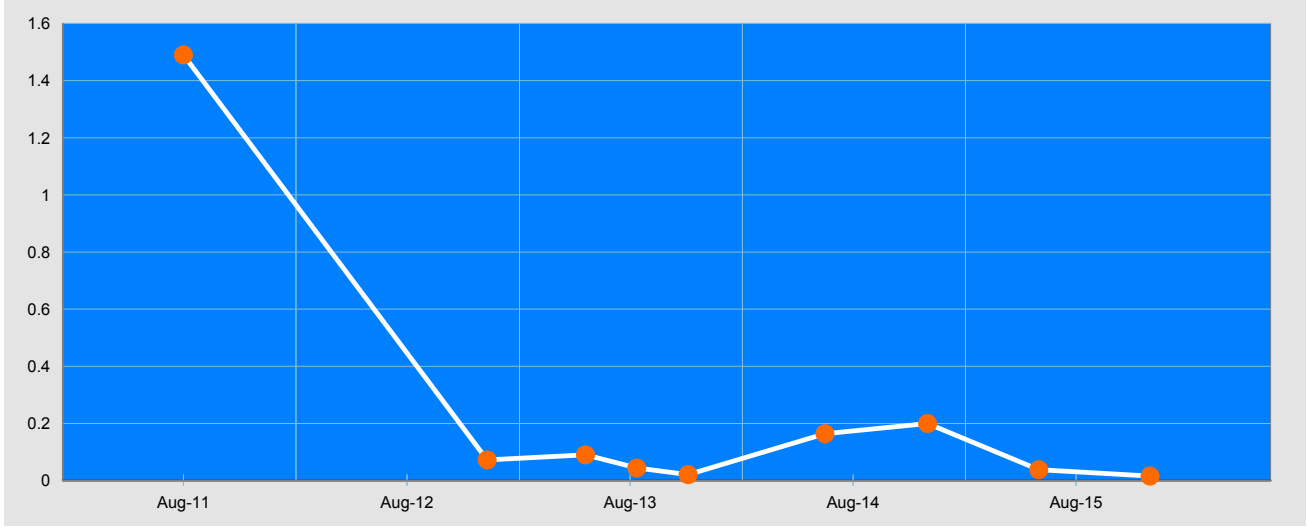


Lead

WellID	P2-SB-20
Date Range	08/31/2011 - 02/13/2014
Current Result	<0.003
Sample Size	6
Min / Max Result	<0.003 / 0.018
Max Detected	0.018
% Detected	67%
S Statistic	-10
Probability	0.0480
90% Trend	



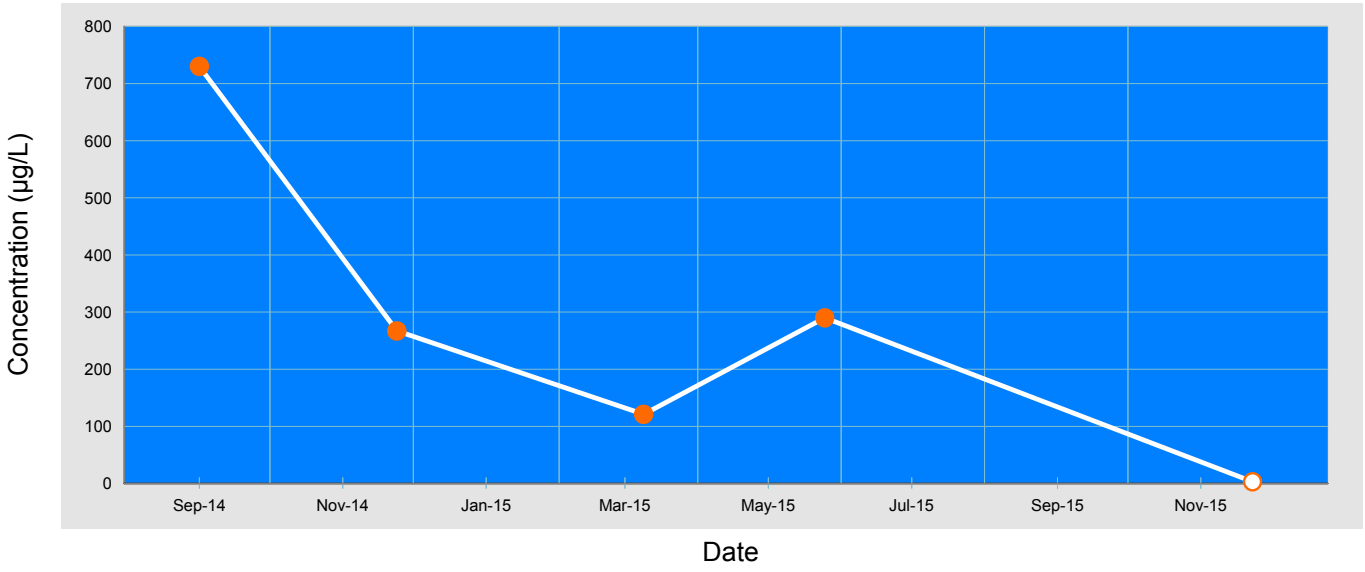
WellID	P6-SB-18
Date Range	08/08/2011 - 12/07/2015
Current Result	0.016
Sample Size	9
Min / Max Result	0.016 / 1.49
Max Detected	1.49
% Detected	100%
S Statistic	-14
Probability	0.0900
90% Trend	



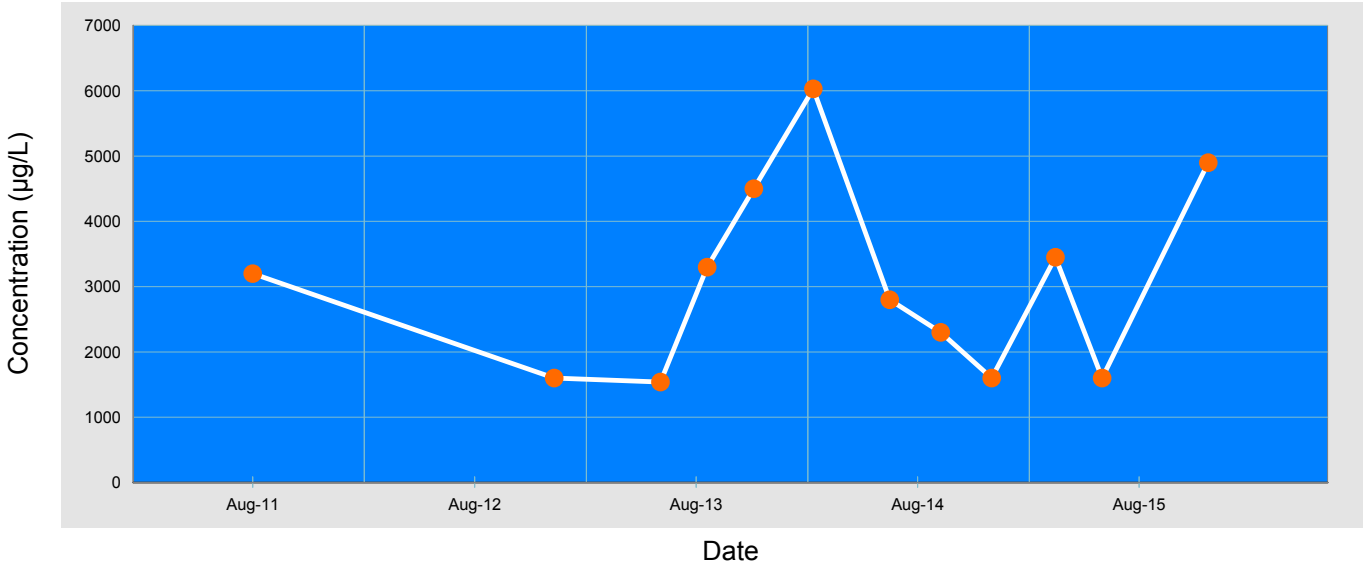
m&p-Xylene

m&p-Xylene

WellID	MW-14-54
Date Range	09/19/2014 - 12/08/2015
Current Result	<3
Sample Size	5
Min / Max Result	<3 / 730
Max Detected	730
% Detected	80%
S Statistic	-6
Probability	0.1170
90% Trend	NO TREND



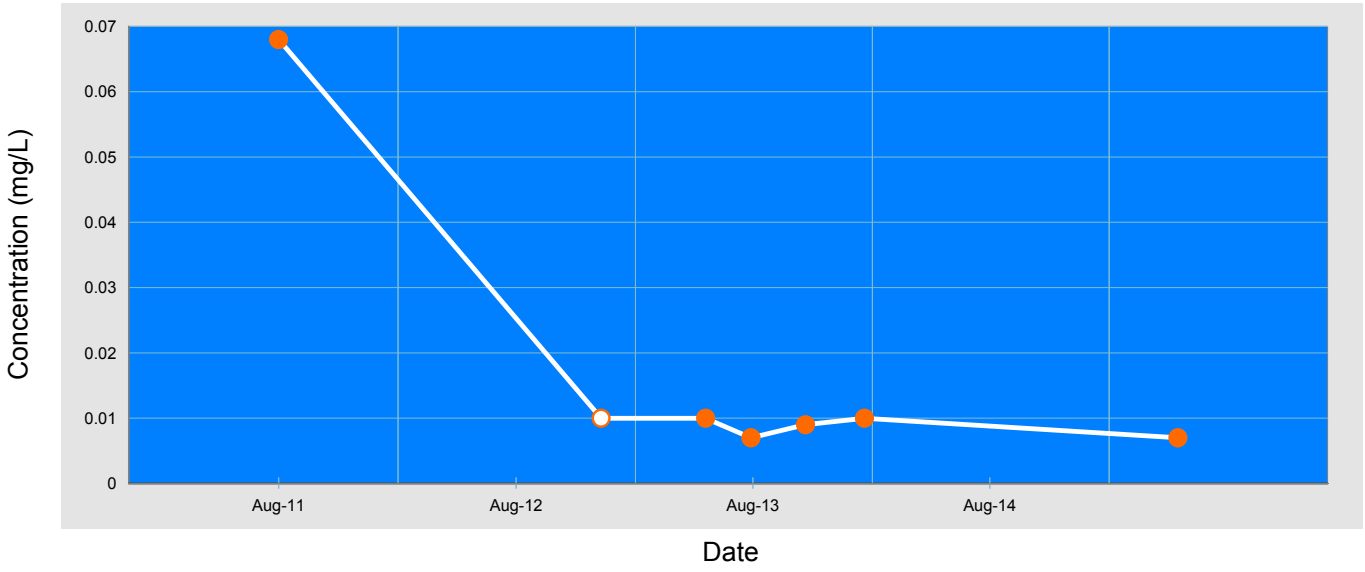
WellID	P6-SB-32
Date Range	08/11/2011 - 12/01/2015
Current Result	4900
Sample Size	13
Min / Max Result	1540 / 6030
Max Detected	6030
% Detected	100%
S Statistic	9
Probability	0.3116
90% Trend	NO TREND



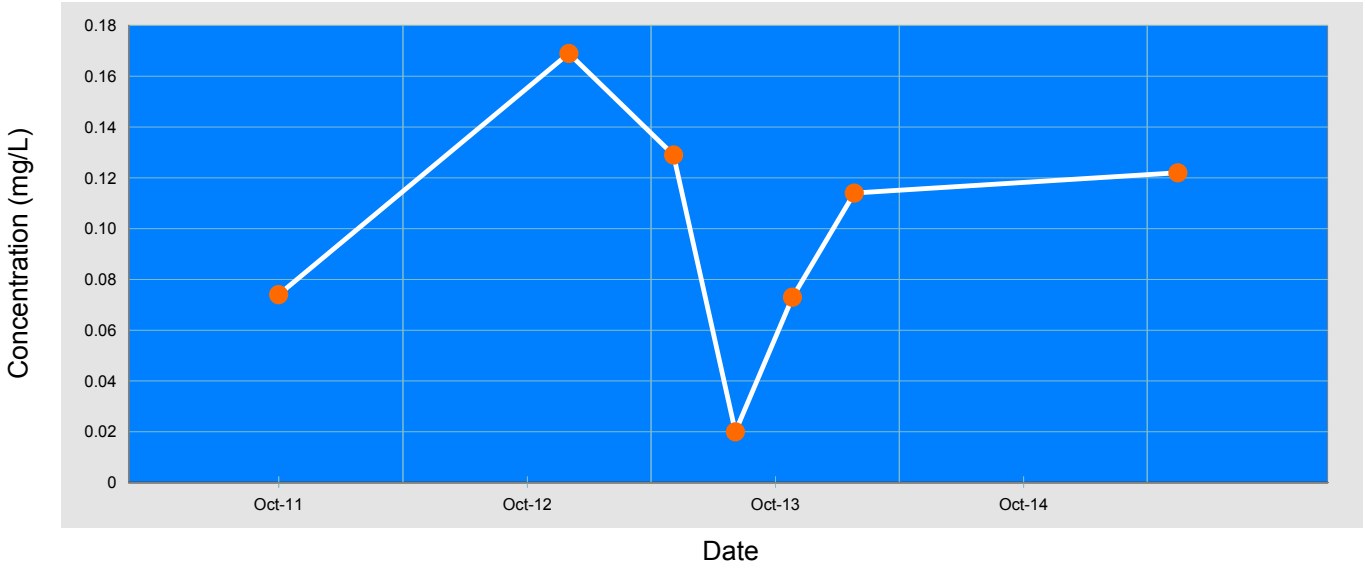
Manganese

Manganese

WellID	CH-14-RO
Date Range	08/22/2011 - 06/08/2015
Current Result	0.007
Sample Size	7
Min / Max Result	<0.010 / 0.068
Max Detected	0.068
% Detected	86%
S Statistic	-3
Probability	0.3860
90% Trend	NO TREND

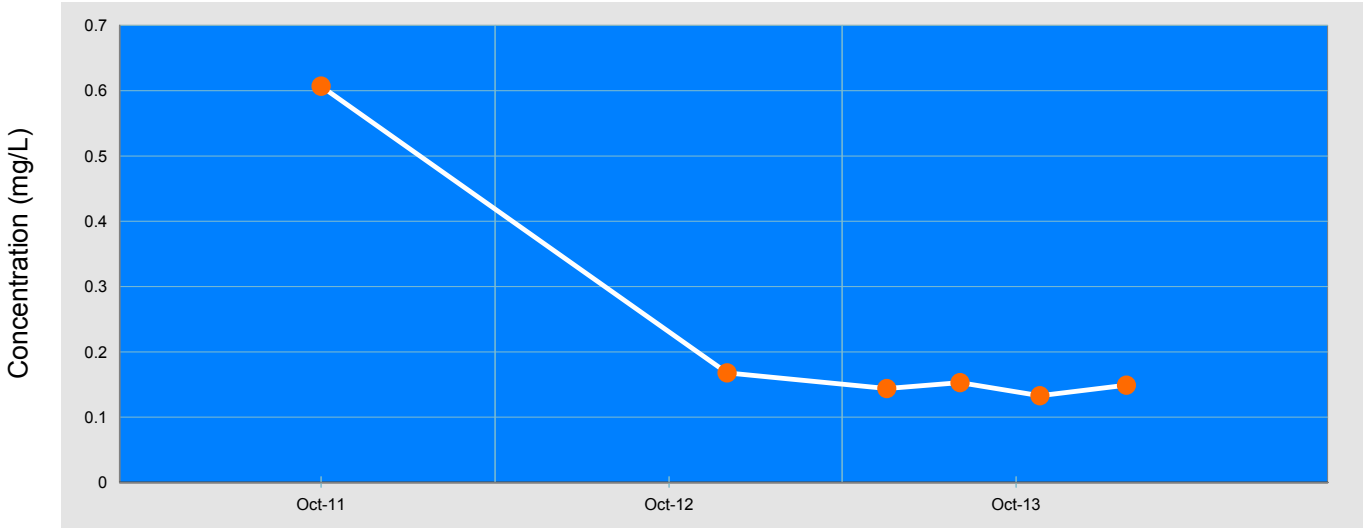


WellID	MW-01(2)
Date Range	10/18/2011 - 06/04/2015
Current Result	0.122
Sample Size	7
Min / Max Result	0.020 / 0.169
Max Detected	0.169
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

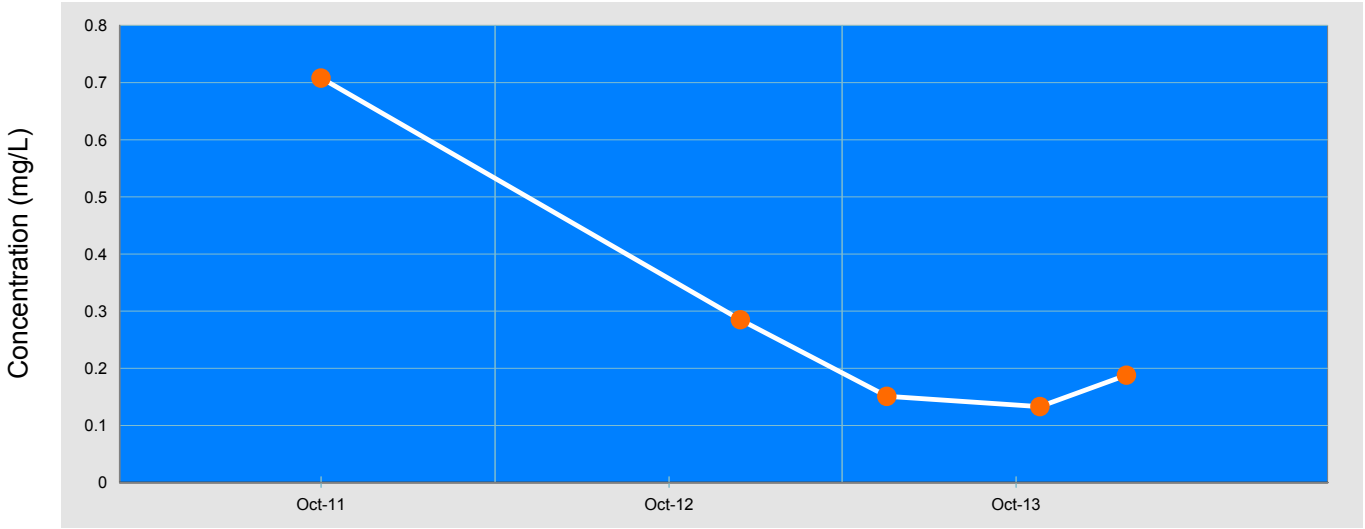


Manganese

WellID	MW-01(3)
Date Range	10/19/2011 - 02/11/2014
Current Result	0.149
Sample Size	6
Min / Max Result	0.133 / 0.607
Max Detected	0.607
% Detected	100%
S Statistic	-9
Probability	0.0680
90% Trend	

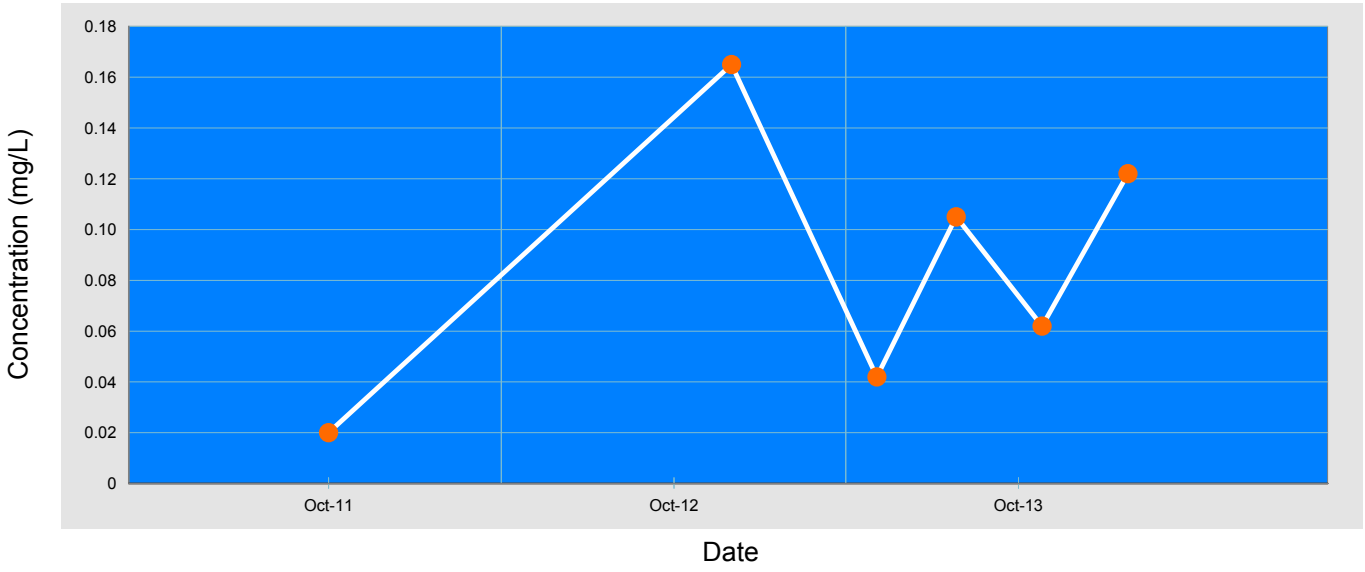


WellID	MW-02 (UNK-12)
Date Range	10/19/2011 - 02/13/2014
Current Result	0.188
Sample Size	5
Min / Max Result	0.133 / 0.708
Max Detected	0.708
% Detected	100%
S Statistic	-6
Probability	0.1170
90% Trend	**NO TREND**

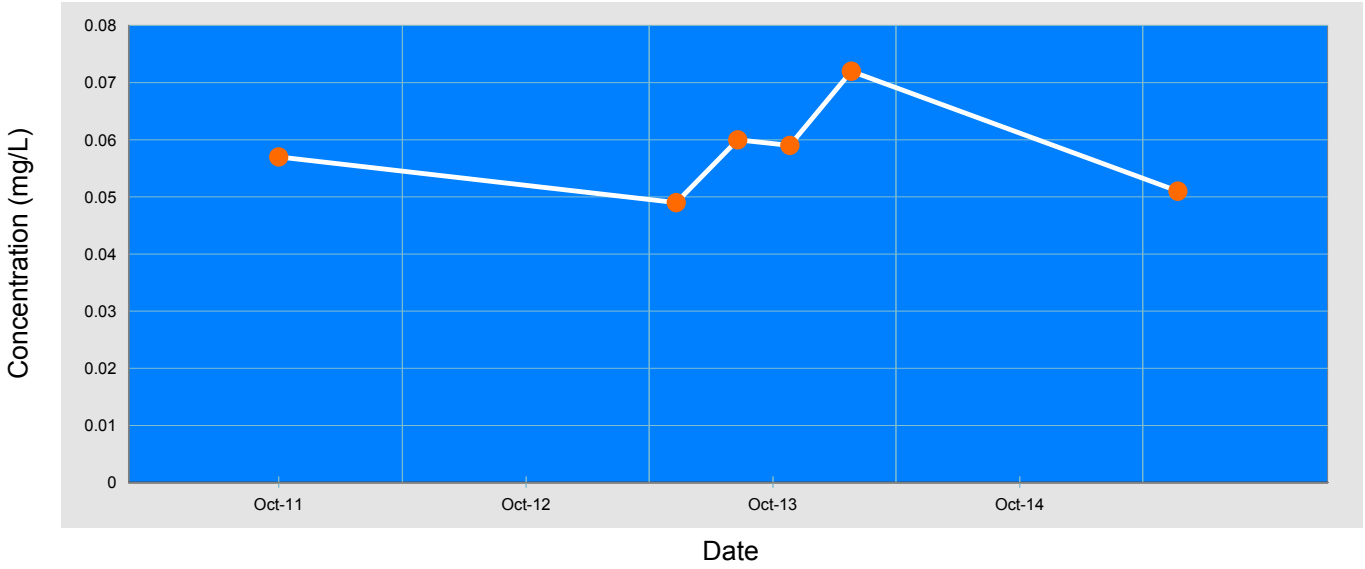


Manganese

WellID	MW-02(2)
Date Range	10/18/2011 - 02/14/2014
Current Result	0.122
Sample Size	6
Min / Max Result	0.020 / 0.165
Max Detected	0.165
% Detected	100%
S Statistic	5
Probability	0.2350
90% Trend	NO TREND

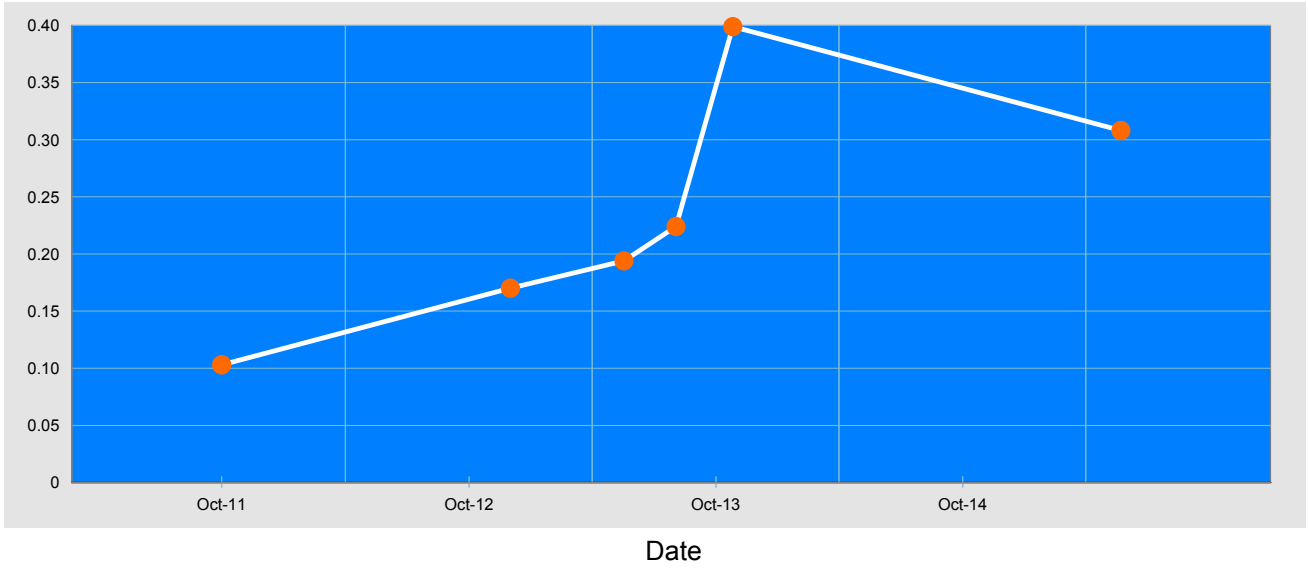


WellID	MW-02-01(3)
Date Range	10/12/2011 - 06/03/2015
Current Result	0.051
Sample Size	6
Min / Max Result	0.049 / 0.072
Max Detected	0.072
% Detected	100%
S Statistic	3
Probability	0.3600
90% Trend	NO TREND

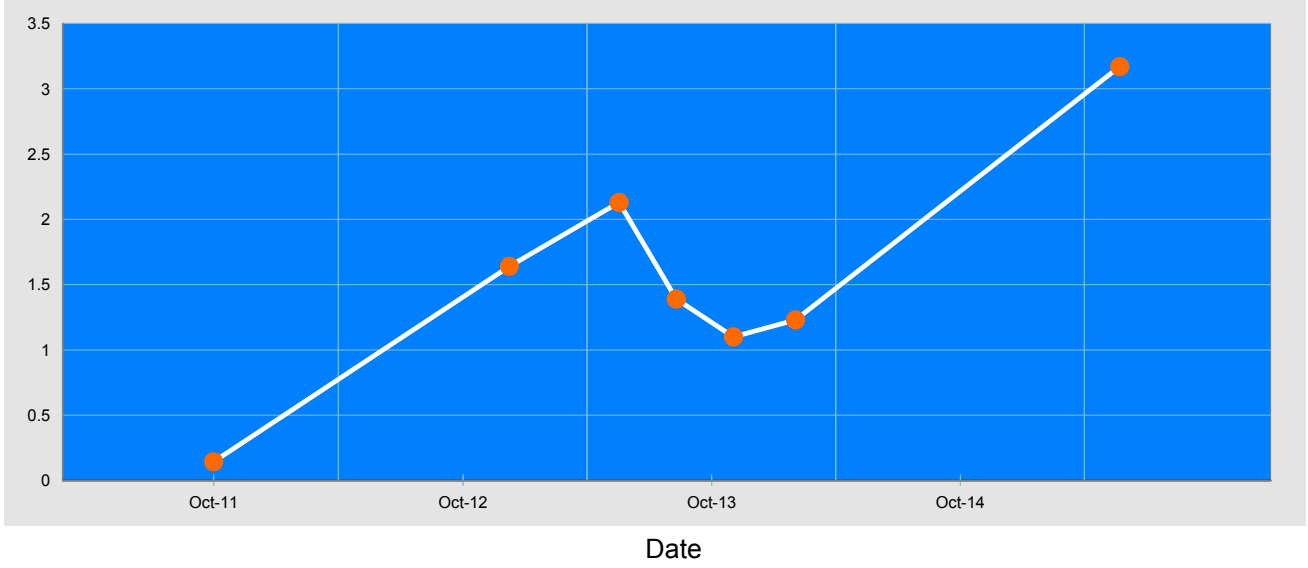


Manganese

WellID	MW-02-01(6)
Date Range	10/17/2011 - 06/10/2015
Current Result	0.308
Sample Size	6
Min / Max Result	0.103 / 0.399
Max Detected	0.399
% Detected	100%
S Statistic	13
Probability	0.0083
90% Trend	

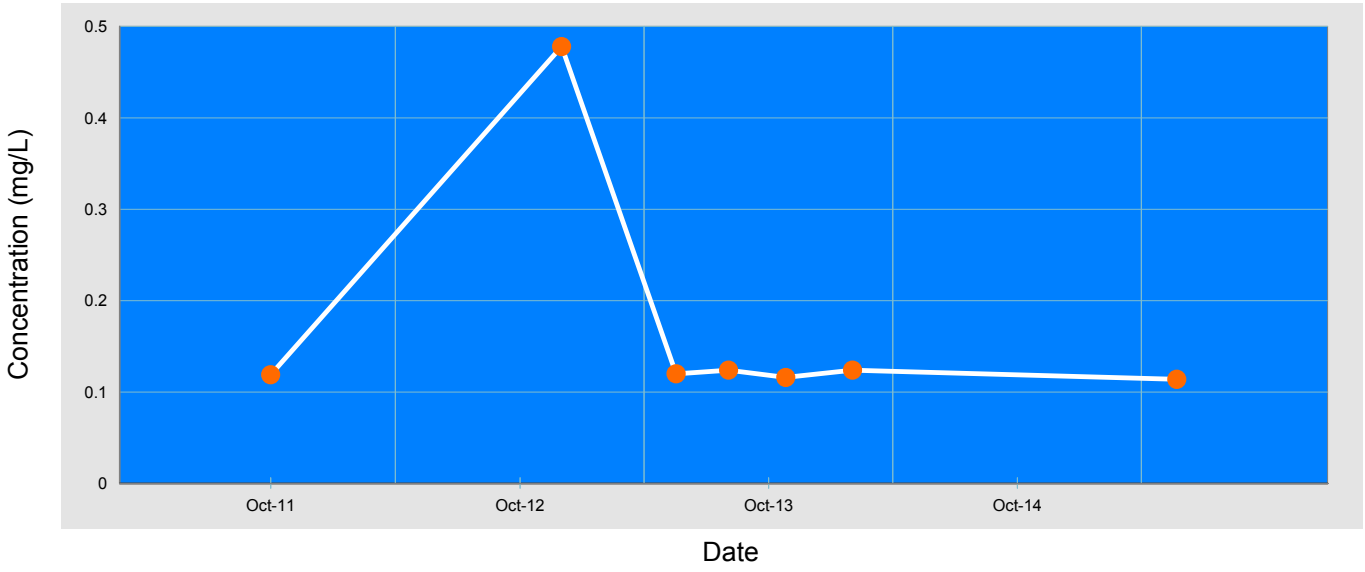


WellID	MW-02-02(3)
Date Range	10/13/2011 - 06/04/2015
Current Result	3.17
Sample Size	7
Min / Max Result	0.144 / 3.17
Max Detected	3.17
% Detected	100%
S Statistic	5
Probability	0.2810
90% Trend	**NO TREND**

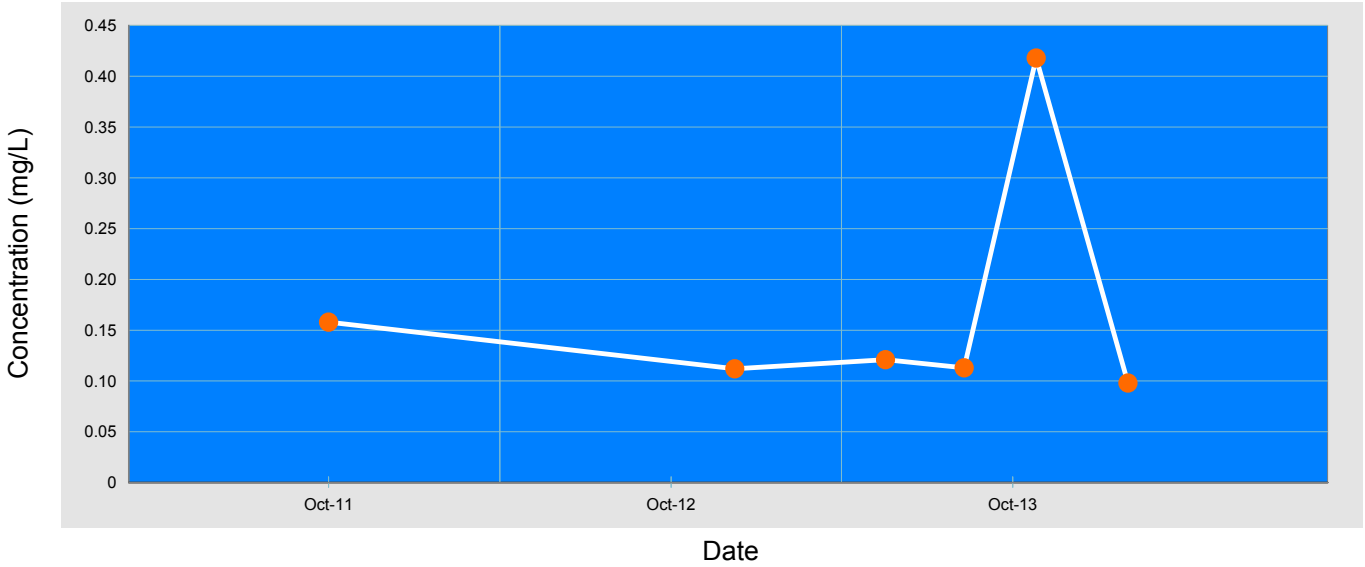


Manganese

WellID	MW-02-02(6)
Date Range	10/18/2011 - 06/10/2015
Current Result	0.114
Sample Size	7
Min / Max Result	0.114 / 0.478
Max Detected	0.478
% Detected	100%
S Statistic	-6
Probability	0.2360
90% Trend	NO TREND

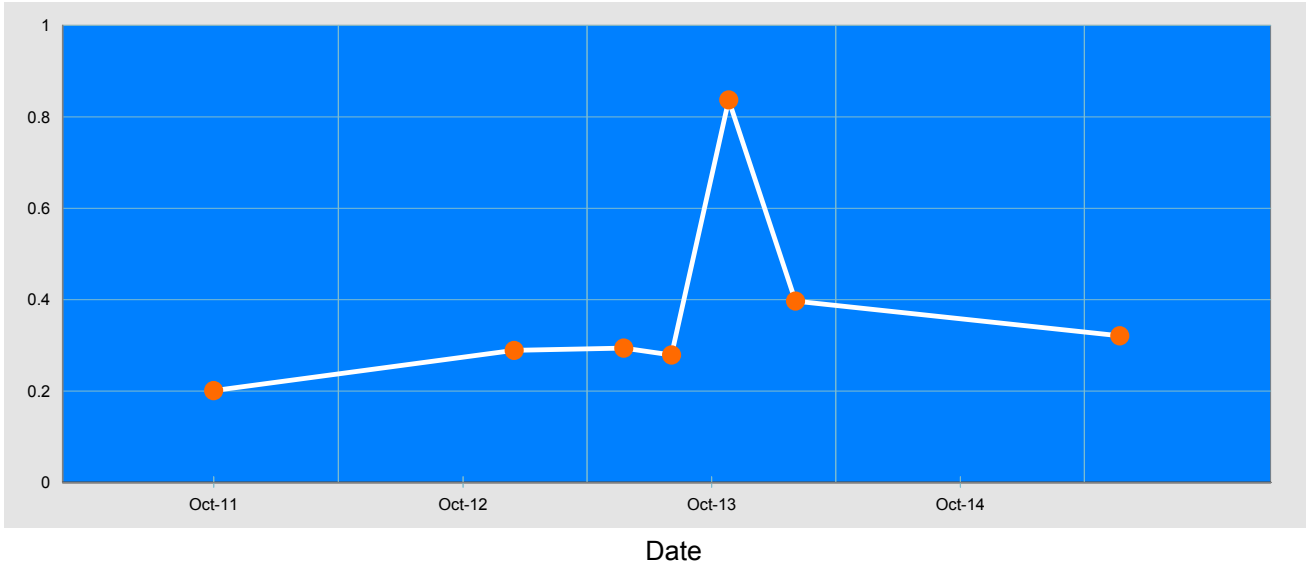


WellID	MW-02-03(3)
Date Range	10/12/2011 - 02/11/2014
Current Result	0.098
Sample Size	6
Min / Max Result	0.098 / 0.418
Max Detected	0.418
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

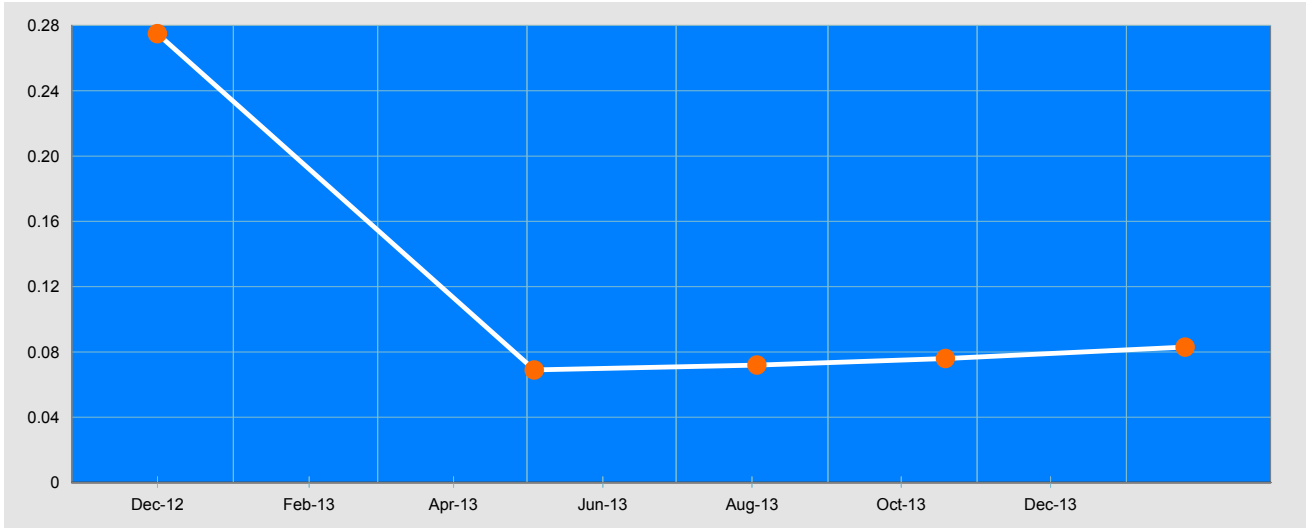


Manganese

WellID	MW-02-03(6)
Date Range	10/18/2011 - 06/08/2015
Current Result	0.321
Sample Size	7
Min / Max Result	0.201 / 0.837
Max Detected	0.837
% Detected	100%
S Statistic	11
Probability	0.0680
90% Trend	

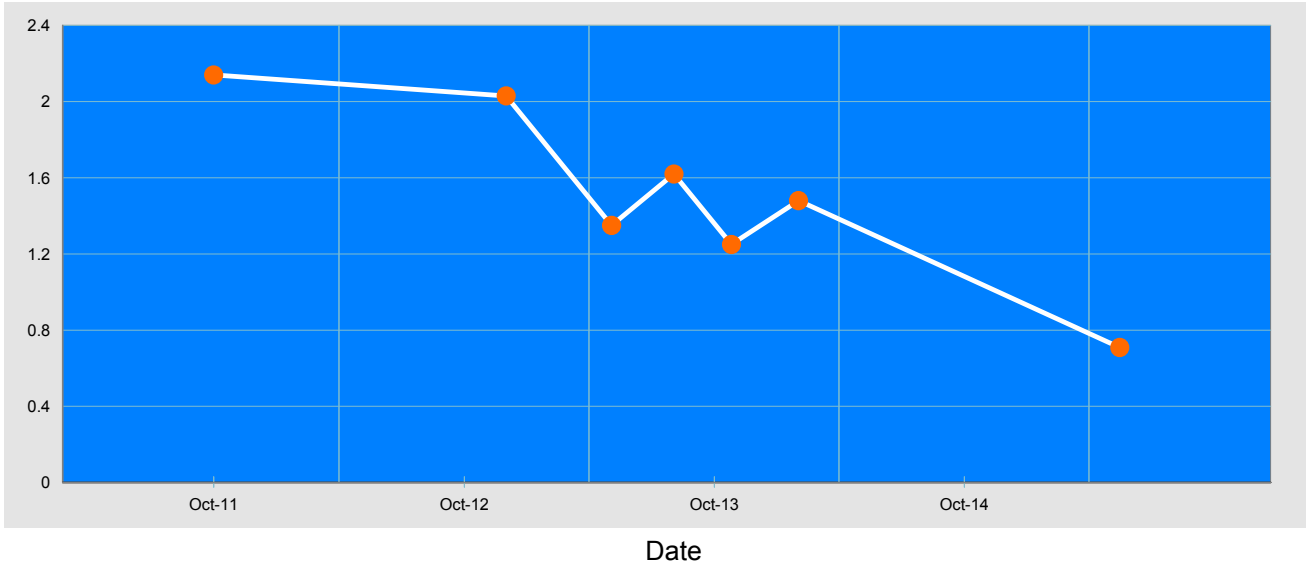


WellID	MW-02-04(3)
Date Range	12/19/2012 - 02/11/2014
Current Result	0.083
Sample Size	5
Min / Max Result	0.069 / 0.275
Max Detected	0.275
% Detected	100%
S Statistic	2
Probability	0.4080
90% Trend	**NO TREND**

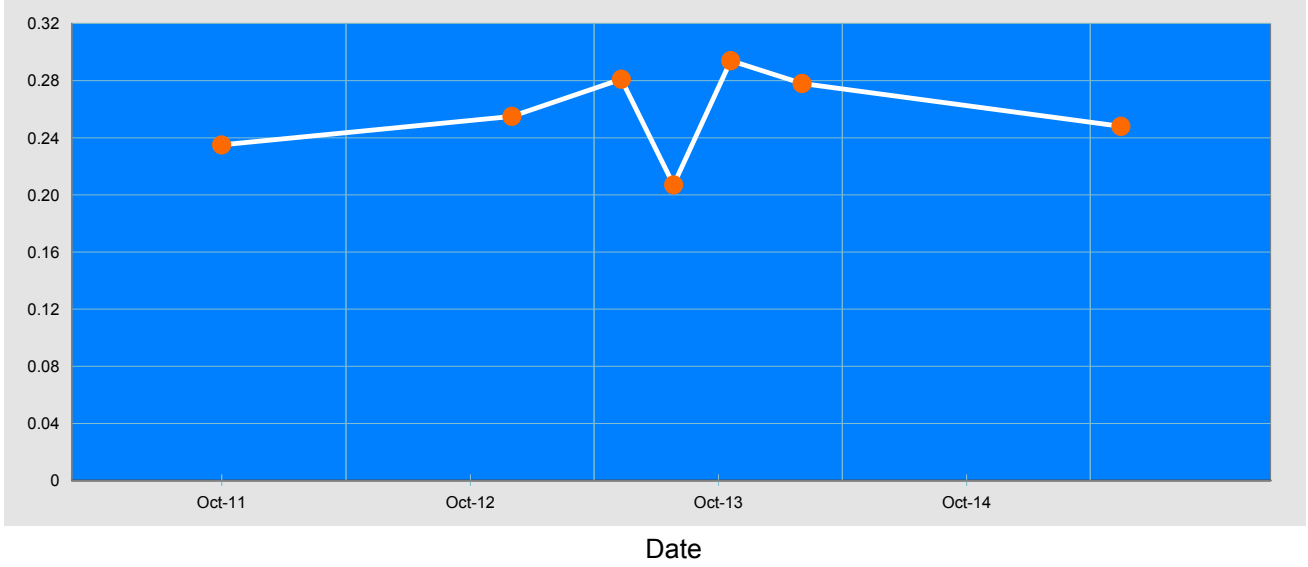


Manganese

WellID	MW-03(2)
Date Range	10/18/2011 - 06/04/2015
Current Result	0.709
Sample Size	7
Min / Max Result	0.709 / 2.14
Max Detected	2.14
% Detected	100%
S Statistic	-15
Probability	0.0150
90% Trend	

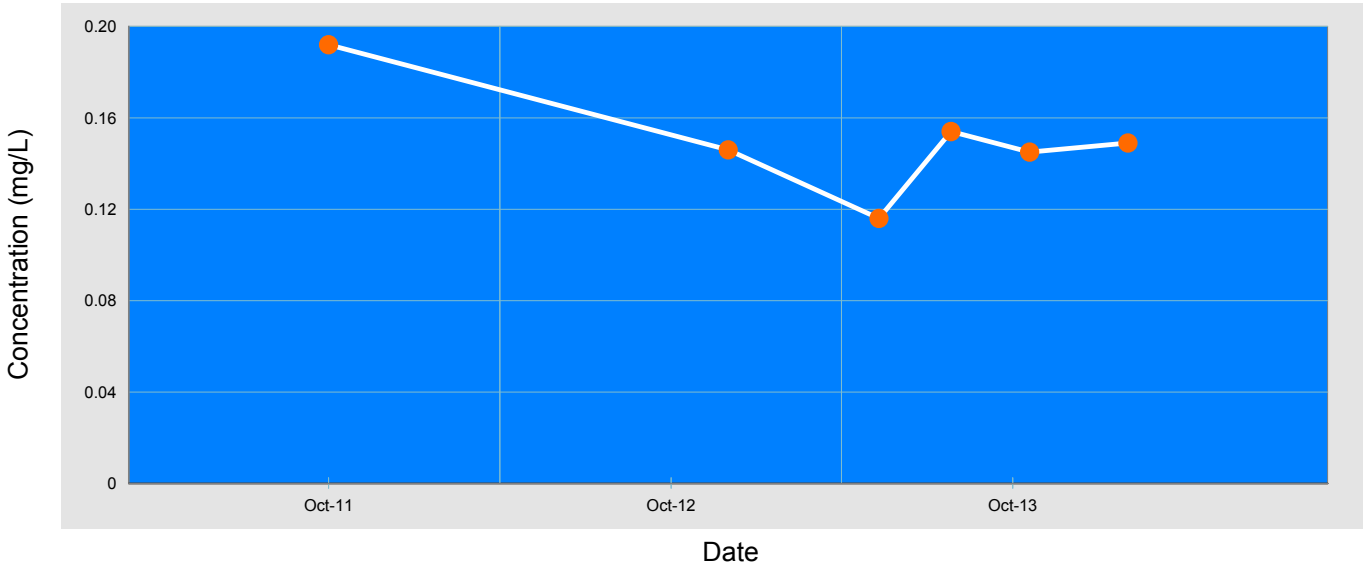


WellID	MW-03-01
Date Range	10/17/2011 - 06/03/2015
Current Result	0.248
Sample Size	7
Min / Max Result	0.207 / 0.294
Max Detected	0.294
% Detected	100%
S Statistic	3
Probability	0.3860
90% Trend	**NO TREND**

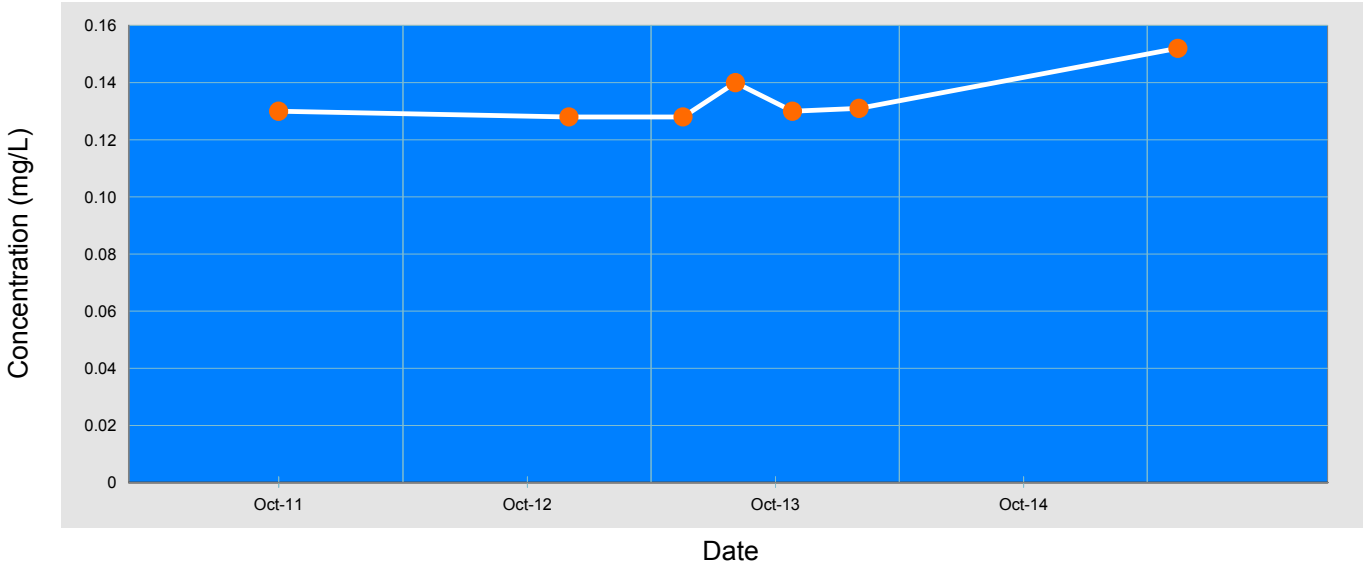


Manganese

WellID	MW-03-02
Date Range	10/17/2011 - 02/18/2014
Current Result	0.149
Sample Size	6
Min / Max Result	0.116 / 0.192
Max Detected	0.192
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

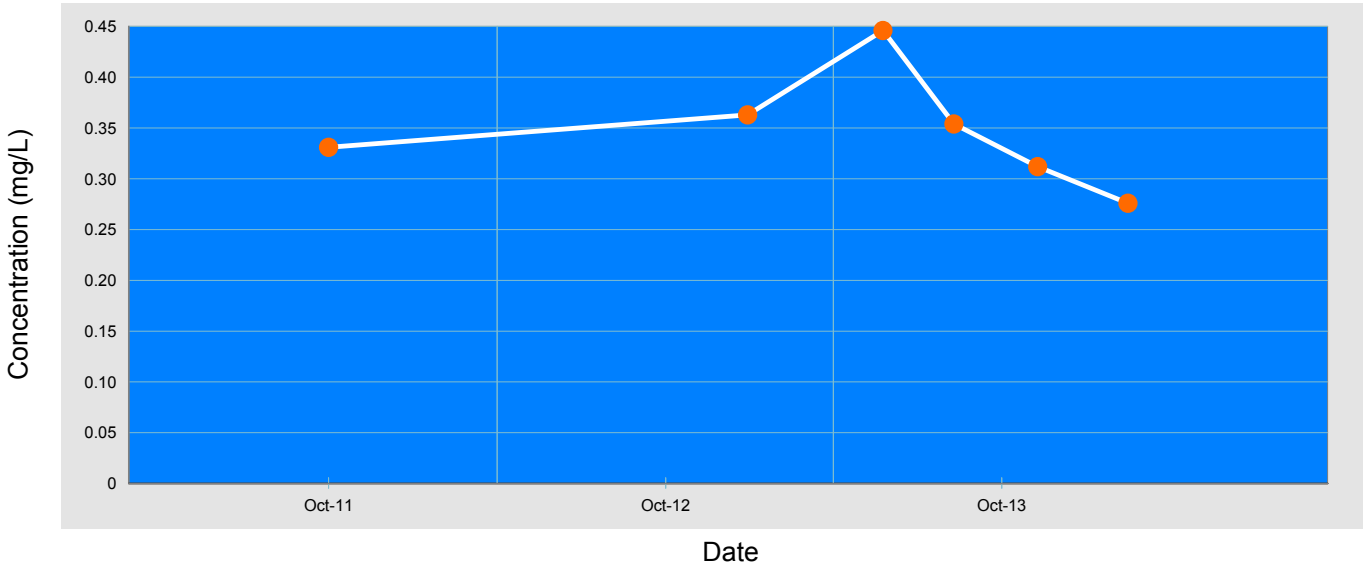


WellID	MW-03-04
Date Range	10/17/2011 - 06/04/2015
Current Result	0.152
Sample Size	7
Min / Max Result	0.128 / 0.152
Max Detected	0.152
% Detected	100%
S Statistic	11
Probability	0.0680
90% Trend	

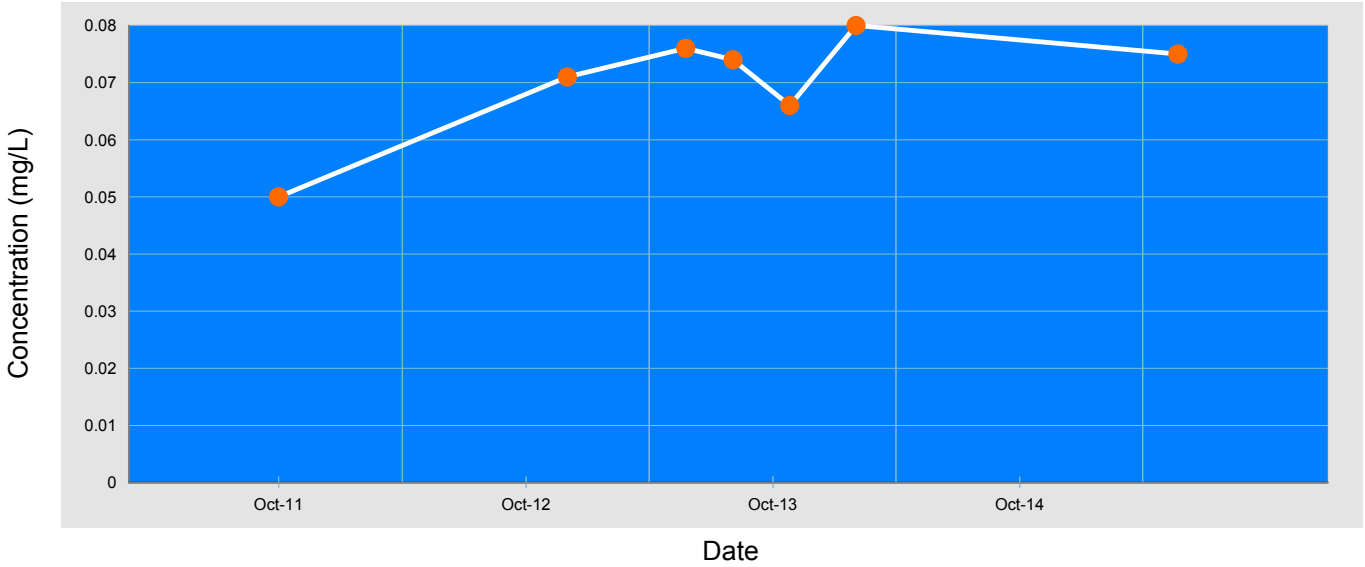


Manganese

WellID	MW-03-06
Date Range	10/07/2011 - 02/20/2014
Current Result	0.276
Sample Size	6
Min / Max Result	0.276 / 0.446
Max Detected	0.446
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND

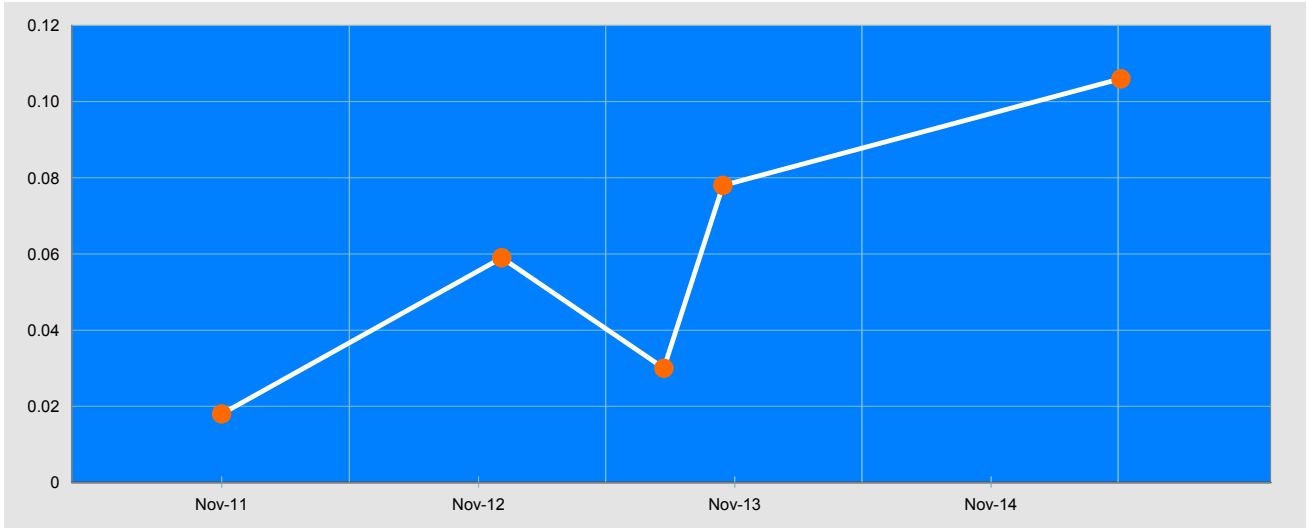


WellID	MW-03-07
Date Range	10/18/2011 - 06/10/2015
Current Result	0.075
Sample Size	7
Min / Max Result	0.050 / 0.080
Max Detected	0.08
% Detected	100%
S Statistic	9
Probability	0.1190
90% Trend	NO TREND

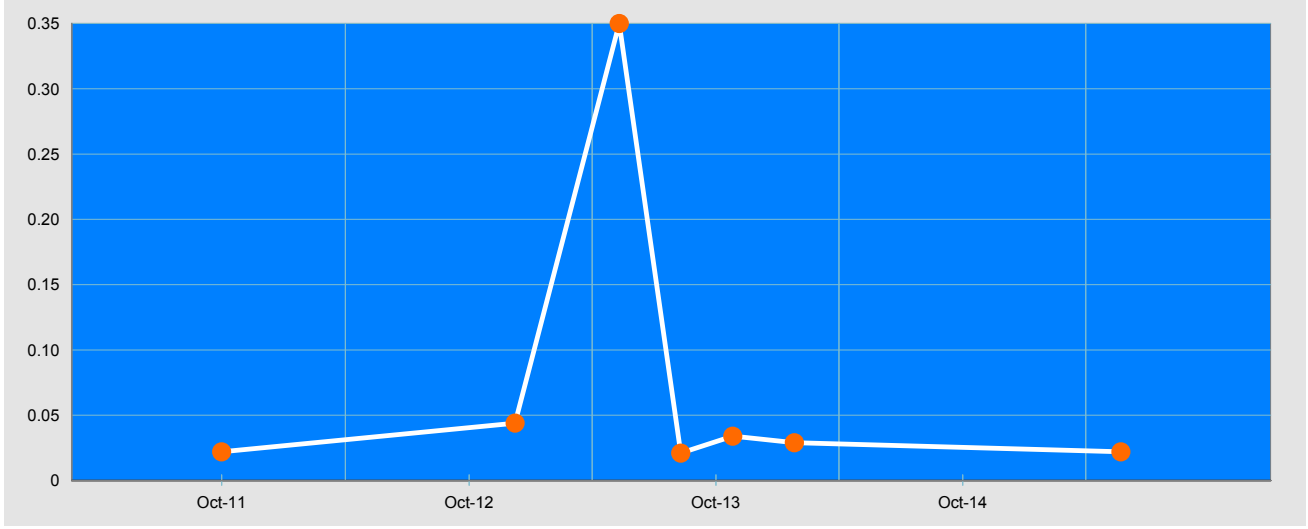


Manganese

WellID	MW-03-08
Date Range	12/02/2011 - 06/04/2015
Current Result	0.106
Sample Size	5
Min / Max Result	0.018 / 0.106
Max Detected	0.106
% Detected	100%
S Statistic	8
Probability	0.0420
90% Trend	

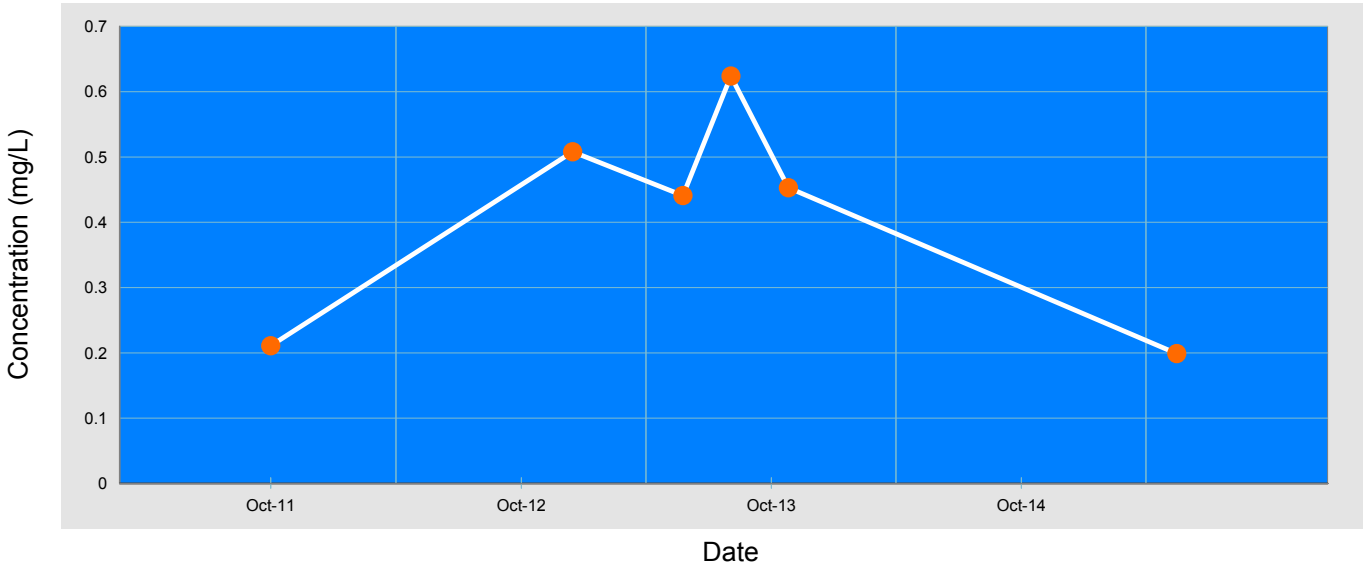


WellID	MW-04-01(3)
Date Range	10/12/2011 - 06/04/2015
Current Result	0.022
Sample Size	7
Min / Max Result	0.021 / 0.350
Max Detected	0.35
% Detected	100%
S Statistic	-4
Probability	0.3335
90% Trend	**NO TREND**

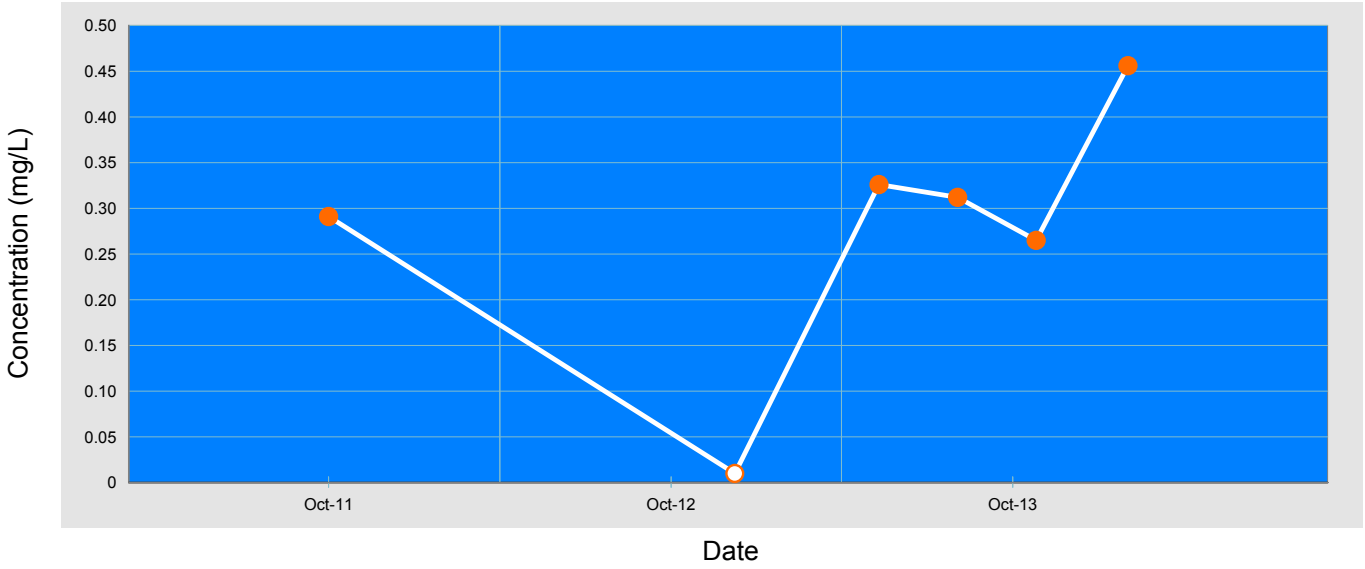


Manganese

WellID	MW-04-01(6)
Date Range	10/18/2011 - 06/04/2015
Current Result	0.199
Sample Size	6
Min / Max Result	0.199 / 0.624
Max Detected	0.624
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

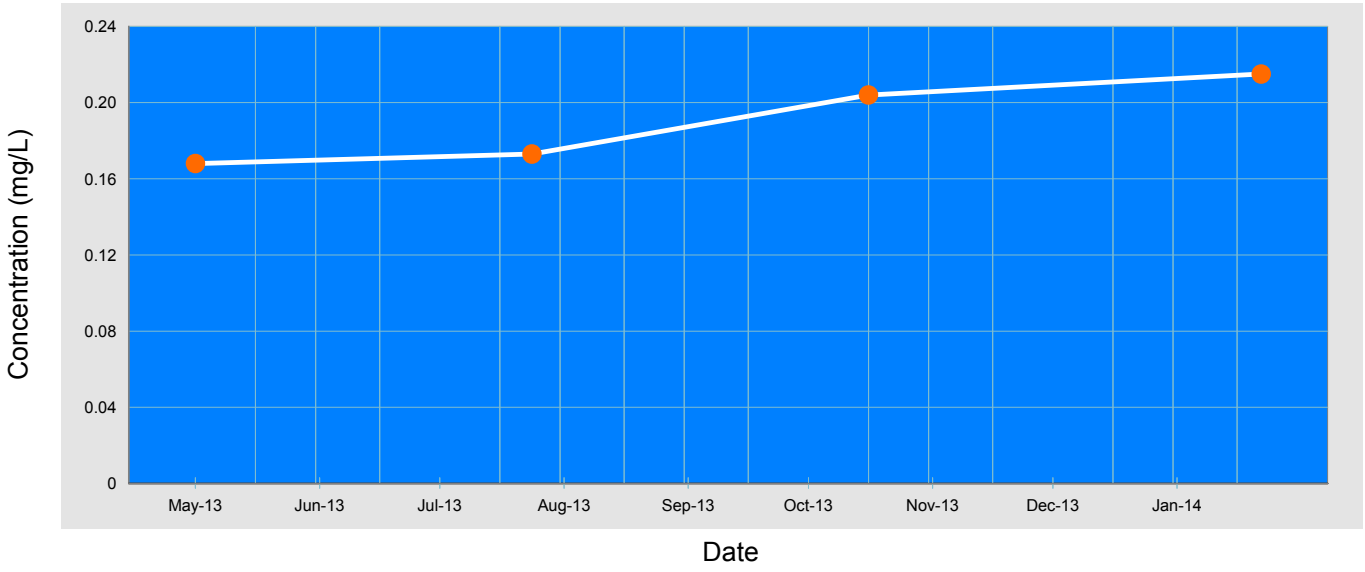


WellID	MW-04-02(3)
Date Range	10/11/2011 - 02/11/2014
Current Result	0.456
Sample Size	6
Min / Max Result	<0.010 / 0.456
Max Detected	0.456
% Detected	83%
S Statistic	5
Probability	0.2350
90% Trend	NO TREND

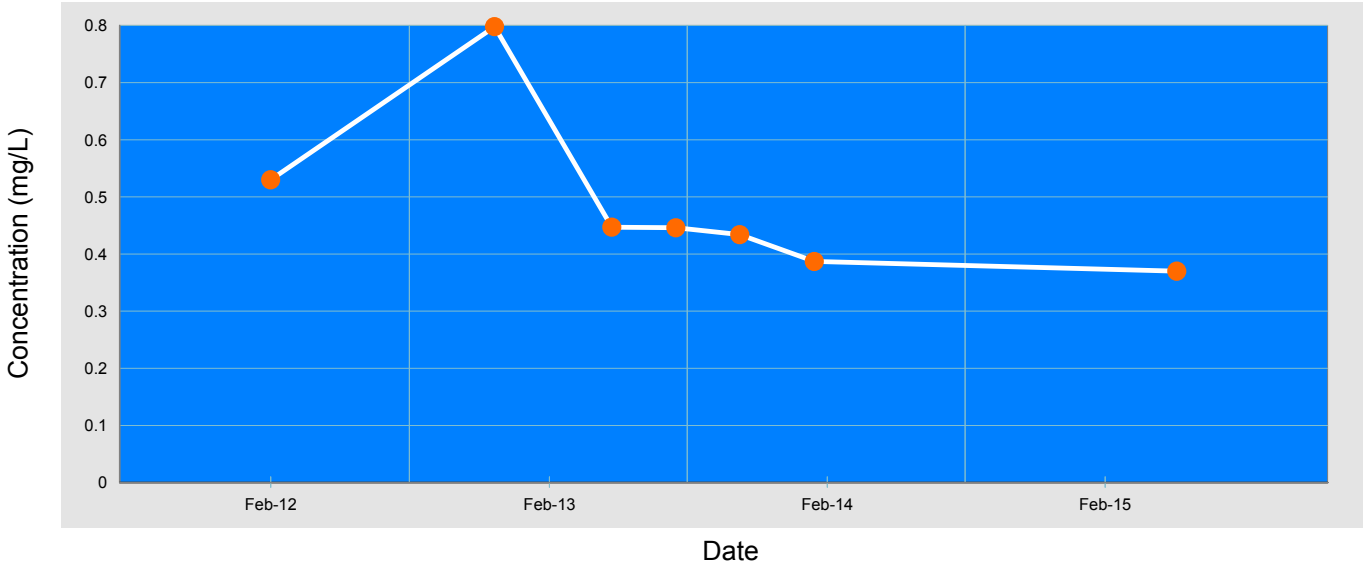


Manganese

WellID	MW-04-03(3)
Date Range	05/22/2013 - 02/11/2014
Current Result	0.215
Sample Size	4
Min / Max Result	0.168 / 0.215
Max Detected	0.215
% Detected	100%
S Statistic	6
Probability	0.0420
90% Trend	

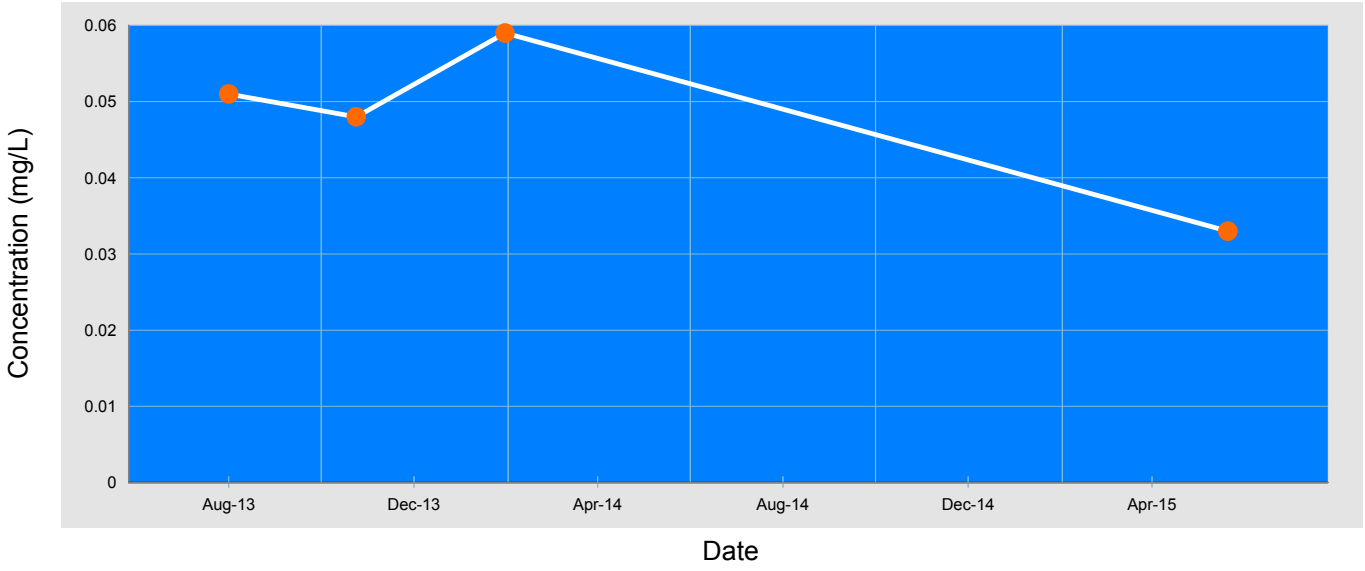


WellID	MW-04-04(3)
Date Range	03/01/2012 - 06/02/2015
Current Result	0.370
Sample Size	7
Min / Max Result	0.370 / 0.798
Max Detected	0.798
% Detected	100%
S Statistic	-19
Probability	0.0014
90% Trend	

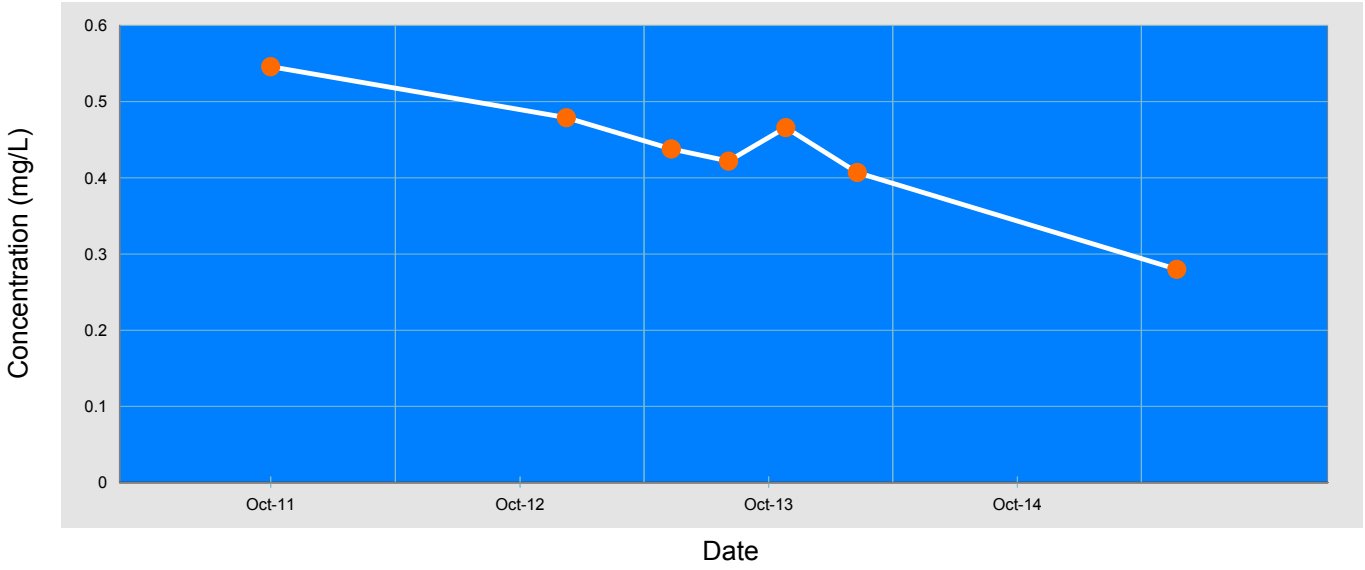


Manganese

WellID	MW-04-04R
Date Range	08/23/2013 - 06/08/2015
Current Result	0.033
Sample Size	4
Min / Max Result	0.033 / 0.059
Max Detected	0.059
% Detected	100%
S Statistic	-2
Probability	0.3750
90% Trend	NO TREND

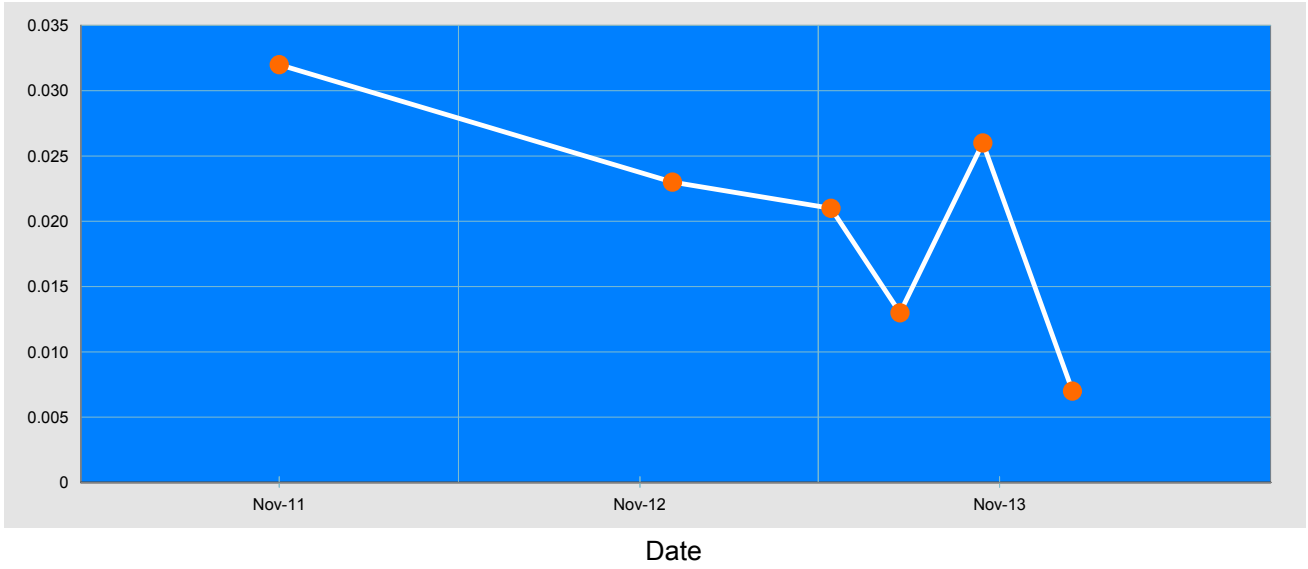


WellID	MW-04-05(6)
Date Range	10/13/2011 - 06/03/2015
Current Result	0.280
Sample Size	7
Min / Max Result	0.280 / 0.546
Max Detected	0.546
% Detected	100%
S Statistic	-17
Probability	0.0054
90% Trend	

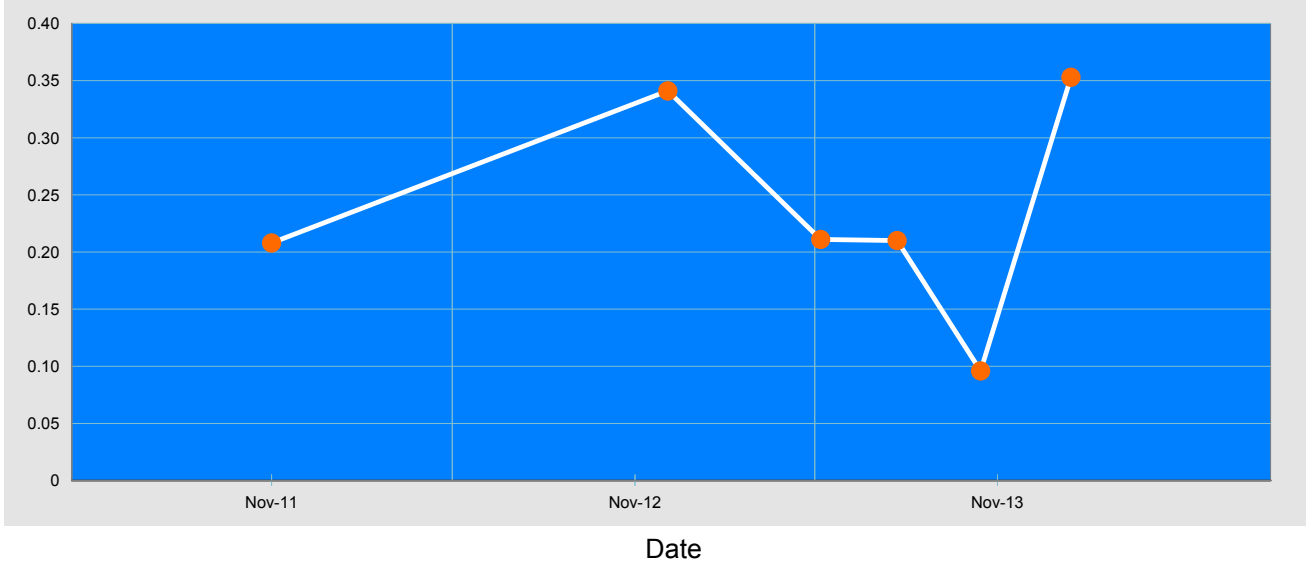


Manganese

WellID	MW-05(3)
Date Range	11/28/2011 - 02/11/2014
Current Result	0.007
Sample Size	6
Min / Max Result	0.007 / 0.032
Max Detected	0.032
% Detected	100%
S Statistic	-9
Probability	0.0680
90% Trend	

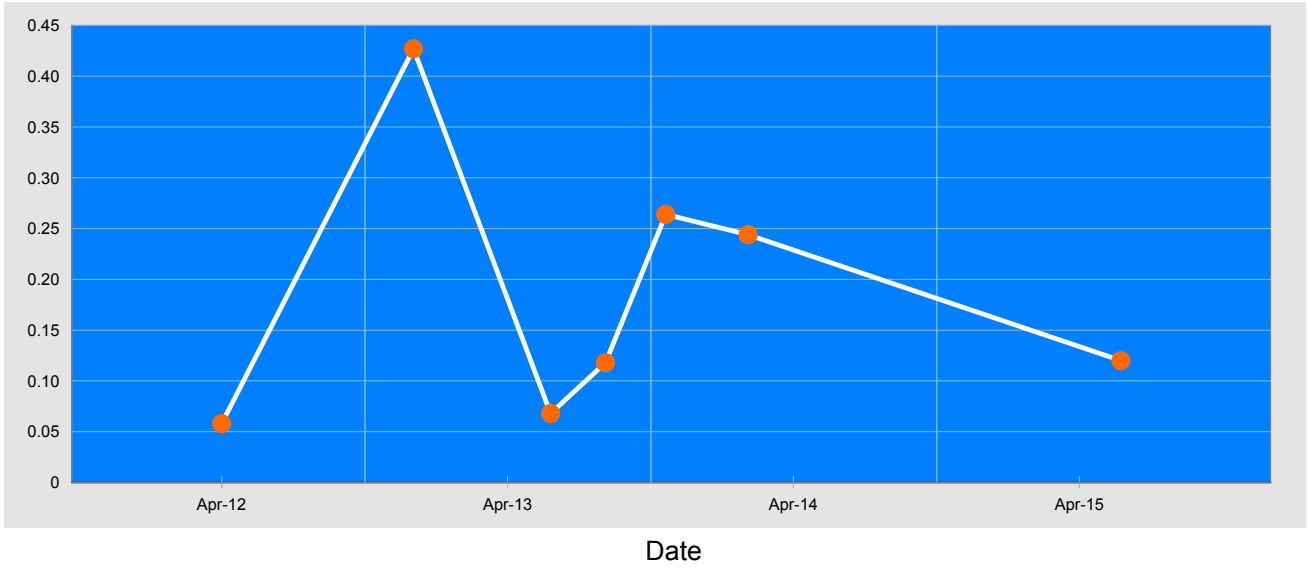


WellID	MW-06(3)
Date Range	11/28/2011 - 02/11/2014
Current Result	0.353
Sample Size	6
Min / Max Result	0.096 / 0.353
Max Detected	0.353
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	**NO TREND**

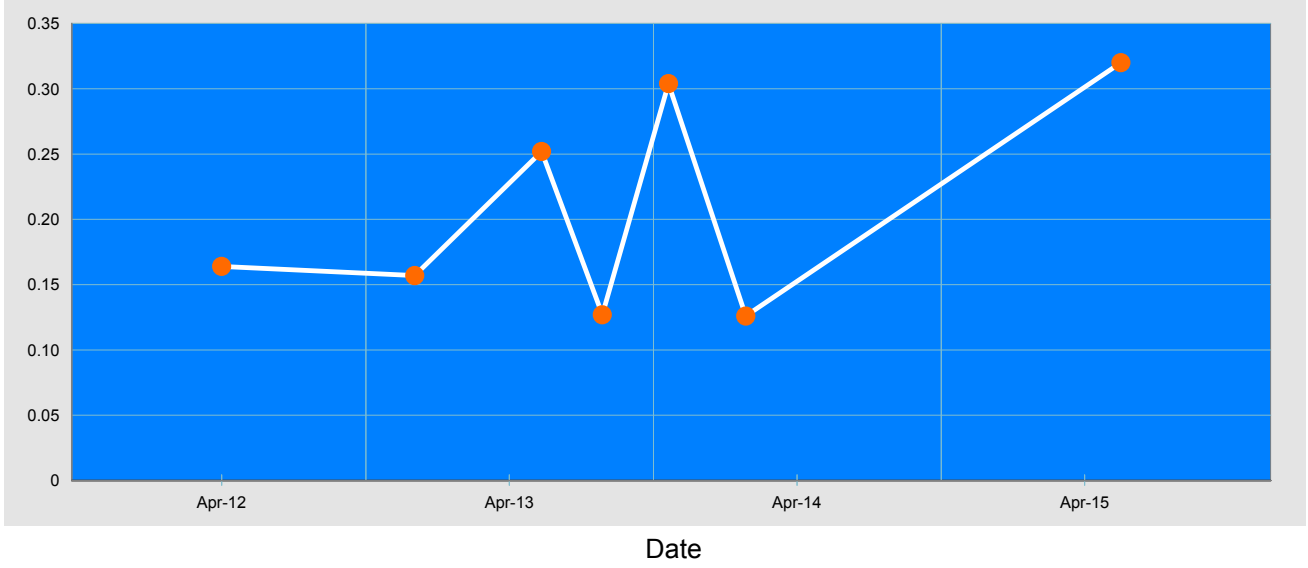


Manganese

WellID	MW-12-01
Date Range	04/18/2012 - 06/10/2015
Current Result	0.120
Sample Size	7
Min / Max Result	0.058 / 0.427
Max Detected	0.427
% Detected	100%
S Statistic	5
Probability	0.2810
90% Trend	NO TREND

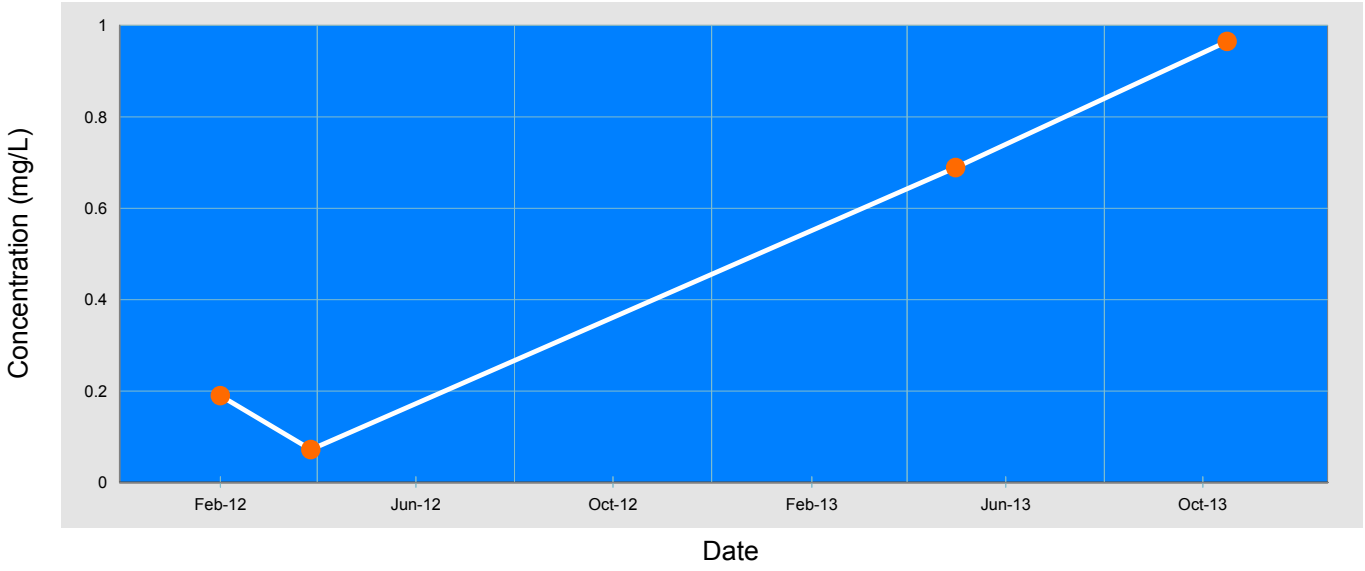


WellID	MW-12-02
Date Range	04/17/2012 - 06/02/2015
Current Result	0.320
Sample Size	7
Min / Max Result	0.126 / 0.320
Max Detected	0.32
% Detected	100%
S Statistic	3
Probability	0.3860
90% Trend	NO TREND

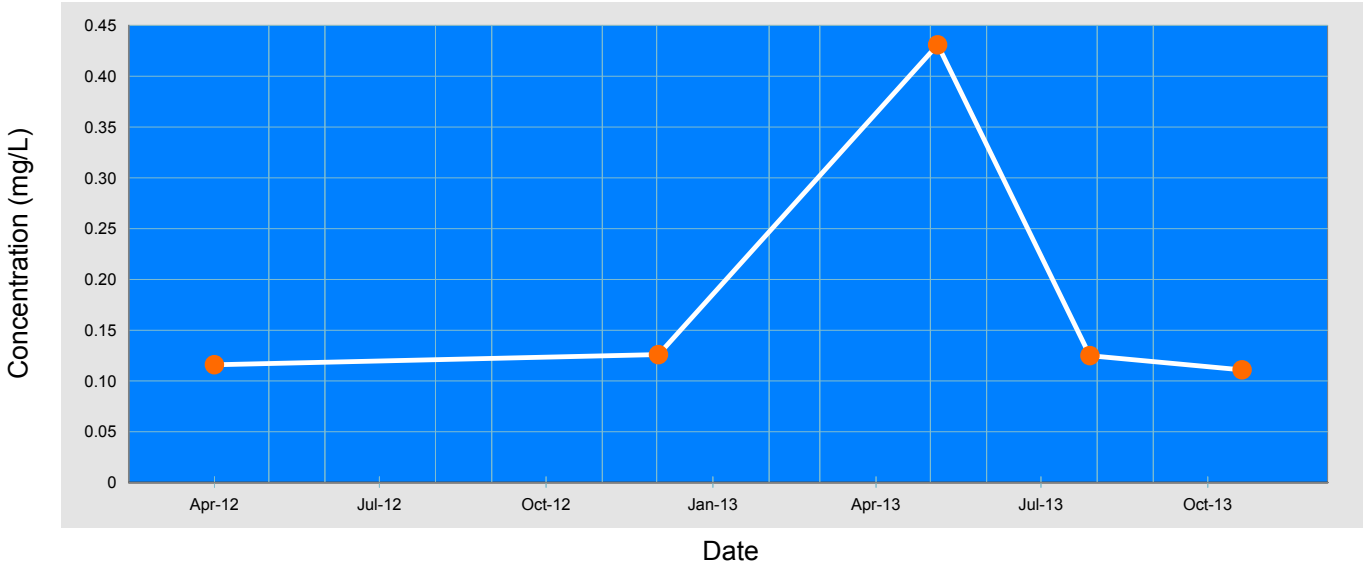


Manganese

WellID	MW-12-03
Date Range	02/21/2012 - 11/06/2013
Current Result	0.965
Sample Size	4
Min / Max Result	0.072 / 0.965
Max Detected	0.965
% Detected	100%
S Statistic	4
Probability	0.1670
90% Trend	NO TREND

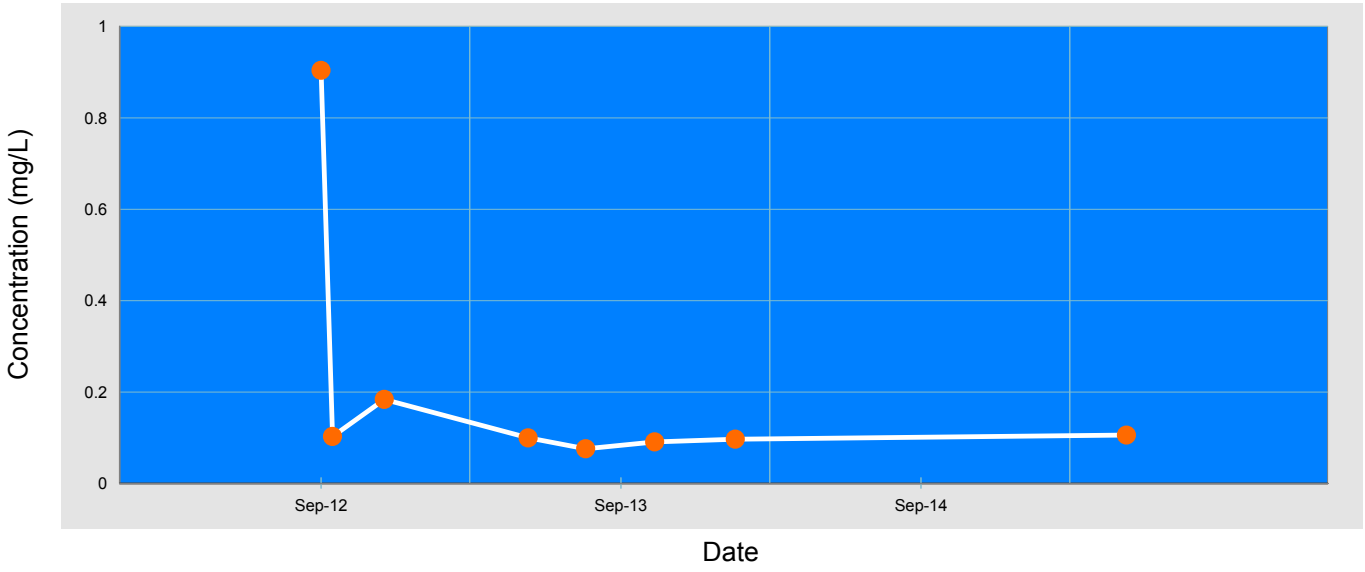


WellID	MW-12-04
Date Range	04/17/2012 - 11/05/2013
Current Result	0.111
Sample Size	5
Min / Max Result	0.111 / 0.431
Max Detected	0.431
% Detected	100%
S Statistic	-2
Probability	0.4080
90% Trend	NO TREND

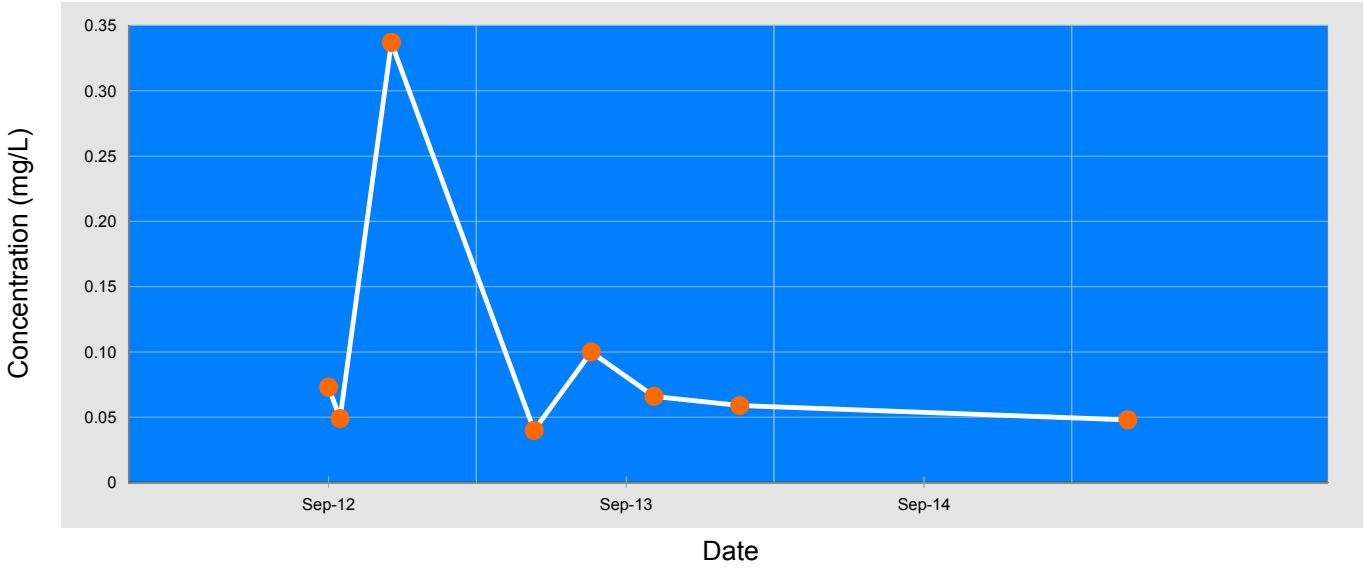


Manganese

WellID	MW-12-05
Date Range	10/04/2012 - 06/08/2015
Current Result	0.106
Sample Size	8
Min / Max Result	0.076 / 0.904
Max Detected	0.904
% Detected	100%
S Statistic	-10
Probability	0.1380
90% Trend	NO TREND

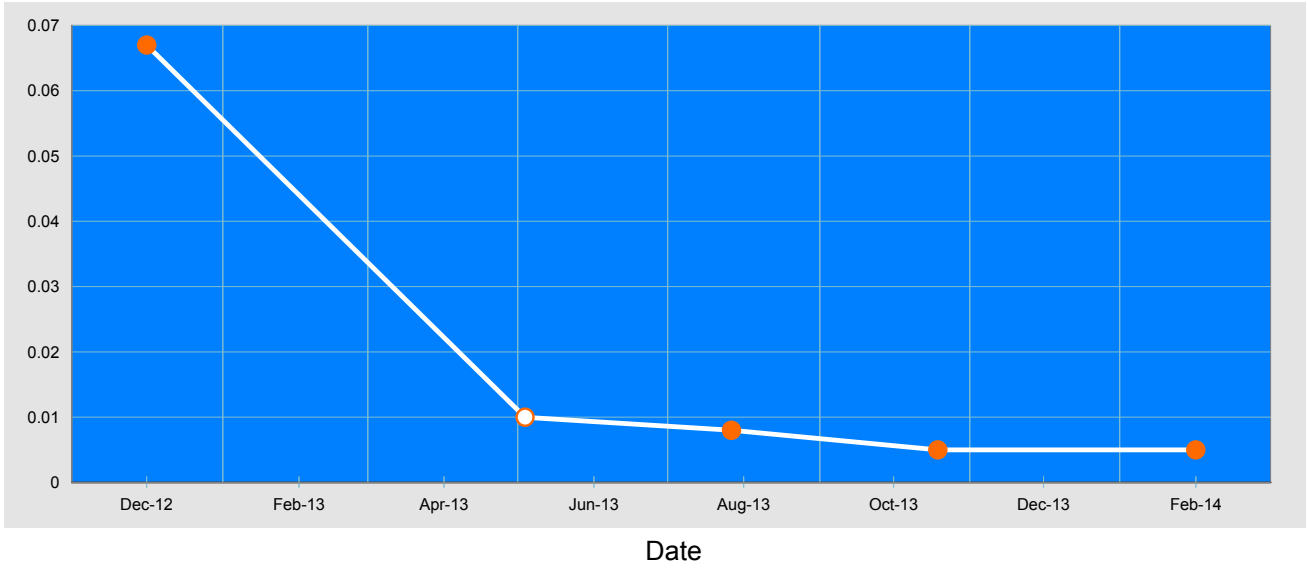


WellID	MW-12-06
Date Range	10/03/2012 - 06/10/2015
Current Result	0.048
Sample Size	8
Min / Max Result	0.040 / 0.337
Max Detected	0.337
% Detected	100%
S Statistic	-8
Probability	0.1990
90% Trend	NO TREND

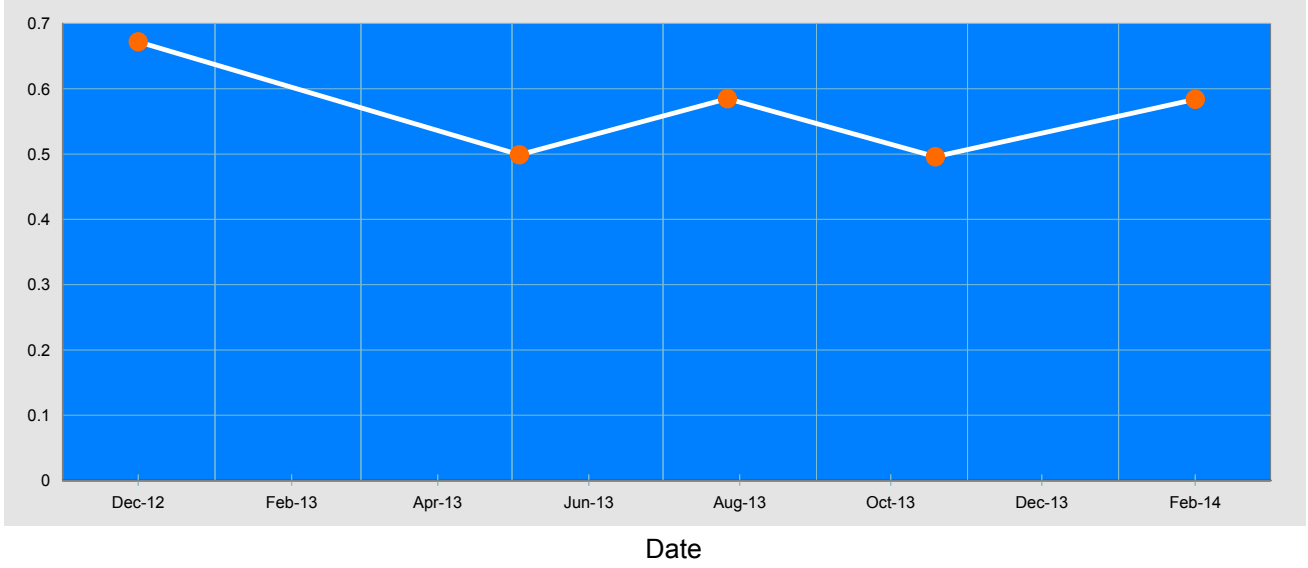


Manganese

WellID	MW-12-07
Date Range	12/19/2012 - 02/17/2014
Current Result	0.005
Sample Size	5
Min / Max Result	<0.010 / 0.067
Max Detected	0.067
% Detected	80%
S Statistic	-3
Probability	0.3250
90% Trend	NO TREND

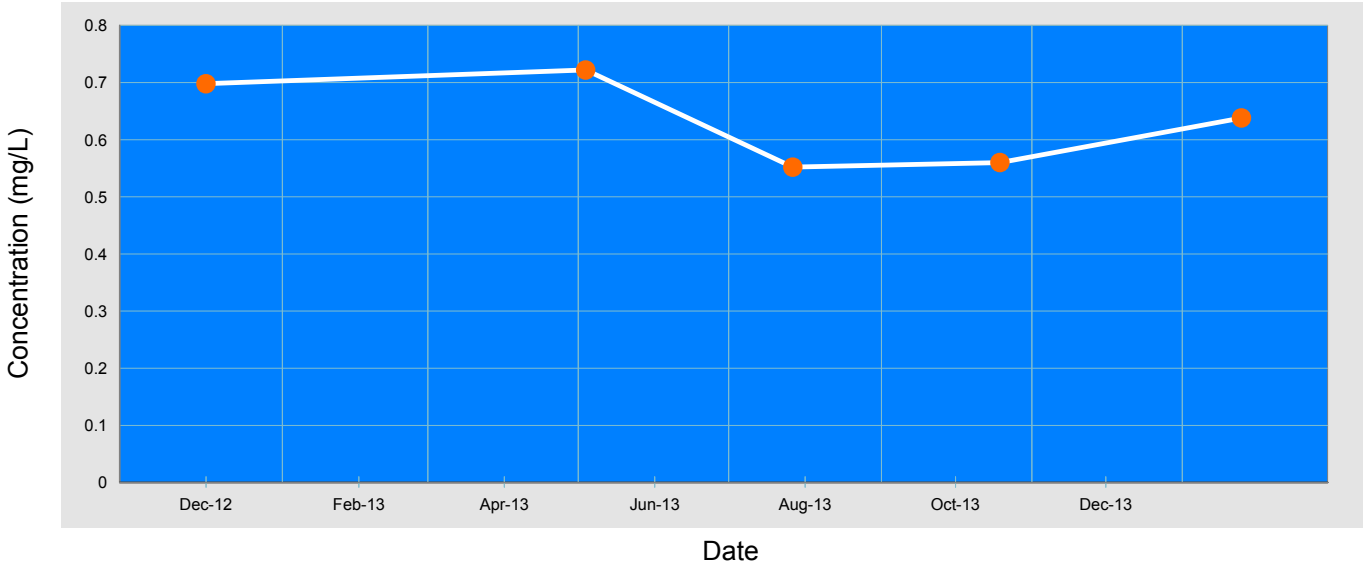


WellID	MW-12-08
Date Range	12/20/2012 - 02/17/2014
Current Result	0.584
Sample Size	5
Min / Max Result	0.496 / 0.672
Max Detected	0.672
% Detected	100%
S Statistic	-4
Probability	0.2420
90% Trend	NO TREND

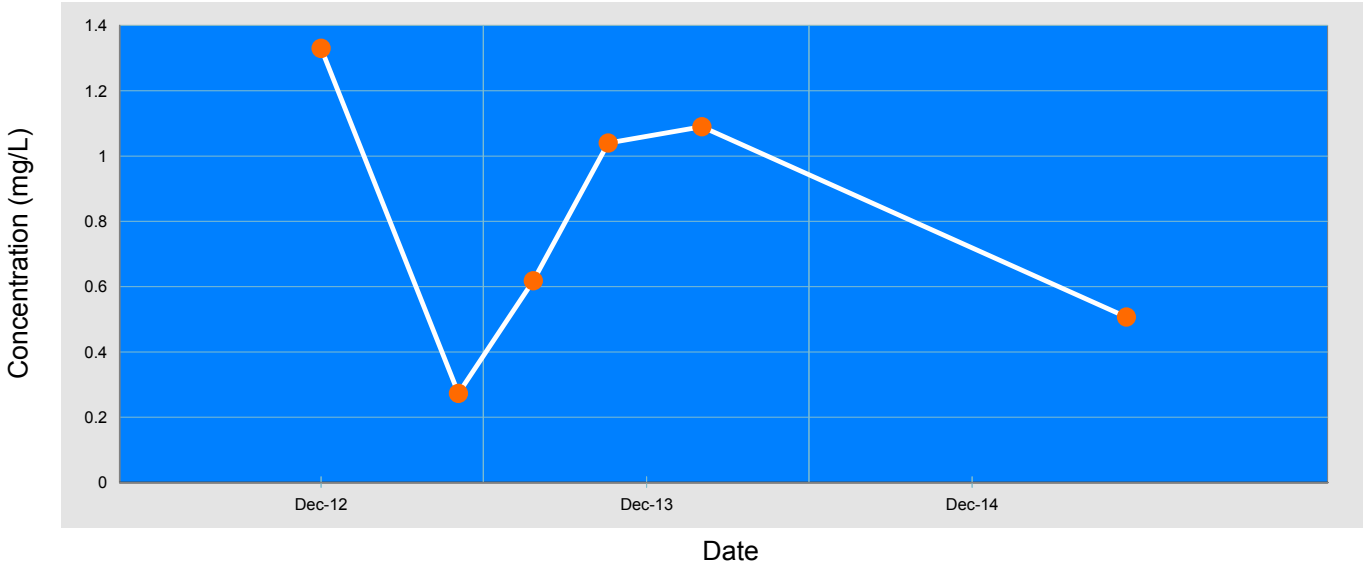


Manganese

WellID	MW-12-09
Date Range	12/19/2012 - 02/14/2014
Current Result	0.638
Sample Size	5
Min / Max Result	0.552 / 0.722
Max Detected	0.722
% Detected	100%
S Statistic	-2
Probability	0.4080
90% Trend	NO TREND

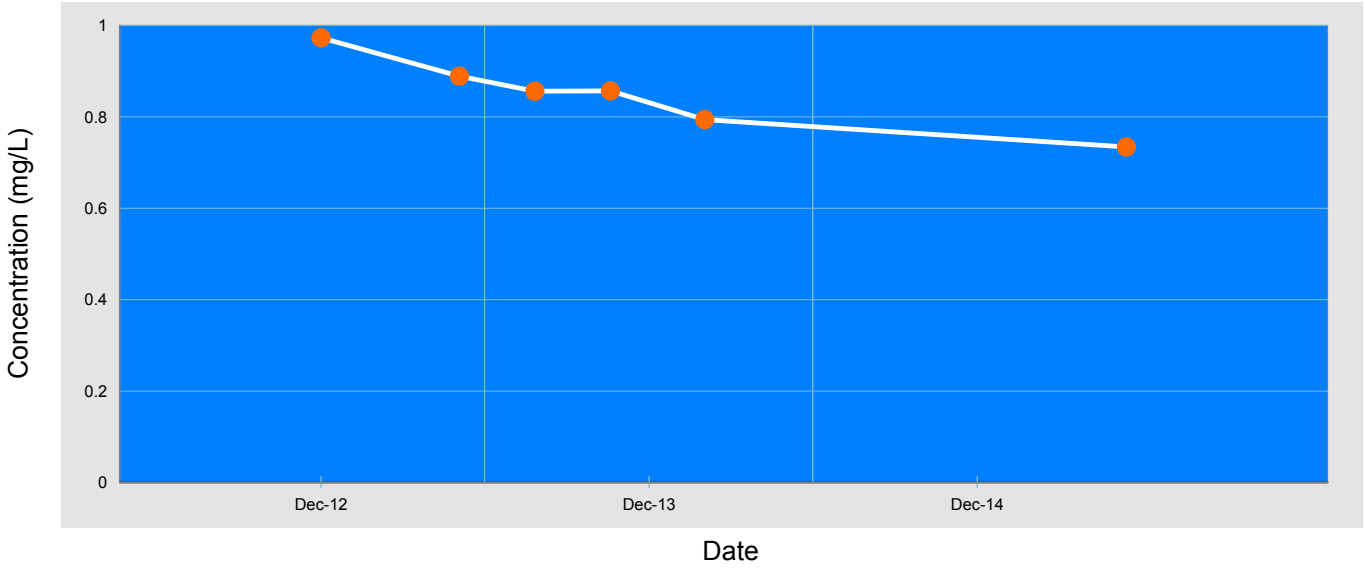


WellID	MW-12-10
Date Range	12/18/2012 - 06/10/2015
Current Result	0.507
Sample Size	6
Min / Max Result	0.273 / 1.33
Max Detected	1.33
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

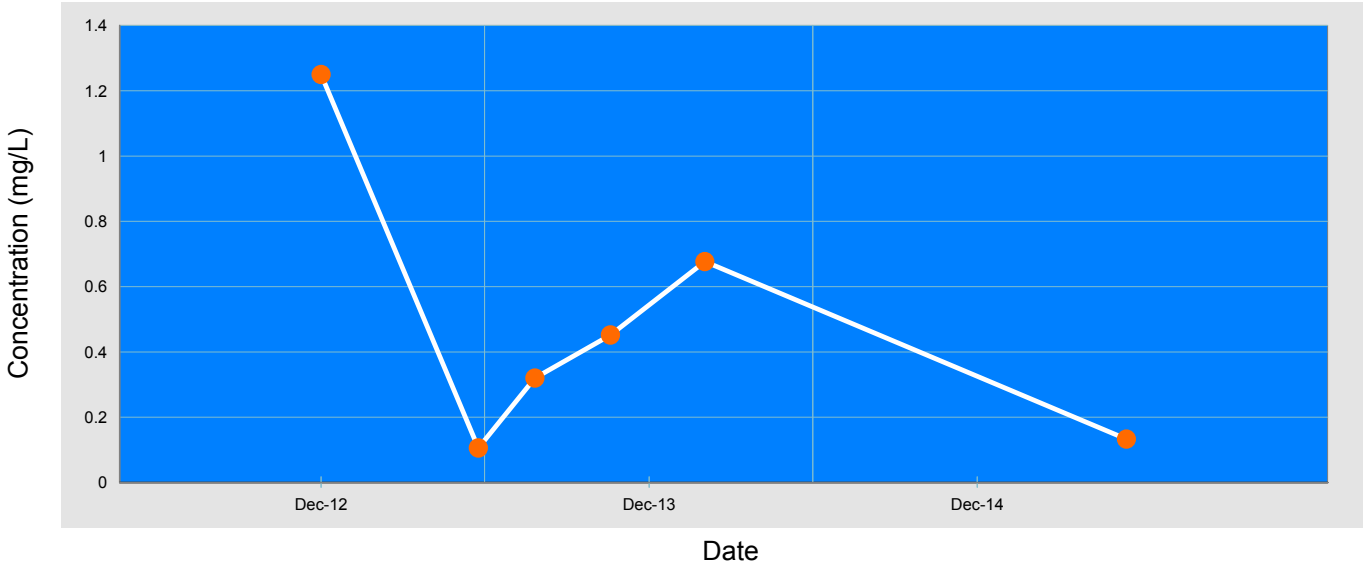


Manganese

WellID	MW-12-11
Date Range	12/18/2012 - 06/02/2015
Current Result	0.734
Sample Size	6
Min / Max Result	0.734 / 0.973
Max Detected	0.973
% Detected	100%
S Statistic	-13
Probability	0.0083
90% Trend	

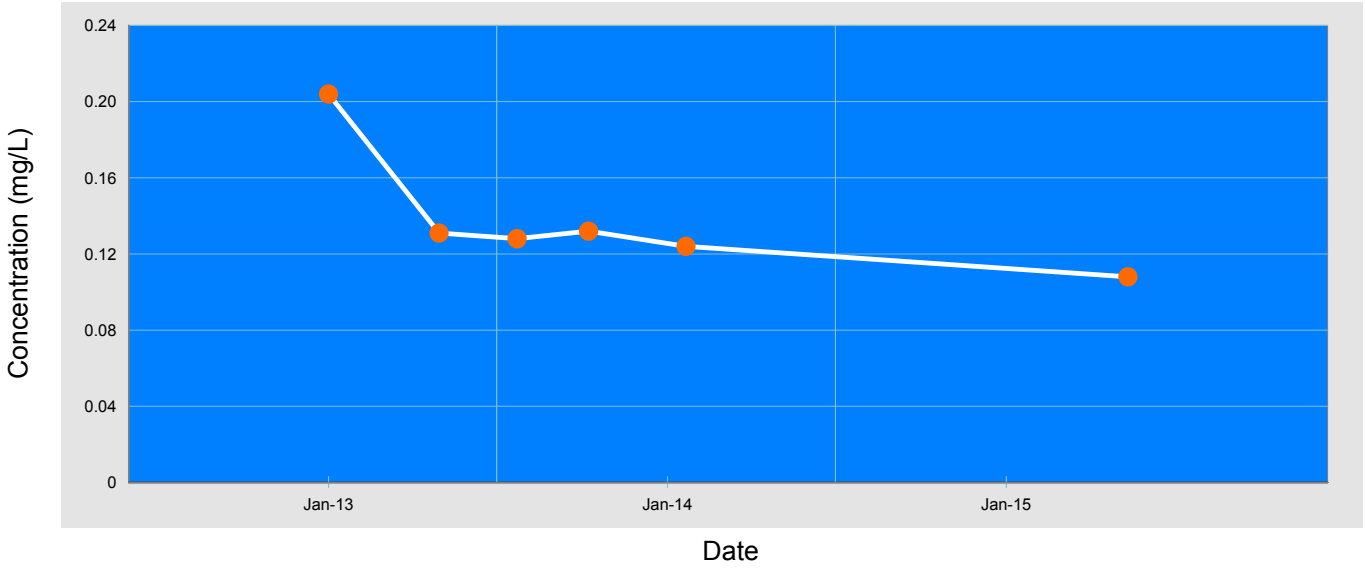


WellID	MW-12-12
Date Range	12/18/2012 - 06/04/2015
Current Result	0.133
Sample Size	6
Min / Max Result	0.106 / 1.25
Max Detected	1.25
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	**NO TREND**

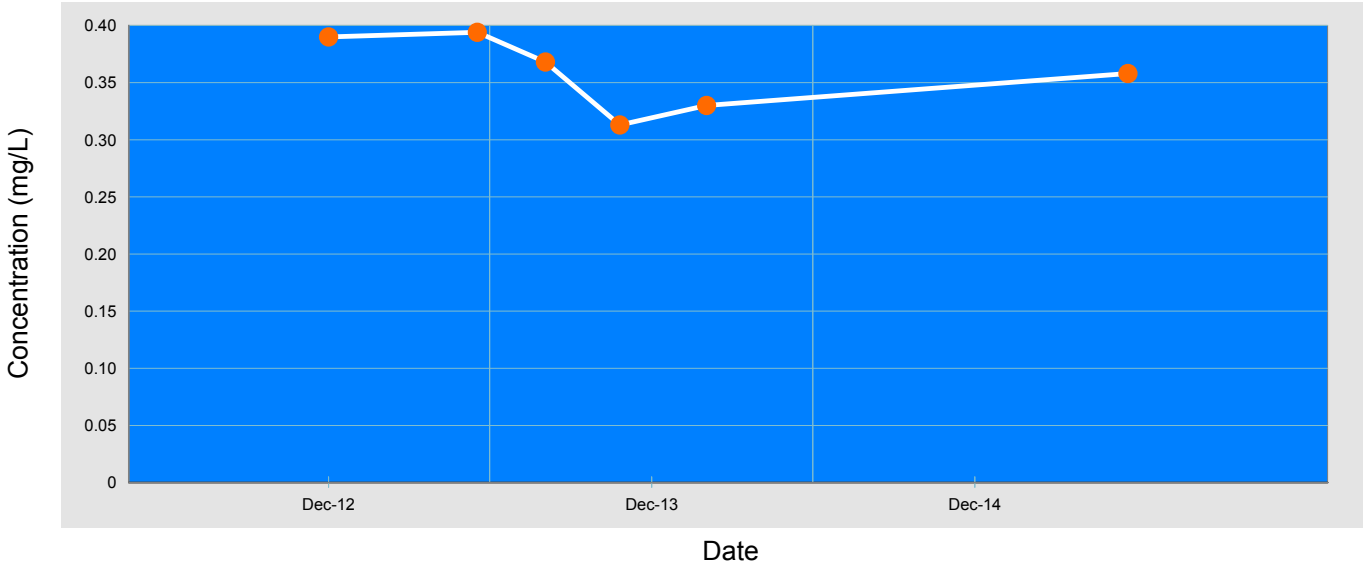


Manganese

WellID	MW-12-13
Date Range	01/28/2013 - 06/11/2015
Current Result	0.108
Sample Size	6
Min / Max Result	0.108 / 0.204
Max Detected	0.204
% Detected	100%
S Statistic	-11
Probability	0.0280
90% Trend	

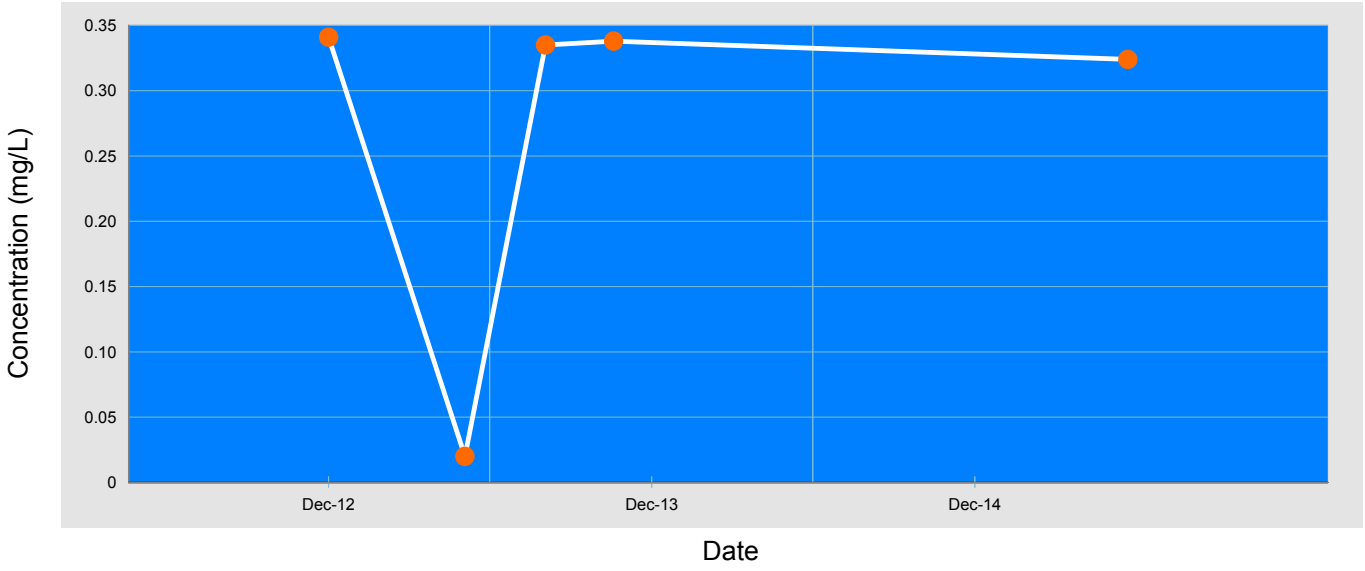


WellID	MW-12-14
Date Range	12/21/2012 - 06/09/2015
Current Result	0.358
Sample Size	6
Min / Max Result	0.313 / 0.394
Max Detected	0.394
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	**NO TREND**

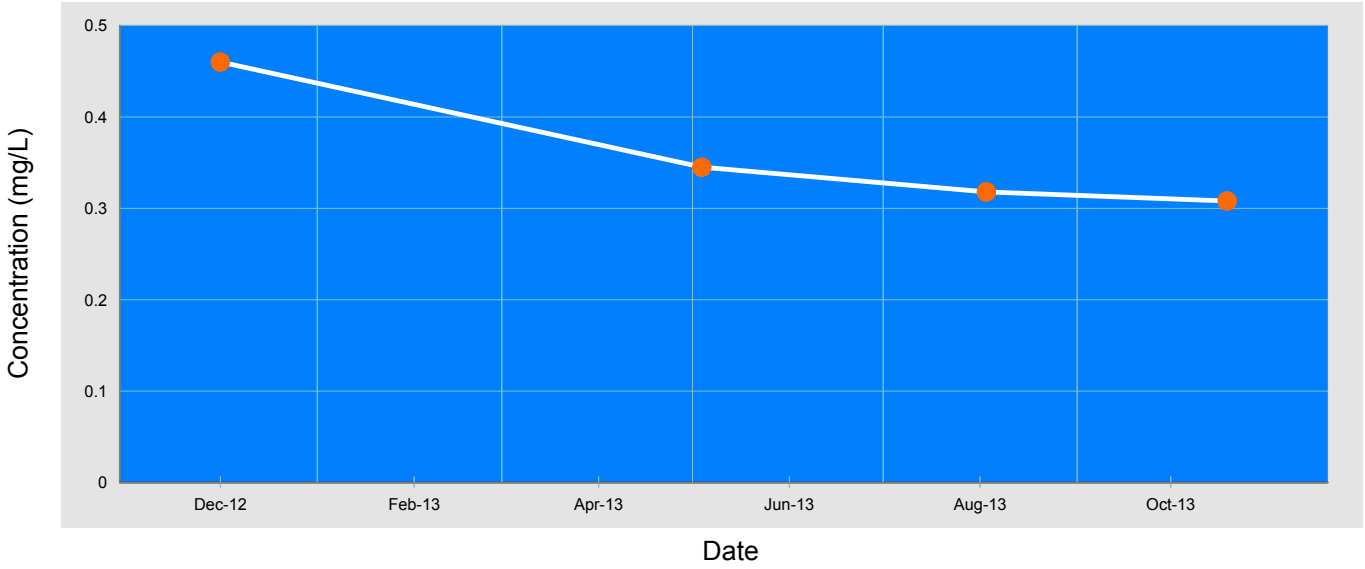


Manganese

WellID	MW-12-15
Date Range	12/18/2012 - 06/10/2015
Current Result	0.324
Sample Size	5
Min / Max Result	0.020 / 0.341
Max Detected	0.341
% Detected	100%
S Statistic	-2
Probability	0.4080
90% Trend	NO TREND

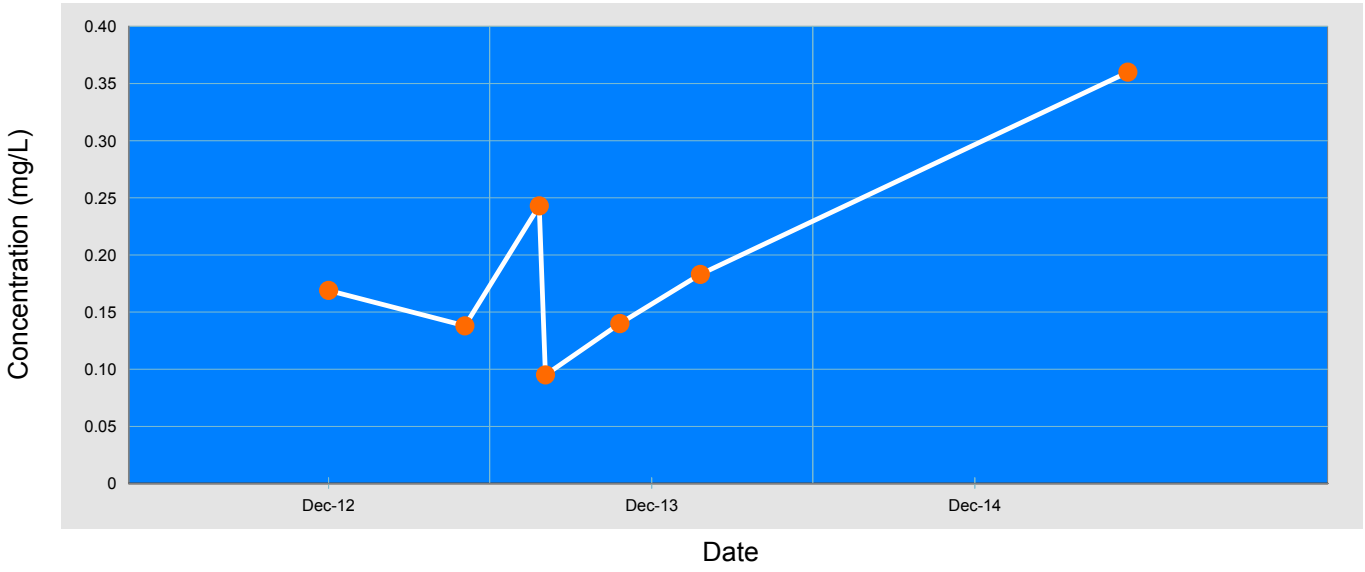


WellID	MW-12-16
Date Range	12/18/2012 - 11/05/2013
Current Result	0.308
Sample Size	4
Min / Max Result	0.308 / 0.460
Max Detected	0.46
% Detected	100%
S Statistic	-6
Probability	0.0420
90% Trend	

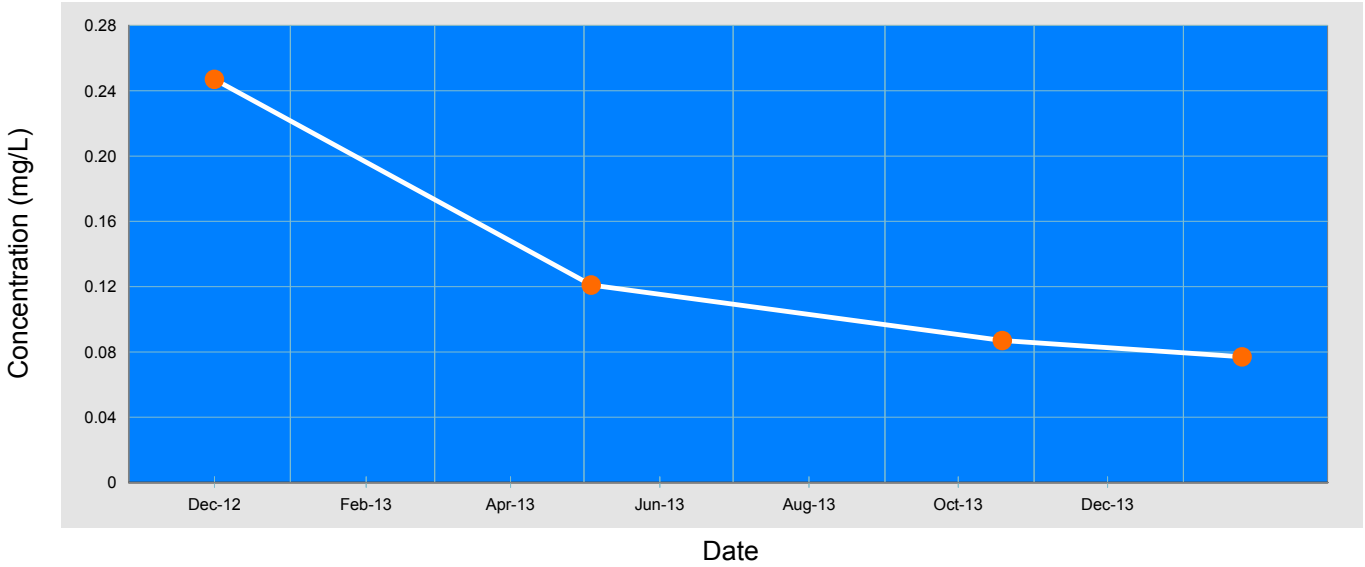


Manganese

WellID	MW-12-17
Date Range	12/20/2012 - 06/10/2015
Current Result	0.360
Sample Size	7
Min / Max Result	0.095 / 0.360
Max Detected	0.36
% Detected	100%
S Statistic	7
Probability	0.1910
90% Trend	NO TREND

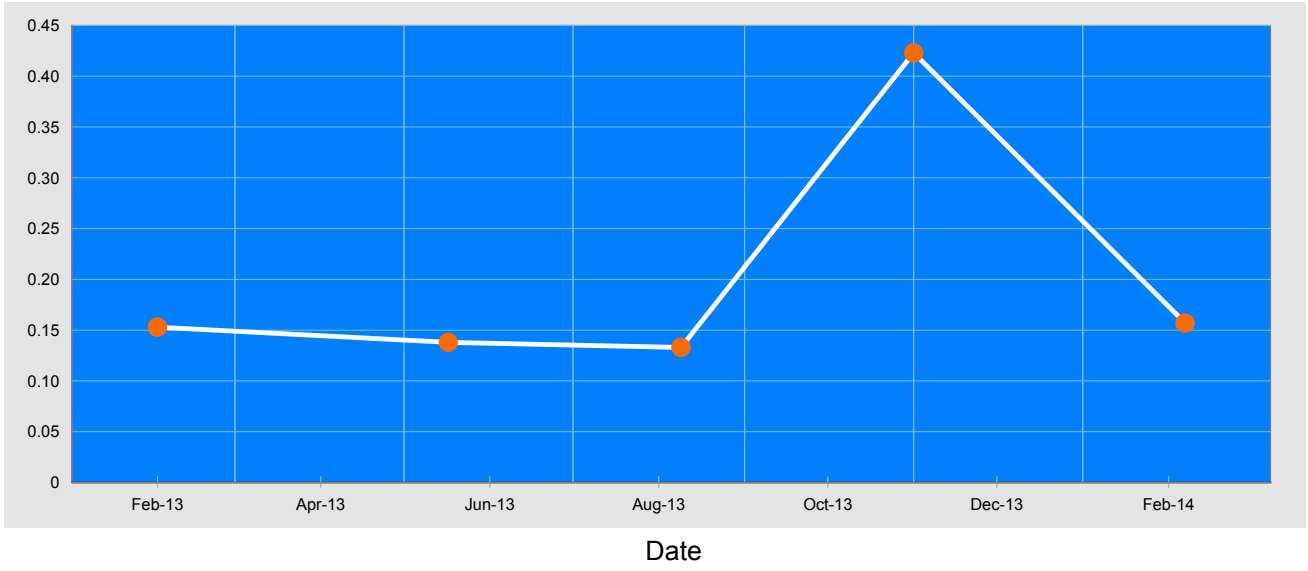


WellID	MW-12-18
Date Range	12/19/2012 - 02/14/2014
Current Result	0.077
Sample Size	4
Min / Max Result	0.077 / 0.247
Max Detected	0.247
% Detected	100%
S Statistic	-6
Probability	0.0420
90% Trend	

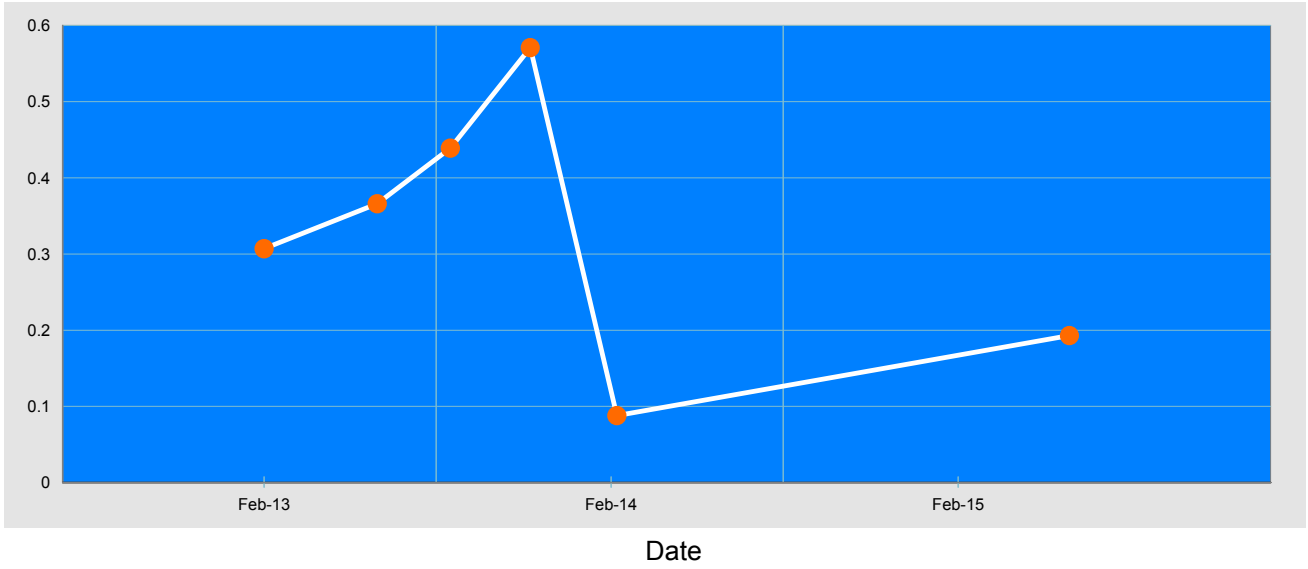


Manganese

WellID	MW-12-20
Date Range	02/08/2013 - 02/11/2014
Current Result	0.157
Sample Size	5
Min / Max Result	0.133 / 0.423
Max Detected	0.423
% Detected	100%
S Statistic	2
Probability	0.4080
90% Trend	NO TREND

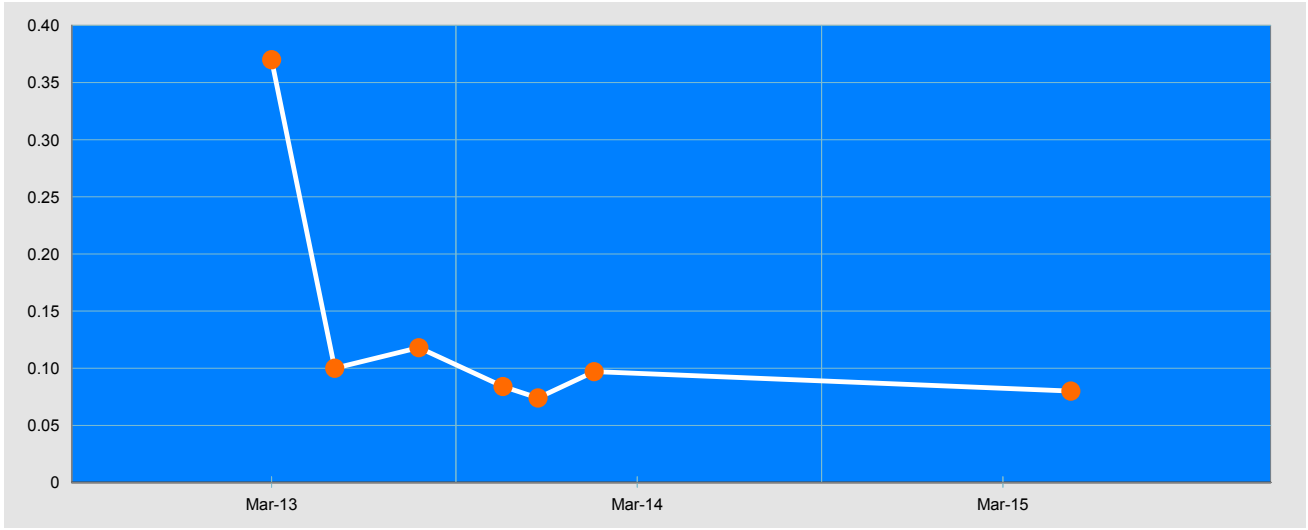


WellID	MW-12-21
Date Range	02/08/2013 - 06/03/2015
Current Result	0.193
Sample Size	6
Min / Max Result	0.088 / 0.571
Max Detected	0.571
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

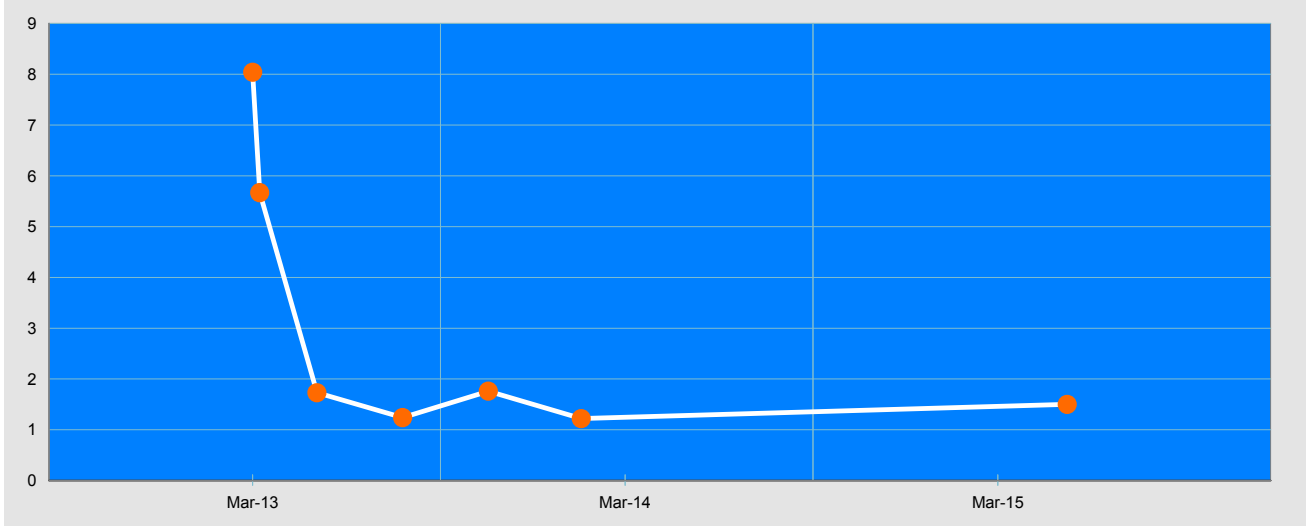


Manganese

WellID	MW-13-22
Date Range	03/28/2013 - 06/03/2015
Current Result	0.080
Sample Size	7
Min / Max Result	0.074 / 0.37
Max Detected	0.37
% Detected	100%
S Statistic	-13
Probability	0.0350
90% Trend	

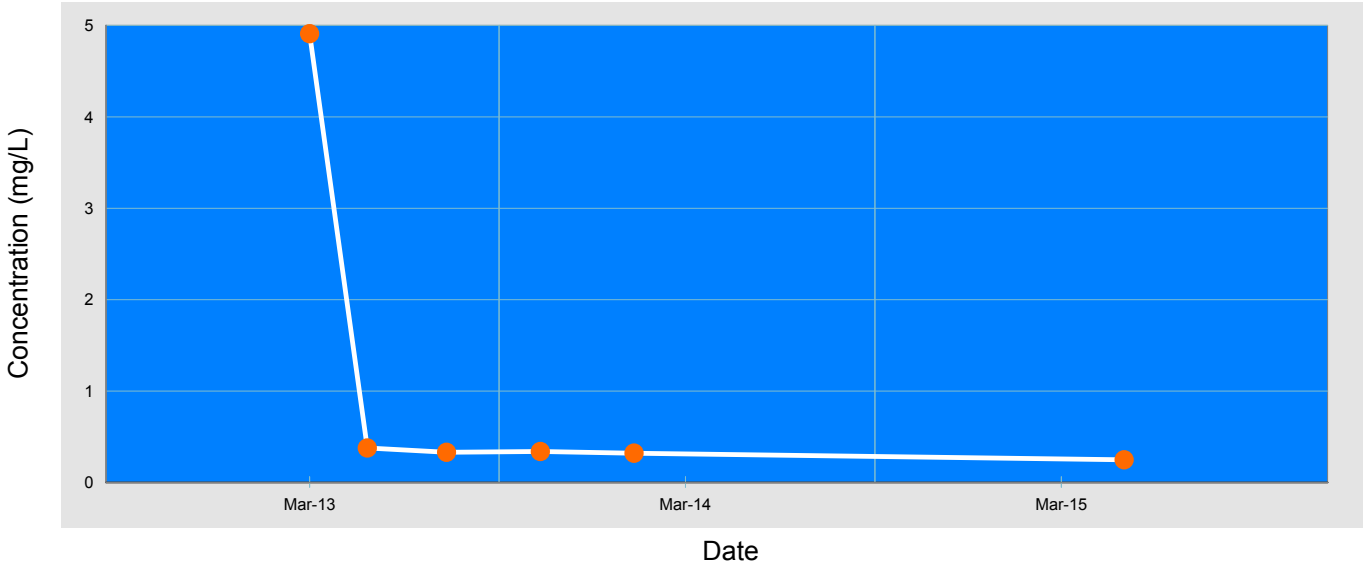


WellID	MW-13-23
Date Range	03/29/2013 - 06/03/2015
Current Result	1.50
Sample Size	7
Min / Max Result	1.22 / 8.04
Max Detected	8.04
% Detected	100%
S Statistic	-13
Probability	0.0350
90% Trend	

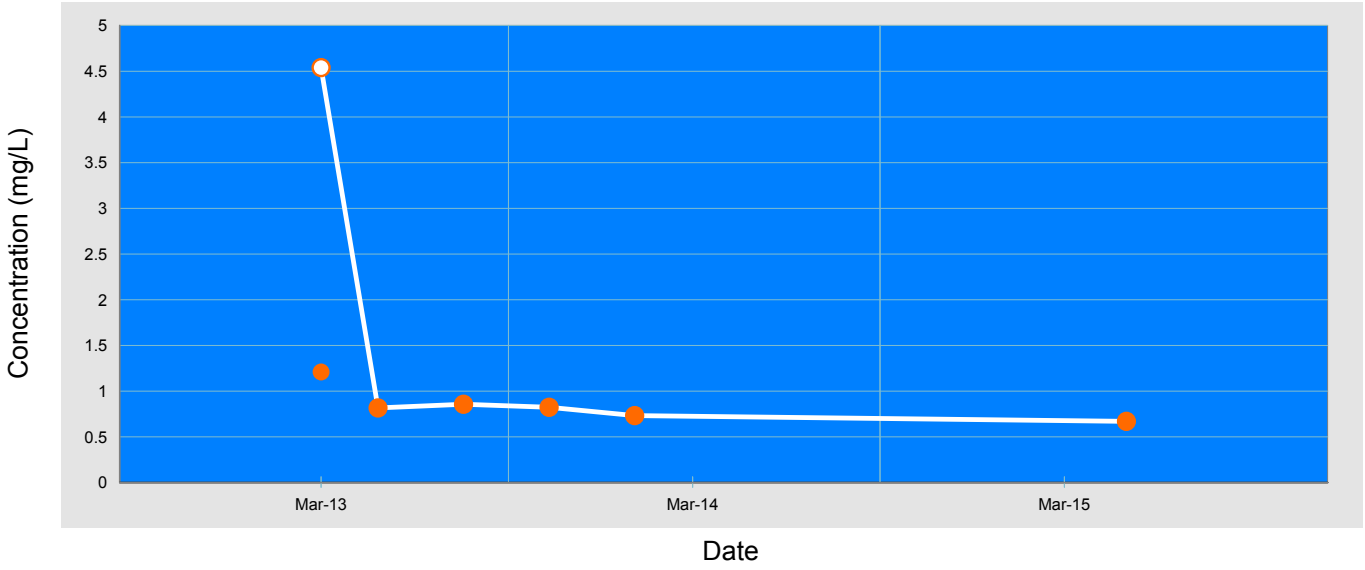


Manganese

WellID	MW-13-24
Date Range	04/01/2013 - 06/02/2015
Current Result	0.248
Sample Size	7
Min / Max Result	0.248 / 4.91
Max Detected	4.91
% Detected	100%
S Statistic	-17
Probability	0.0054
90% Trend	

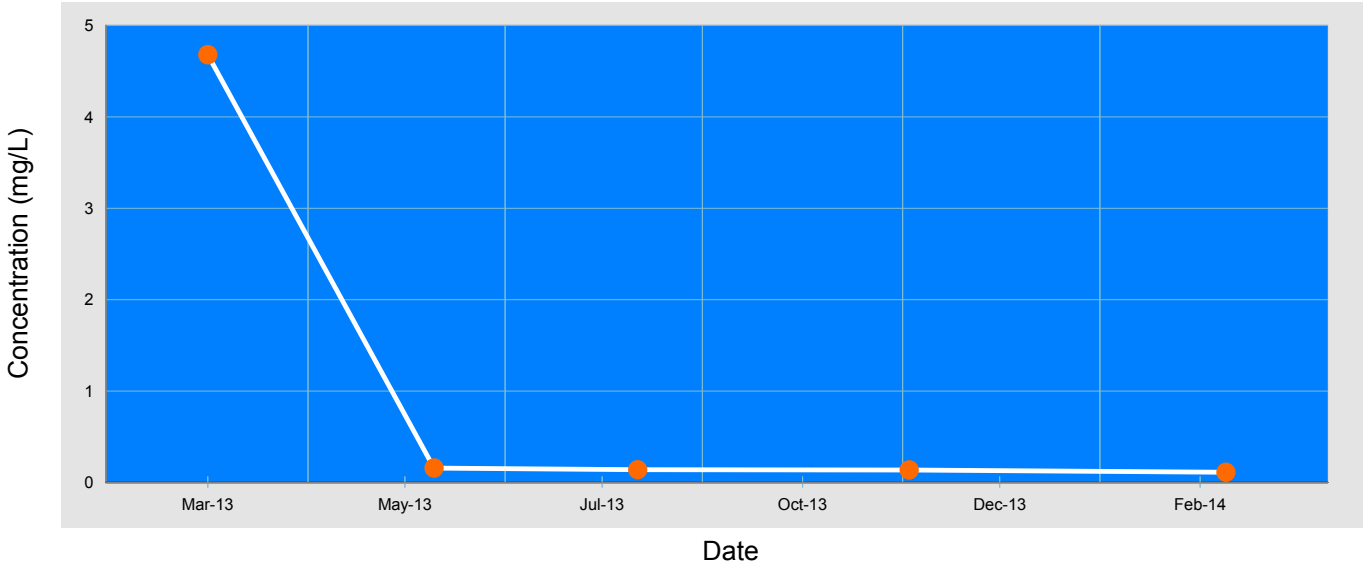


WellID	MW-13-25
Date Range	04/02/2013 - 06/04/2015
Current Result	0.670
Sample Size	7
Min / Max Result	0.670 / 4.54
Max Detected	4.54
% Detected	100%
S Statistic	-17
Probability	0.0054
90% Trend	

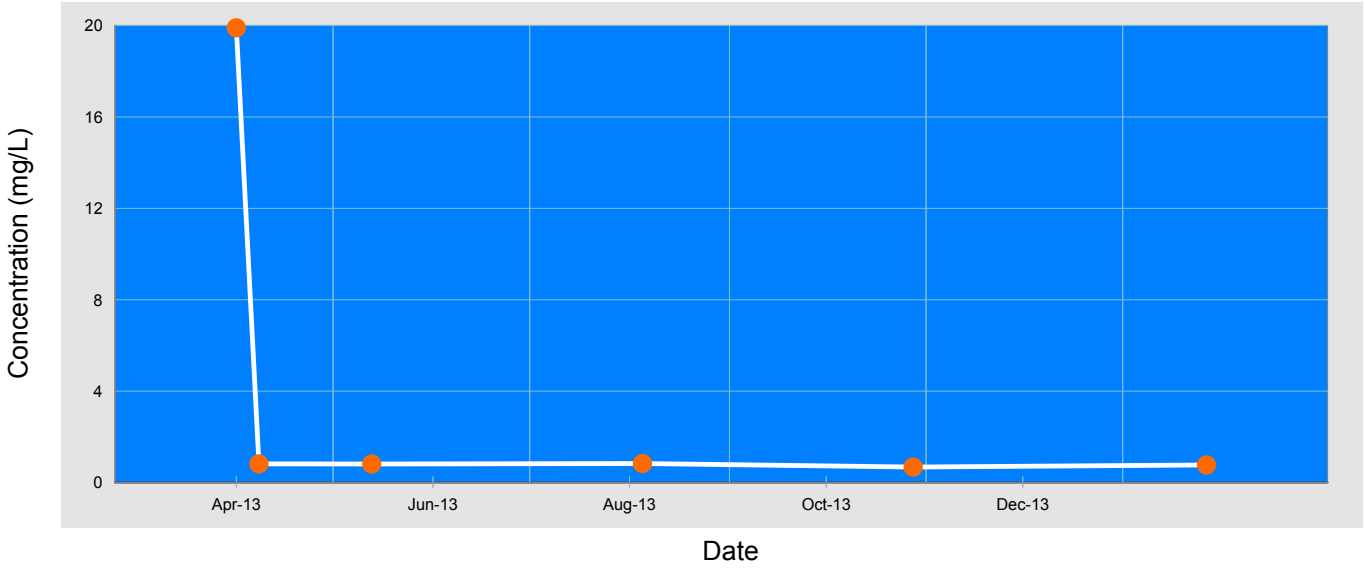


Manganese

WellID	MW-13-26
Date Range	04/03/2013 - 02/10/2014
Current Result	0.112
Sample Size	6
Min / Max Result	0.112 / 4.68
Max Detected	4.68
% Detected	100%
S Statistic	-13
Probability	0.0083
90% Trend	

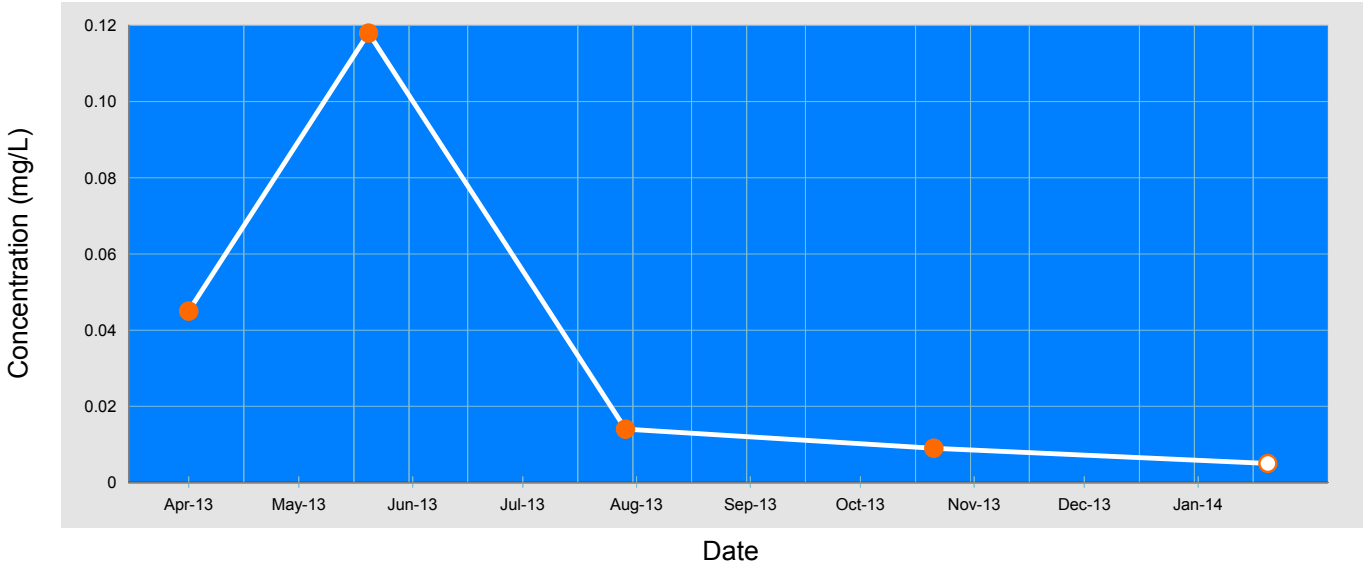


WellID	MW-13-27
Date Range	04/15/2013 - 02/11/2014
Current Result	0.770
Sample Size	6
Min / Max Result	0.680 / 19.9
Max Detected	19.9
% Detected	100%
S Statistic	-9
Probability	0.0680
90% Trend	

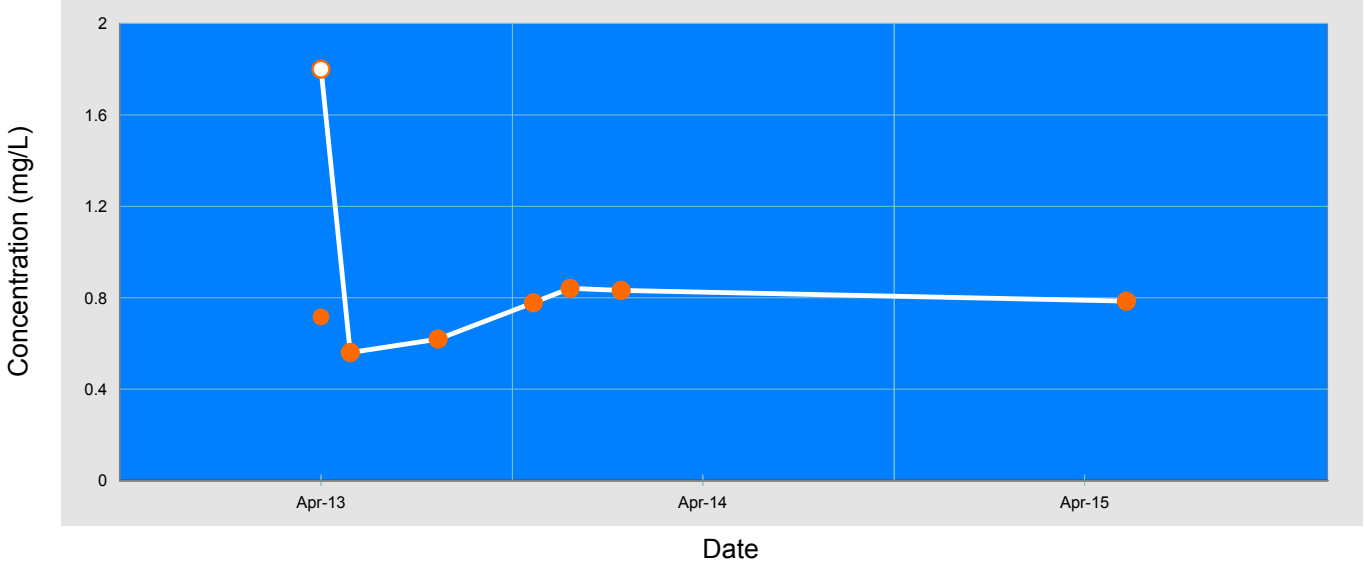


Manganese

WellID	MW-13-28
Date Range	04/23/2013 - 02/10/2014
Current Result	<0.005
Sample Size	5
Min / Max Result	<0.005 / 0.118
Max Detected	0.118
% Detected	80%
S Statistic	-8
Probability	0.0420
90% Trend	

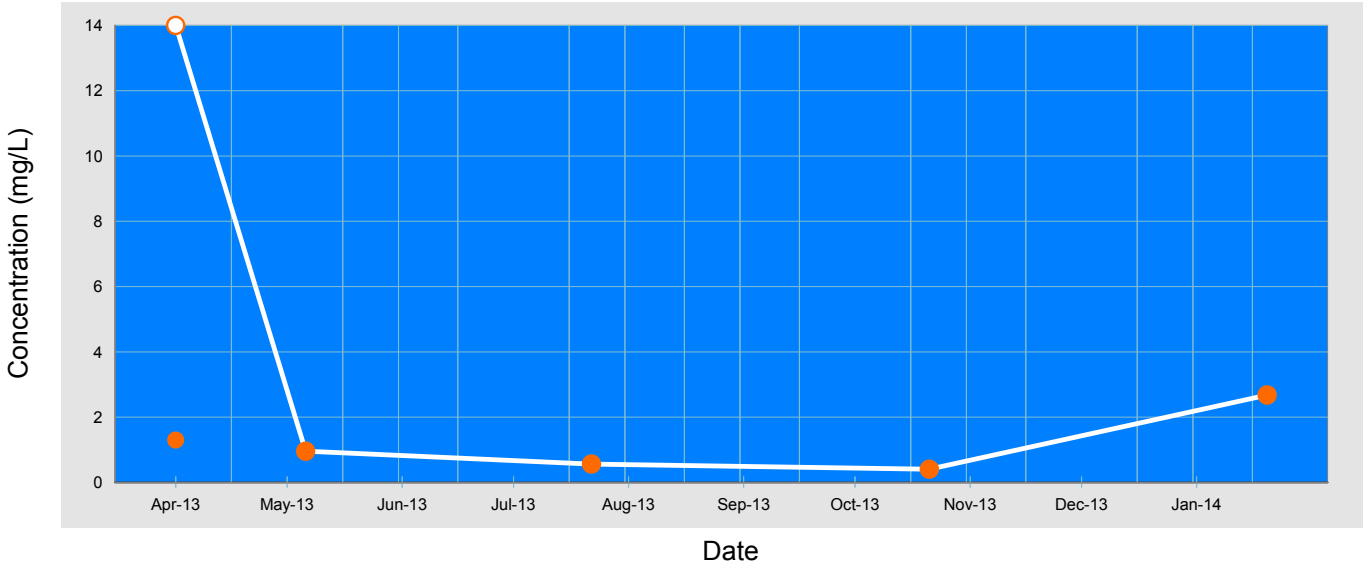


WellID	MW-13-29
Date Range	04/23/2013 - 06/03/2015
Current Result	0.785
Sample Size	8
Min / Max Result	0.560 / 1.80
Max Detected	1.8
% Detected	100%
S Statistic	4
Probability	0.3600
90% Trend	NO TREND

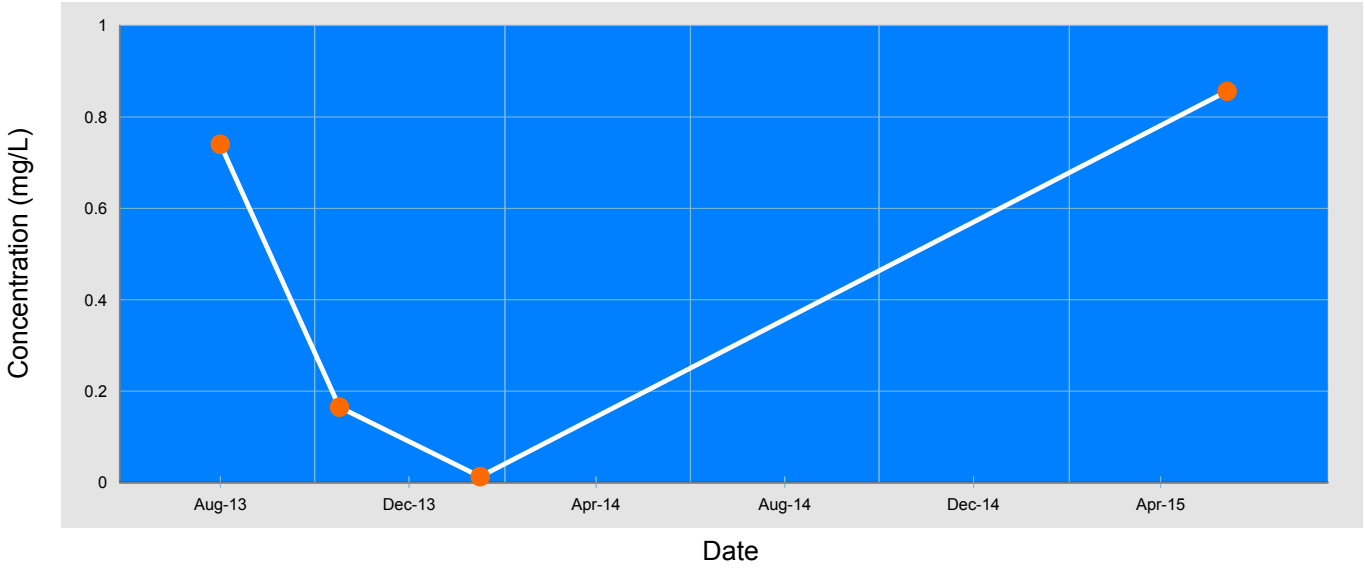


Manganese

WellID	MW-13-30
Date Range	04/24/2013 - 02/10/2014
Current Result	2.68
Sample Size	6
Min / Max Result	0.407 / 14.0
Max Detected	14
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND

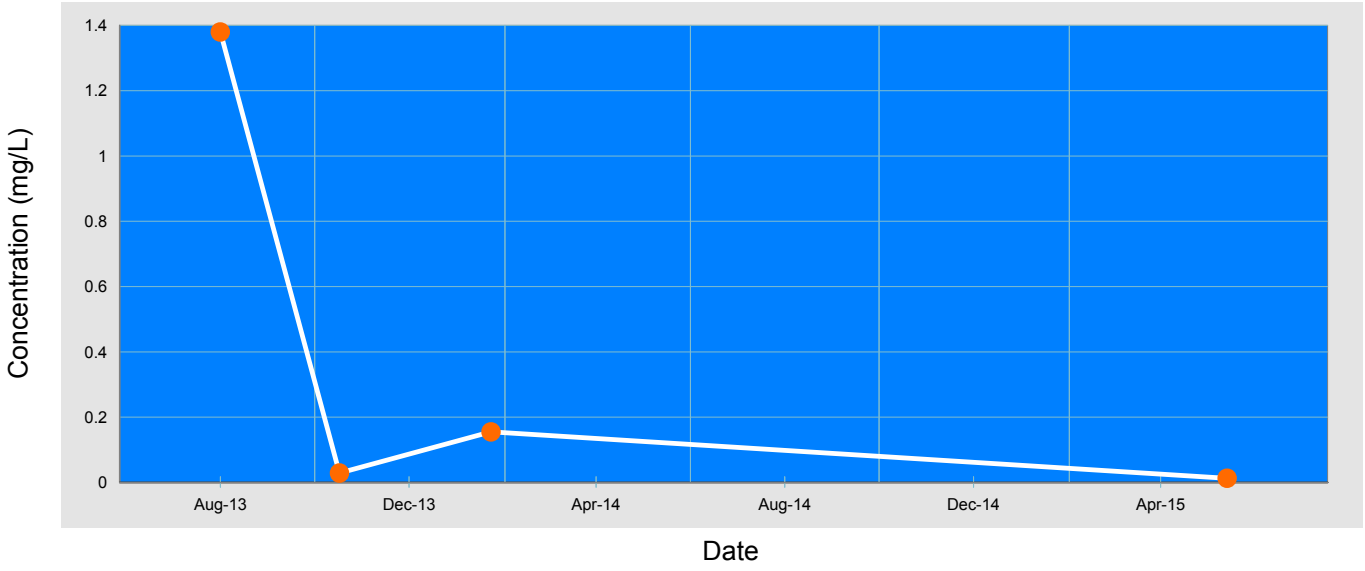


WellID	MW-13-31
Date Range	08/22/2013 - 06/03/2015
Current Result	0.856
Sample Size	4
Min / Max Result	0.013 / 0.856
Max Detected	0.856
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

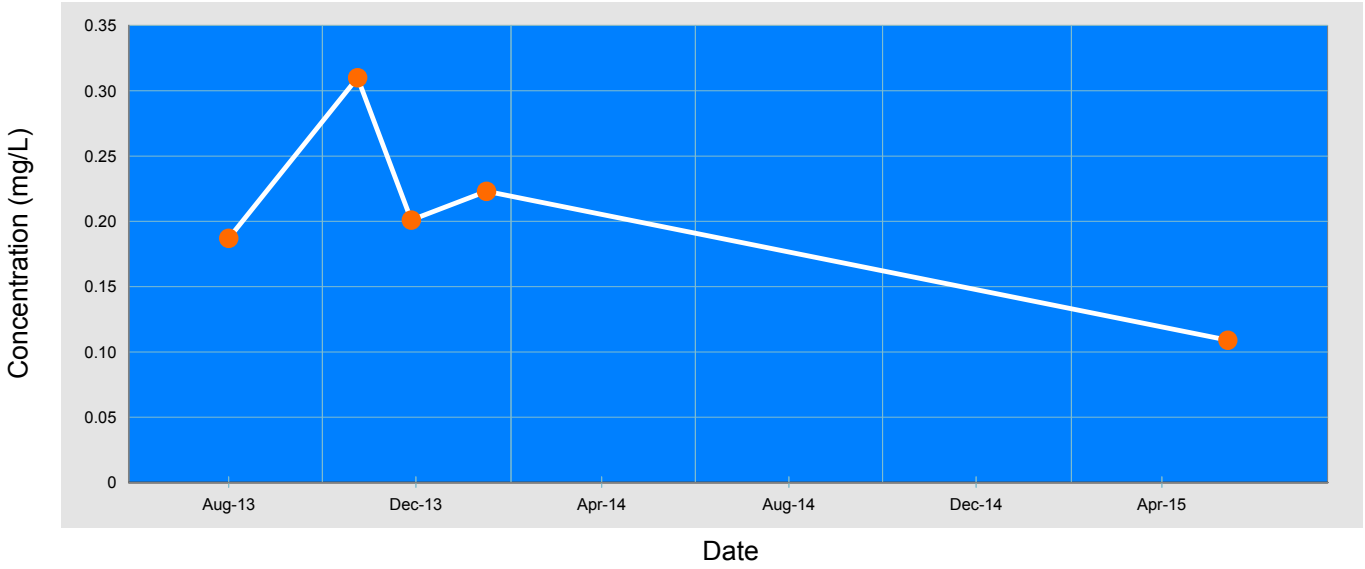


Manganese

WellID	MW-13-33
Date Range	08/23/2013 - 06/03/2015
Current Result	0.013
Sample Size	4
Min / Max Result	0.013 / 1.38
Max Detected	1.38
% Detected	100%
S Statistic	-4
Probability	0.1670
90% Trend	NO TREND

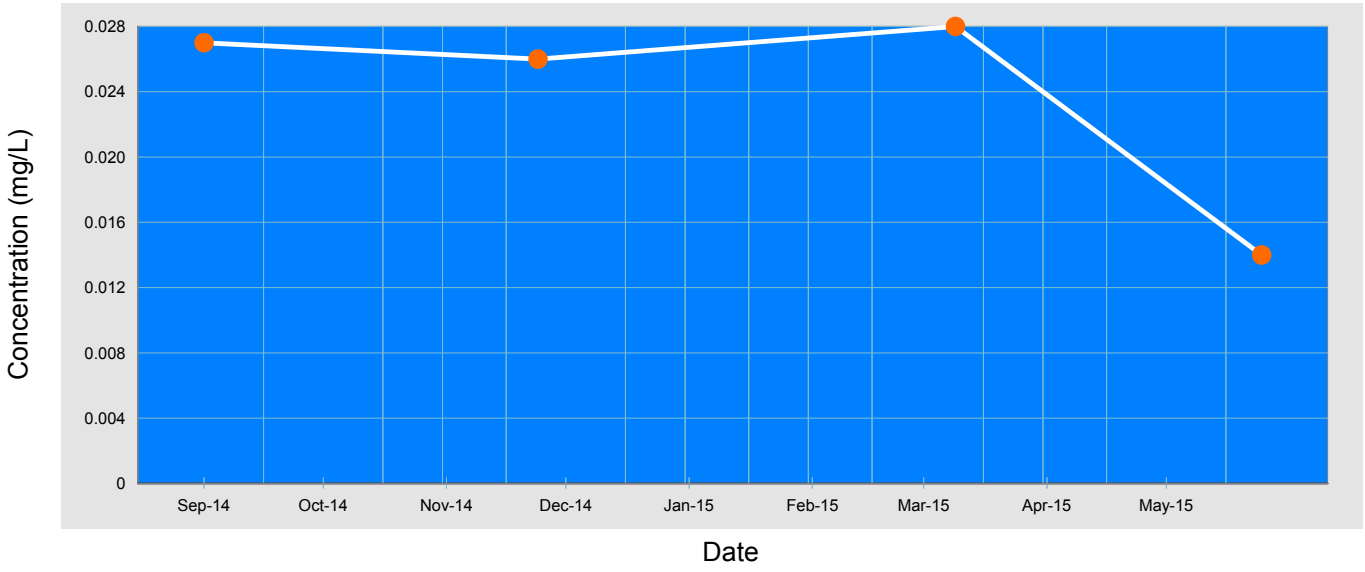


WellID	MW-13-34
Date Range	08/20/2013 - 06/04/2015
Current Result	0.109
Sample Size	5
Min / Max Result	0.109 / 0.310
Max Detected	0.31
% Detected	100%
S Statistic	-2
Probability	0.4080
90% Trend	NO TREND

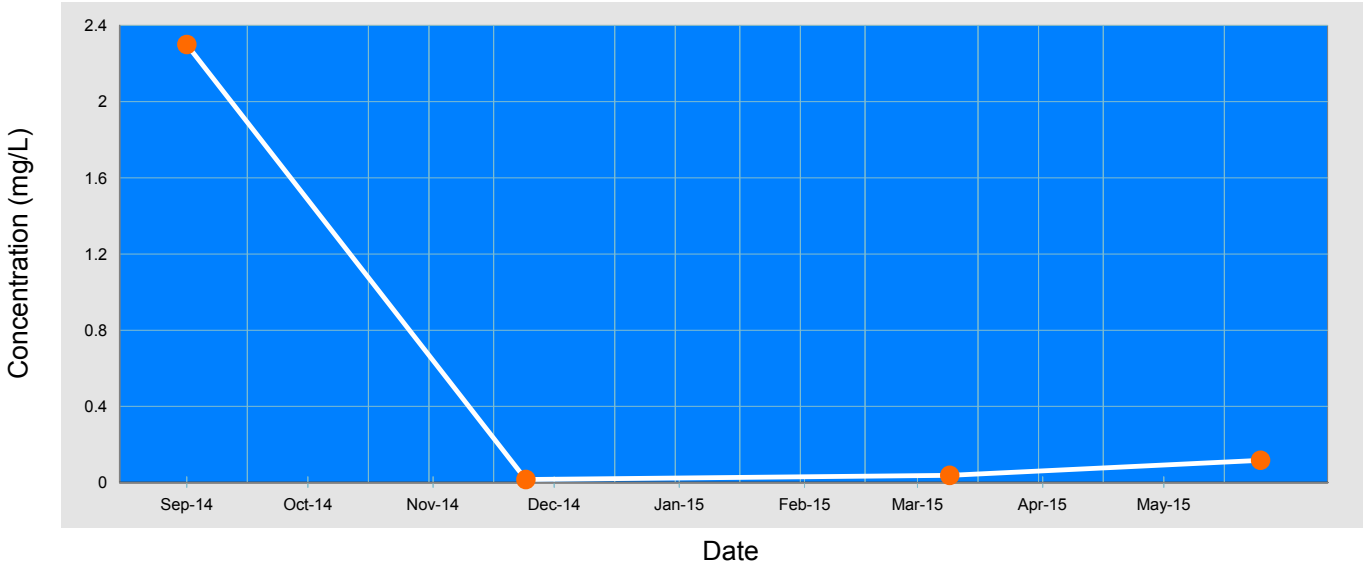


Manganese

WellID	MW-14-54
Date Range	09/19/2014 - 06/11/2015
Current Result	0.014
Sample Size	4
Min / Max Result	0.014 / 0.028
Max Detected	0.028
% Detected	100%
S Statistic	-2
Probability	0.3750
90% Trend	NO TREND

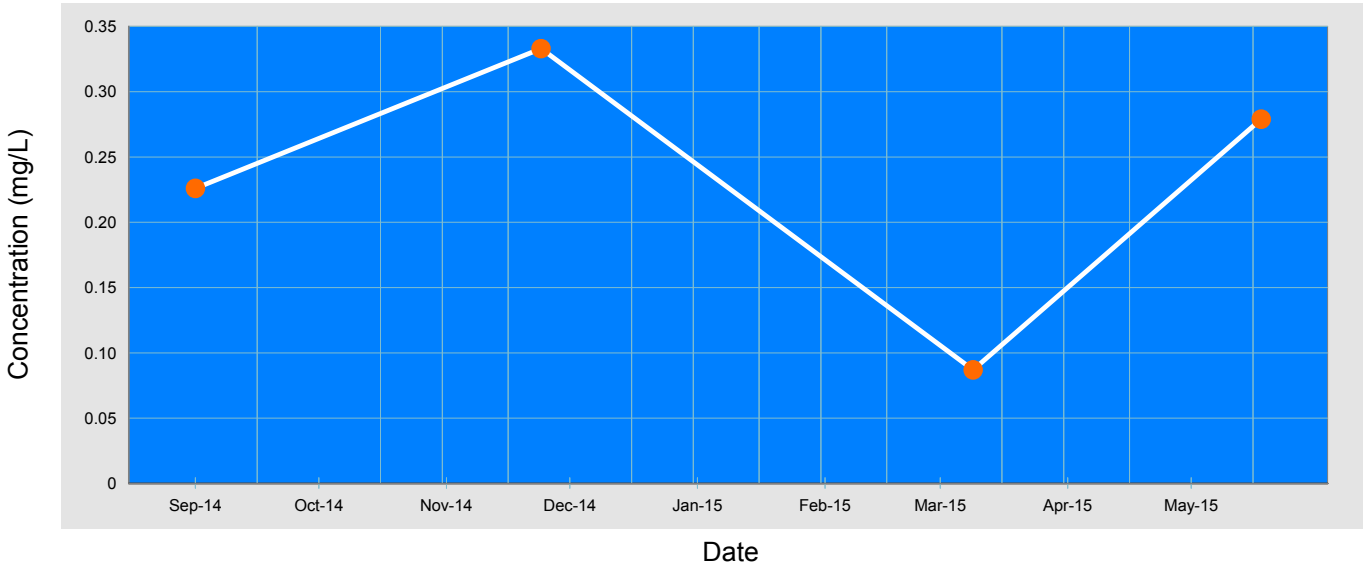


WellID	MW-14-55
Date Range	09/18/2014 - 06/08/2015
Current Result	0.117
Sample Size	4
Min / Max Result	0.016 / 2.30
Max Detected	2.3
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

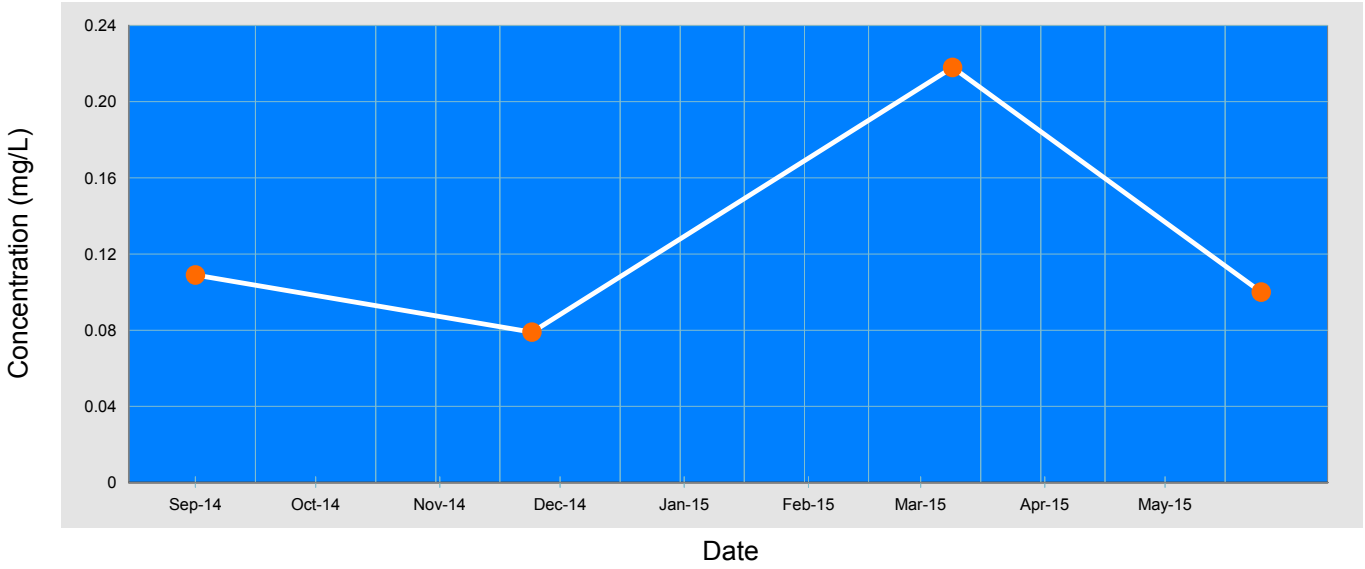


Manganese

WellID	MW-14-56
Date Range	09/18/2014 - 06/03/2015
Current Result	0.279
Sample Size	4
Min / Max Result	0.087 / 0.333
Max Detected	0.333
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

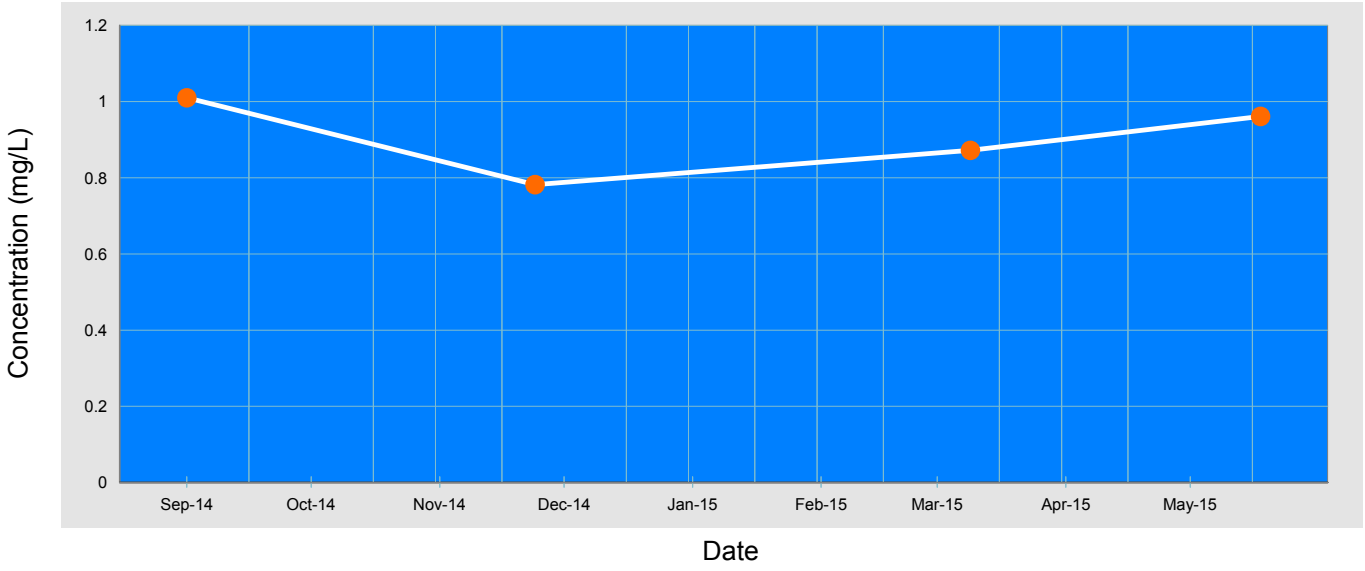


WellID	MW-14-57
Date Range	09/19/2014 - 06/08/2015
Current Result	0.100
Sample Size	4
Min / Max Result	0.079 / 0.218
Max Detected	0.218
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

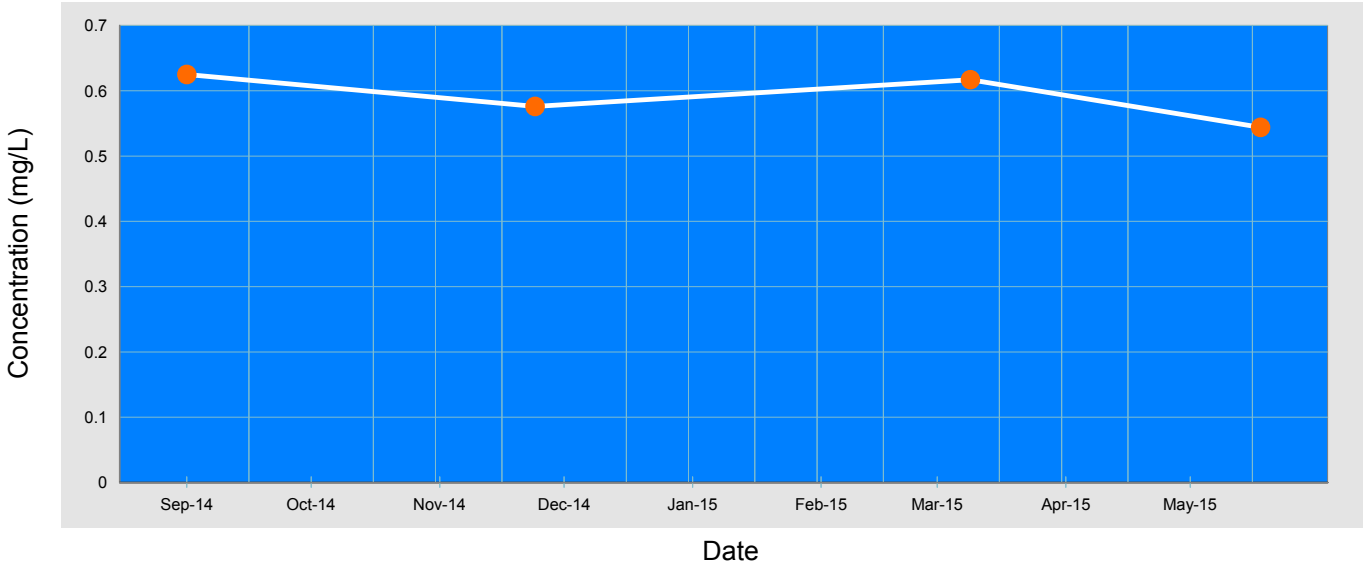


Manganese

WellID	MW-14-58
Date Range	09/17/2014 - 06/03/2015
Current Result	0.961
Sample Size	4
Min / Max Result	0.782 / 1.01
Max Detected	1.01
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

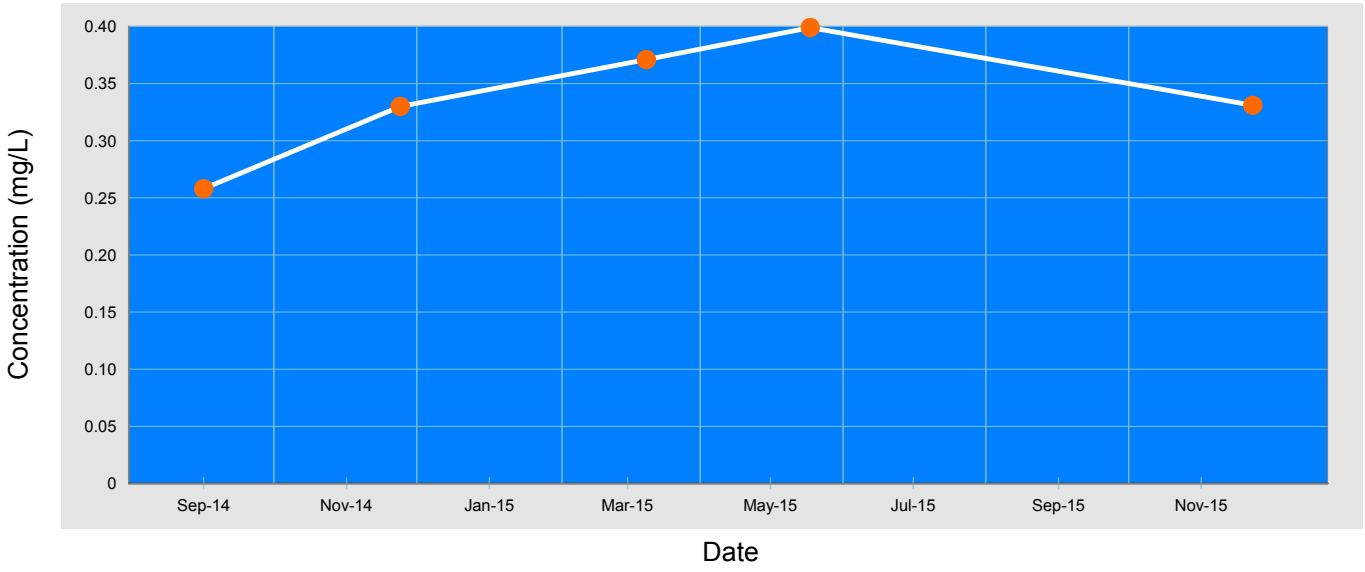


WellID	MW-14-59
Date Range	09/18/2014 - 06/04/2015
Current Result	0.544
Sample Size	4
Min / Max Result	0.544 / 0.625
Max Detected	0.625
% Detected	100%
S Statistic	-4
Probability	0.1670
90% Trend	NO TREND

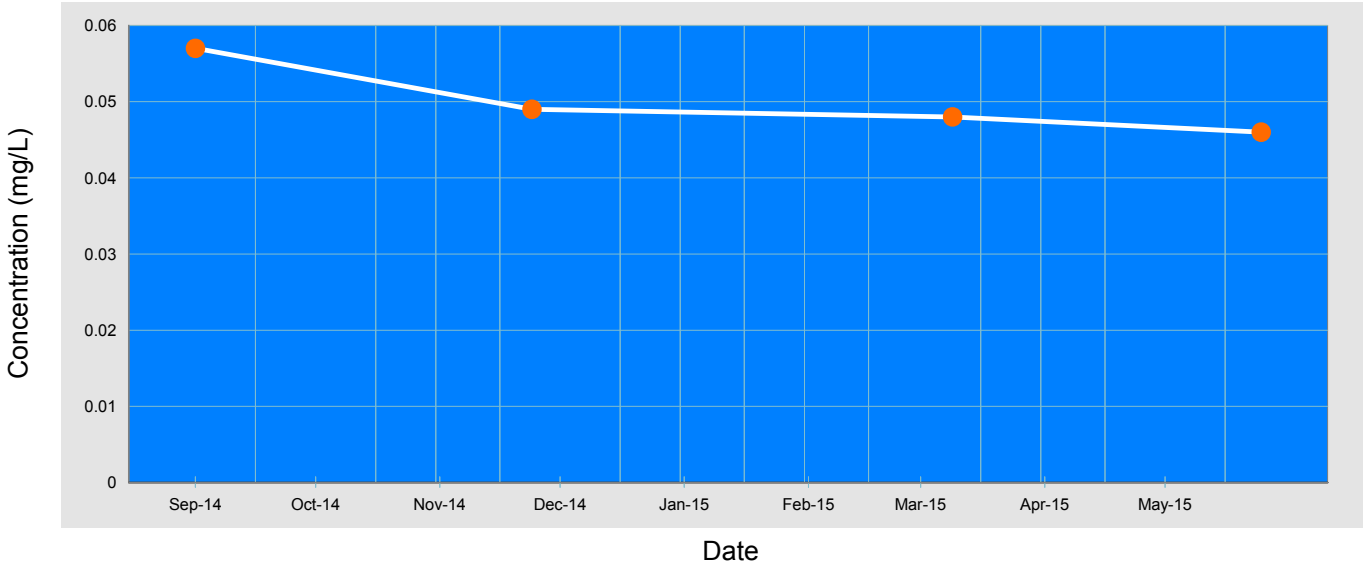


Manganese

WellID	MW-14-60
Date Range	09/19/2014 - 12/07/2015
Current Result	0.331
Sample Size	5
Min / Max Result	0.258 / 0.399
Max Detected	0.399
% Detected	100%
S Statistic	6
Probability	0.1170
90% Trend	NO TREND

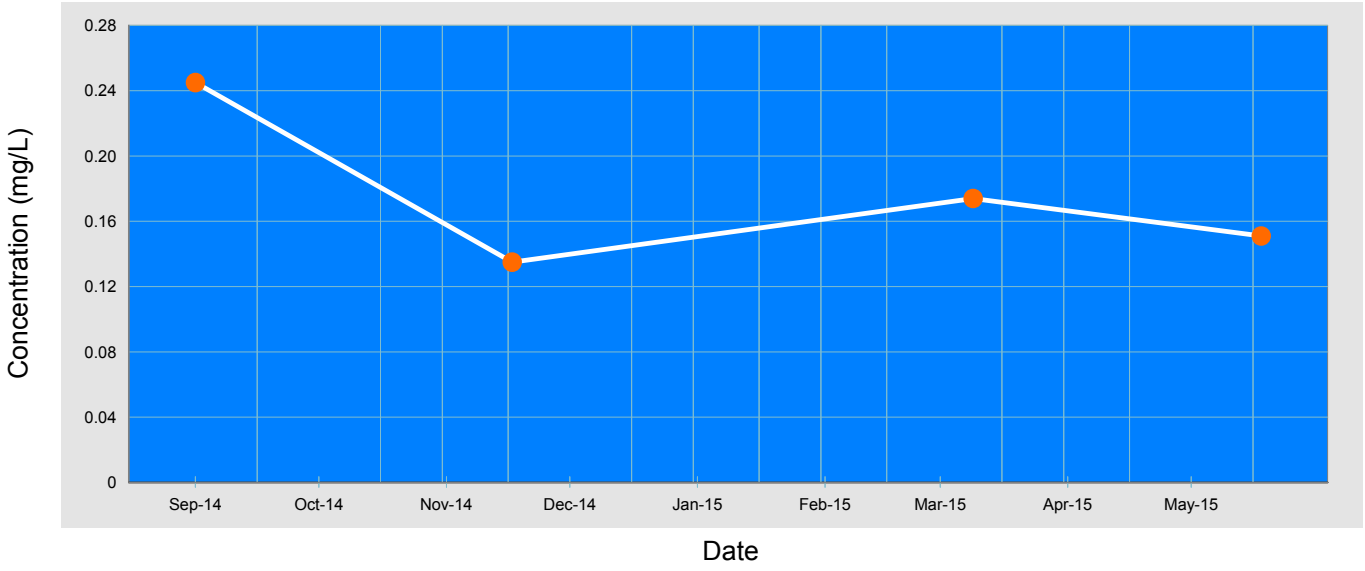


WellID	MW-14-61
Date Range	09/19/2014 - 06/09/2015
Current Result	0.046
Sample Size	4
Min / Max Result	0.046 / 0.057
Max Detected	0.057
% Detected	100%
S Statistic	-6
Probability	0.0420
90% Trend	

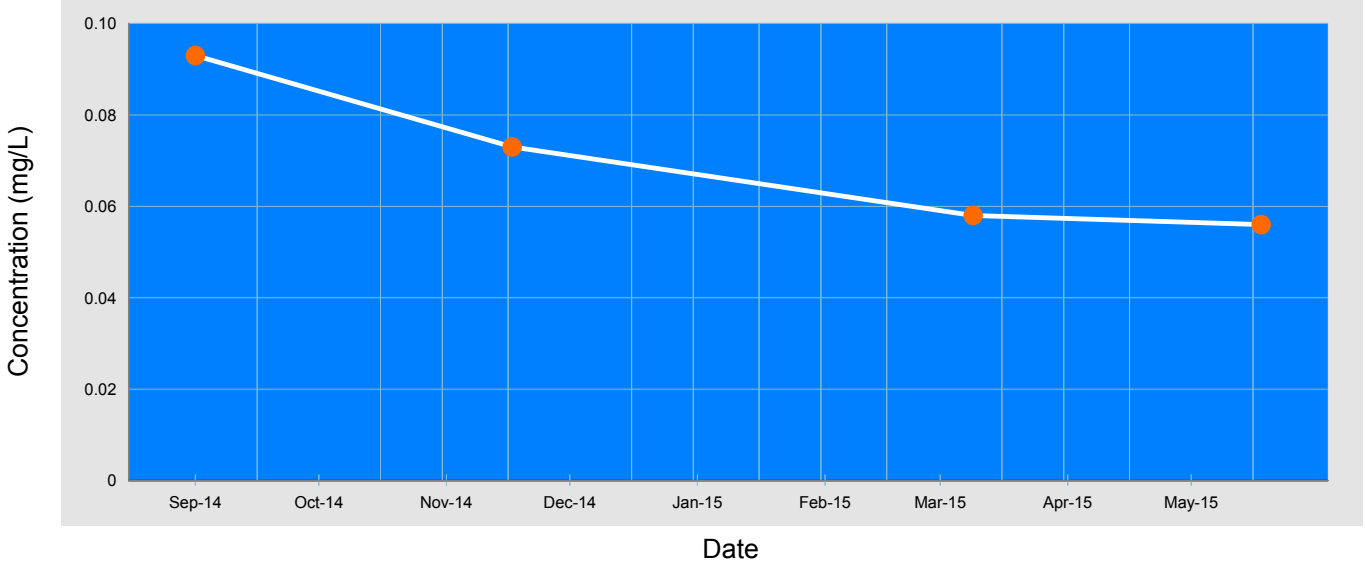


Manganese

WellID	MW-14-63
Date Range	09/18/2014 - 06/02/2015
Current Result	0.151
Sample Size	4
Min / Max Result	0.135 / 0.245
Max Detected	0.245
% Detected	100%
S Statistic	-2
Probability	0.3750
90% Trend	NO TREND

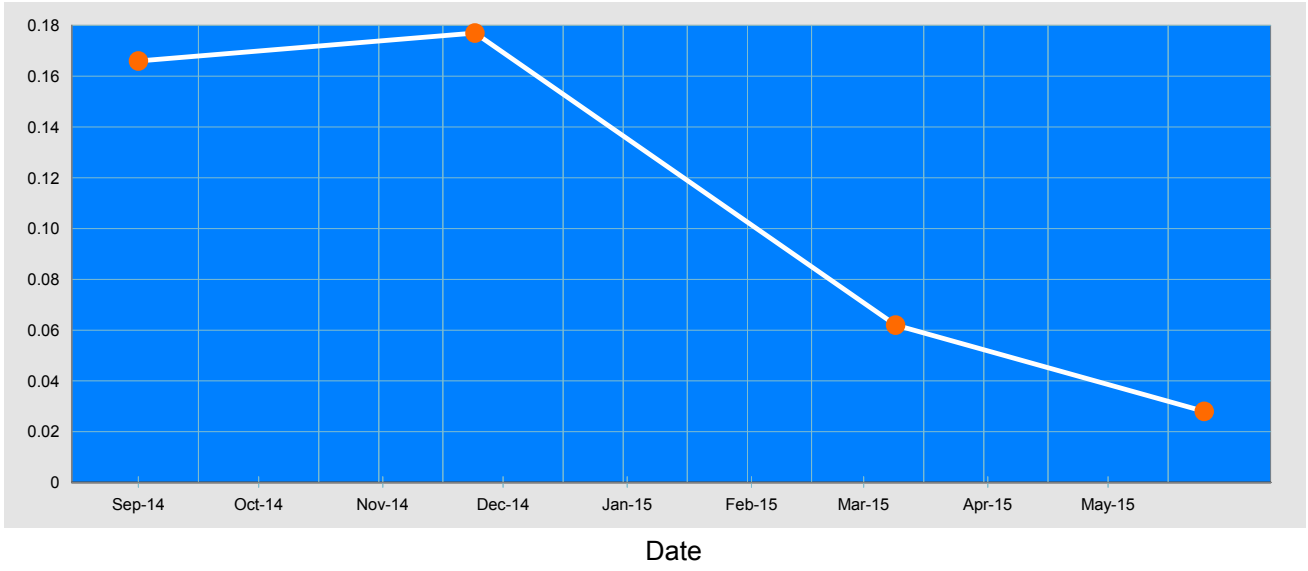


WellID	MW-14-64
Date Range	09/17/2014 - 06/02/2015
Current Result	0.056
Sample Size	4
Min / Max Result	0.056 / 0.093
Max Detected	0.093
% Detected	100%
S Statistic	-6
Probability	0.0420
90% Trend	

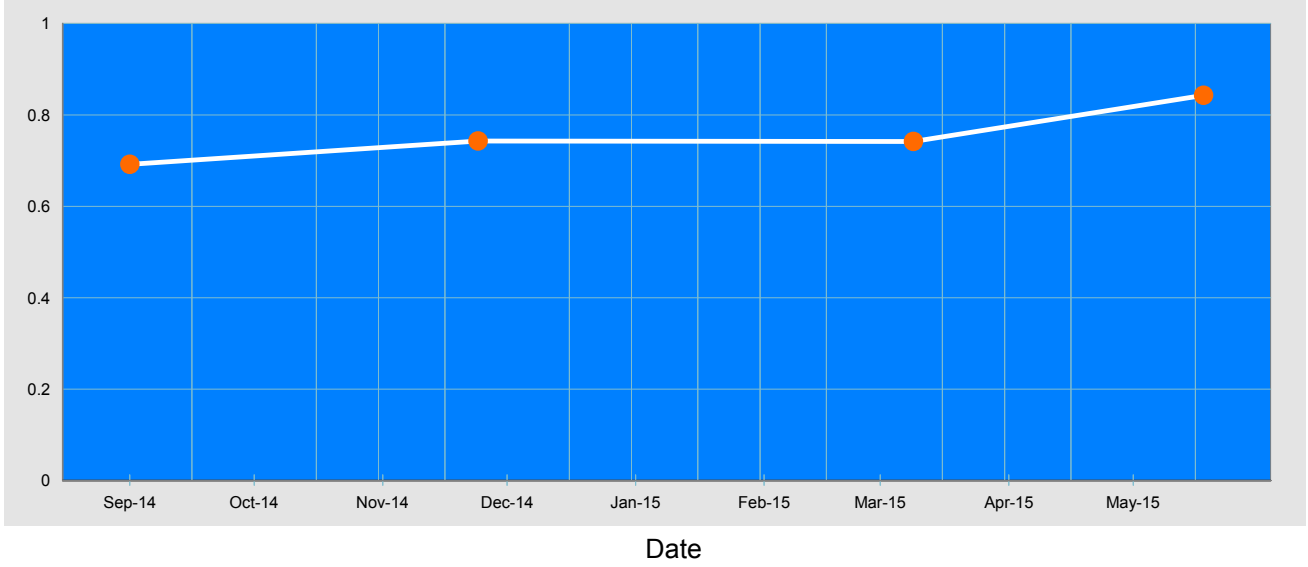


Manganese

WellID	MW-14-65
Date Range	09/17/2014 - 06/08/2015
Current Result	0.028
Sample Size	4
Min / Max Result	0.028 / 0.177
Max Detected	0.177
% Detected	100%
S Statistic	-4
Probability	0.1670
90% Trend	NO TREND

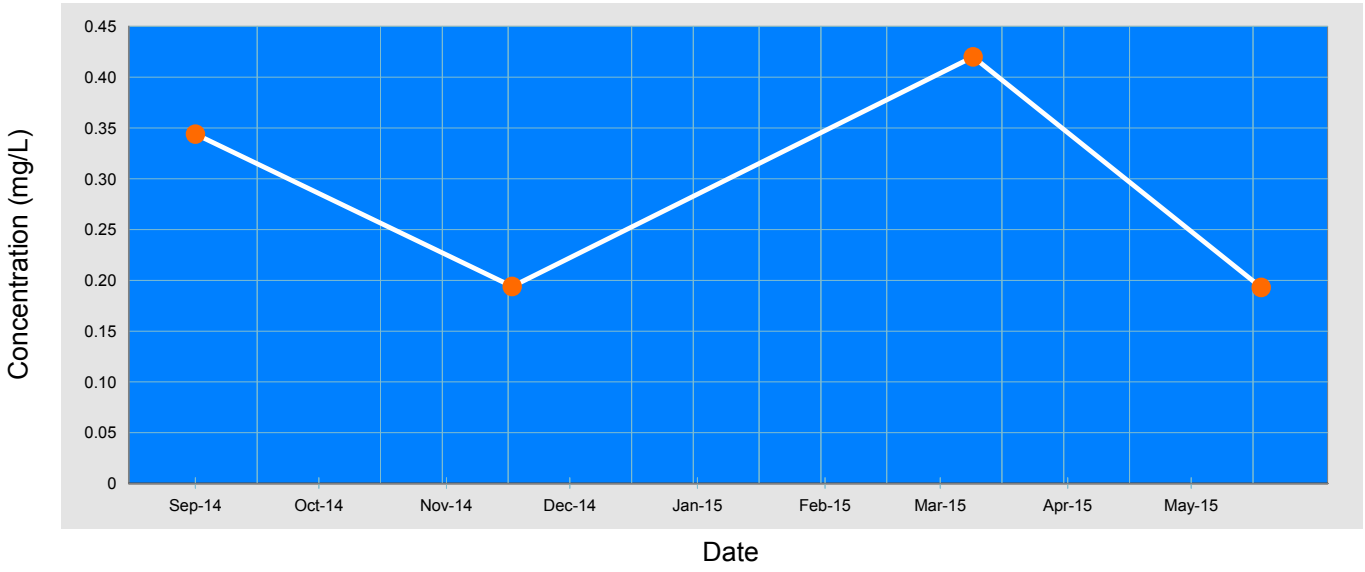


WellID	MW-14-66
Date Range	09/18/2014 - 06/05/2015
Current Result	0.843
Sample Size	4
Min / Max Result	0.692 / 0.843
Max Detected	0.843
% Detected	100%
S Statistic	4
Probability	0.1670
90% Trend	NO TREND

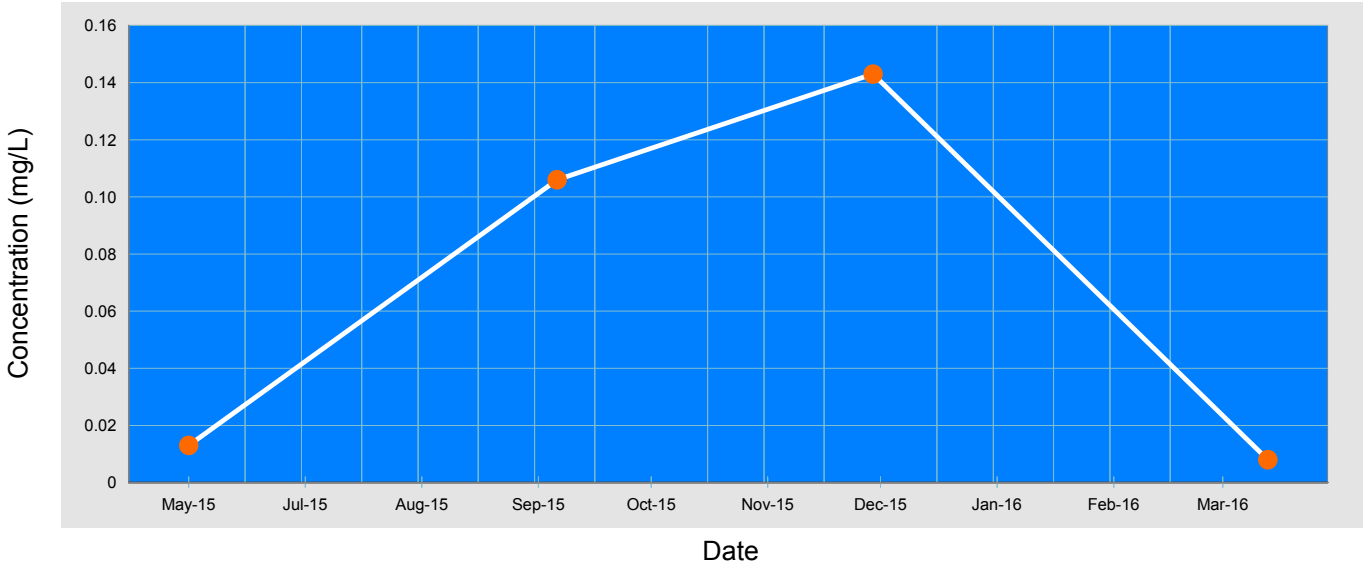


Manganese

WellID	MW-14-70
Date Range	09/18/2014 - 06/05/2015
Current Result	0.193
Sample Size	4
Min / Max Result	0.193 / 0.420
Max Detected	0.42
% Detected	100%
S Statistic	-2
Probability	0.3750
90% Trend	NO TREND

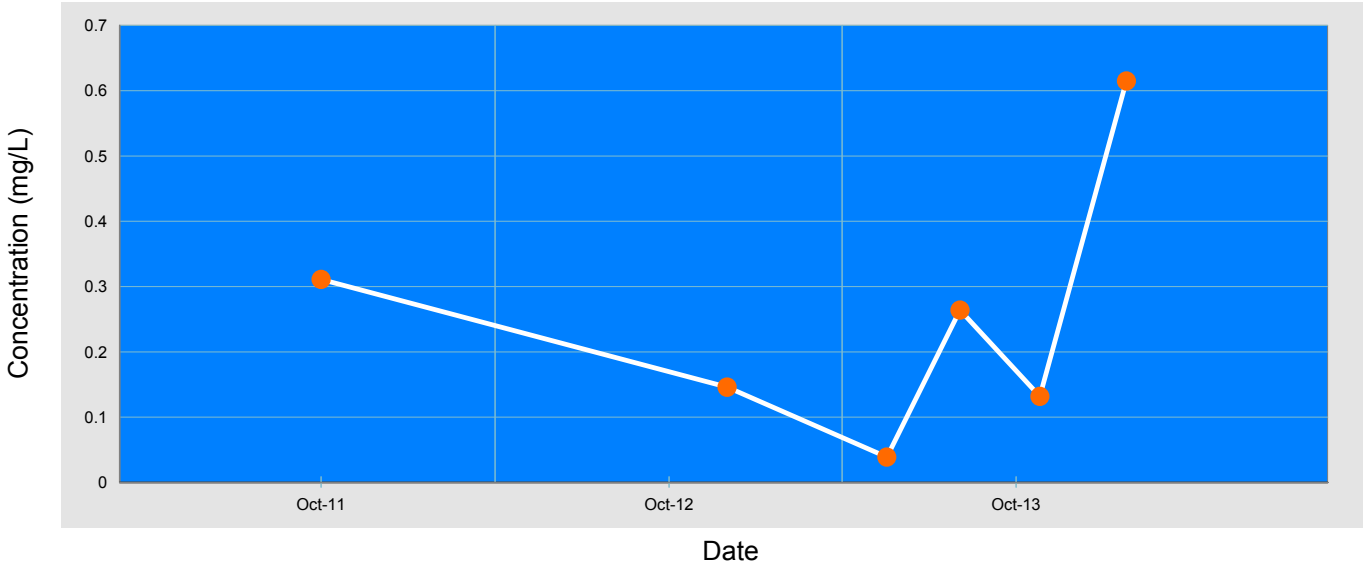


WellID	MW-15-71
Date Range	06/02/2015 - 03/15/2016
Current Result	0.008
Sample Size	4
Min / Max Result	0.008 / 0.143
Max Detected	0.143
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

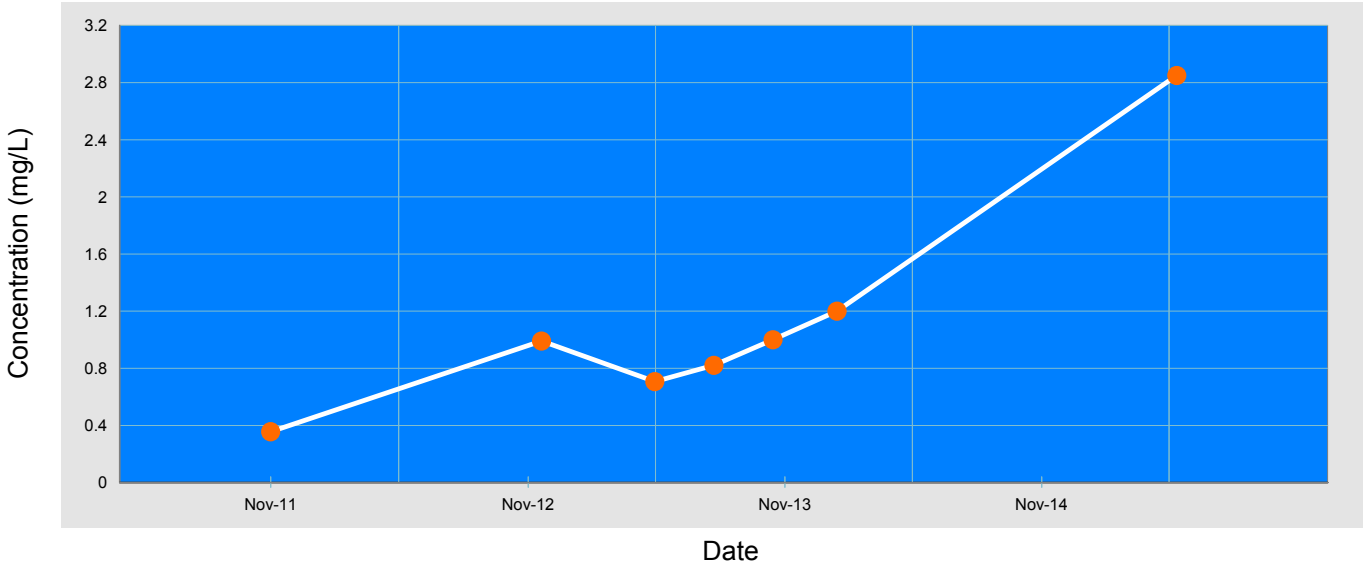


Manganese

WellID	MW-19
Date Range	10/19/2011 - 02/11/2014
Current Result	0.615
Sample Size	6
Min / Max Result	0.039 / 0.615
Max Detected	0.615
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

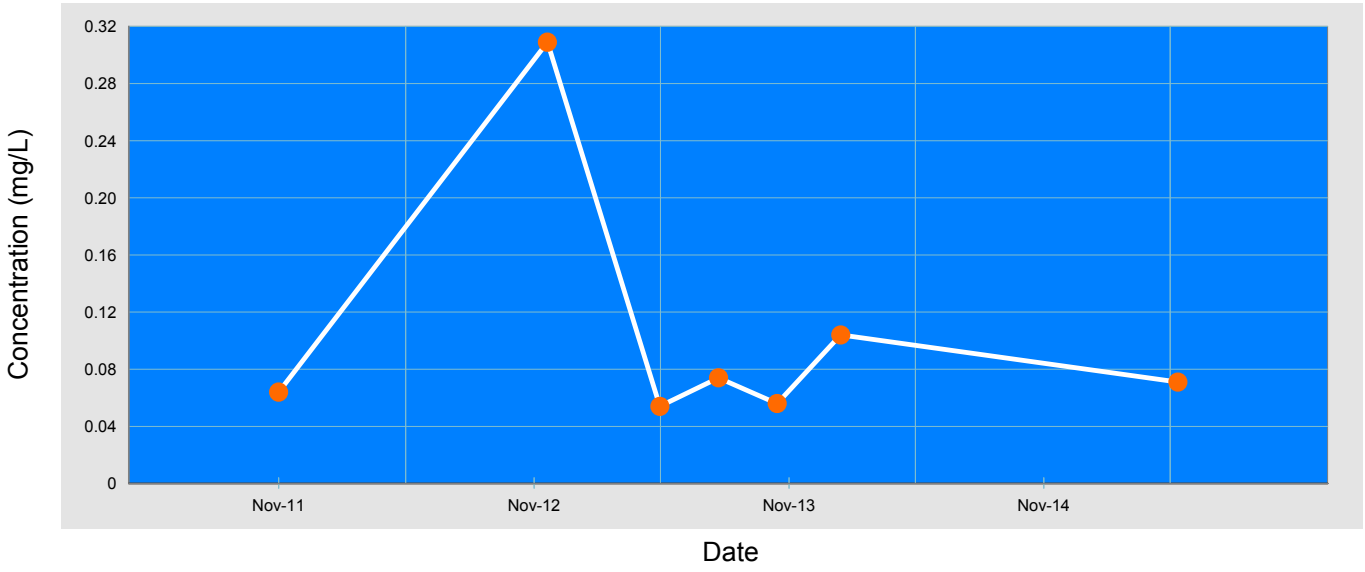


WellID	MW-22
Date Range	11/29/2011 - 06/08/2015
Current Result	2.85
Sample Size	7
Min / Max Result	0.356 / 2.85
Max Detected	2.85
% Detected	100%
S Statistic	17
Probability	0.0054
90% Trend	

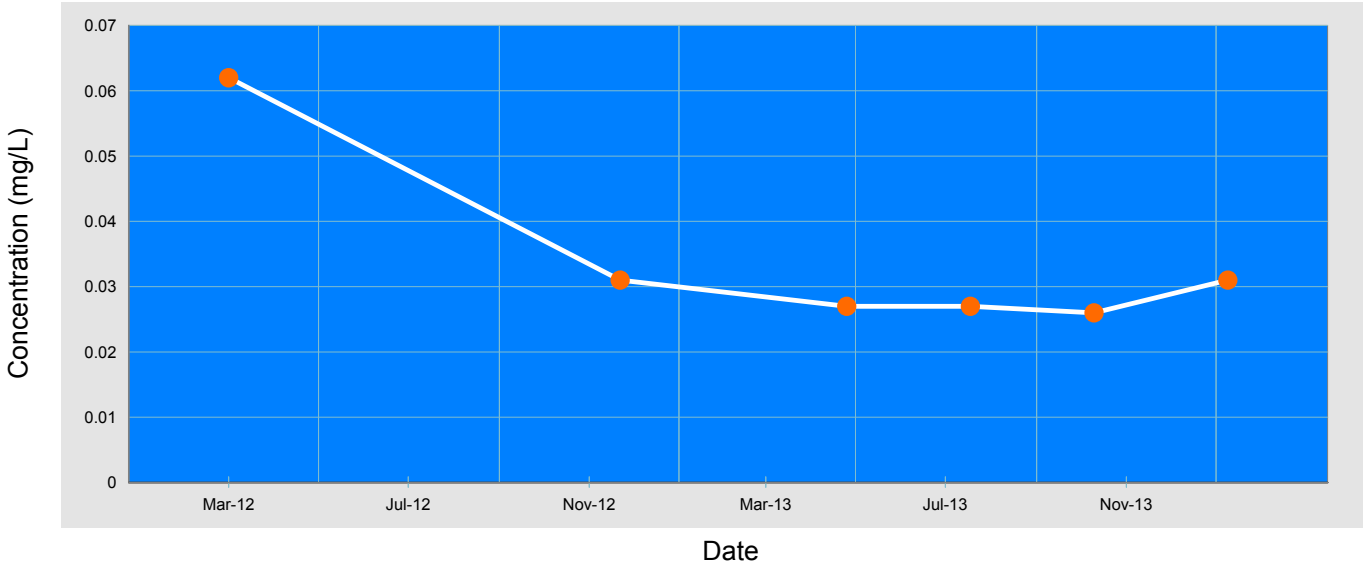


Manganese

WellID	MW-23
Date Range	11/29/2011 - 06/08/2015
Current Result	0.071
Sample Size	7
Min / Max Result	0.054 / 0.309
Max Detected	0.309
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

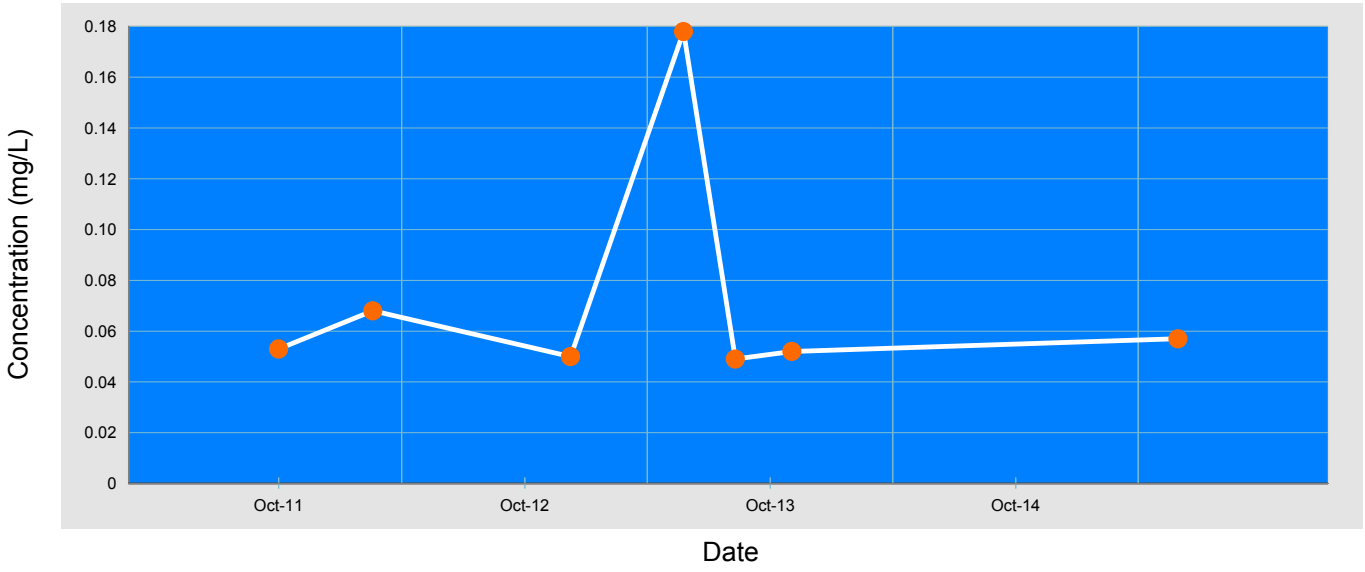


WellID	MW-88-1
Date Range	03/27/2012 - 02/06/2014
Current Result	0.031
Sample Size	6
Min / Max Result	0.026 / 0.062
Max Detected	0.062
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND

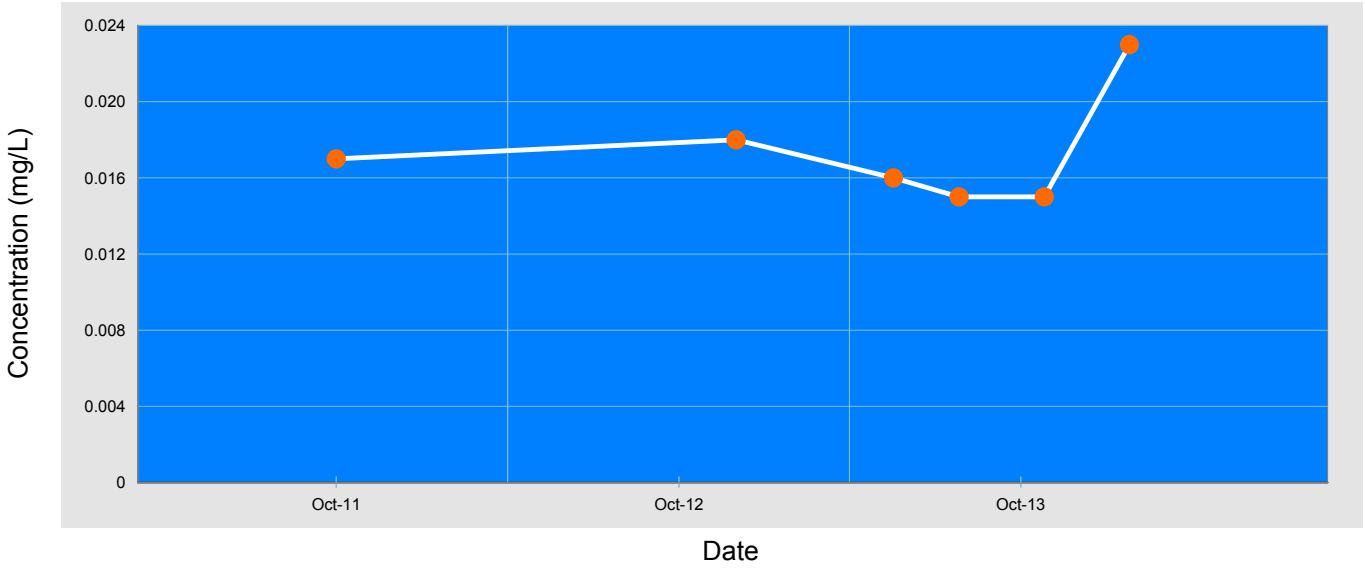


Manganese

WellID	MW-91-2
Date Range	10/13/2011 - 06/08/2015
Current Result	0.057
Sample Size	7
Min / Max Result	0.049 / 0.178
Max Detected	0.178
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

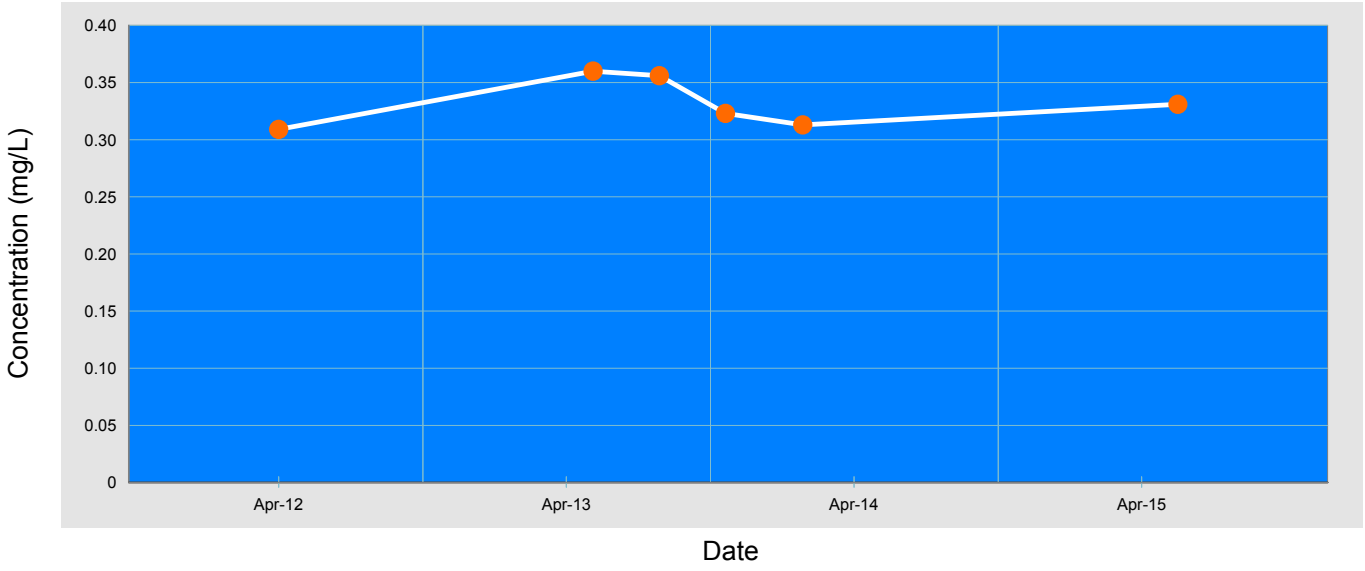


WellID	MW-91-3
Date Range	10/19/2011 - 02/13/2014
Current Result	0.023
Sample Size	6
Min / Max Result	0.015 / 0.023
Max Detected	0.023
% Detected	100%
S Statistic	-2
Probability	0.4300
90% Trend	NO TREND

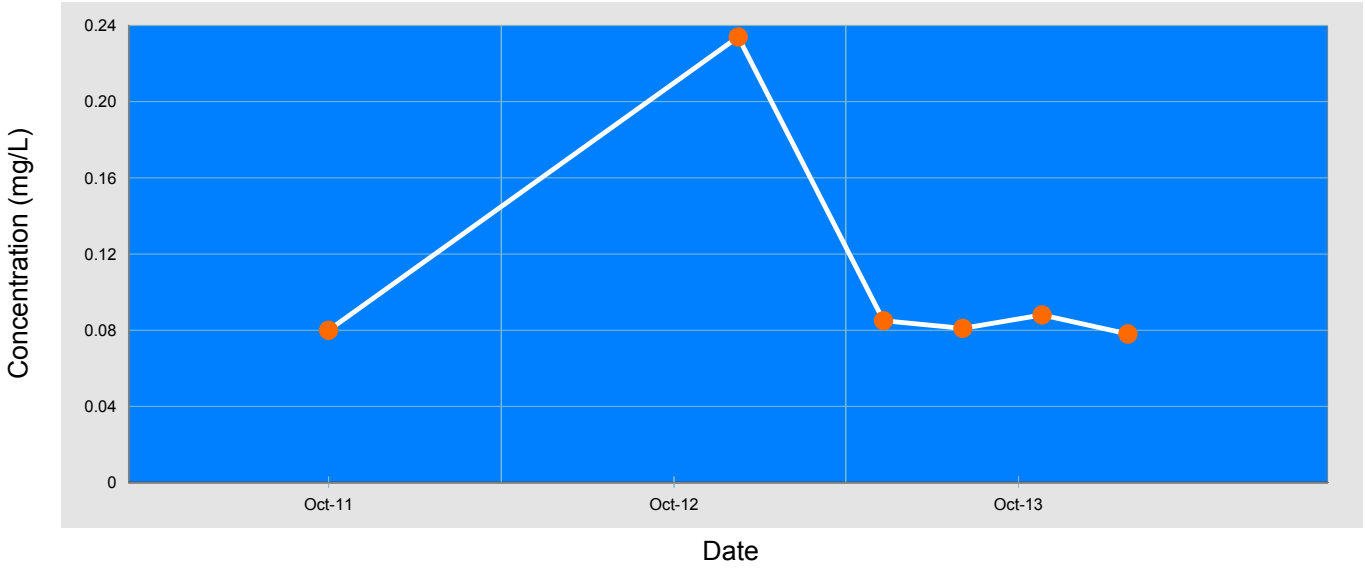


Manganese

WellID	MW-91-4
Date Range	04/17/2012 - 06/02/2015
Current Result	0.331
Sample Size	6
Min / Max Result	0.309 / 0.360
Max Detected	0.36
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

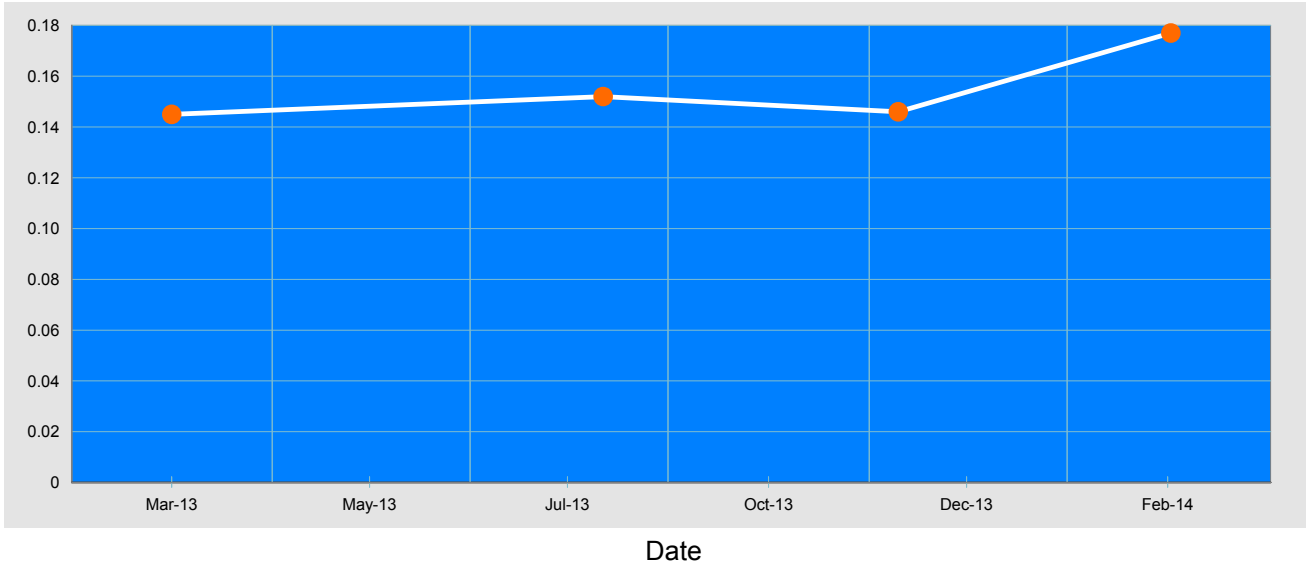


WellID	MW-91-5
Date Range	10/12/2011 - 02/07/2014
Current Result	0.078
Sample Size	6
Min / Max Result	0.078 / 0.234
Max Detected	0.234
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

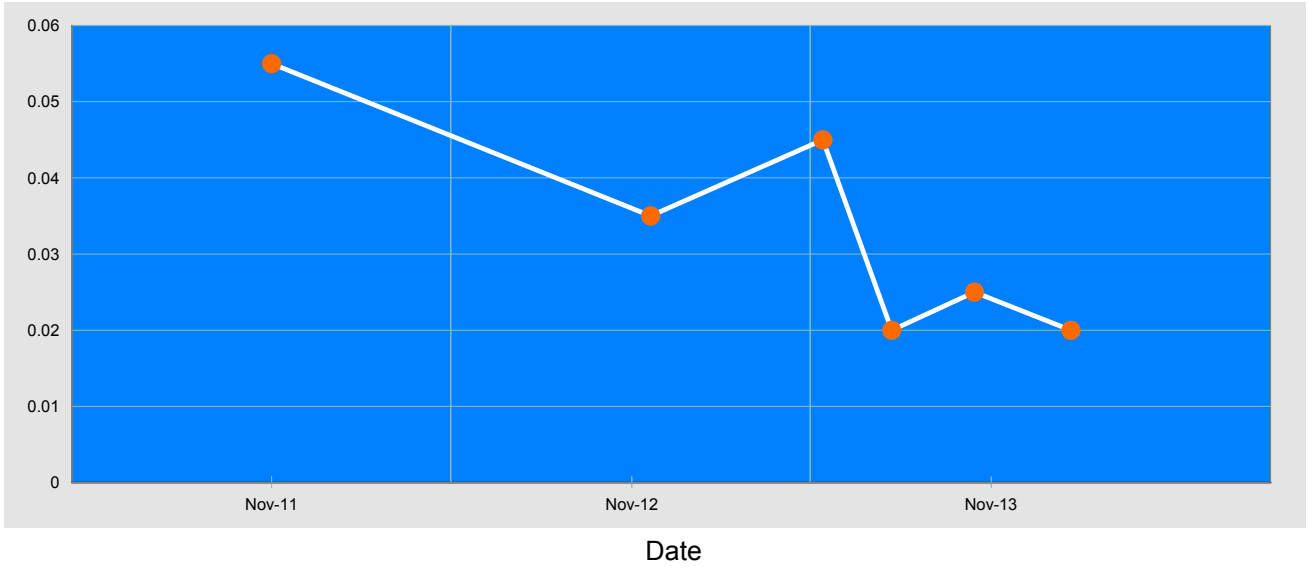


Manganese

WellID	MW-91-6
Date Range	04/04/2013 - 02/07/2014
Current Result	0.177
Sample Size	4
Min / Max Result	0.145 / 0.177
Max Detected	0.177
% Detected	100%
S Statistic	4
Probability	0.1670
90% Trend	NO TREND

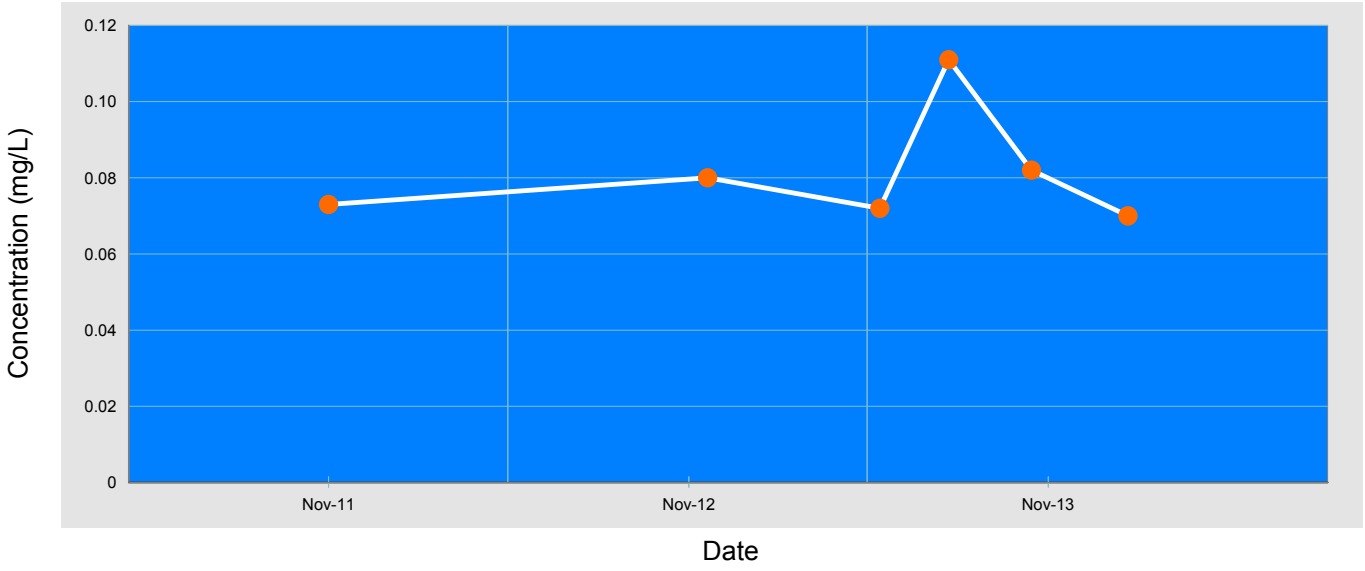


WellID	MWBP-10A-UST1-4
Date Range	12/02/2011 - 02/19/2014
Current Result	0.020
Sample Size	6
Min / Max Result	0.020 / 0.055
Max Detected	0.055
% Detected	100%
S Statistic	-10
Probability	0.0480
90% Trend	

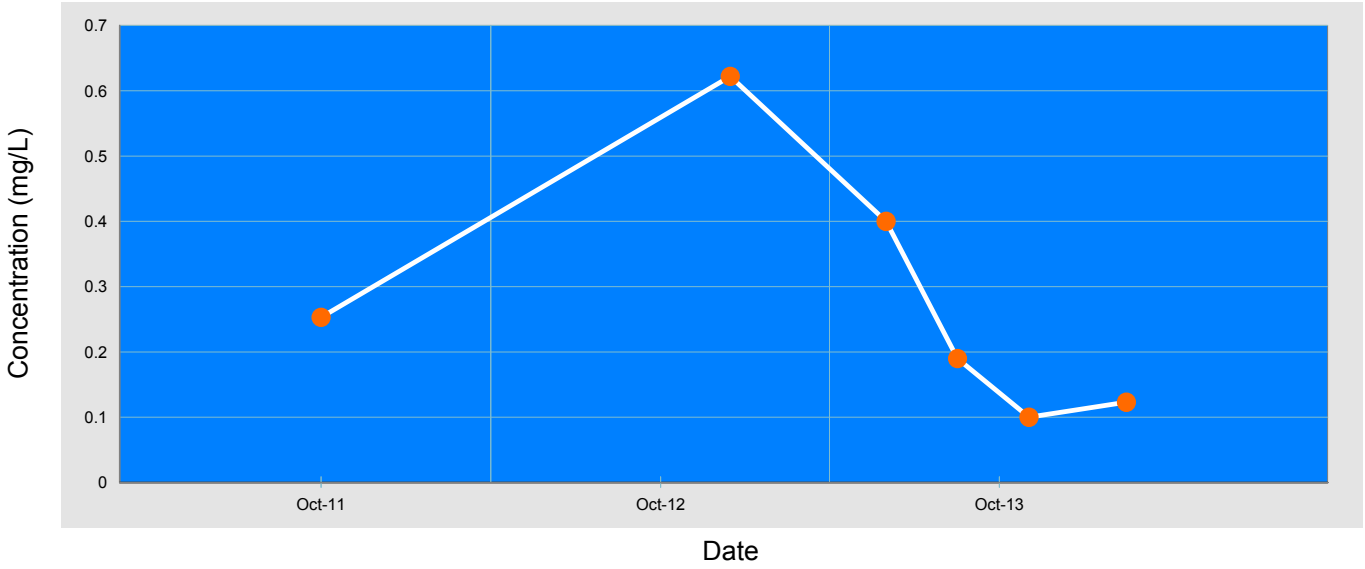


Manganese

WellID	MWBP-10-UST1-4
Date Range	12/02/2011 - 02/20/2014
Current Result	0.070
Sample Size	6
Min / Max Result	0.070 / 0.111
Max Detected	0.111
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	NO TREND

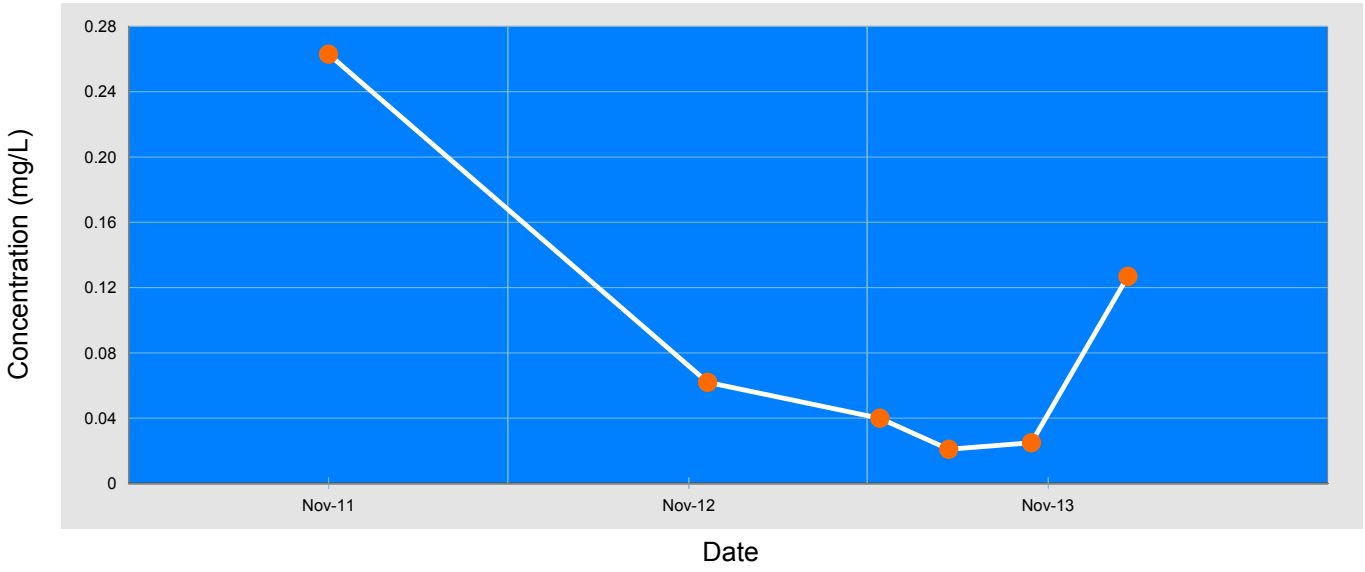


WellID	MWBP-10-UST5-6
Date Range	10/07/2011 - 02/17/2014
Current Result	0.123
Sample Size	6
Min / Max Result	0.100 / 0.622
Max Detected	0.622
% Detected	100%
S Statistic	-9
Probability	0.0680
90% Trend	

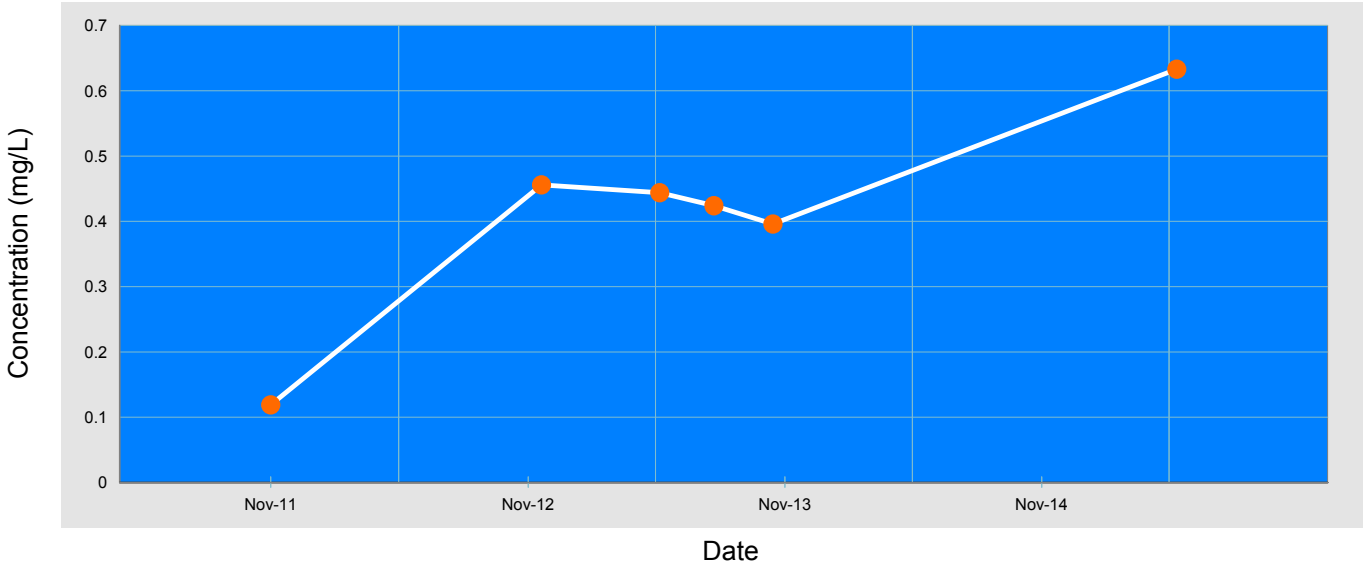


Manganese

WellID	MWBP-11-UST1-4
Date Range	11/29/2011 - 02/19/2014
Current Result	0.127
Sample Size	6
Min / Max Result	0.021 / 0.263
Max Detected	0.263
% Detected	100%
S Statistic	-5
Probability	0.2350
90% Trend	NO TREND

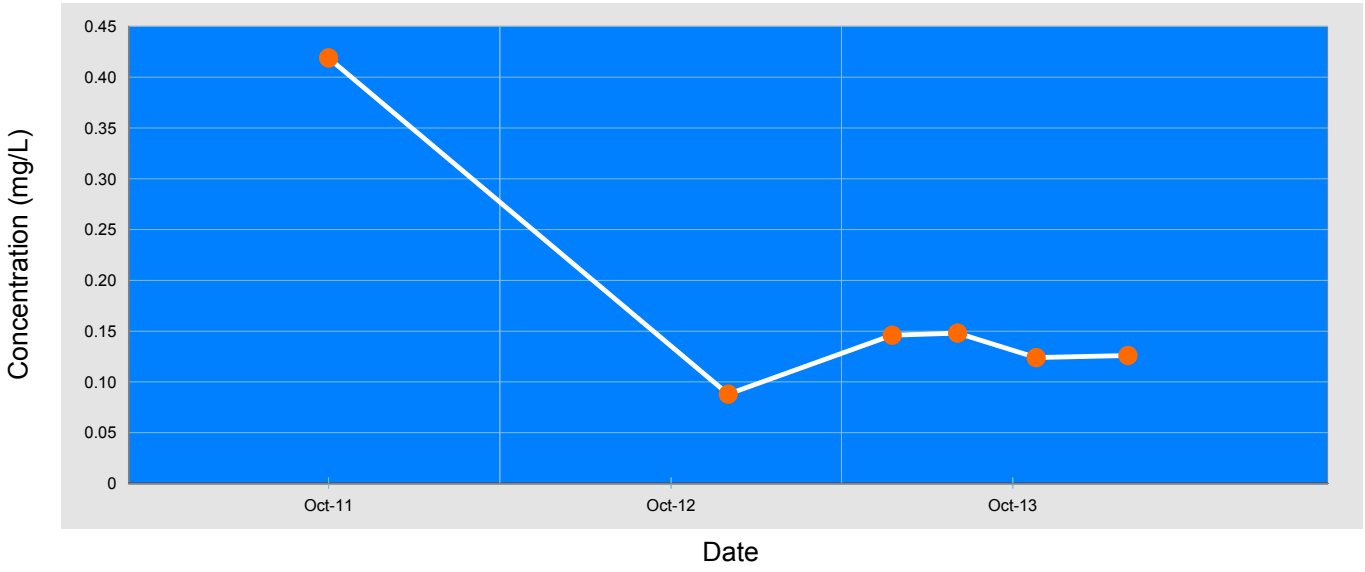


WellID	MWBP-12A-UST1-4
Date Range	12/02/2011 - 06/09/2015
Current Result	0.633
Sample Size	6
Min / Max Result	0.119 / 0.633
Max Detected	0.633
% Detected	100%
S Statistic	3
Probability	0.3600
90% Trend	NO TREND

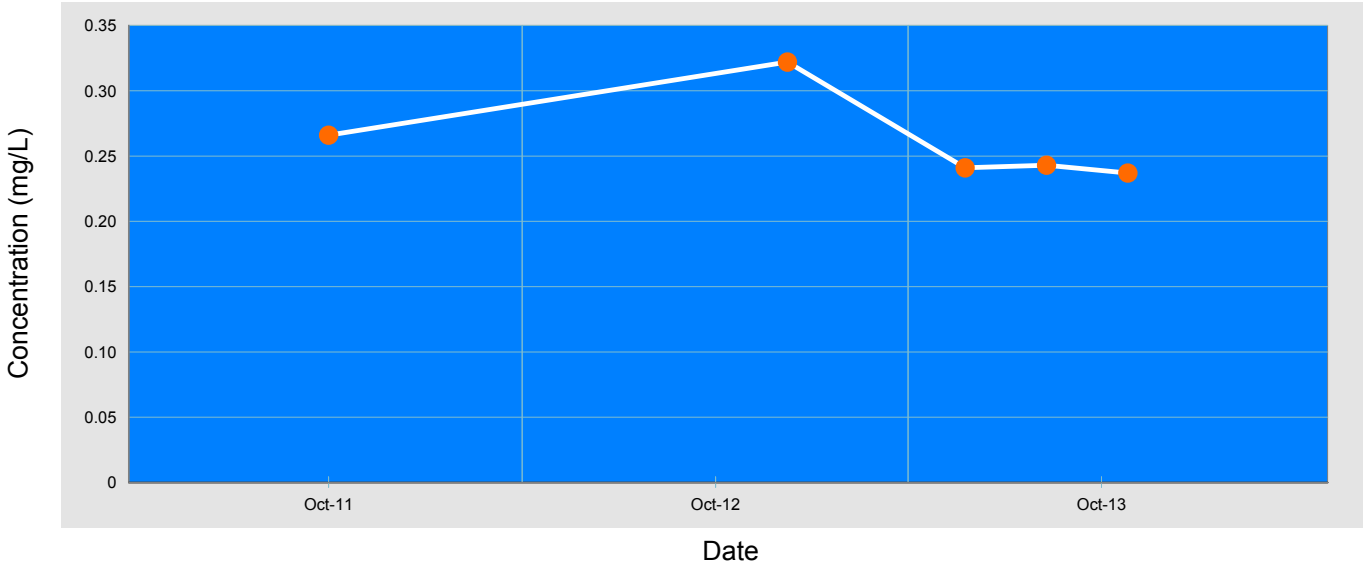


Manganese

WellID	MWBP-12-UST1-4
Date Range	10/18/2011 - 02/19/2014
Current Result	0.126
Sample Size	6
Min / Max Result	0.088 / 0.419
Max Detected	0.419
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

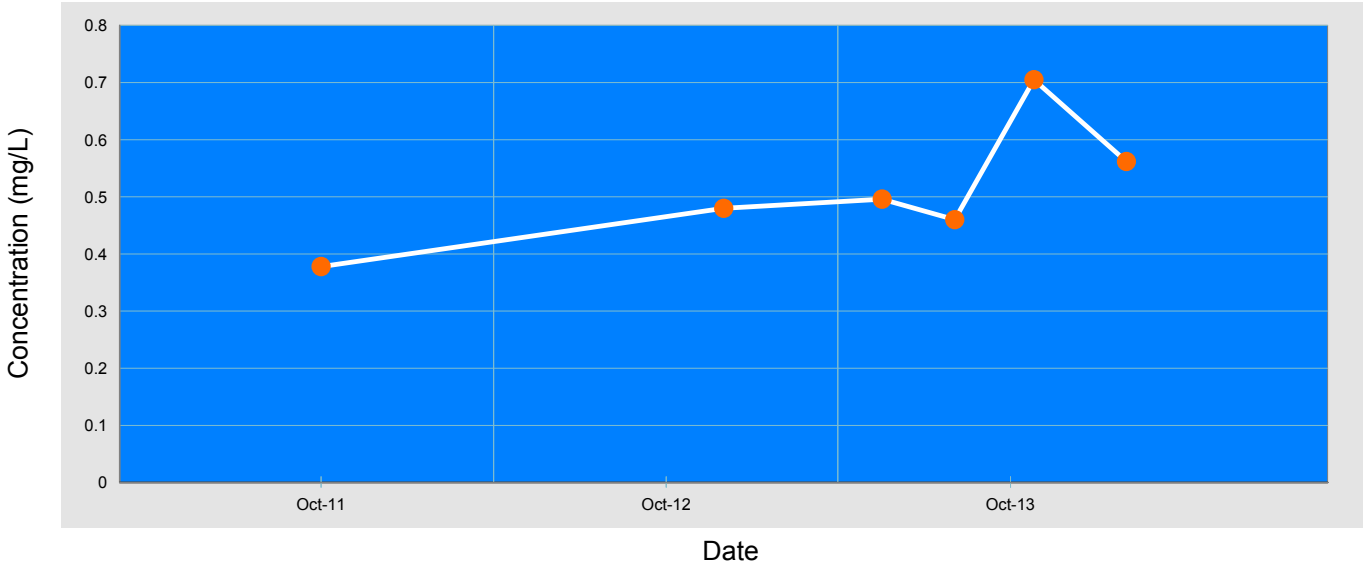


WellID	MWBP-12-UST5-6
Date Range	10/10/2011 - 11/06/2013
Current Result	0.237
Sample Size	5
Min / Max Result	0.237 / 0.322
Max Detected	0.322
% Detected	100%
S Statistic	-6
Probability	0.1170
90% Trend	NO TREND

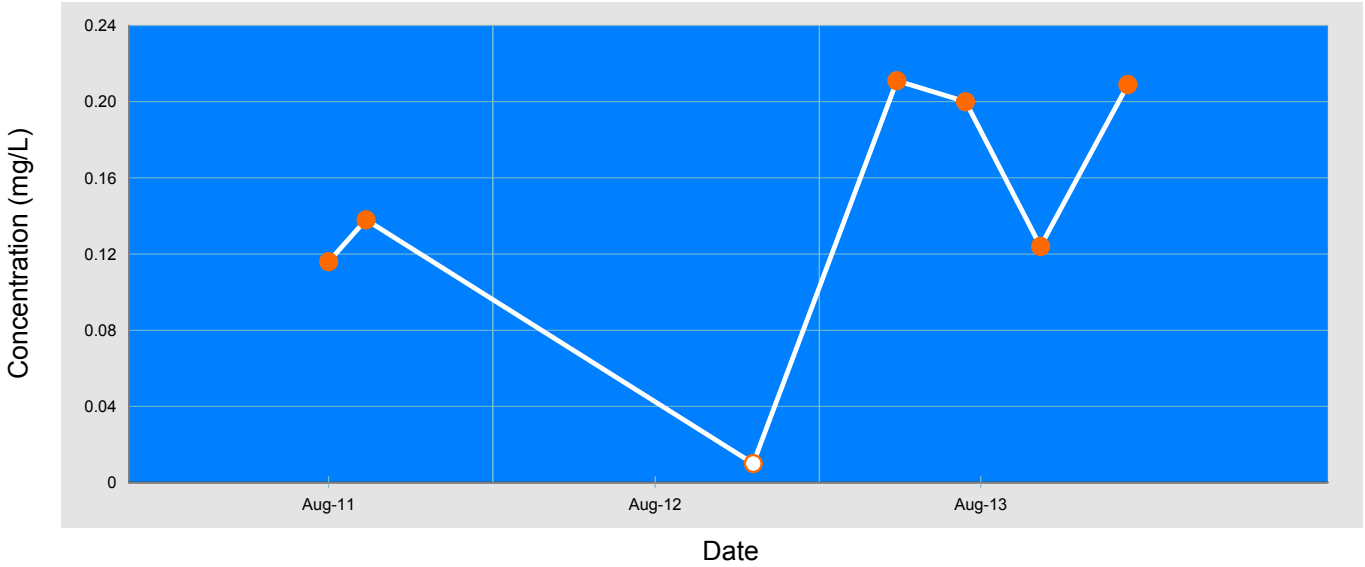


Manganese

WellID	MWBP-13A-UST1-4
Date Range	10/18/2011 - 02/19/2014
Current Result	0.562
Sample Size	6
Min / Max Result	0.378 / 0.705
Max Detected	0.705
% Detected	100%
S Statistic	9
Probability	0.0680
90% Trend	

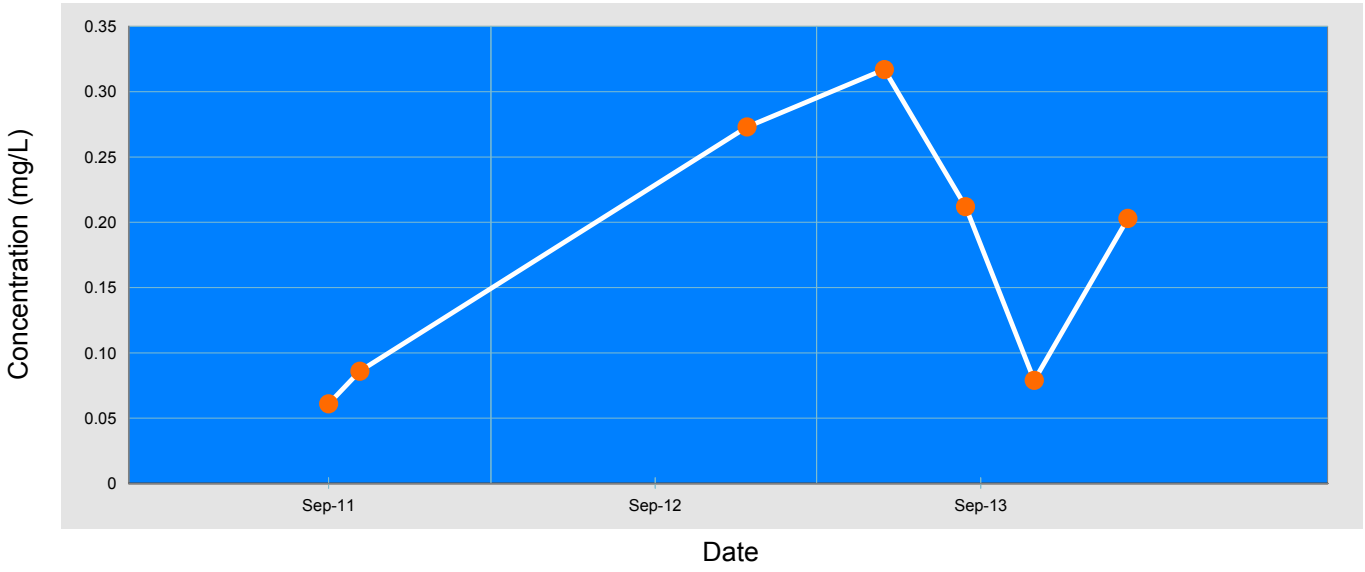


WellID	P2-MW-01
Date Range	08/29/2011 - 02/13/2014
Current Result	0.209
Sample Size	7
Min / Max Result	<0.010 / 0.211
Max Detected	0.211
% Detected	86%
S Statistic	7
Probability	0.1910
90% Trend	**NO TREND**

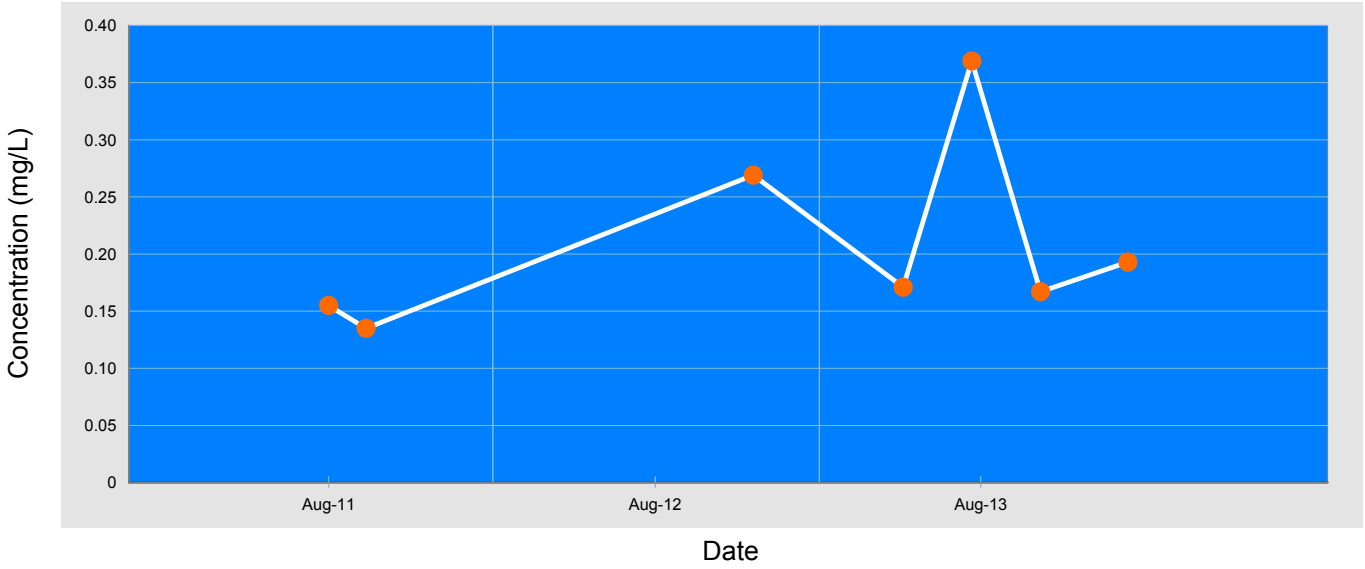


Manganese

WellID	P2-MW-02
Date Range	09/07/2011 - 02/17/2014
Current Result	0.203
Sample Size	7
Min / Max Result	0.061 / 0.317
Max Detected	0.317
% Detected	100%
S Statistic	3
Probability	0.3860
90% Trend	NO TREND

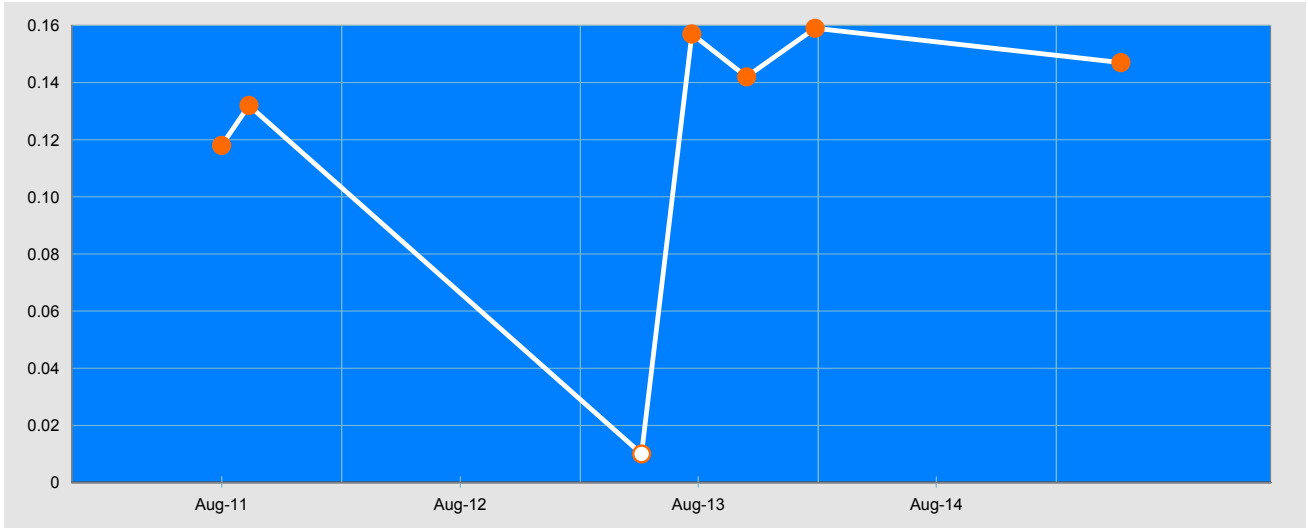


WellID	P2-MW-03
Date Range	08/31/2011 - 02/14/2014
Current Result	0.193
Sample Size	7
Min / Max Result	0.135 / 0.369
Max Detected	0.369
% Detected	100%
S Statistic	7
Probability	0.1910
90% Trend	NO TREND

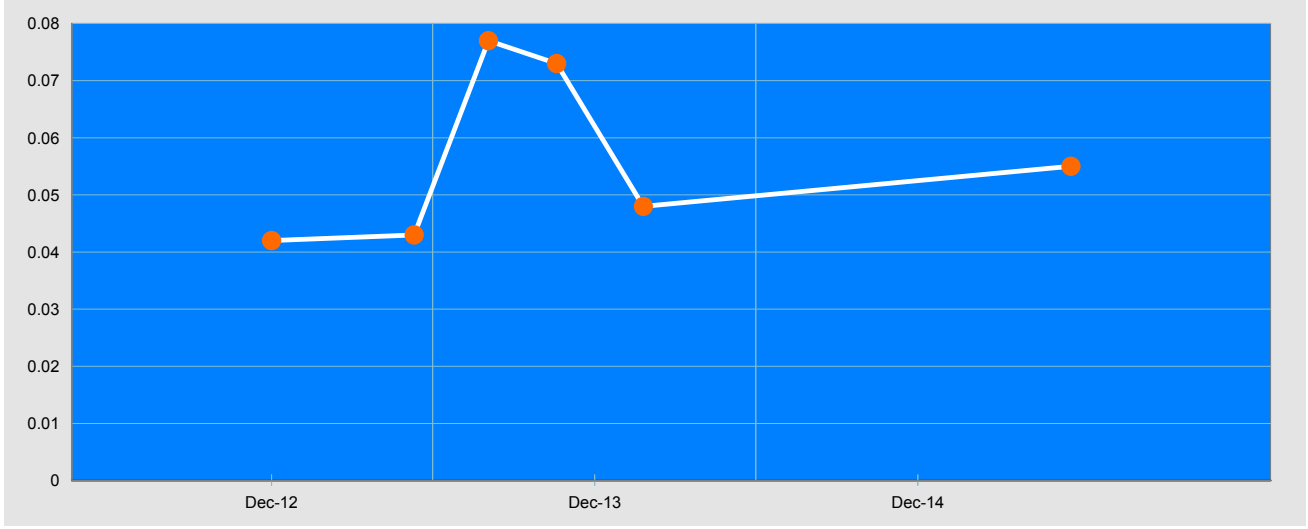


Manganese

WellID	P2-MW-04
Date Range	08/25/2011 - 06/02/2015
Current Result	0.147
Sample Size	7
Min / Max Result	<0.010 / 0.159
Max Detected	0.159
% Detected	86%
S Statistic	11
Probability	0.0680
90% Trend	

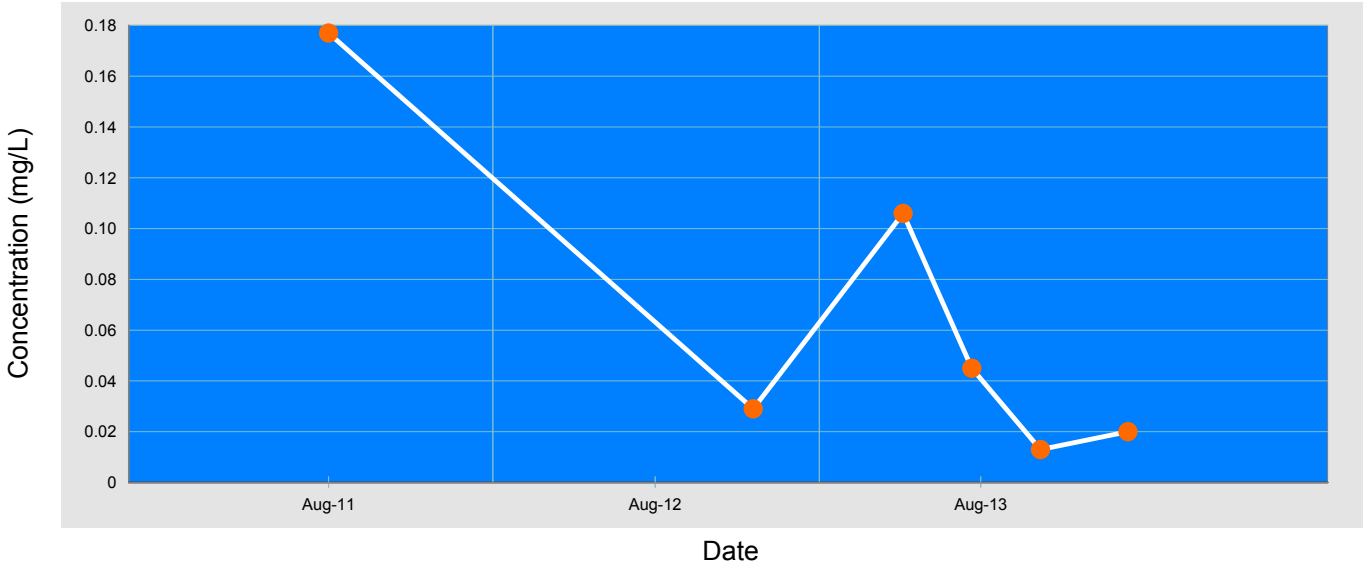


WellID	P2-SB-03
Date Range	12/20/2012 - 06/09/2015
Current Result	0.055
Sample Size	6
Min / Max Result	0.042 / 0.077
Max Detected	0.077
% Detected	100%
S Statistic	5
Probability	0.2350
90% Trend	**NO TREND**

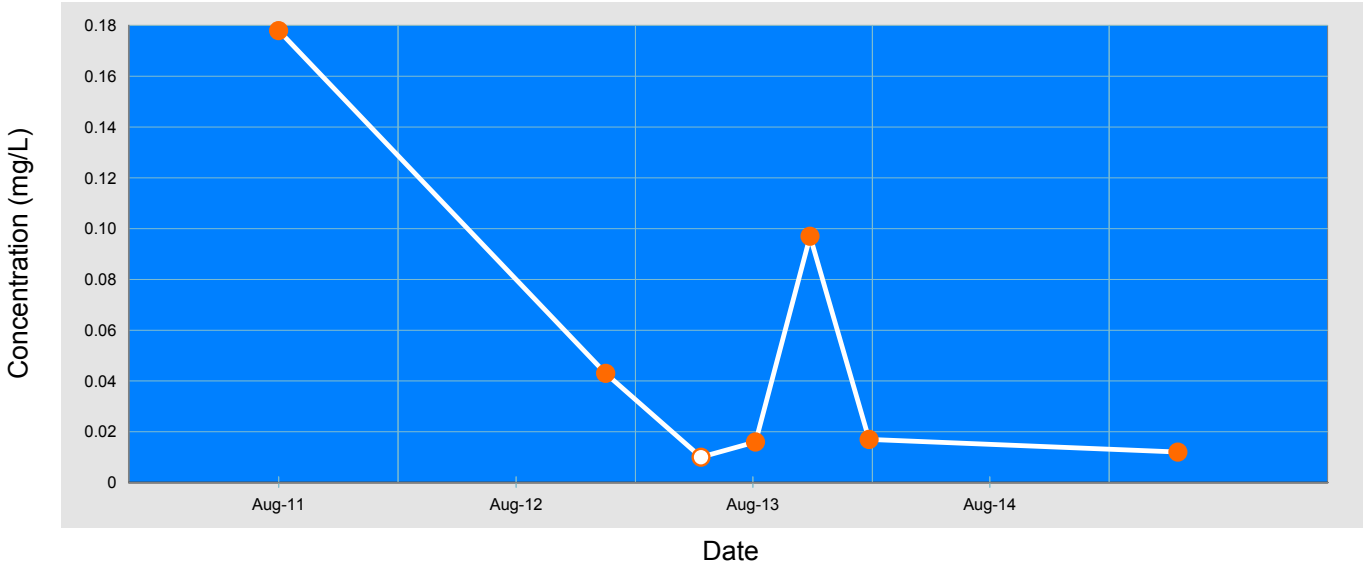


Manganese

WellID	P2-SB-20
Date Range	08/31/2011 - 02/13/2014
Current Result	0.020
Sample Size	6
Min / Max Result	0.013 / 0.177
Max Detected	0.177
% Detected	100%
S Statistic	-9
Probability	0.0680
90% Trend	

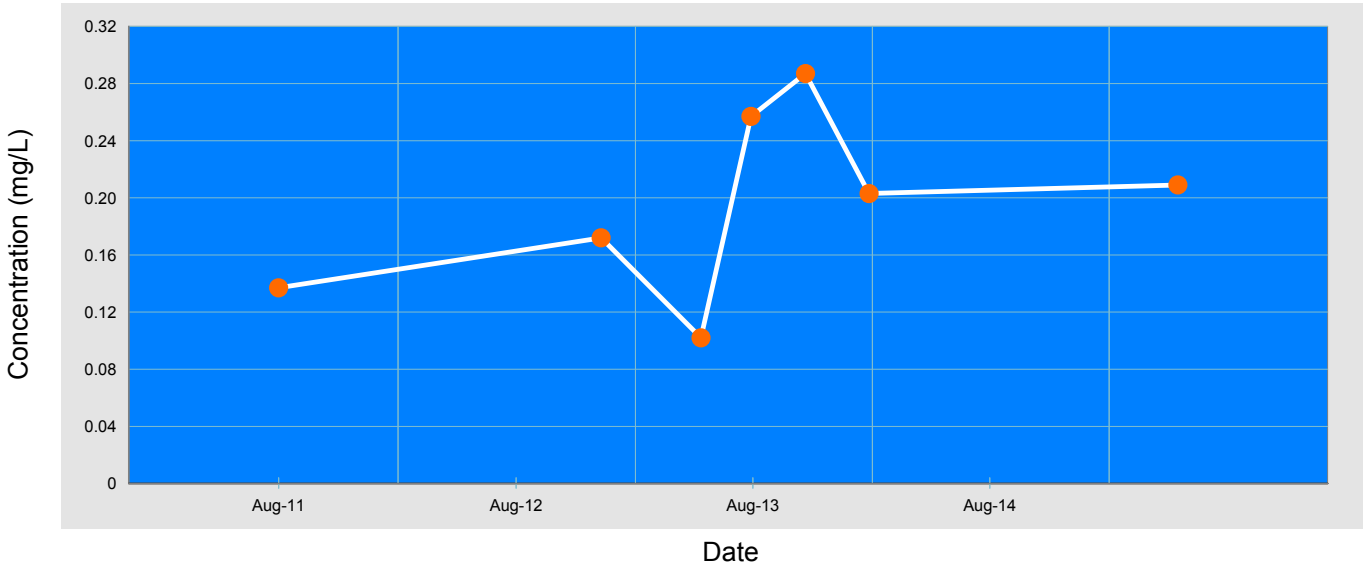


WellID	P3-SB-07
Date Range	08/18/2011 - 06/04/2015
Current Result	0.012
Sample Size	7
Min / Max Result	<0.010 / 0.178
Max Detected	0.178
% Detected	86%
S Statistic	-7
Probability	0.1910
90% Trend	**NO TREND**

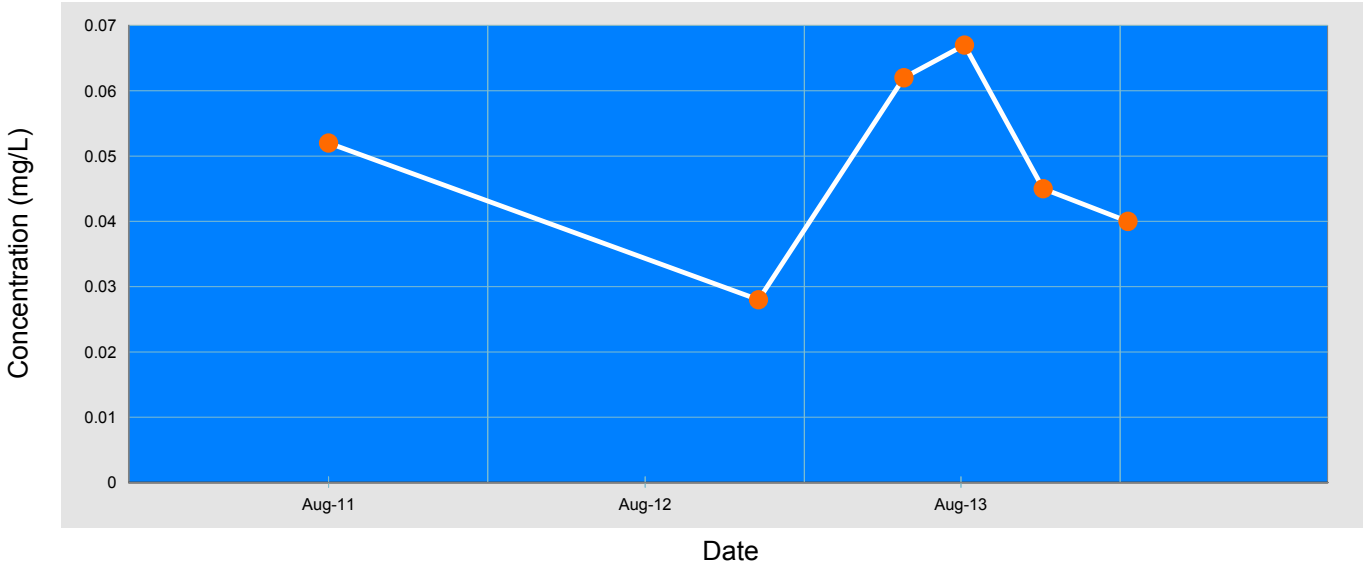


Manganese

WellID	P3-SB-28
Date Range	08/23/2011 - 06/09/2015
Current Result	0.209
Sample Size	7
Min / Max Result	0.102 / 0.287
Max Detected	0.287
% Detected	100%
S Statistic	9
Probability	0.1190
90% Trend	**NO TREND**

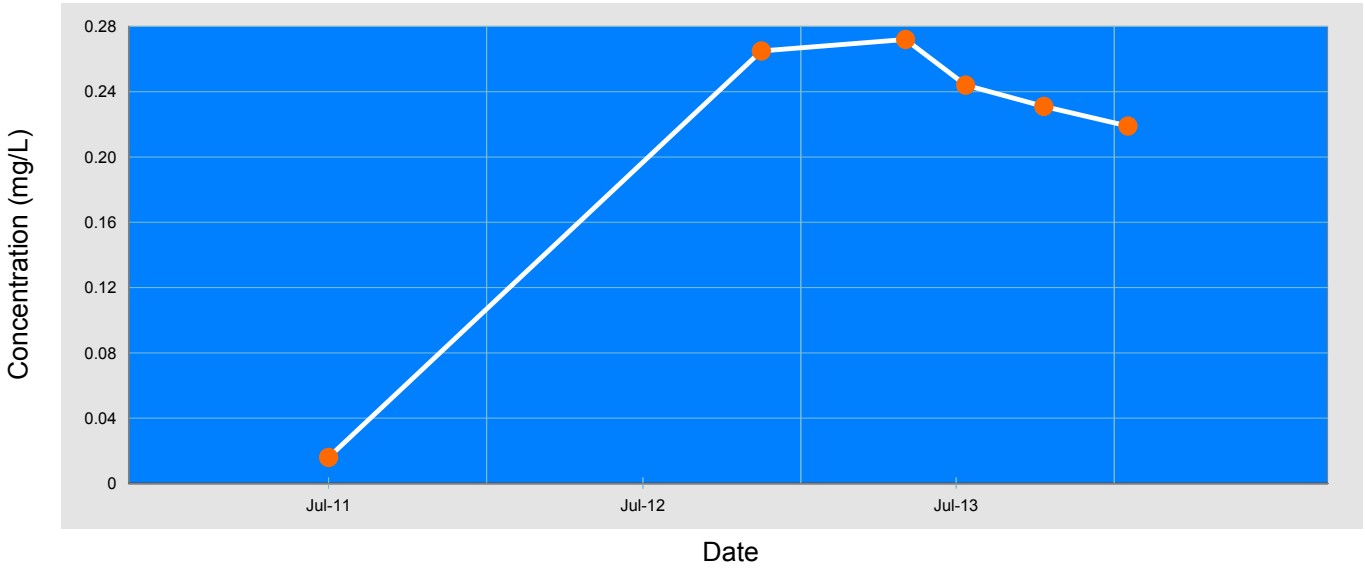


WellID	P6-SB-07
Date Range	08/10/2011 - 02/20/2014
Current Result	0.040
Sample Size	6
Min / Max Result	0.028 / 0.067
Max Detected	0.067
% Detected	100%
S Statistic	-1
Probability	0.5000
90% Trend	**NO TREND**

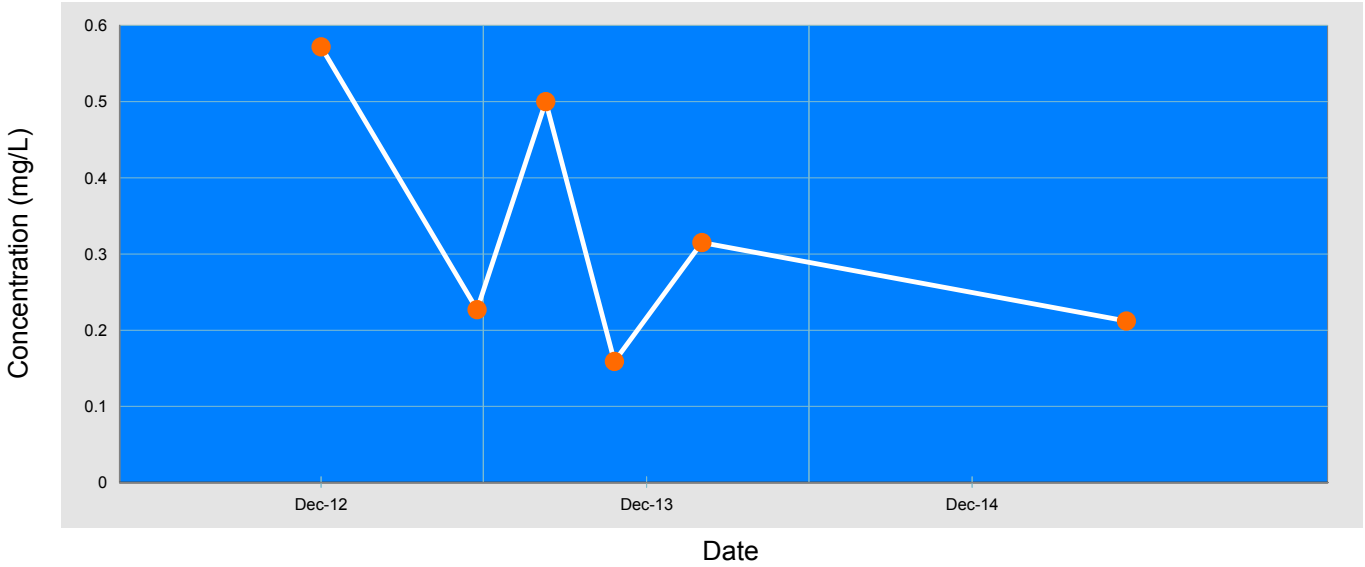


Manganese

WellID	P6-SB-21
Date Range	08/04/2011 - 02/20/2014
Current Result	0.219
Sample Size	6
Min / Max Result	0.016 / 0.272
Max Detected	0.272
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

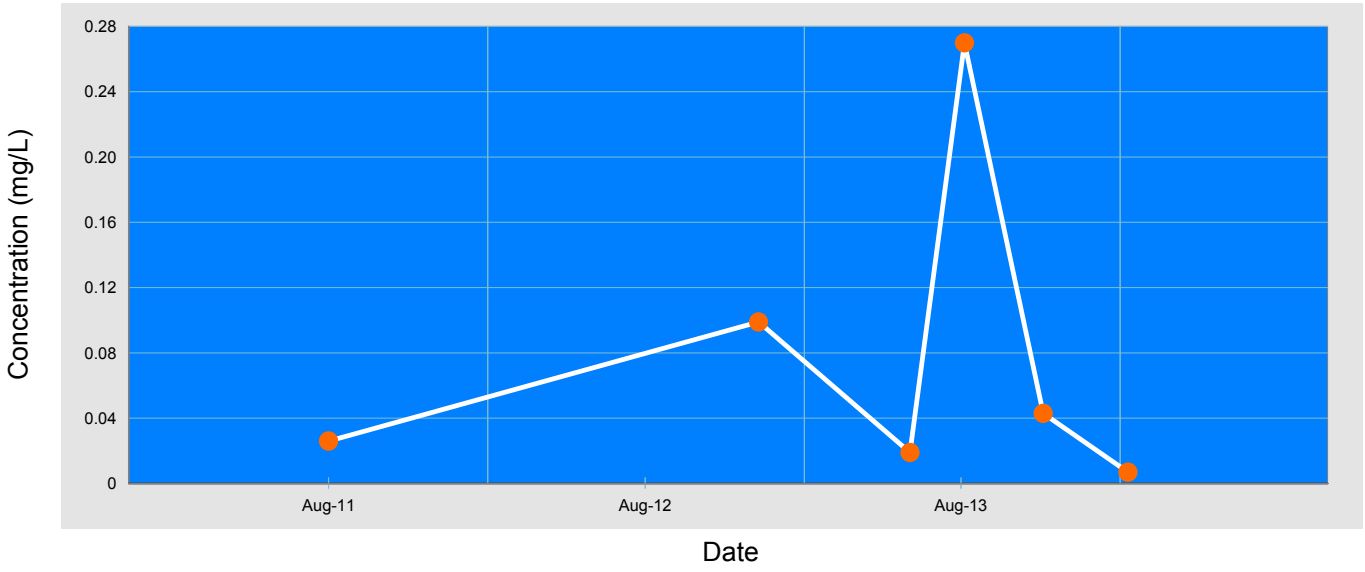


WellID	P6-SB-32
Date Range	12/19/2012 - 06/09/2015
Current Result	0.212
Sample Size	6
Min / Max Result	0.159 / 0.572
Max Detected	0.572
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND

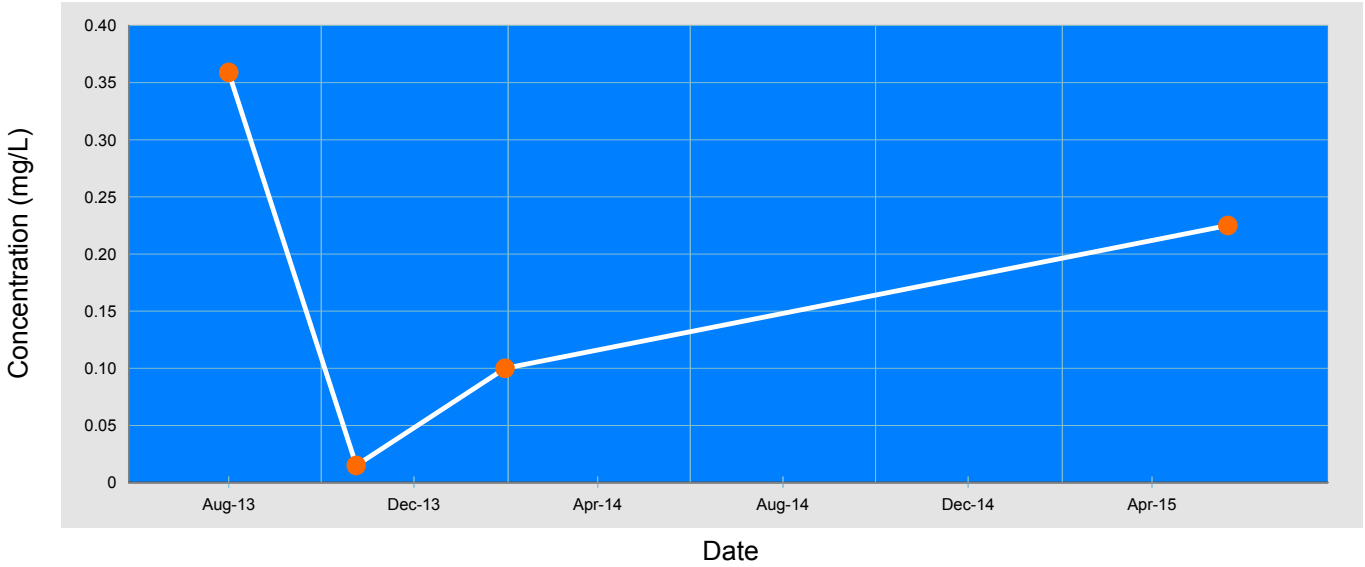


Manganese

WellID	P6-SB-37
Date Range	08/08/2011 - 02/20/2014
Current Result	0.007
Sample Size	6
Min / Max Result	0.007 / 0.270
Max Detected	0.27
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

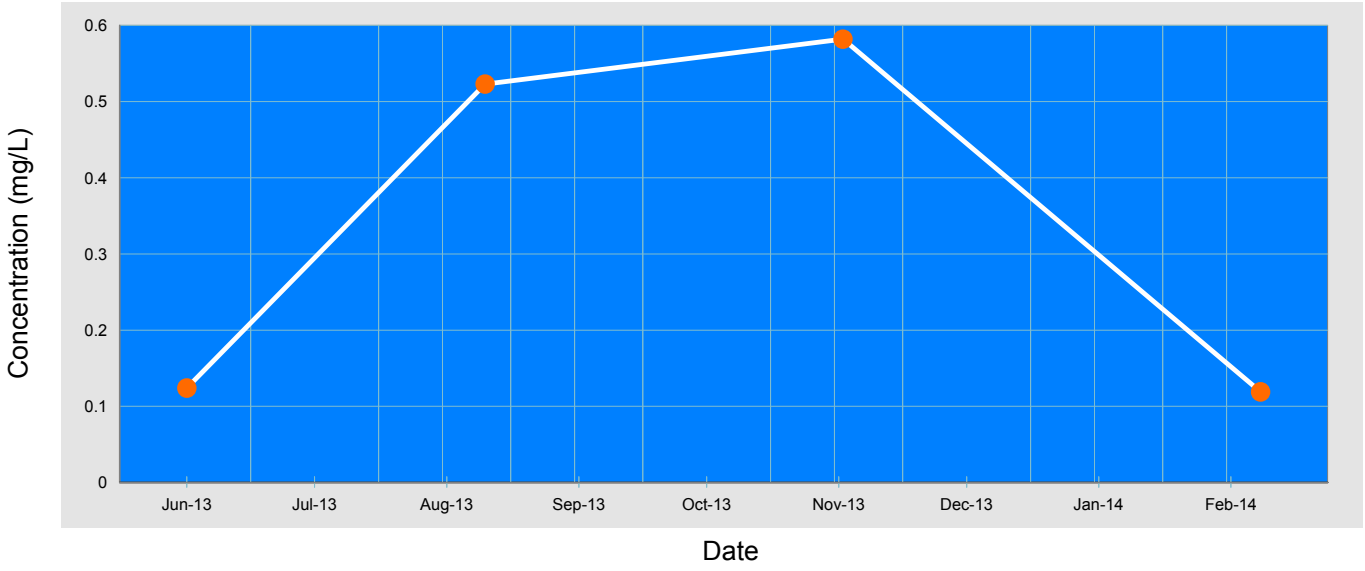


WellID	SME-MW-02
Date Range	08/23/2013 - 06/10/2015
Current Result	0.225
Sample Size	4
Min / Max Result	0.015 / 0.359
Max Detected	0.359
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

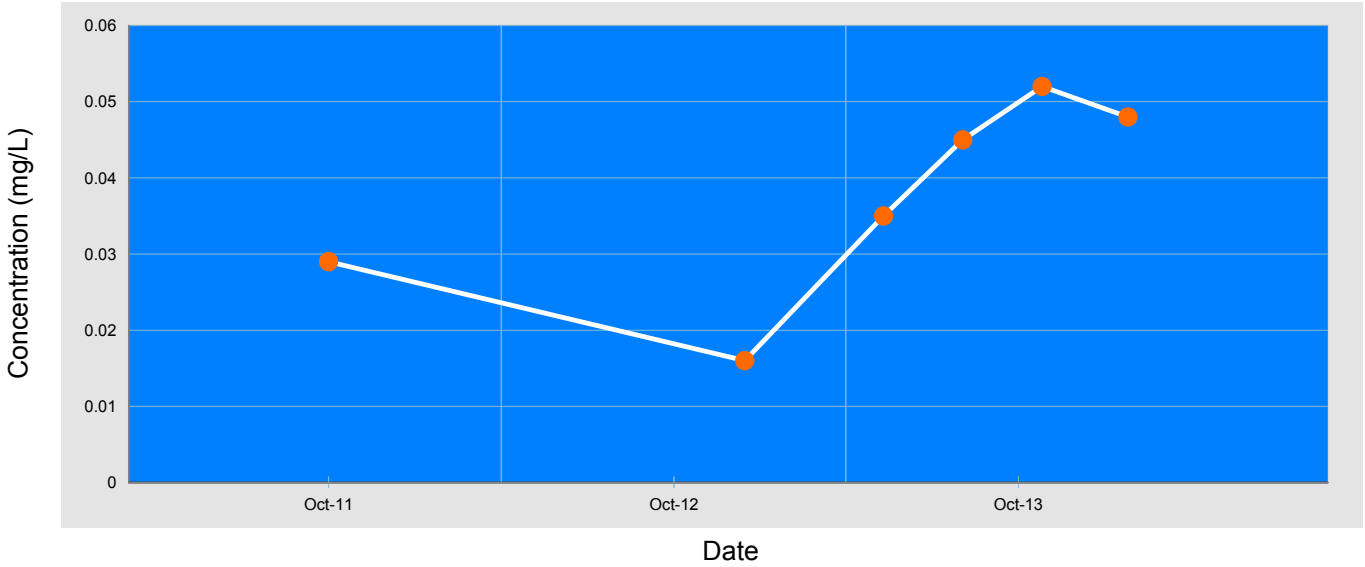


Manganese

WellID	UNK-03
Date Range	06/12/2013 - 02/20/2014
Current Result	0.119
Sample Size	4
Min / Max Result	0.119 / 0.582
Max Detected	0.582
% Detected	100%
S Statistic	0
Probability	0.6250
90% Trend	NO TREND

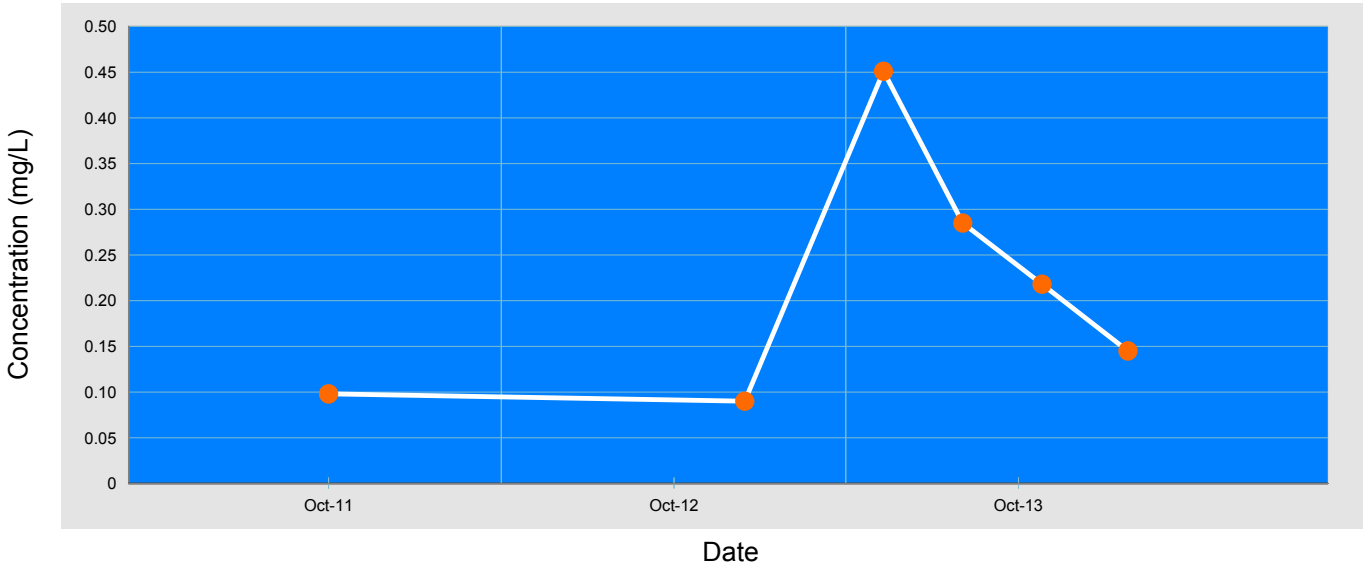


WellID	UNK-09
Date Range	10/19/2011 - 02/12/2014
Current Result	0.048
Sample Size	6
Min / Max Result	0.016 / 0.052
Max Detected	0.052
% Detected	100%
S Statistic	11
Probability	0.0280
90% Trend	

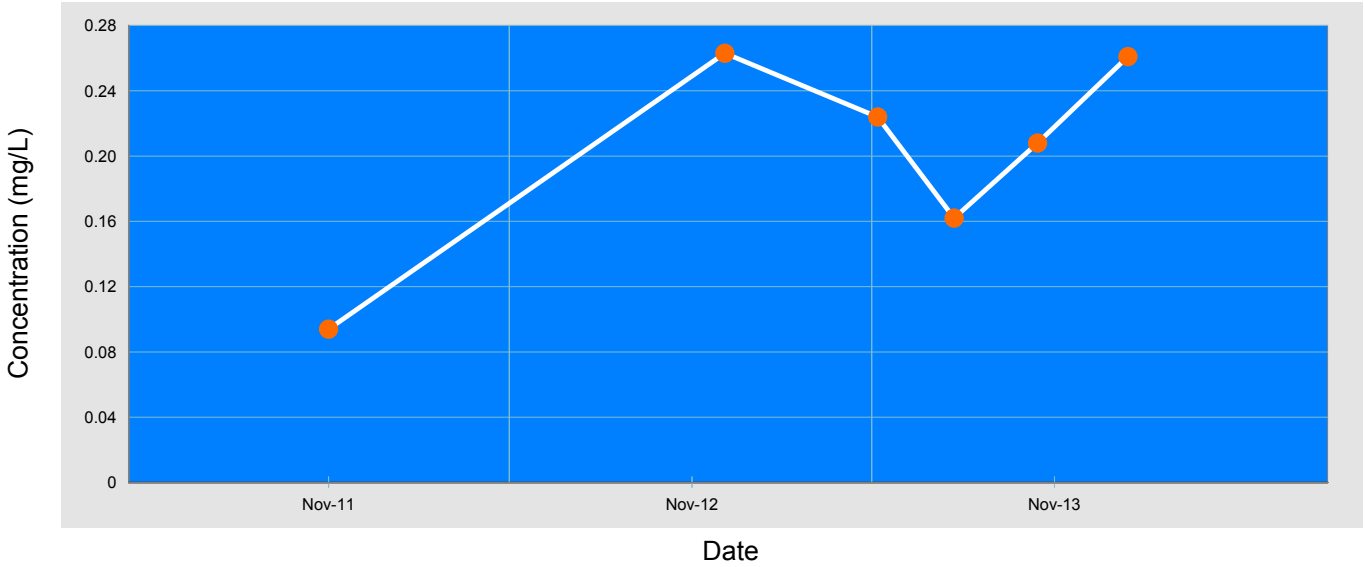


Manganese

WellID	UNK-10
Date Range	10/19/2011 - 02/12/2014
Current Result	0.145
Sample Size	6
Min / Max Result	0.090 / 0.451
Max Detected	0.451
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

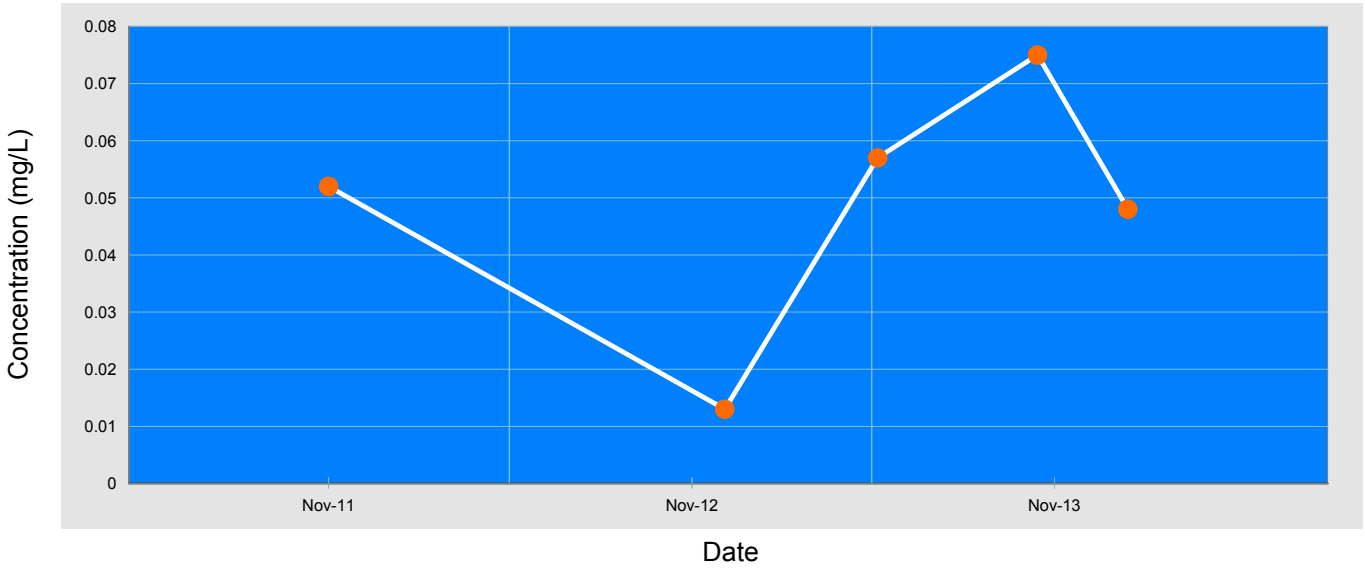


WellID	UNK-11
Date Range	11/29/2011 - 02/11/2014
Current Result	0.261
Sample Size	6
Min / Max Result	0.094 / 0.263
Max Detected	0.263
% Detected	100%
S Statistic	3
Probability	0.3600
90% Trend	NO TREND



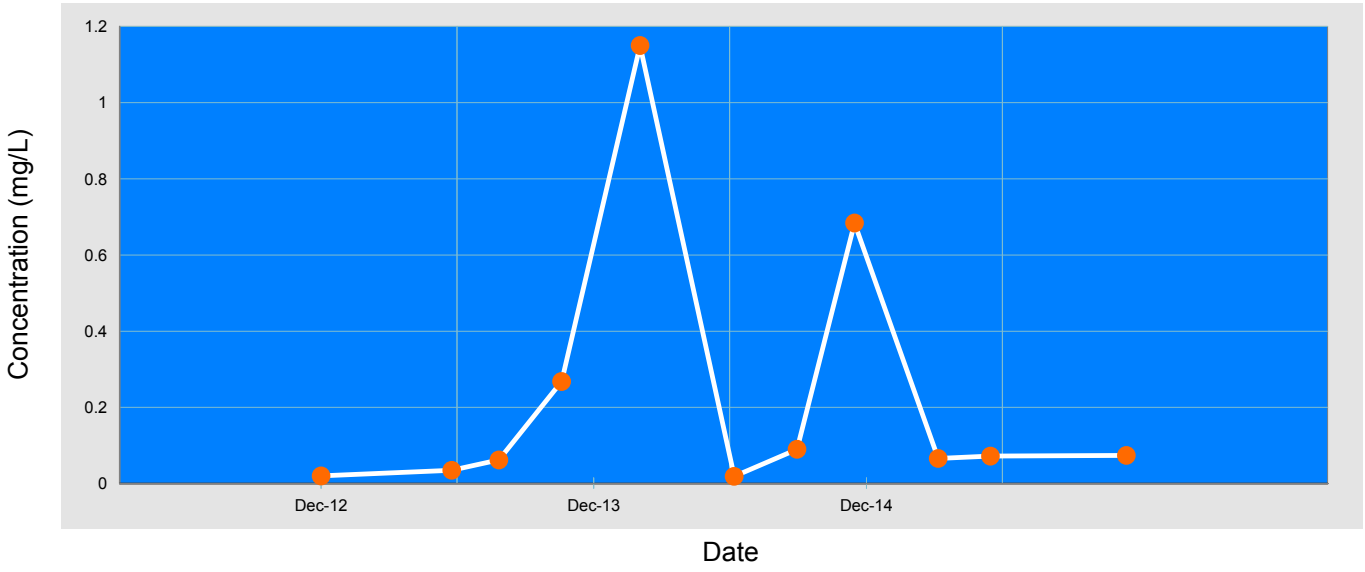
Manganese

WellID	UNK-15
Date Range	11/29/2011 - 02/11/2014
Current Result	0.048
Sample Size	5
Min / Max Result	0.013 / 0.075
Max Detected	0.075
% Detected	100%
S Statistic	2
Probability	0.4080
90% Trend	NO TREND



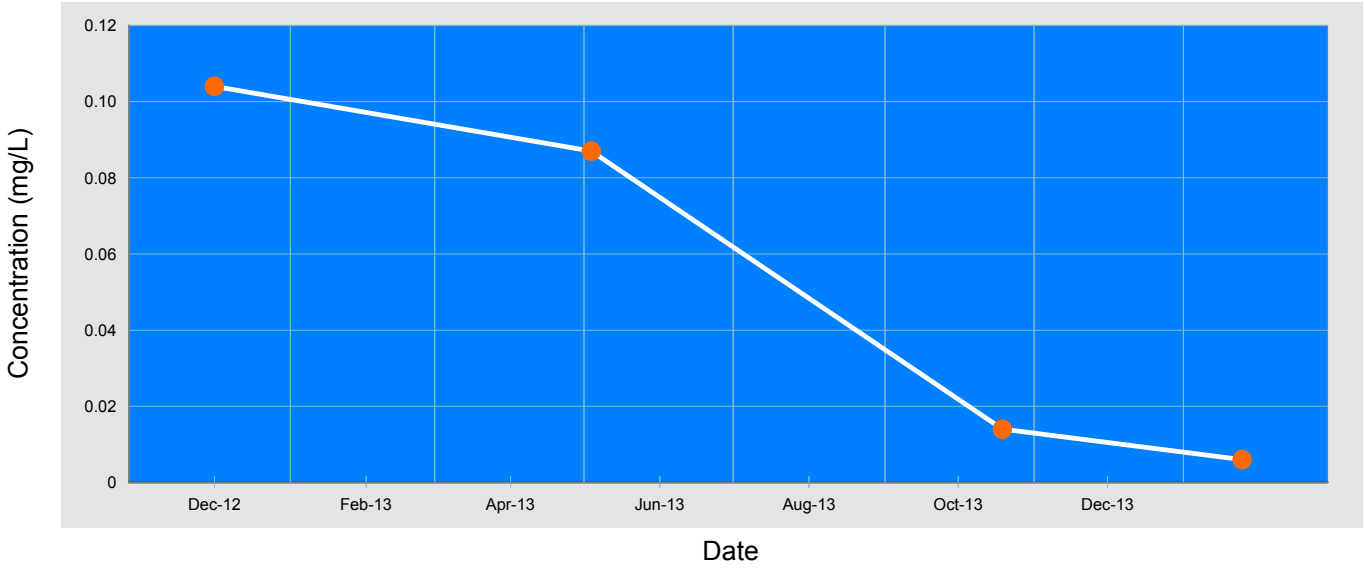
Nickel

WellID	MW-12-12
Date Range	12/18/2012 - 12/04/2015
Current Result	0.074
Sample Size	11
Min / Max Result	0.019 / 1.15
Max Detected	1.15
% Detected	100%
S Statistic	15
Probability	0.1379
90% Trend	NO TREND

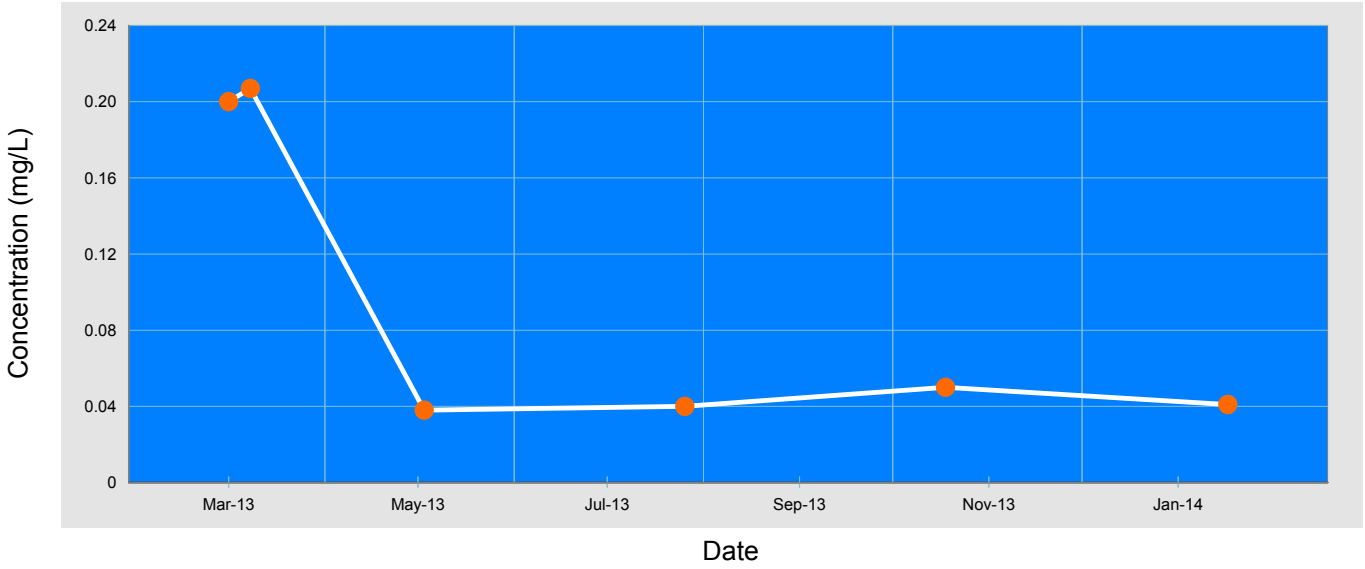


Nickel

WellID	MW-12-18
Date Range	12/19/2012 - 02/14/2014
Current Result	0.006
Sample Size	4
Min / Max Result	0.006 / 0.104
Max Detected	0.104
% Detected	100%
S Statistic	-6
Probability	0.0420
90% Trend	

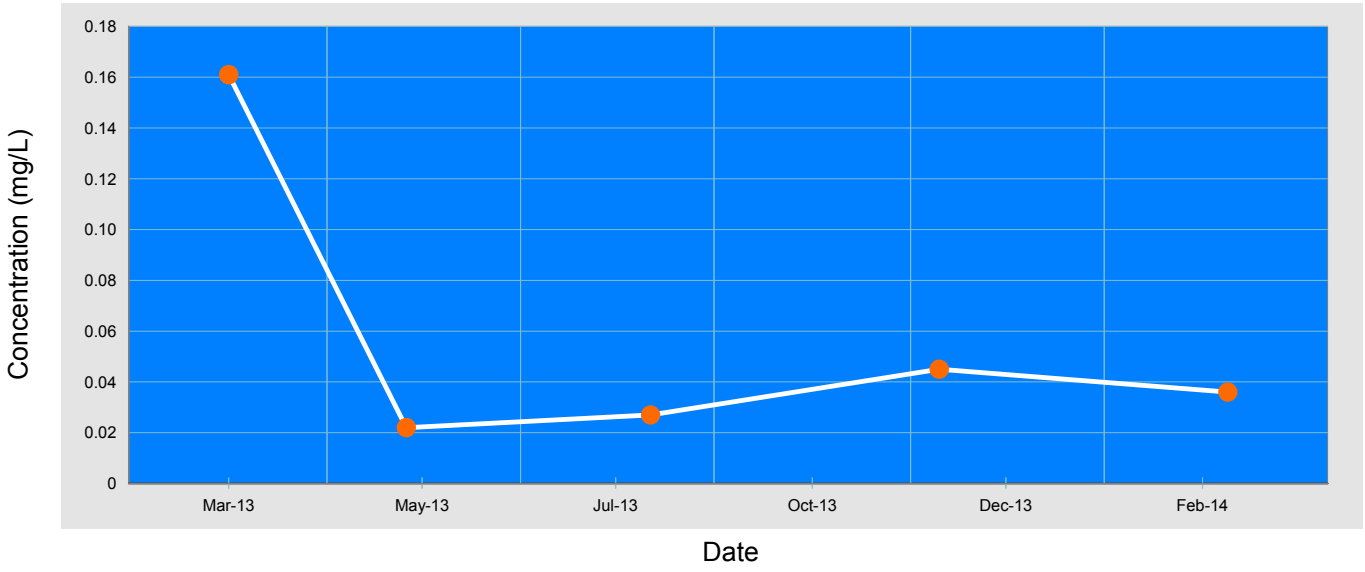


WellID	MW-13-23
Date Range	03/29/2013 - 02/11/2014
Current Result	0.041
Sample Size	6
Min / Max Result	0.038 / 0.207
Max Detected	0.207
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	**NO TREND**

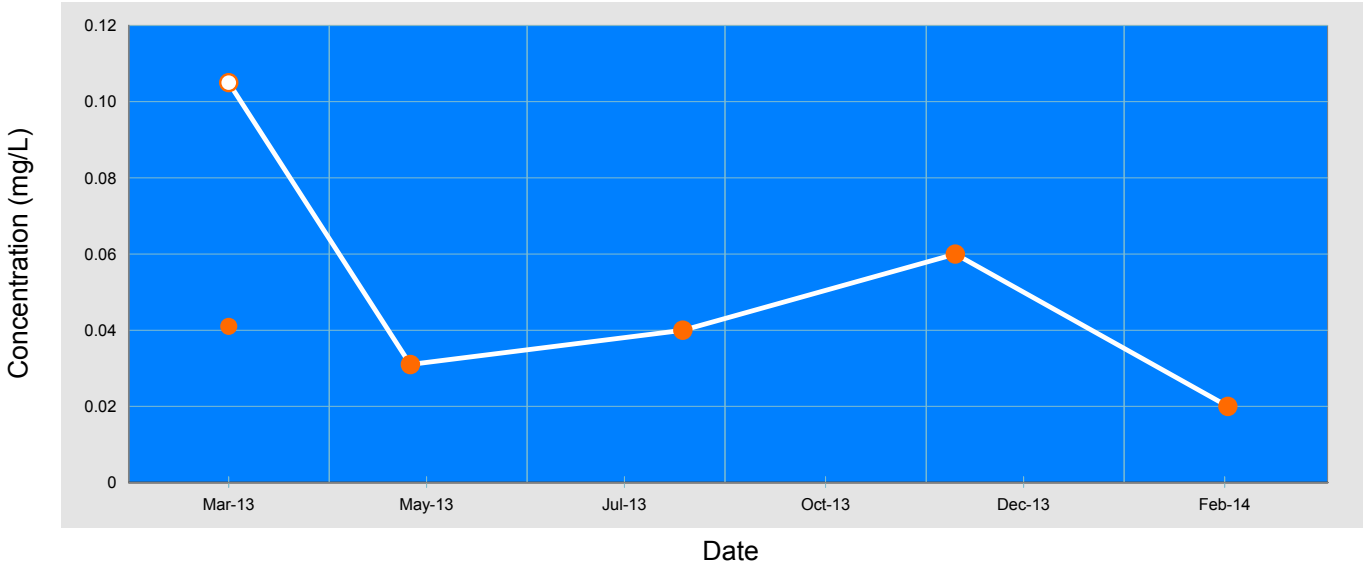


Nickel

WellID	MW-13-24
Date Range	04/01/2013 - 02/10/2014
Current Result	0.036
Sample Size	6
Min / Max Result	0.022 / 0.161
Max Detected	0.161
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

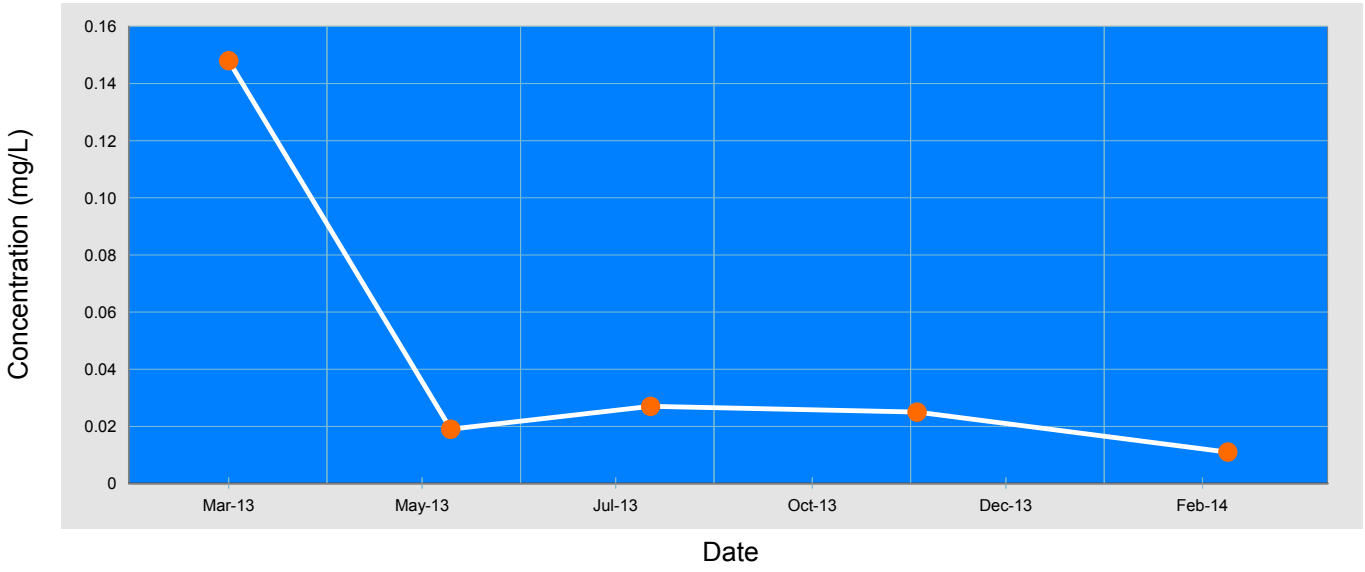


WellID	MW-13-25
Date Range	04/02/2013 - 02/07/2014
Current Result	0.020
Sample Size	6
Min / Max Result	0.020 / 0.105
Max Detected	0.105
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND

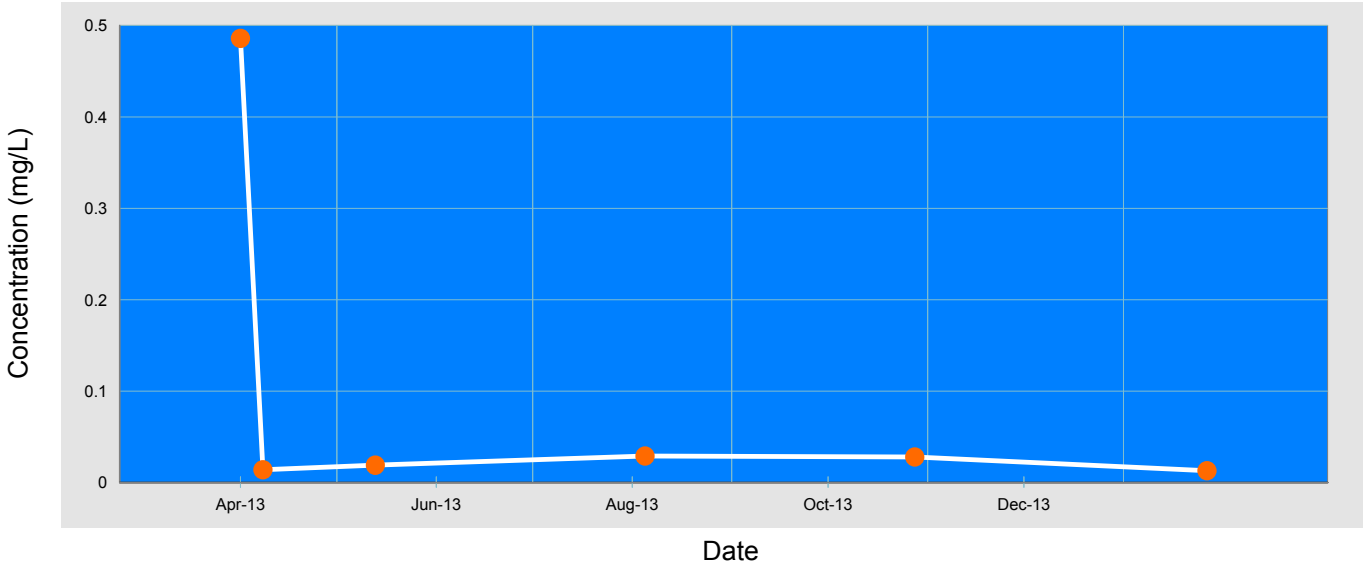


Nickel

WellID	MW-13-26
Date Range	04/03/2013 - 02/10/2014
Current Result	0.011
Sample Size	6
Min / Max Result	0.011 / 0.148
Max Detected	0.148
% Detected	100%
S Statistic	-5
Probability	0.2350
90% Trend	NO TREND

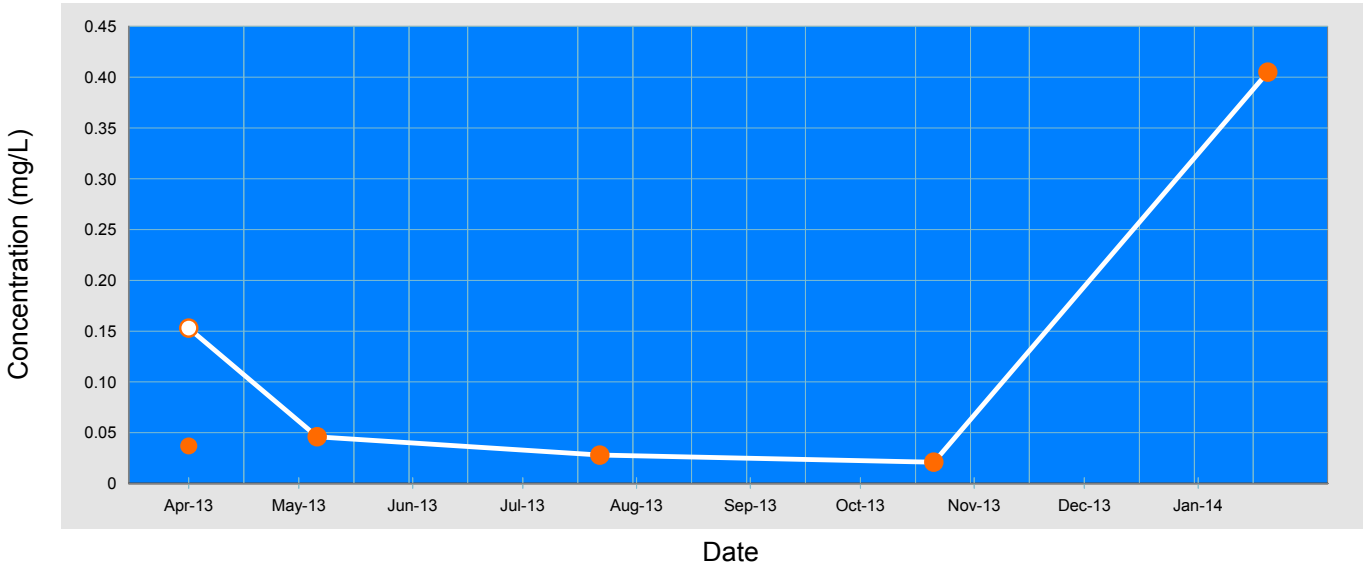


WellID	MW-13-27
Date Range	04/15/2013 - 02/11/2014
Current Result	0.013
Sample Size	6
Min / Max Result	0.013 / 0.486
Max Detected	0.486
% Detected	100%
S Statistic	-5
Probability	0.2350
90% Trend	NO TREND

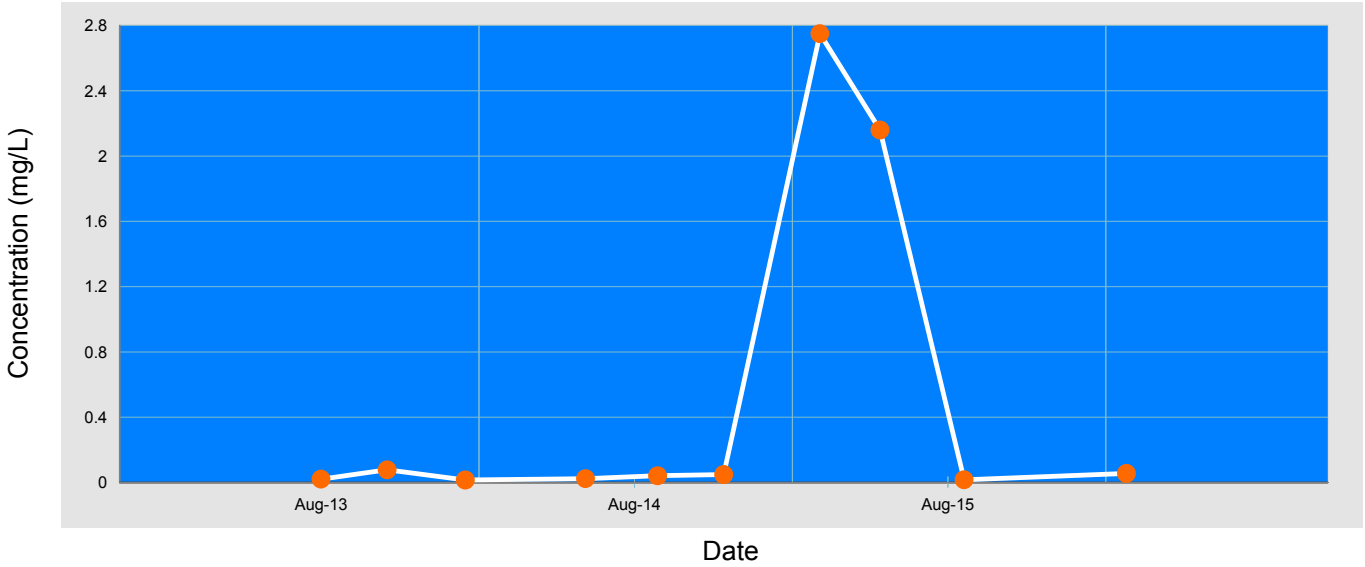


Nickel

WellID	MW-13-30
Date Range	04/24/2013 - 02/10/2014
Current Result	0.405
Sample Size	6
Min / Max Result	0.021 / 0.405
Max Detected	0.405
% Detected	100%
S Statistic	-3
Probability	0.3600
90% Trend	NO TREND

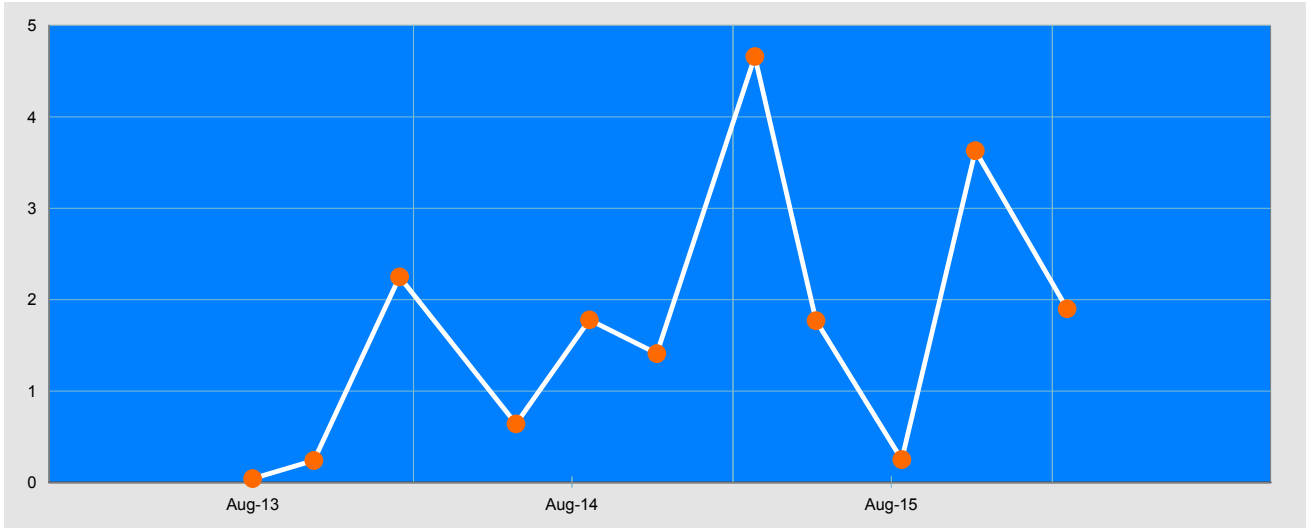


WellID	MW-13-31
Date Range	08/22/2013 - 03/15/2016
Current Result	0.056
Sample Size	10
Min / Max Result	0.016 / 2.75
Max Detected	2.75
% Detected	100%
S Statistic	13
Probability	0.1460
90% Trend	NO TREND

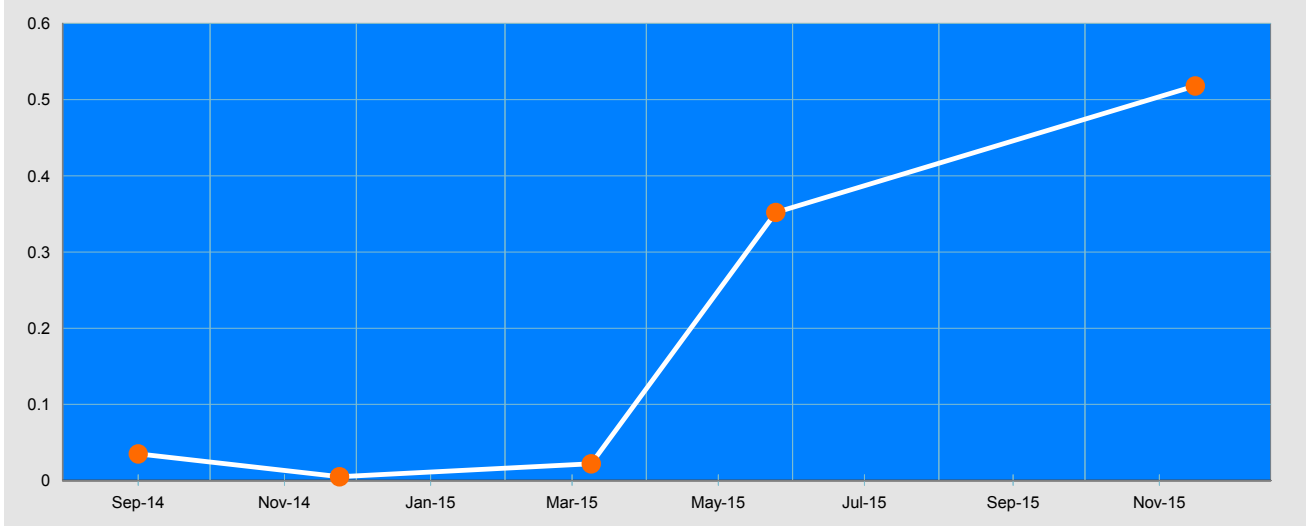


Nickel

WellID	MW-13-32
Date Range	08/27/2013 - 03/15/2016
Current Result	1.90
Sample Size	11
Min / Max Result	0.043 / 4.66
Max Detected	4.66
% Detected	100%
S Statistic	21
Probability	0.0597
90% Trend	

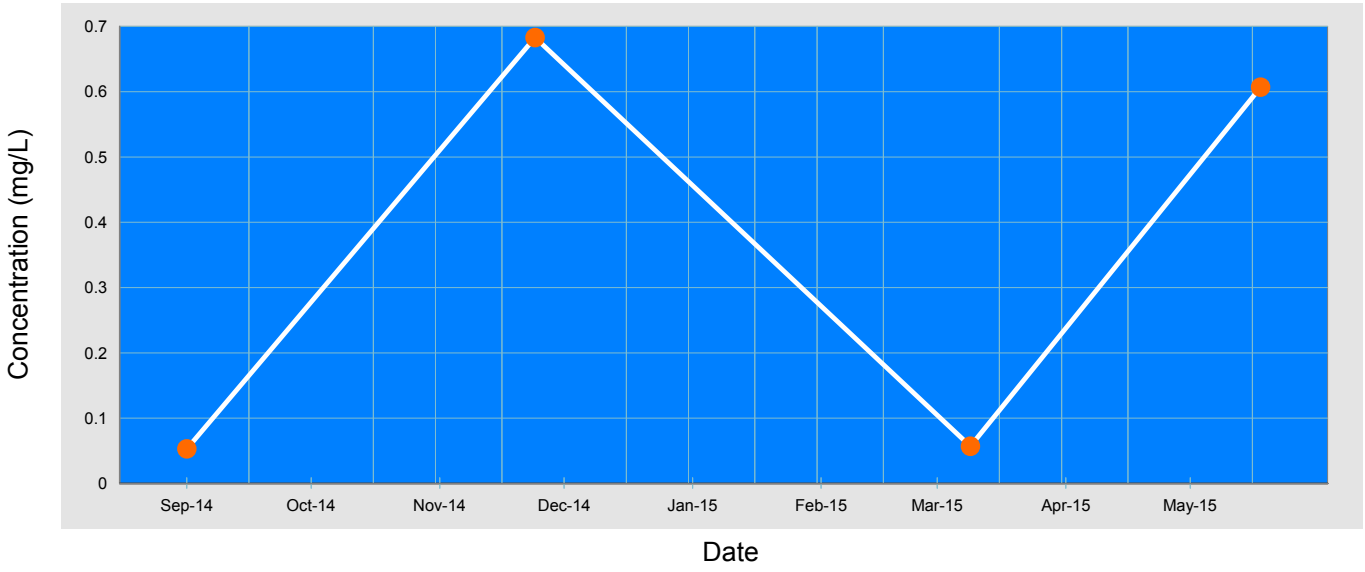


WellID	MW-14-55
Date Range	09/18/2014 - 12/04/2015
Current Result	0.518
Sample Size	5
Min / Max Result	0.005 / 0.518
Max Detected	0.518
% Detected	100%
S Statistic	6
Probability	0.1170
90% Trend	NO TREND

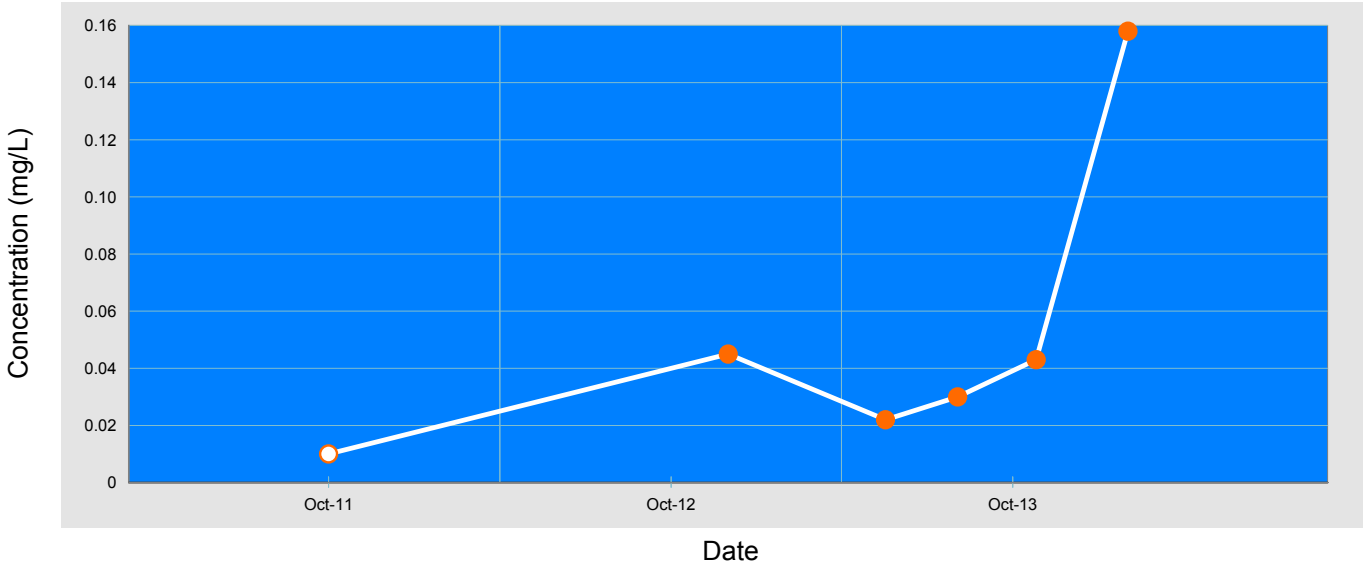


Nickel

WellID	MW-14-56
Date Range	09/18/2014 - 06/03/2015
Current Result	0.607
Sample Size	4
Min / Max Result	0.053 / 0.683
Max Detected	0.683
% Detected	100%
S Statistic	2
Probability	0.3750
90% Trend	NO TREND



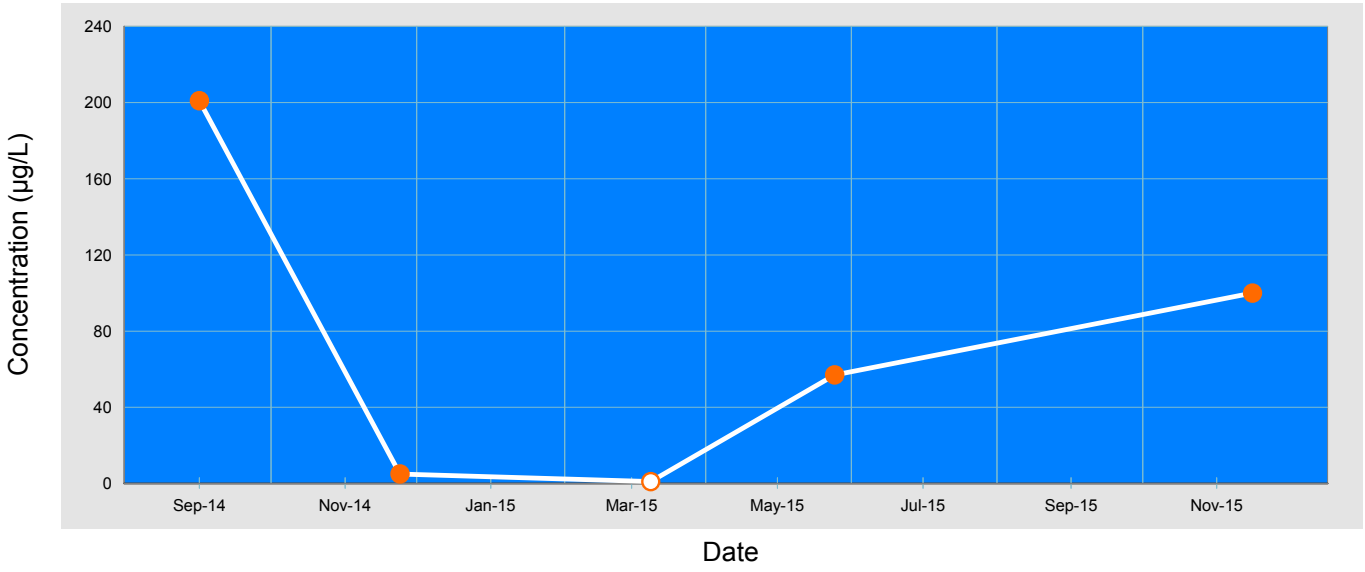
WellID	MWBP-13A-UST1-4
Date Range	10/18/2011 - 02/19/2014
Current Result	0.158
Sample Size	6
Min / Max Result	<0.010 / 0.158
Max Detected	0.158
% Detected	83%
S Statistic	9
Probability	0.0680
90% Trend	



Tetrachloroethene

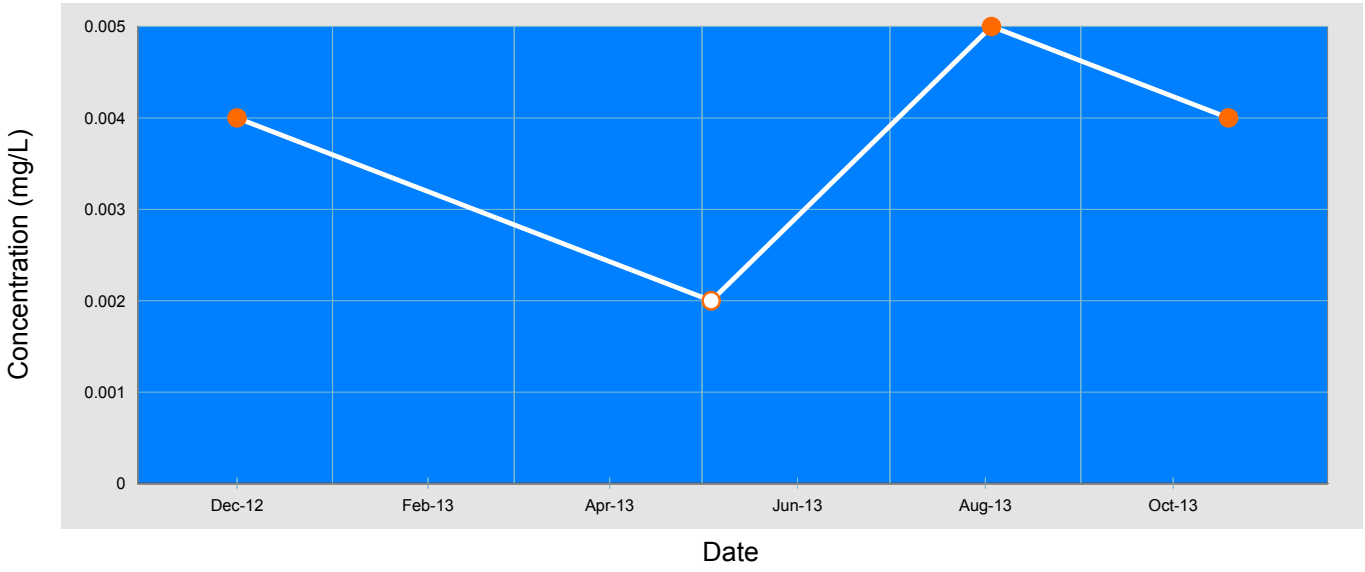
Tetrachloroethene

WellID	MW-14-55
Date Range	09/18/2014 - 12/04/2015
Current Result	100
Sample Size	5
Min / Max Result	<1 / 201
Max Detected	201
% Detected	80%
S Statistic	0
Probability	0.5920
90% Trend	NO TREND



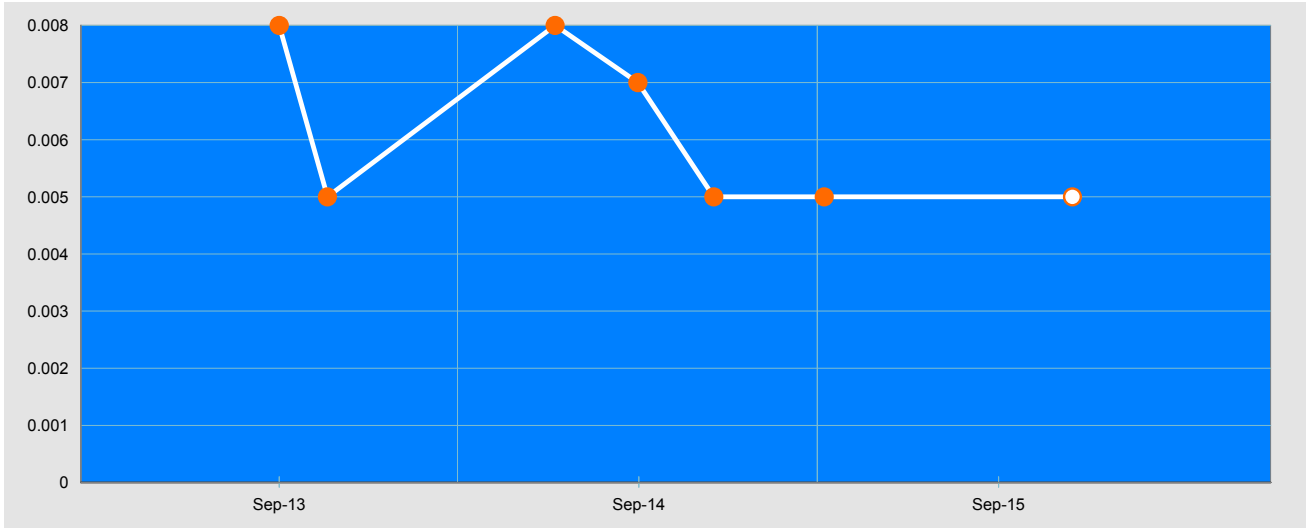
Vanadium

WellID	MW-12-15
Date Range	12/18/2012 - 11/06/2013
Current Result	0.004
Sample Size	4
Min / Max Result	<0.002 / 0.005
Max Detected	0.005
% Detected	75%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

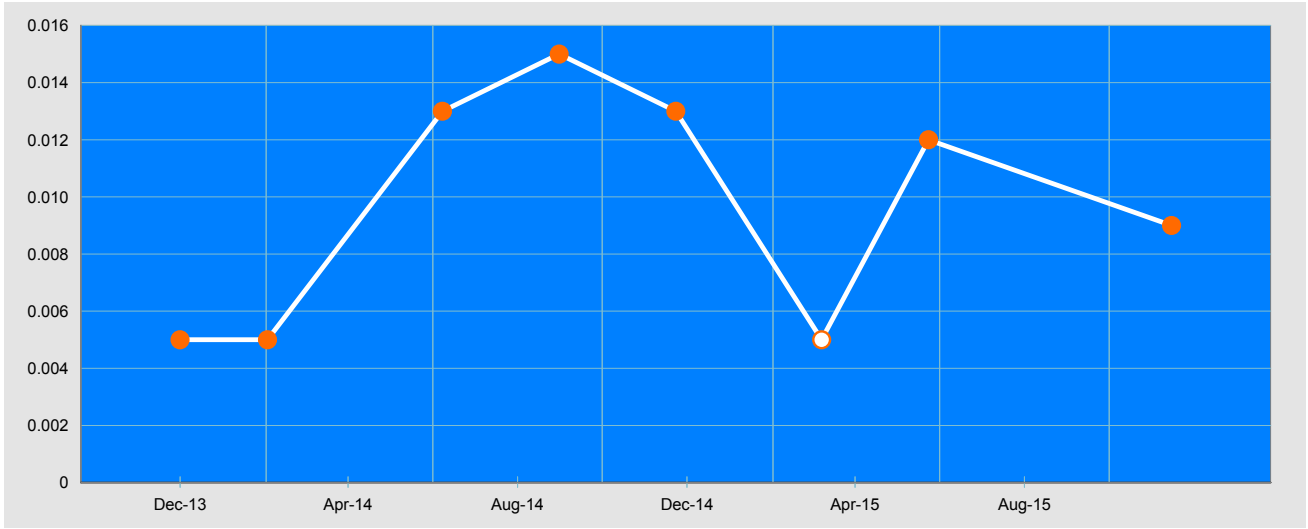


Vanadium

WellID	MW-13-35
Date Range	09/20/2013 - 12/02/2015
Current Result	<0.005
Sample Size	7
Min / Max Result	<0.005 / 0.008
Max Detected	0.008
% Detected	86%
S Statistic	-13
Probability	0.0350
90% Trend	

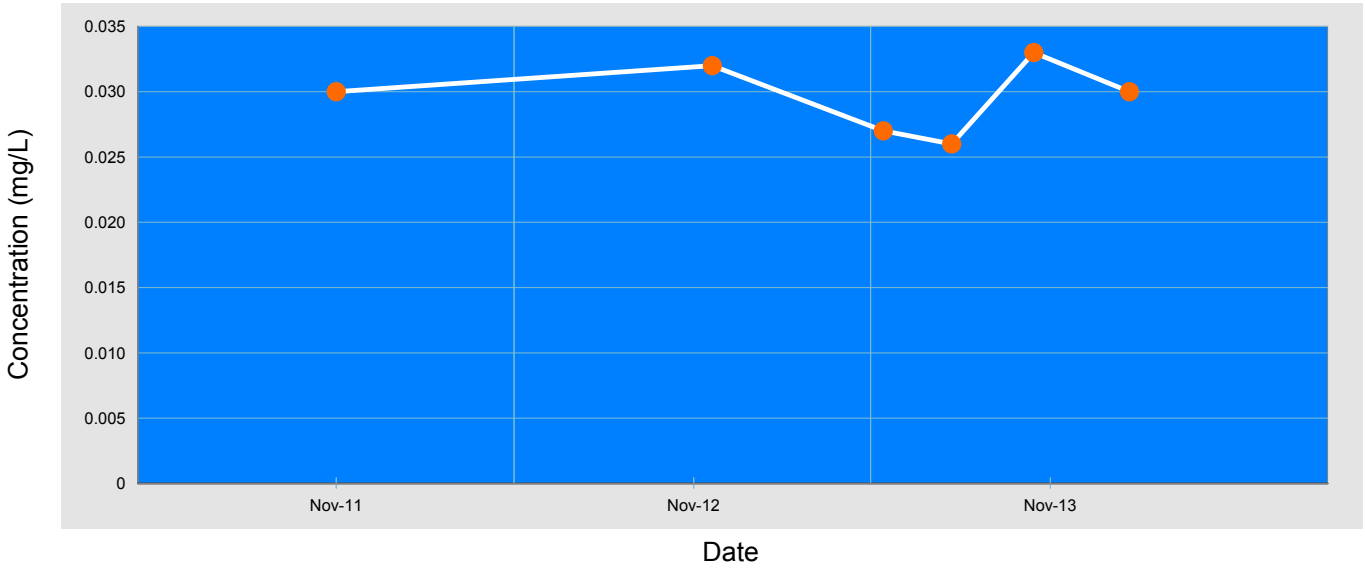


WellID	MW-13-36R
Date Range	12/18/2013 - 12/02/2015
Current Result	0.009
Sample Size	8
Min / Max Result	<0.005 / 0.015
Max Detected	0.015
% Detected	88%
S Statistic	0
Probability	0.5480
90% Trend	NO TREND

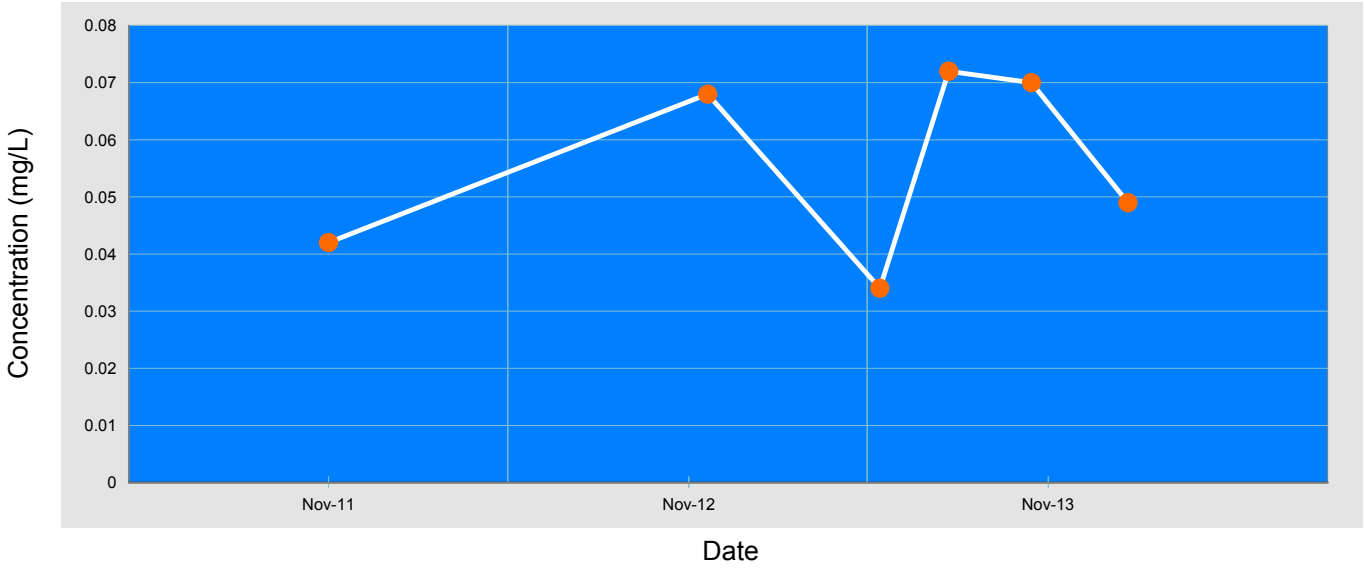


Vanadium

WellID	MWBP-10A-UST1-4
Date Range	12/02/2011 - 02/19/2014
Current Result	0.030
Sample Size	6
Min / Max Result	0.026 / 0.033
Max Detected	0.033
% Detected	100%
S Statistic	0
Probability	0.5770
90% Trend	**NO TREND**

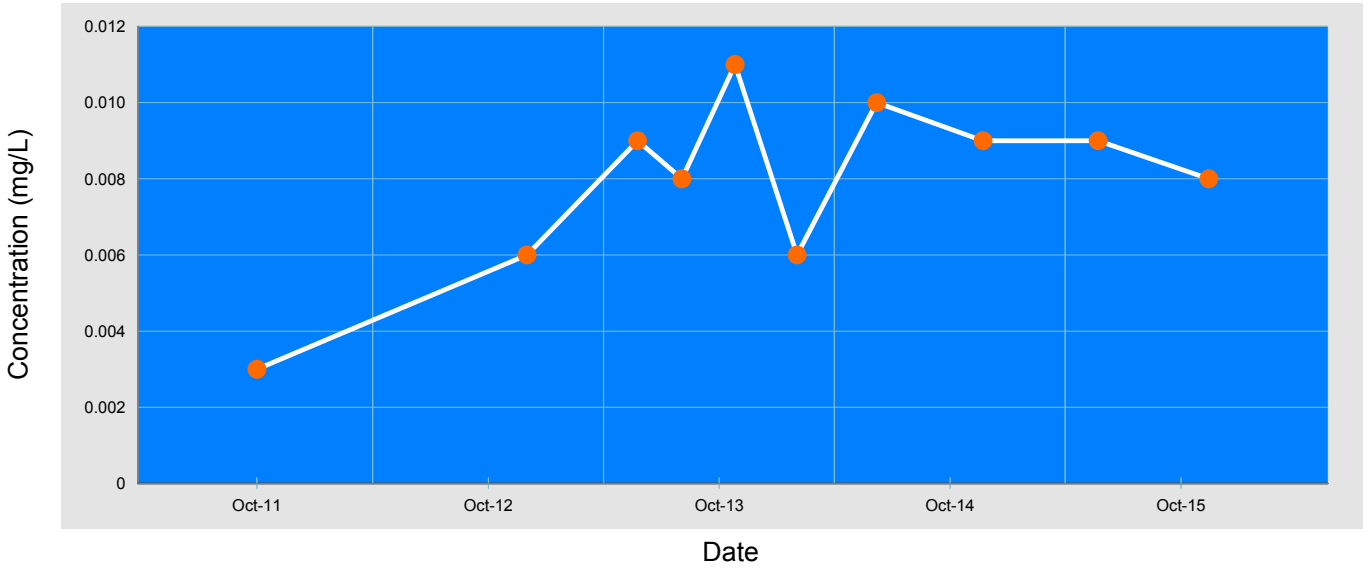


WellID	MWBP-10-UST1-4
Date Range	12/02/2011 - 02/20/2014
Current Result	0.049
Sample Size	6
Min / Max Result	0.034 / 0.072
Max Detected	0.072
% Detected	100%
S Statistic	3
Probability	0.3600
90% Trend	**NO TREND**

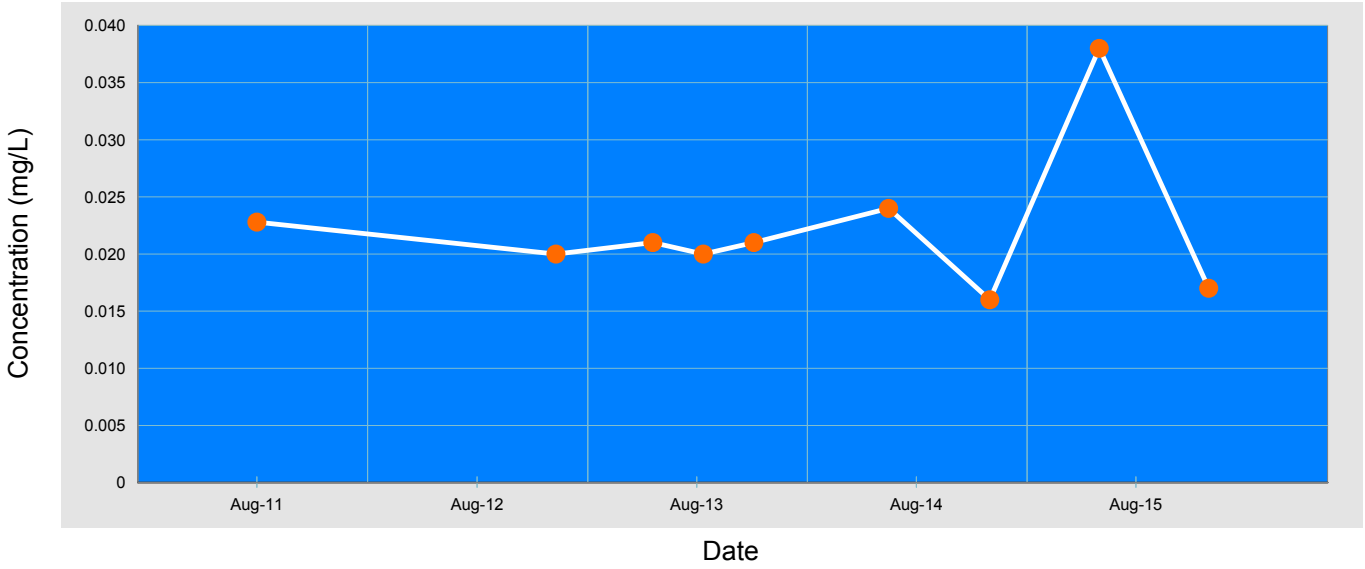


Vanadium

WellID	MWBP-12-UST1-4
Date Range	10/18/2011 - 12/01/2015
Current Result	0.008
Sample Size	10
Min / Max Result	0.003 / 0.011
Max Detected	0.011
% Detected	100%
S Statistic	12
Probability	0.1680
90% Trend	**NO TREND**

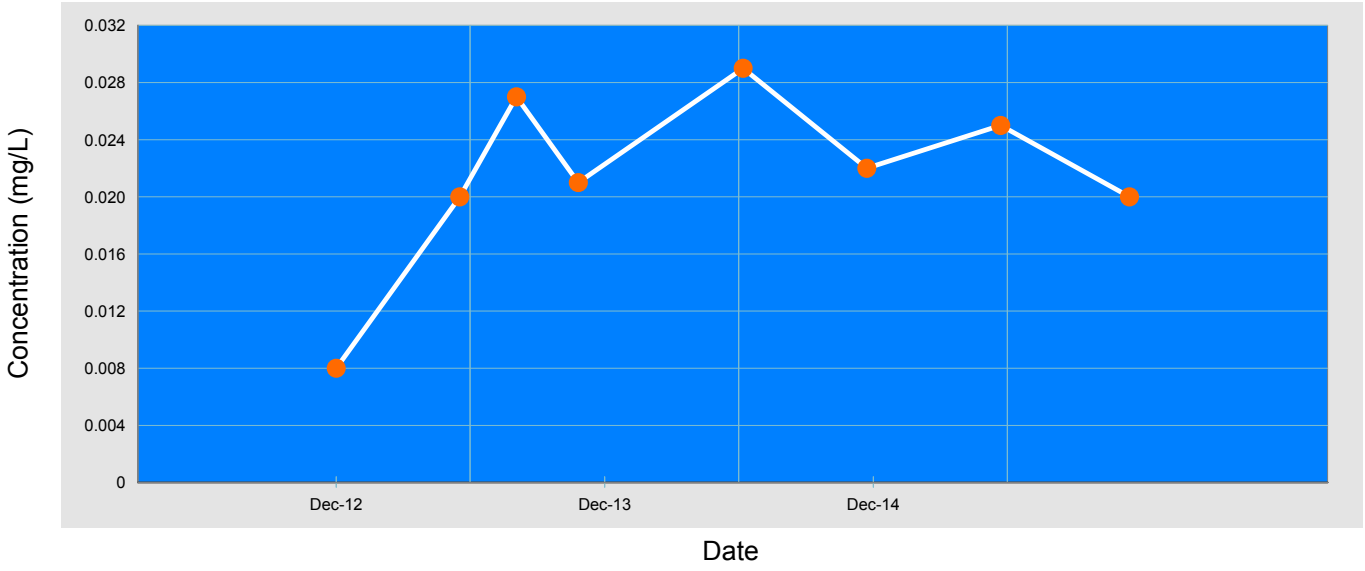


WellID	P6-SB-18
Date Range	08/08/2011 - 12/07/2015
Current Result	0.017
Sample Size	9
Min / Max Result	0.016 / 0.038
Max Detected	0.038
% Detected	100%
S Statistic	-2
Probability	0.4600
90% Trend	**NO TREND**

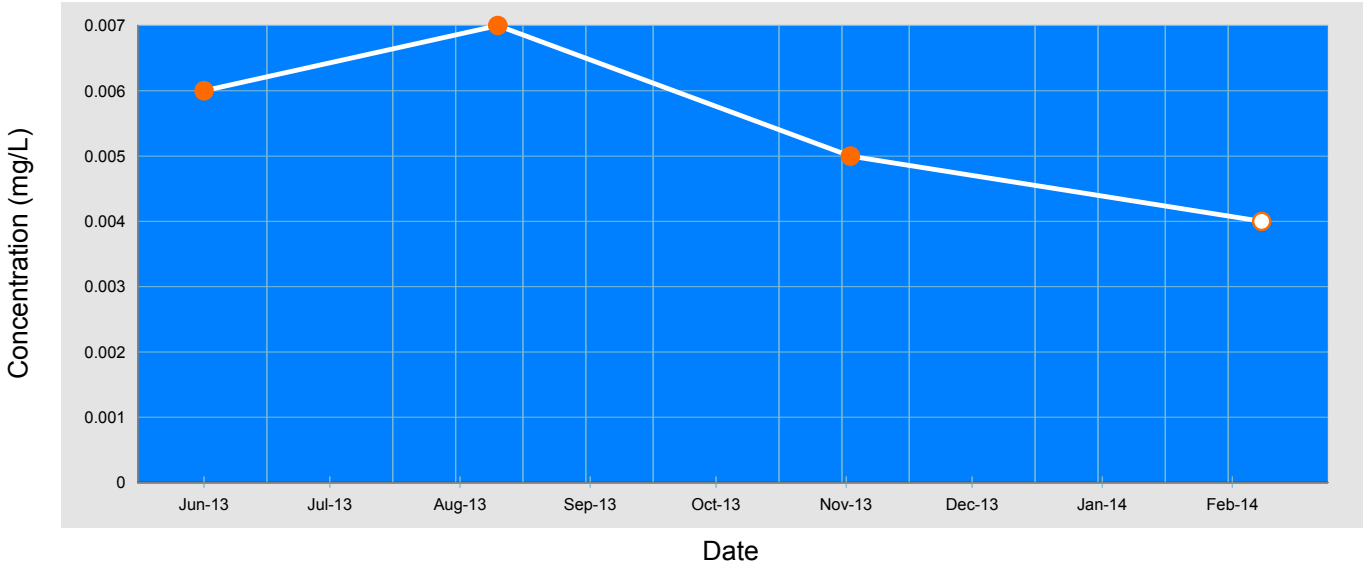


Vanadium

WellID	P6-SB-35
Date Range	12/19/2012 - 12/03/2015
Current Result	0.020
Sample Size	8
Min / Max Result	0.008 / 0.029
Max Detected	0.029
% Detected	100%
S Statistic	7
Probability	0.2370
90% Trend	NO TREND



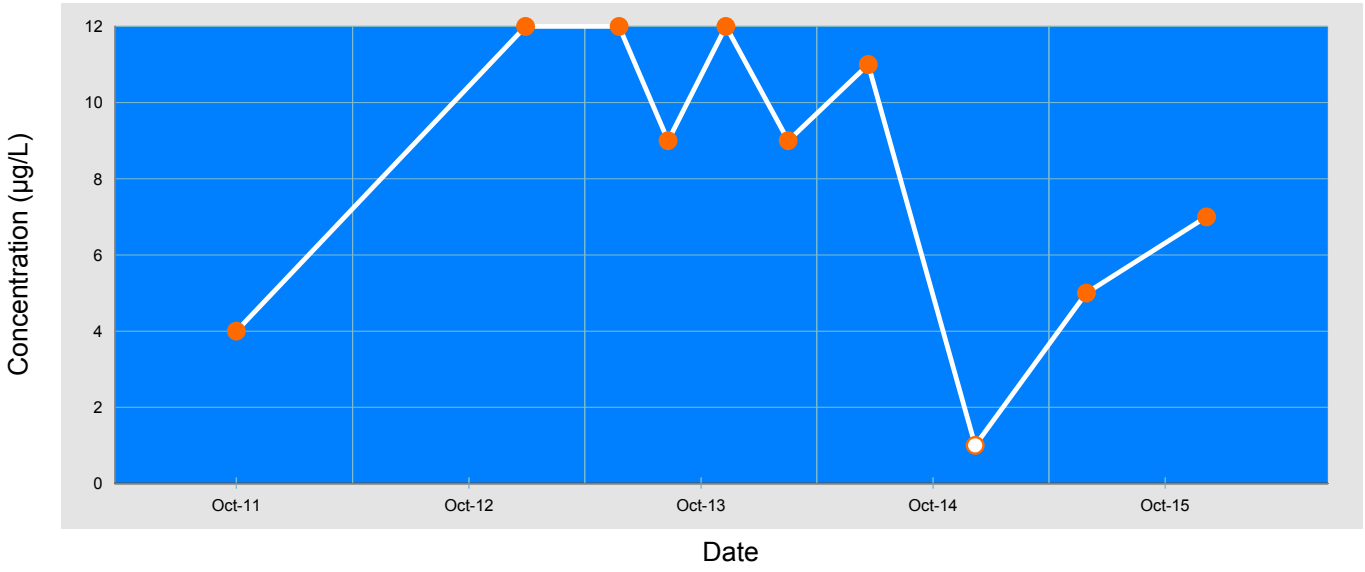
WellID	UNK-03
Date Range	06/12/2013 - 02/20/2014
Current Result	<0.004
Sample Size	4
Min / Max Result	<0.004 / 0.007
Max Detected	0.007
% Detected	75%
S Statistic	-4
Probability	0.1670
90% Trend	NO TREND



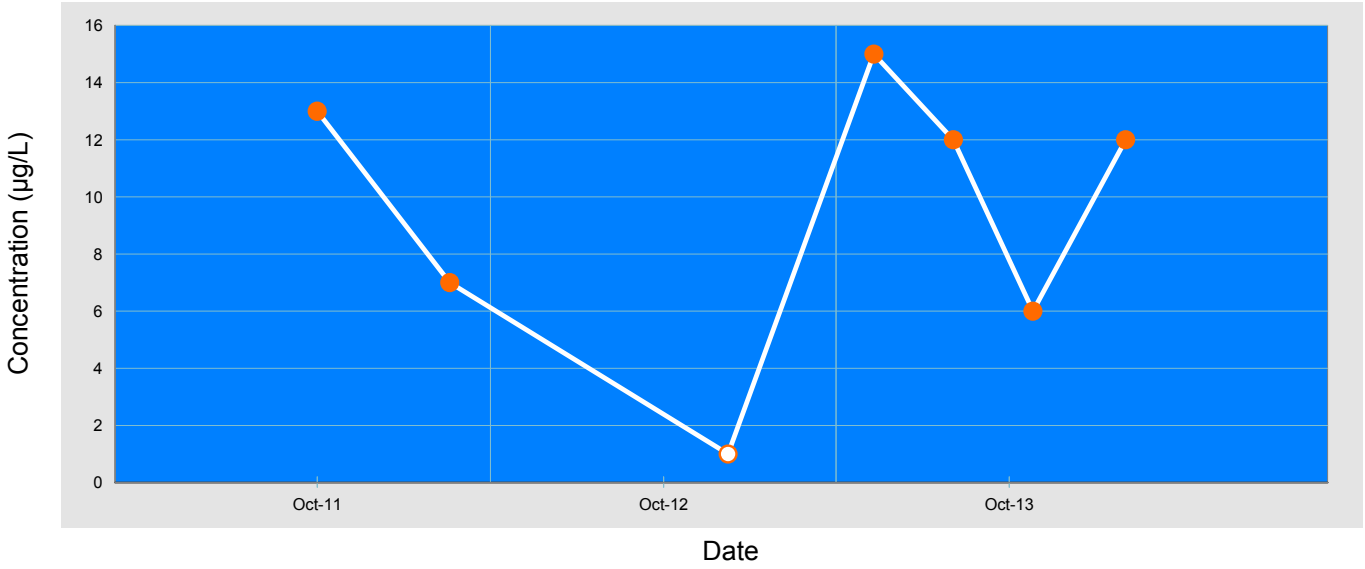
Vinyl chloride

Vinyl chloride

WellID	MW-03-06
Date Range	10/07/2011 - 12/08/2015
Current Result	7
Sample Size	10
Min / Max Result	<1 / 12
Max Detected	12
% Detected	90%
S Statistic	-13
Probability	0.1460
90% Trend	NO TREND

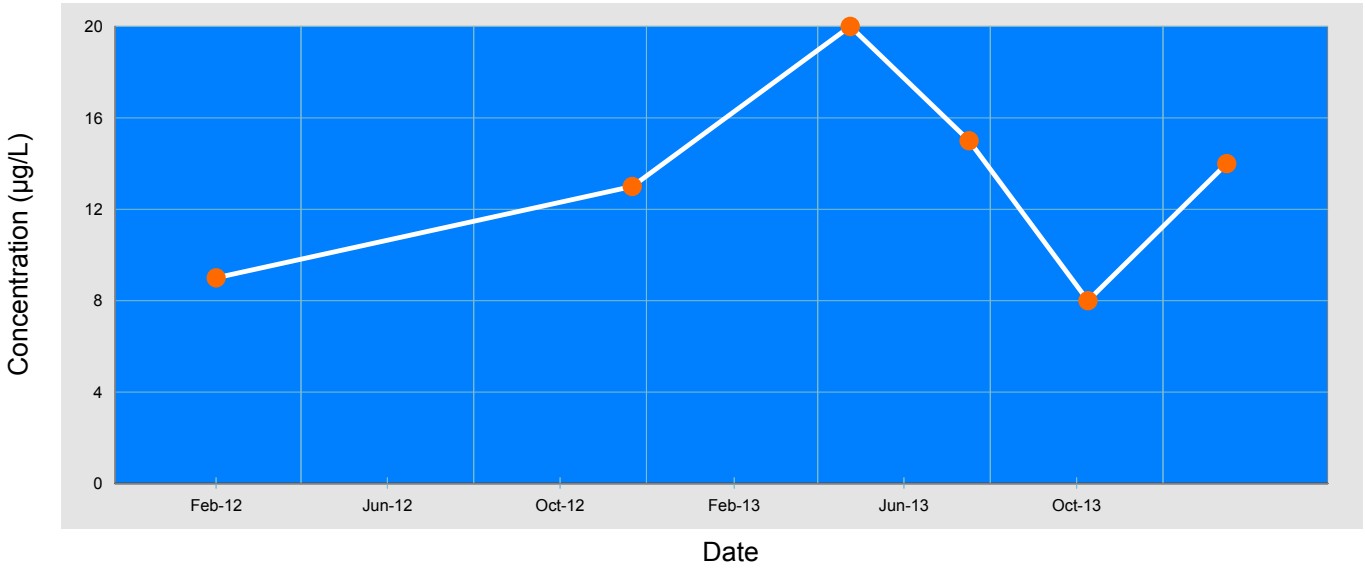


WellID	MW-04-02(3)
Date Range	10/11/2011 - 02/11/2014
Current Result	12
Sample Size	7
Min / Max Result	<1 / 15
Max Detected	15
% Detected	86%
S Statistic	-2
Probability	0.4430
90% Trend	NO TREND

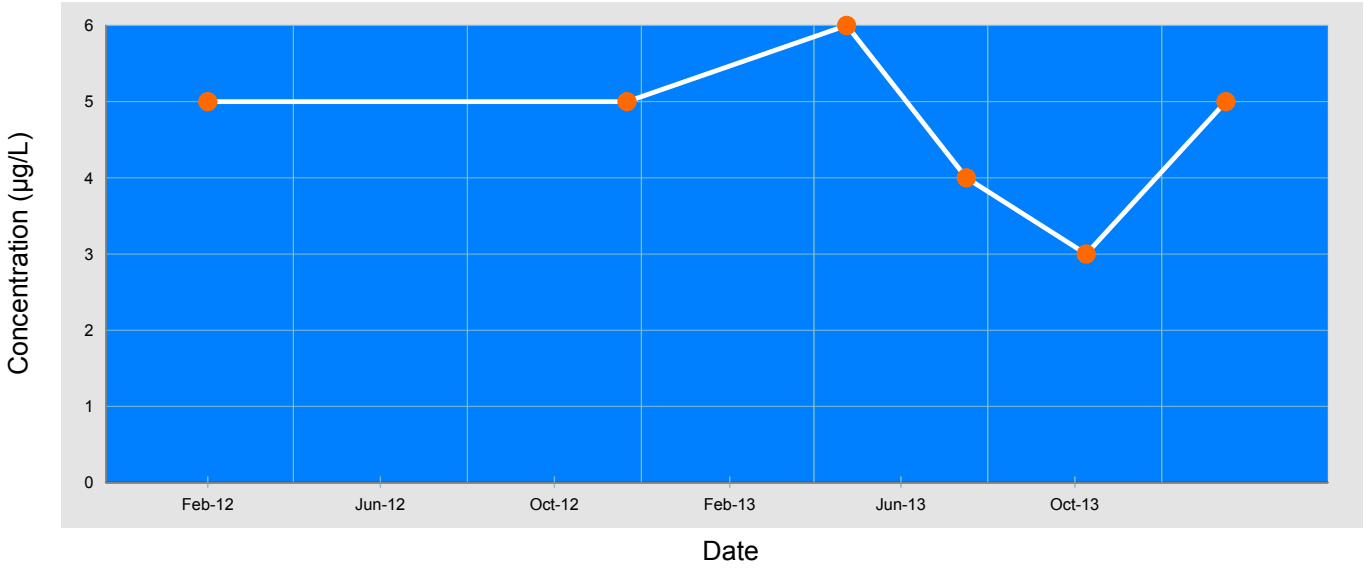


Vinyl chloride

WellID	MW-04-03(3)
Date Range	02/29/2012 - 02/11/2014
Current Result	14
Sample Size	6
Min / Max Result	8 / 20
Max Detected	20
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND

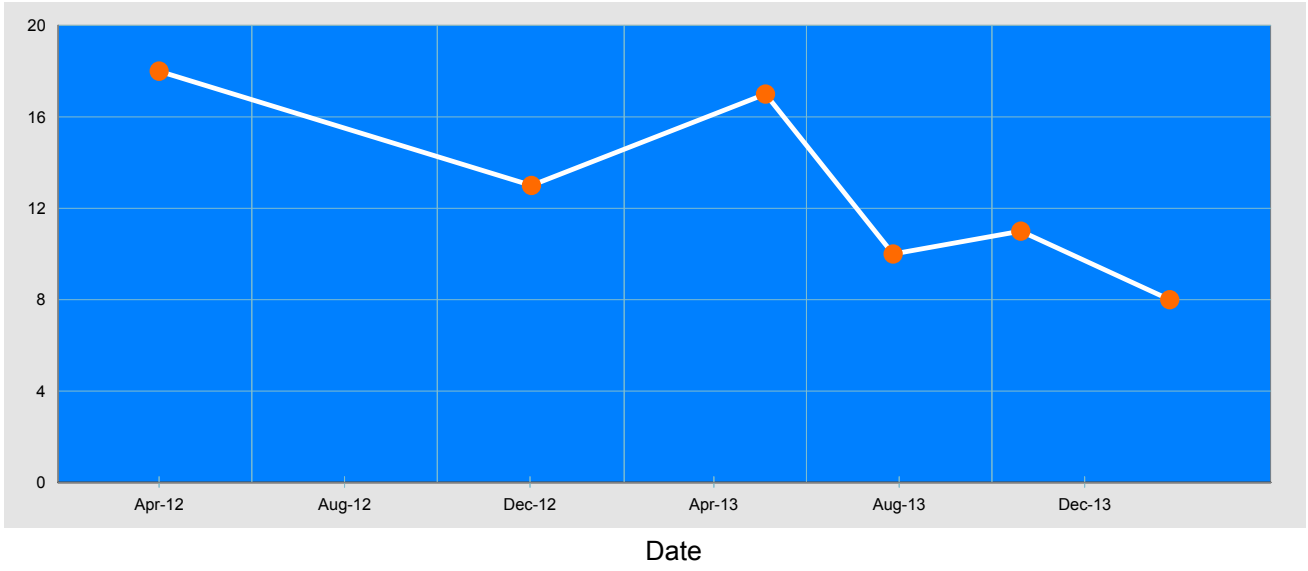


WellID	MW-04-04(3)
Date Range	03/01/2012 - 02/10/2014
Current Result	5
Sample Size	6
Min / Max Result	3 / 6
Max Detected	6
% Detected	100%
S Statistic	-4
Probability	0.2980
90% Trend	NO TREND



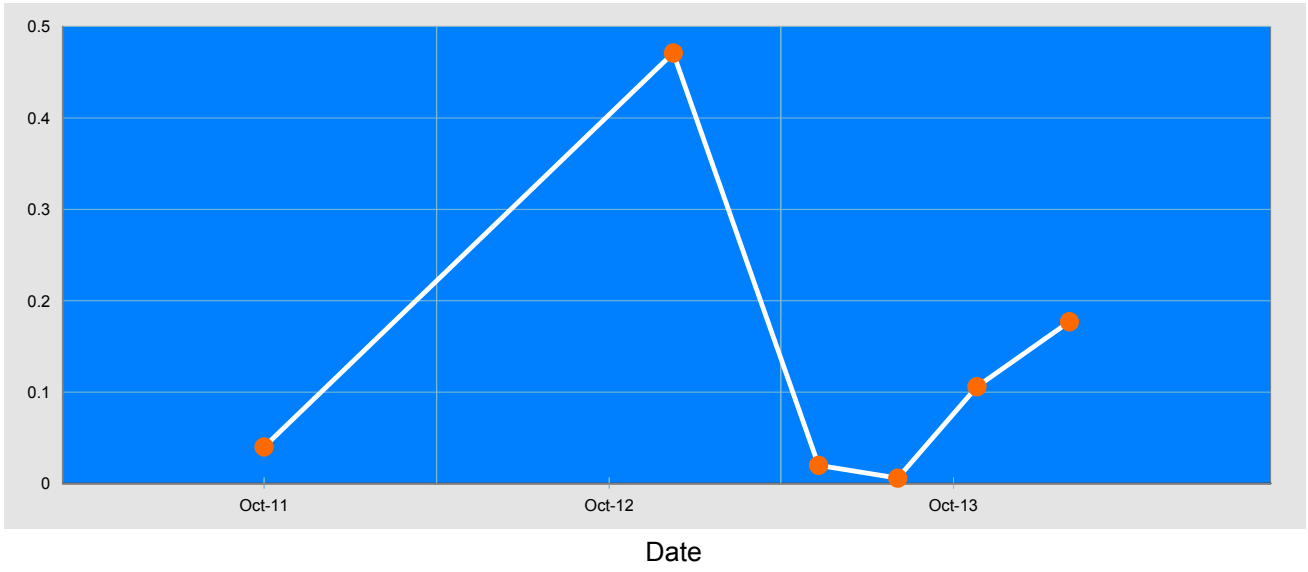
Vinyl chloride

WellID	MW-91-4
Date Range	04/17/2012 - 02/10/2014
Current Result	8
Sample Size	6
Min / Max Result	8 / 18
Max Detected	18
% Detected	100%
S Statistic	-11
Probability	0.0280
90% Trend	



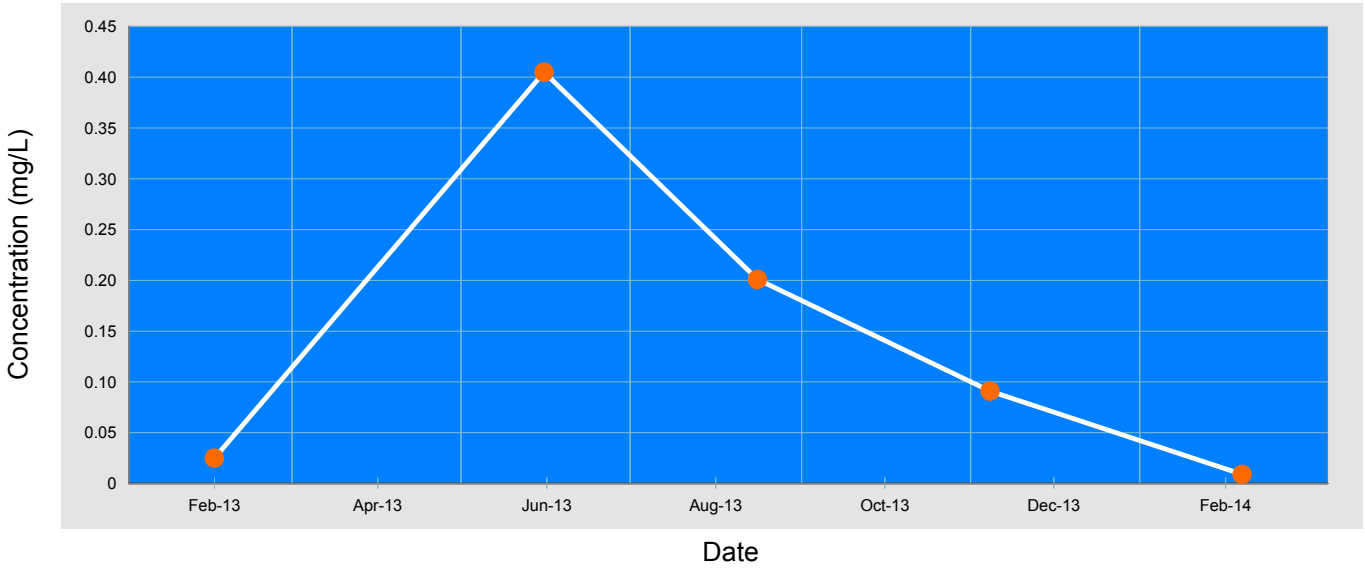
Zinc

WellID	MW-04-02(3)
Date Range	10/11/2011 - 02/11/2014
Current Result	0.177
Sample Size	6
Min / Max Result	0.006 / 0.471
Max Detected	0.471
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	**NO TREND**

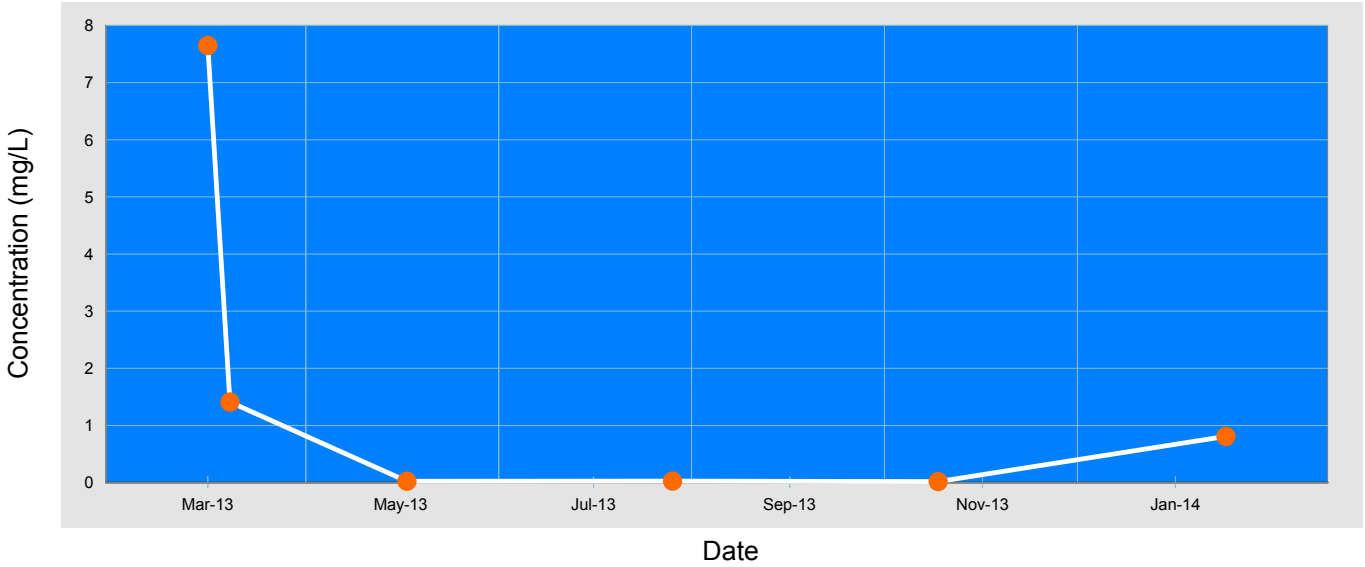


Zinc

WellID	MW-12-21
Date Range	02/08/2013 - 02/10/2014
Current Result	0.009
Sample Size	5
Min / Max Result	0.009 / 0.405
Max Detected	0.405
% Detected	100%
S Statistic	-4
Probability	0.2420
90% Trend	NO TREND

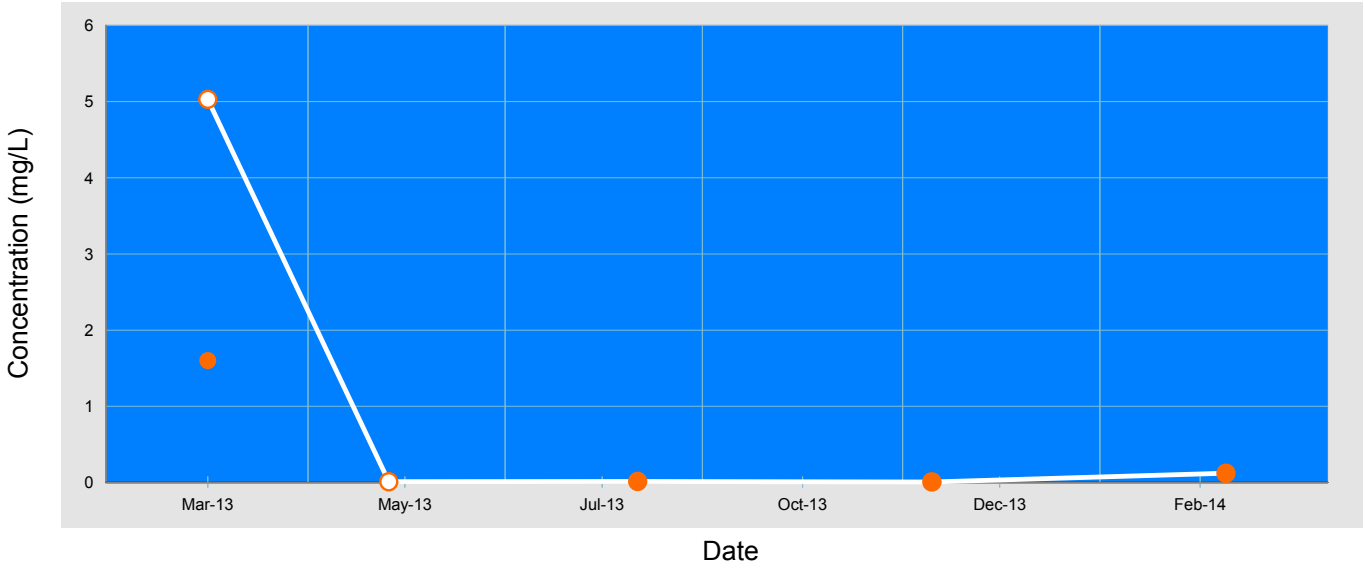


WellID	MW-13-23
Date Range	03/29/2013 - 02/11/2014
Current Result	0.809
Sample Size	6
Min / Max Result	0.017 / 7.65
Max Detected	7.65
% Detected	100%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND

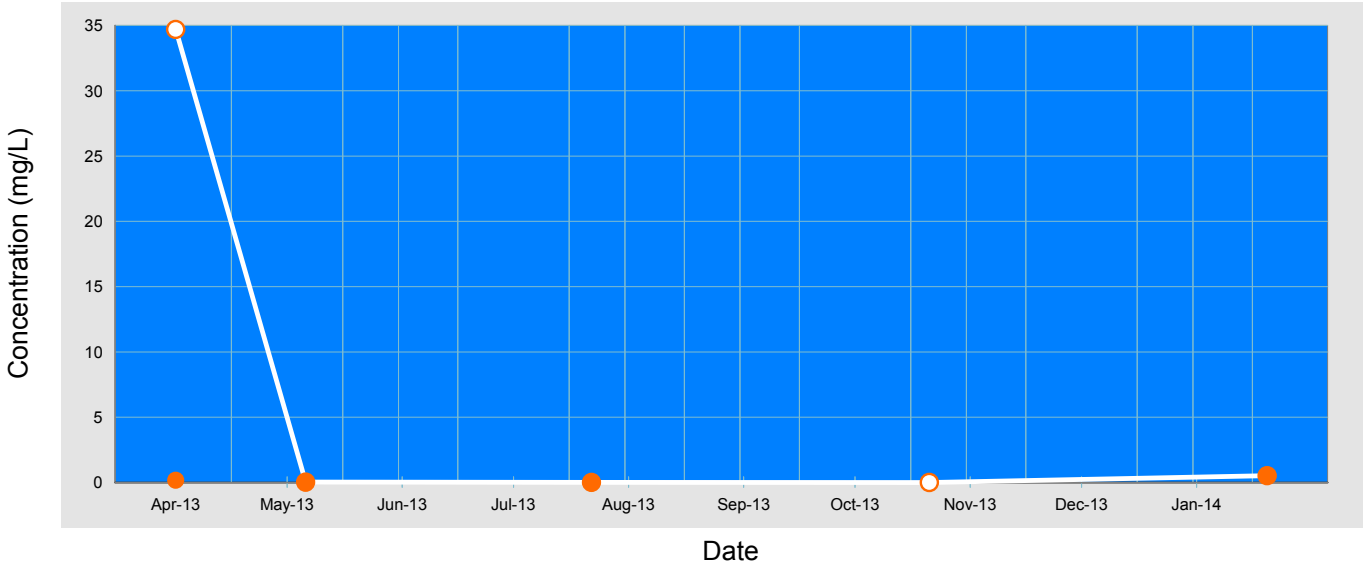


Zinc

WellID	MW-13-24
Date Range	04/01/2013 - 02/10/2014
Current Result	0.121
Sample Size	6
Min / Max Result	<0.010 / 5.03
Max Detected	5.03
% Detected	83%
S Statistic	-5
Probability	0.2350
90% Trend	NO TREND

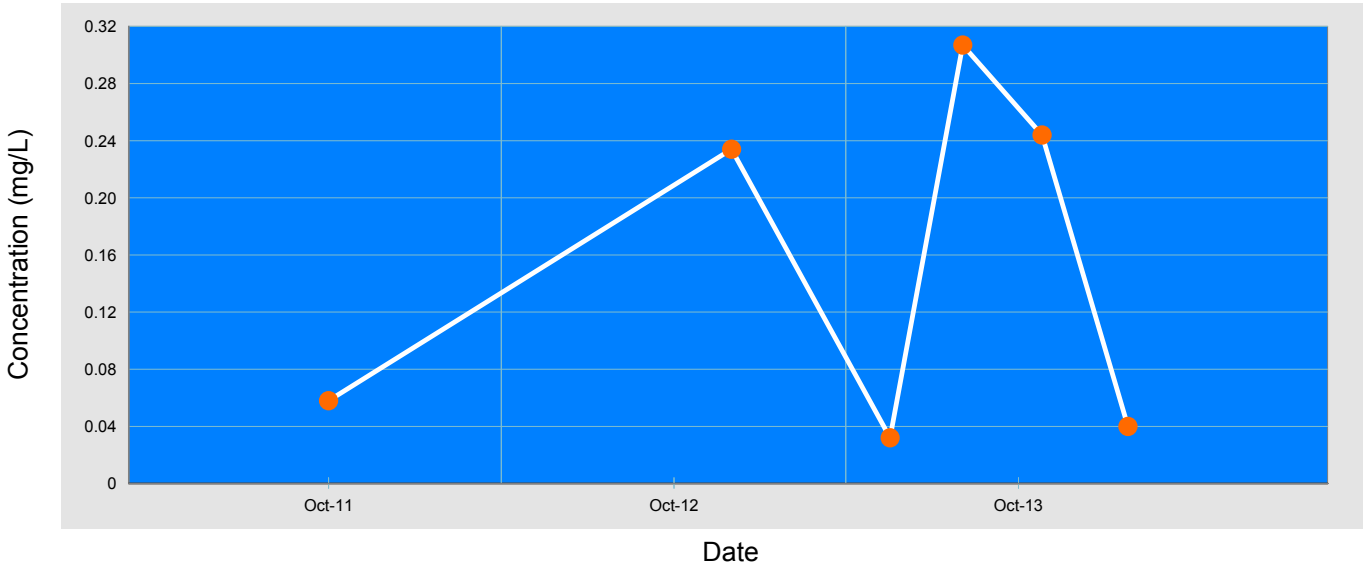


WellID	MW-13-30
Date Range	04/24/2013 - 02/10/2014
Current Result	0.529
Sample Size	6
Min / Max Result	<0.005 / 34.7
Max Detected	34.7
% Detected	83%
S Statistic	-7
Probability	0.1360
90% Trend	NO TREND



Zinc

WellID	MW-19
Date Range	10/19/2011 - 02/11/2014
Current Result	0.040
Sample Size	6
Min / Max Result	0.032 / 0.307
Max Detected	0.307
% Detected	100%
S Statistic	1
Probability	0.5000
90% Trend	NO TREND



APPENDIX H

Lansing Township Municipal Well Sampling Data

BWL 02-02
BWL 25-41
BWL 10-05
BWL 10-14
BWL 10-13
BWL 10-01
BWL 10-03
BWL 10-02
TWP-WELL-#7
BWL 10-12
BWL 10-09
BWL 20-03
TWP-WELL-#6
BWL 10-11
BWL 10-08
BWL 10-10
BWL 10-15
TWP-WELL-#5
BWL 15-08
BWL 15-07
BWL 15-06
BWL 10-07
TWP-WELL-#4
BWL 10-06
TWP-WELL-#3
TWP-WELL-#1
TWP-WELL-#2
NO-ID
NO-ID
NO-ID

LEGEND

- MUNICIPAL WATER SUPPLY WELLS
- PLANT 2
- PLANT 3
- PLANT 6

WELLHEAD PROTECTION AREAS

- LANSING TOWNSHIP
- CITY OF LANSING

0 1,000 2,000

SCALE IN FEET

RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

MUNICIPAL WATER SUPPLY AND WELLHEAD PROTECTION AREAS

ARCADIS

FIGURE
H-1

CITY: KNOXVILLE DIV: ENV DB: A.SMITH PIC: PM: TM: TR: PROJECT NUMBER: COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
G:\GIS\Project Files\MotorsLiquidationCompany\Lansing\Docs\Phase 2 RFI Report Figs\FIG 7 - LANSING WHPAs.mxd PLOTTED: 3/29/2013 12:40:02 PM BY: PCurry

Table 1
Township Well Sampling Results

RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

Location ID: Sample Depth(): Plant: Date Collected:	Units	MI GW (DEQ2013) RES DW	TWP-WELL #3 NA 05/18/16	TWP-WELL #4 NA 02/09/16	TWP-WELL #5 NA 02/09/16
Volatile Organics					
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	0.2	<1	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	ug/L	0.05	<1	NA	NA
1,4-Dioxane	ug/L	85	<3	<3	<3
1,1,2-Trichloroethane	ug/L	5	<1	NA	NA
Acetone	ug/L	730	<10	NA	NA
Carbon disulfide	ug/L	800	<1	NA	NA
Methyl acetate	ug/L	- -	<10	NA	NA
Methyl tert butyl ether (MTBE)	ug/L	40	<1	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	13,000	<10	NA	NA
Dichlorodifluoromethane (CFC-12)	ug/L	1,700	<1	NA	NA
Chloromethane (Methyl chloride)	ug/L	260	<1	NA	NA
Vinyl chloride	ug/L	2	<1	NA	NA
Bromomethane (Methyl bromide)	ug/L	10	<1	NA	NA
Chloroethane	ug/L	430	<1	NA	NA
Trichlorofluoromethane (CFC-11)	ug/L	2,600	<1	NA	NA
1,1-Dichloroethane	ug/L	880	<1	NA	NA
1,1-Dichloroethene	ug/L	7	<1	NA	NA
cis-1,2-Dichloroethene	ug/L	70	<1	NA	NA
trans-1,2-Dichloroethene	ug/L	100	<1	NA	NA
Methylene chloride	ug/L	5	<1	NA	NA
1,1,1-Trichloroethane	ug/L	200	<1	NA	NA
2-Hexanone	ug/L	1,000	<10	NA	NA
Chloroform (Trichloromethane)	ug/L	80	4	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone)	ug/L	1,800	<10	NA	NA
Carbon tetrachloride	ug/L	5	<1	NA	NA
Cyclohexane	ug/L	- -	<1	NA	NA
Benzene	ug/L	5	<1	NA	NA
1,2-Dichloroethane	ug/L	5	<1	NA	NA
Trichloroethene	ug/L	5	<1	NA	NA
1,2-Dichloropropane	ug/L	5	<1	NA	NA
Bromodichloromethane	ug/L	80	<1	NA	NA
Methyl cyclohexane	ug/L	- -	<1	NA	NA
cis-1,3-Dichloropropene	ug/L	- -	<1	NA	NA
Toluene	ug/L	790	<1	NA	NA
trans-1,3-Dichloropropene	ug/L	- -	<1	NA	NA
1,1,2-Trichloroethane	ug/L	5	<1	NA	NA
Tetrachloroethene	ug/L	5	<1	NA	NA
Dibromochloromethane	ug/L	80	<1	NA	NA
Chlorobenzene	ug/L	100	<1	NA	NA
1,1,2,2-Tetrachloroethane	ug/L	8.5	<1	NA	NA
Ethylbenzene	ug/L	74	<1	NA	NA
o-Xylene	ug/L	- -	<1	NA	NA
m&p-Xylene	ug/L	- -	<2	NA	NA
Styrene	ug/L	100	<1	NA	NA
Isopropyl benzene	ug/L	800	<1	NA	NA
Bromoform	ug/L	80	<1	NA	NA
1,2-Dichlorobenzene	ug/L	600	<1	NA	NA
1,4-Dichlorobenzene	ug/L	75	<1	NA	NA
1,3-Dichlorobenzene	ug/L	6.6	<1	NA	NA
1,2,4-Trichlorobenzene	ug/L	70	<1	NA	NA

Table 1
Township Well Sampling Results

RACER Trust Plants 2, 3, and 6 - Lansing, Michigan

Table Notes:

-- Shading indicates result exceeding one or more MDEQ Part 201 Generic Cleanup Criteria and Screening Levels, Dated December 30, 2013.
-- Bold fonts represent data where detections were noted above the MDL but below MDEQ Part 201 Generic Cleanup Criteria.
-- Data shown in [ ] represent duplicate sample analytical results.
mg/L - milligrams per liter
µg/L - micrograms per liter
ND - Not Detected
NA - Not Analyzed
Na - Not Applicable
* - SVOC and/or PCB analyses conducted on filtered samples
** - Field parameters for 2011 and 2012 sampling events available in Appendix F
[a] - Sample exceeds Residential Drinking Water Criteria
[b] - Sample exceeds Groundwater Surface Water Interface Criteria
[c] - Sample exceeds Non-Residential Groundwater Volatilization to Indoor Air Inhalation Criteria
[d] - Sample exceeds Water Solubility Criteria
[e] - Sample exceeds Flammability and Explosivity Screening Levels
[f] - Sample exceeds Non-Residential Groundwater Concentrations for Vapor Intrusion

MDEQ Criteria Footnotes: (as revised December 30, 2013)

- - = Not listed in the MDEQ Criteria Tables.
ID = Insufficient data to develop a criterion.
NLV = Not likely to volatilize.
d = If the calculated criterion is below State of Michigan Safe Drinking Water Standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005, the criterion defaults to the Safe Drinking Water Standard.
A = Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.
D = Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
E = Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).
F = Criterion is based on adverse impacts to plant life and phytotoxicity.
G = Groundwater surface water interface (GSI) criterion depends on the pH or water hardness, or both, of the receiving surface water. The final chronic value (FCV) for the protection of aquatic life shall be calculated based on the pH or hardness of the receiving surface water. A hardness value of 257 mg/L was used.
L = Criteria for lead are derived using a biologically based model, as allowed for under Section 20120a(10) of the NREPA, and are not calculated using the algorithms and assumptions specified in pathway-specific rules.
M = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.
S = Criterion defaults to the hazardous substance-specific water solubility limit.
W = Concentrations of trihalomethanes in groundwater shall be added together to determine compliance with the Michigan drinking water standard of 80 ug/L.
X = The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.
AA = Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.
HH = The residential criterion for sodium is 230,000 ug/L in accordance with the Sodium Advisory Council recommendation and revised Groundwater Discharge Standards.

Lab and Validation Data Qualifiers:

B = Compounds also found in associated method blank.
D = Compound quantified using a secondary dilution.
E = Analyte exceeds calibration range.
I = Matrix interference with internal standard.
J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.
R = Rejected
S = Surrogate recovery outside of control limits.
UB = Compound considered non-detect at the listed value due to associated blank contamination.
UJ = The analyte was not detected above the quantitation limits, however the quantitation limits is estimated.
U = The compound was analyzed for but not detected. The associated value is the compound quantitation limit.
X = Elevated reporting limit due to matrix interference.
Y = Elevated reporting limit due to high target concentration.
Z = Sample preserved in the lab.

Analytical Laboratory Report

Report ID: S71304.01(01)
Generated on 02/22/2016

Report to

Attention: Kristen Padron
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 313-971-6728 FAX: 248-994-2241
Email: Kristen.Padron@arcadis.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S71304.01-S71304.03
Project: RACER Lansing / B0064479.2016
Collected Date: 02/09/2016
Submitted Date/Time: 02/09/2016 09:45
Sampled by: Lance Rogers
P.O. #: B0064479.2016

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Sample Summary (Page 5)



Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
N/A	Not Applicable
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S71304.01	Trip Blank	Liquid	02/09/16 00:01
S71304.02	TWP90-04_020916	Groundwater	02/09/16 09:00
S71304.03	TWP90-05_020916	Groundwater	02/09/16 09:10

Analytical Laboratory Report

Lab Sample ID: S71304.01
Sample Tag: Trip Blank
Collected Date/Time: 02/09/2016 00:01
Matrix: Liquid
COC Reference: 099828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	11.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	02/21/16 14:00	WAT		
Organics - Volatiles								
1,4-Dioxane	Not detected	ug/L	3	SW8260B - SIM	02/21/16 14:39	WAT	123-91-1	

Analytical Laboratory Report

Lab Sample ID: S71304.02
Sample Tag: TWP90-04_020916
Collected Date/Time: 02/09/2016 09:00
Matrix: Groundwater
COC Reference: 099828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	02/21/16 14:00	WAT		
Organics - Volatiles								
1,4-Dioxane	Not detected	ug/L	3	SW8260B - SIM	02/21/16 14:58	WAT	123-91-1	

Analytical Laboratory Report

Lab Sample ID: S71304.03
Sample Tag: TWP90-05_020916
Collected Date/Time: 02/09/2016 09:10
Matrix: Groundwater
COC Reference: 099828

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	11.0	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	02/21/16 14:00	WAT		
Organics - Volatiles								
1,4-Dioxane	Not detected	ug/L	3	SW8260B - SIM	02/21/16 15:16	WAT	123-91-1	

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2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
www.meritlabs.com

C.O.C. PAGE # 1 OF 1

099828

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: Kristen Padron
COMPANY: ARCADIS
ADDRESS: 28550 Cabot Dr. suite 500
CITY: Novi STATE: MI ZIP CODE: 48377
PHONE NO.: 313-971-6728 FAX NO.: P.O. NO.:
E-MAIL ADDRESS: Kristen.Padron@arcadis.com QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: RACER Lansing.
SAMPLER(S) - PLEASE PRINT/SIGN NAME: Lance Rogers / Lance M Rogers

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications: Job
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

MERIT LAB NO. (FOR LAB USE ONLY)	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	1,4-D SIM's
71304.01	2-9-16	—	Trip Blank		1								X
.02	2-9-16	0900	TWP 90-04_020916	GW	3		X						X
.03	2-9-16	0910	TWP 90-05_020916	GW	3		X						X

RELINQUISHED BY: SIGNATURE/ORGANIZATION: Lance M Rogers ARCADIS ☒ Sampler	DATE: 2/9/16	TIME: 0945	RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE TIME
RECEIVED BY: SIGNATURE/ORGANIZATION:	DATE: 2/9/16	TIME: 09:45	RECEIVED BY: SIGNATURE/ORGANIZATION	DATE TIME
RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME	SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS	NOTES: TEMP. ON ARRIVAL 11.0
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME	SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS	

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12

Analytical Laboratory Report

Report ID: S73521.01(01)
Generated on 06/02/2016

Report to

Attention: Randy Christensen
Arcadis
28550 Cabot Drive
Suite 500
Novi, MI 48377

Phone: 810-225-1940 FAX: 248-994-2241
Email: randy.christensen@arcadis.com

Addtional Contacts: Kristen Padron, Alex Villhauer

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
Kevin George (kgeorge@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S73521.01-S73521.02
Project: RACER Lansing Plant-2 / B0064479.2016
Collected Date: 05/18/2016
Submitted Date/Time: 05/18/2016 10:05
Sampled by: Billy Cobern
P.O. #: B0064479.2016

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Maya Murshak
Technical Director

General Report Notes

Results relate only to items tested as received by laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.
Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods

Method Summary

Method	Version
N/A	Not Applicable
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs
SW8260C	SW 846 Method 8260C Revision 3 August 2006

Analytical Laboratory Report

Sample Summary (2 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S73521.01	TWP-Well #3_051816	Groundwater	05/18/16 09:45
S73521.02	Trip Blank_051816	Liquid	05/18/16 00:01

Analytical Laboratory Report

Lab Sample ID: S73521.01
Sample Tag: TWP-Well #3_051816
Collected Date/Time: 05/18/2016 09:45
Matrix: Groundwater
COC Reference: 097825

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	8.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/01/16 16:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	106-93-4	
1,4-Dioxane	Not detected	ug/L	3	SW8260B - SIM	05/31/16 17:59	WAT	123-91-1	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	05/31/16 20:56	JGH	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	05/31/16 20:56	JGH	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	05/31/16 20:56	JGH	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	156-59-2	
Chloroform	4	ug/L	1	SW8260C	05/31/16 20:56	JGH	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	05/31/16 20:56	JGH	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	05/31/16 20:56	JGH	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	124-48-1	

Lab Sample ID: S73521.01 (continued)
Sample Tag: TWP-Well #3_051816

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Chlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	108-90-7	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	05/31/16 20:56	JGH		
o-Xylene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:56	JGH	120-82-1	

Lab Sample ID: S73521.02
Sample Tag: Trip Blank_051816
Collected Date/Time: 05/18/2016 00:01
Matrix: Liquid
COC Reference: 097825

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	8.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Extraction / Prep.								
pH check for VOCs	<2	STD Units		N/A	06/01/16 16:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	96-12-8	
1,2-Dibromoethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	106-93-4	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	76-13-1	
Acetone	Not detected	ug/L	10	SW8260C	05/31/16 20:33	JGH	67-64-1	
Carbon disulfide	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-15-0	
Methyl Acetate	Not detected	ug/L	10	SW8260C	05/31/16 20:33	JGH	79-20-9	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	1634-04-4	
2-Butanone (MEK)	Not detected	ug/L	10	SW8260C	05/31/16 20:33	JGH	78-93-3	
Dichlorodifluoromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-71-8	
Chloromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	74-87-3	
Vinyl chloride	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-01-4	
Bromomethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	74-83-9	
Chloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-00-3	
Trichlorofluoromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-69-4	
1,1-Dichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-35-4	
Methylene chloride	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-09-2	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	156-60-5	
1,1-Dichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-34-3	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	156-59-2	
Chloroform	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	67-66-3	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	71-55-6	
Cyclohexane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	110-82-7	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW8260C	05/31/16 20:33	JGH	108-10-1	
2-Hexanone	Not detected	ug/L	10	SW8260C	05/31/16 20:33	JGH	591-78-6	
Carbon tetrachloride	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	56-23-5	
Benzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	71-43-2	
1,2-Dichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	107-06-2	
Trichloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	79-01-6	
1,2-Dichloropropane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	78-87-5	
Bromodichloromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-27-4	
Methyl cyclohexane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	108-87-2	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	10061-01-5	
Toluene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	108-88-3	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	10061-02-6	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	79-00-5	
Tetrachloroethene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	127-18-4	
Dibromochloromethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	124-48-1	
Chlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	108-90-7	

Lab Sample ID: S73521.02 (continued)
Sample Tag: Trip Blank_051816

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	CAS #	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	79-34-5	
Ethylbenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	100-41-4	
p,m-Xylene	Not detected	ug/L	2	SW8260C	05/31/16 20:33	JGH		
o-Xylene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	95-47-6	
Styrene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	100-42-5	
Isopropylbenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	98-82-8	
Bromoform	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	75-25-2	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	541-73-1	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	106-46-7	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	95-50-1	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW8260C	05/31/16 20:33	JGH	120-82-1	

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C.O.C. PAGE # 1 OF 1

097825

CHAIN OF CUSTODY RECORD

REPORT TO

CONTACT NAME: RANDY CHRISTENSEN
COMPANY: ARCADIS
ADDRESS: 10559 CITATION DRIVE SUITE 101
CITY: BRIGHTON STATE: MI ZIP CODE: 48116
PHONE NO.: 810-229 FAX NO.: 810-229- P.O. NO.: B00647792016
E-MAIL ADDRESS: RANDY.CHRISTENSEN@ARCADIS-US.COM QUOTE NO.:

INVOICE TO

CONTACT NAME ☐ SAME
COMPANY
ADDRESS
CITY STATE ZIP CODE
PHONE NO. E-MAIL ADDRESS

PROJECT NO./NAME: RACER LANSING RAMP-2
SAMPLER(S) - PLEASE PRINT/SIGN NAME: BILLY J. CRISP

TURNAROUND TIME REQUIRED ☐ 1 DAY ☐ 2 DAYS ☐ 3 DAYS ☐ STANDARD ☐ OTHER

DELIVERABLES REQUIRED ☐ STD ☐ LEVEL II ☐ LEVEL III ☐ LEVEL IV ☐ EDD ☐ OTHER

MATRIX CODE: GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

MERIT LAB NO. FOR LAB USE ONLY	YEAR DATE	YEAR TIME	SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives: NONE	HCl	HNO_3	H_2SO_4	NaOH	MeOH	OTHER	1,4 dioxane 8260 SIM	VOC - 8260
73521.01	5/18/16	9:45	TWP-WELL#3_051816	GW	3		3						X	
.02	—	—	Trip Blank_051816	L	1		1							X

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

Certifications
☐ OHIO VAP ☐ Drinking Water
☐ DoD ☐ NPDES
Project Locations
☐ Detroit ☐ New York
☐ Other
Special Instructions

RELINQUISHED BY: SIGNATURE/ORGANIZATION	☐ Sampler	DATE	TIME
ARCADIS		5-18-16	10:05
RECEIVED BY: SIGNATURE/ORGANIZATION		5-18-16	10:05
RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	DATE	TIME

SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS
SEAL NO. SEAL INTACT YES ☐ NO ☐ INITIALS

NOTES: TEMP. ON ARRIVAL 8.9

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE

Rev. 5.18.12