



Environmental Resources Group

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March 12, 2021

Mr. Paul Bucholtz
Lansing District Office
Remediation and Redevelopment Division
Constitution Hall
525 West Allegan Street,
Lansing, MI 48909

**RE: Gilkey Creek Groundwater – Surface Water Interface (GSI) Sampling Results
 Site #12920 - Davison Road Industrial Land
 Davison and Donegal Road, Burton, Genesee County, Michigan
 Facility ID No: 25000447**

Dear Mr. Bucholtz:

Environmental Resources Group, LLC (ERG) has prepared the following memorandum on behalf of RACER Trust (RACER) for the property located at Davison and Donegal Road in Burton, Genesee County, Michigan (Site). The purpose of this memorandum is to provide the results of the Gilkey Creek GSI sampling event that occurred at the Site between December 9-11, 2020. The field work was completed in accordance with the Work Plan that was previously submitted in June 2020. Any deviations from this work plan are provided in this memo. This sampling event is the last sampling event needed to represent all four seasons with porewater sampling data. To date, porewater sampling has occurred in September 2018 (Fall), April 2019 (Spring), July 2020 (Summer), and December 2020 (Winter). Interpretation of the results from this event and all previous events (July 2020, April 2019 and September 2018) is provided in this report.

SCOPE OF WORK

ERG completed the following scope of work during this GSI sampling event:

- Resampling of the six porewater locations from July 2020 – PW-1 through PW-6, using low-flow procedures. During this event, porewater samples were able to be collected from locations PW-1, PW-2, PW-3, PW-4 and PW-5. During sampling, the locations for PW-3 and PW-4, and PW-5 and PW-6 were inadvertently switched from the locations of the previous two sample events. To avoid confusion with previous data and for comparison purposes, the sample location names will be changed to their previous designations in all instances in this report, and the attached appendices, except in the original laboratory data received from TestAmerica. This was the first event that a



sample was able to be collected from PW-4, located within the streambed of Gilkey Creek in the middle portion of Gilkey Creek within the Site.

- Measurement of Gilkey Creek surface water elevations and porewater sample locations using GPS.
- Groundwater gauging of all monitoring wells across the Site. Porewater elevations were also collected from PW-1, PW-2, PW-3, PW-4, and PW-5.
- Low-flow sampling and collection of water stability parameters from SB/MW-11-12, SB/MW-15-14, SB/MW-9-12, SB/MW-7-12, TMW-1, SB/MW-16-14, SB/MW-19-19, SB/MW-17-19, and TMW-9. Arsenic samples were collected from these locations to better correlate arsenic concentrations (total and dissolved) in the monitoring wells with those from porewater samples nearby.
- Collection of surface water samples from Gilkey Creek near porewater sample locations and analysis for total and dissolved arsenic. Three surface water samples, SW-1-20 through SW-3-20, were collected during this event, one each at the downstream (near PW-1 and 2), middle (near PW-3 and 4), and upstream (near PW-5 and 6) portions of Gilkey Creek within the Site.

GSI INVESTIGATION RESULTS

The results of the Gilkey Creek GSI investigation are provided below and divided into the following tasks: surface water, porewater and groundwater gauging, porewater sampling, monitoring well sampling and surface water sampling. An updated Site map from this sampling event is provided in Figure 1.

SURFACE WATER, POREWATER AND GROUNDWATER GAUGING

ERG completed gauging of all monitoring wells at the Site on December 9, 2020. Porewater and surface water elevations were collected during the porewater sampling that was completed on December 10 and 11, 2020. Groundwater elevations, porewater elevations, and surface water elevations gathered during this event are provided in Table 1. The groundwater and porewater elevations were interpolated using spatial analysis to produce the groundwater contour map provided in Figure 2. Groundwater elevations were slightly higher than the event in July 2020, but lower than the two groundwater gauging events previous to that (April 2019 and December 2018). As shown in the figure, groundwater flow is generally towards Gilkey Creek throughout the Site. Groundwater infiltration is likely still occurring into cracks or other openings in a portion of Granger Drain. Comparing the groundwater and porewater elevations to the nearby surface water elevations, it appears that the creek is likely hydraulically connected to the groundwater near PW-1 and PW-2 (downstream) and PW-3 and PW-4 (midstream), where the porewater elevations are higher or nearly the same as the nearby surface water elevations. Surface water elevations were not gathered near PW-5 and PW-6 (upstream) during this event due to field equipment issues, but, based on results from the July 2020 sampling event, it is assumed that the creek is hydraulically connected in that area as well.



POREWATER SAMPLING RESULTS

The results from the sampling of PW-1, PW-2, PW-3, PW-4, and PW-5 are provided in Table 2 and Figure 3, with the laboratory analytical results included in Appendix 3. Historical laboratory analytical data is also provided in Table 2 and Figure 3. This was the first event where a sample was able to be collected from PW-4, with a screen depth of 16¾". Similar to the previous events, no water was able to be purged from PW-6. During this event, porewater sample locations PW-1 and PW-5 contained exceedances of GSI Criteria, as listed below:

- PW-1-20: 2.2 µg/L Total Arsenic, 10 µg/L Dissolved Arsenic. *Why the dissolved arsenic concentration is greater than the total arsenic concentration for this sample is not clear, but may be due to labels getting switched in the field.*
- PW-5-20: 33 µg/L Total Arsenic, 29 µg/L Dissolved Arsenic

Review of the water quality parameter results in Appendix 4 (with Oxidation-Reduction Potential (ORP) included in Table 2) indicates that all porewater samples were under reducing conditions during this event. This is a shift from the conditions in the first two sampling events (September 2018 and April 2019), when samples collected from PW-1, PW-2, and PW-3 were under oxidizing conditions. The change of porewater in these locations to reducing conditions may be the cause of the higher arsenic concentrations encountered during this event, with the switch of geochemical conditions causing arsenic to enter solution. Further evaluation of the effect of seasonal variations, proximity to the fill material, and other factors potentially causing the apparent shift in ORP conditions between sampling events is provided in Analysis section below

MONITORING WELL GROUNDWATER SAMPLING RESULTS

The sample results from SB/MW-11-12, SB/MW-15-14, SB/MW-9/12, SB/MW-7-12, TMW-1, SB/MW-16-14, SB/MW-19-19, SB/MW-17-19, and TMW-9 are provided in Table 2 and Figure 3, with the laboratory analytical results included in Appendix 3. Historical laboratory analytical data is also provided in Table 2. During this event arsenic was detected at six of the eight wells that were sampled. Neither total nor dissolved arsenic was detected at SB/MW-19-19. Of the six wells that contained arsenic above detection limits, SB/MW-16-14 and SB/MW-17-19 contained arsenic above the GSI criteria, as listed below:

- SB/MW-16-14: 19 µg/L Total Arsenic, 14 µg/L Dissolved Arsenic
- SB/MW-17-19: 120 µg/L Total Arsenic, 20 µg/L Dissolved Arsenic

Review of the water quality parameter results in Appendix 4 (with ORP summarized in Table 2) indicates that the groundwater in the monitoring wells sampled was generally under oxidizing conditions during this event, with the exception of SB/MW-9-12, SB/MW-16-14, SB/MW-17-19, and TMW-1, which were under reducing conditions. This reducing condition appears to correspond to the higher arsenic concentrations detected at monitoring wells SB/MW-16-14 and SB/MW-17-19. The variation in ORP



conditions and its potential effect on arsenic concentrations is discussed further in the Analysis section below.

SURFACE WATER SAMPLING RESULTS

The sample results from SW-1-20, SW-2-20, and SW-3-20 are provided in Table 2 and Figure 3, with the laboratory analytical results included in Appendix 3. Similar to the July 2020 event, total and dissolved arsenic were detected at all three locations. However, SW-1-20 (at the downstream end of the Site) detected total arsenic at a concentration of 13 µg/L, slightly above GSI criteria but the dissolved result was 1.4 µg/L. This indicates that the GSI exceedance in SW-1-20 could be a result of suspended solids in the sample.

Review of the water quality parameter results in Appendix 4 indicates that the surface water is under oxidizing and aerobic conditions, as would be expected in a flowing surface water body.

ANALYSIS

As stated previously, this was the last sampling event needed to represent all four seasons with porewater samples. As such, ERG believes it is prudent to analyze the porewater data in conjunction with historical site data to determine if any trends exist that could explain the variation in arsenic concentrations at the Site.

CORRELATION OF REDUCING CONDITIONS AND ELEVATED ARSENIC CONCENTRATION

ERG has discussed above that there appears to be a correlation between reducing conditions and higher arsenic concentrations. This is a known association within glacial aquifer systems that has been discussed in several references provided, including the United States Geological Survey, the Institute of Geosciences and Earth Resources, National Research Council of Italy, and the University of Maine, among many others.

In order to check if this association is valid at the Site, ERG first performed basic statistical analysis on the entire existing arsenic data set collected between 2012 to 2020. The statistical analysis was completed on the assumption that ORP conditions (the independent variable) directly affected the total arsenic concentrations (the dependent variable). Before doing so, invalid data were removed, including data where either arsenic concentrations and stabilized ORP could not be located, low flow sampling was not used, or other issues were noted during sampling. This reduced data set was processed to identify outliers within the dependent total arsenic concentrations, based on the table below:



Total Arsenic Data Set Properties	
Property	Value
1st Quartile	1
3rd Quartile	19
Interquartile Range (IQR)	18
Lower Bound	-26
Upper Bound	46

Arsenic concentrations outside of the upper and lower bounds are considered outliers and were removed from the data set prior to any analysis. Of the 122 arsenic data points that were considered valid, ten were outliers outside of the upper bound and removed from the data set prior to any statistical analysis. A graph of this data is provided in Appendix 5, with the full data set and reduced data set tables in Appendix 6.

This data set was then used to calculate Pearson's Correlation Coefficient (R) between ORP and total arsenic to determine the relationship between the two variables. This analysis results in a R value of -0.484 or -48.4%, which indicates a moderate negative relationship (as ORP decreases, arsenic is expected to increase). In other words, this correlation explains 48.4% of the data points. Considering that ORP is a field parameter and therefore may not always be highly accurate, this shows that there is a valid relationship between the two variables and that reducing (lower) ORP values are generally associated with higher arsenic concentrations. This can be viewed in the scatterplot provided in Graph 1, where a majority of the high arsenic concentrations have corresponding negative ORP values. As R is a relatively simple statistical approach to evaluating correlation, it also has several drawbacks, such as the assumption that there is a linear relationship between the two variables. As the interactions of reducing groundwater and arsenic are assumed to be complex, this is likely not the case. However, as the scatterplot still shows this negative correlation relationship, ERG believed that the correlation is valid enough to continue with the analysis.

The above analysis established that there is a moderate negative relationship between ORP and total arsenic at the Site, i.e., reducing ORP has a moderate probability to cause increased arsenic concentrations. However, this analysis does not have any spatial awareness, meaning that the variables could be more related in one part of the Site versus another part of the Site. This factor was analyzed using the Local Bivariate Relationships geostatistics tool in ArcGIS Pro, as described below.

SPATIAL VARIATION OF REDUCING ORP CONDITIONS AND ELEVATED ARSENIC CONCENTRATIONS

In order to check if the moderate correlation between ORP and arsenic established above has any spatial variability at the Site, the data was processed using the Local Bivariate Relationships tool in ArcGIS. This tool calculates the entropy statistic (the predictability of the variable) within "neighborhoods" of the data set and determines if the values of one variable are influenced by another variable at each point and if the relationship varies over geographic space. Essentially, the tool looks at how each data point relates to



nearby data points and if there a relationship between them, establishing if correlation exists in different zones of the Site. The output of this geoprocessing tool classifies each point based on the correlation of the variables at that location with nearby locations and provides a visual indication of the results, which is provided in Figure 4. As shown in Figure 4, the data at the Site was classified into three categories depending on the location: Negative Linear, Convex, and Not Significant. Negative Linear (arsenic concentration increases as ORP decreases) correlation was detected at SB/MW-3-12, SB/MW-4-12, SB/MW-16-14, SB/MW-19-19, TMW-6, TMW-8, PW-1 and PW-2. Convex (arsenic increases as ORP decreases, but also increases at highly oxidizing ORP conditions) correlation was detected at SB/MW-12-12 and SB/MW-13-12. The Convex relationship is similar to Negative Linear, but appears to have been categorized as Convex due to the one data point with an ORP of 287.8 mV at SB/MW-11-12. All other monitoring wells and porewater sample locations at the Site were categorized as Not Significant, meaning there is no statistically significant relationship between the variables at that point. Adjusting the Local Bivariate Relationships tool to search for weaker relationships detects the Negative Linear relationship at more points across the Site, but this may be due to the increased effect of the wells already categorized as Negative Linear.

The above analysis shows that the Negative Linear relationship of ORP and arsenic concentration previously established by Pearson's Correlation Coefficient is more pronounced at several locations in the Site, primarily in the downstream section of Gilkey Creek within the low-lying area. This makes sense when looking at the data, as a majority of the samples with reducing ORP conditions from this location are associated with higher arsenic concentrations. The data still shows this relationship exists across the entire Site; it is just more predominant in the downstream section of Gilkey Creek. These analyses have established that there is a moderate Negative Linear Relationship between ORP and arsenic that is more pronounced in the downstream section of the Site near Gilkey Creek. However, the seasonal relationship of ORP and arsenic concentration needs to be assessed.

TEMPORAL VARIATION OF ORP CONDITIONS AND ARSENIC CONCENTRATIONS

The reduced data set with outliers removed was categorized into months that the sample was collected to assess the variation of ORP conditions and arsenic concentrations throughout the year, as shown in Graph 2. Graphing just the data points showed too much variability within each month to be used for interpretation, so the average ORP and total arsenic concentration within each month was calculated and added to the graph. While the effect of seasonal variation on both ORP and arsenic is not easily discernible, the average arsenic shows a peak in late summer and early fall (August/September), which appears to correspond with general decrease in average ORP across the Site. ORP is higher in the winter and spring, when arsenic concentrations are lower.

EFFECT OF MONITORING WELL DEPTH ON ORP CONDITIONS AND ARSENIC CONCENTRATIONS

Previous analyses have looked the potential effect of lithology near the well screen on arsenic concentration, but did not establish a reliable relationship between the two. However, no analysis has



been completed to assess the relationship between monitoring well depth and ORP/arsenic concentrations and compared this to the lithology.

In order to do this, ERG determined the depth of each monitoring well screen below the ground surface (bgs) and compared this to both the total arsenic concentration and the ORP at those points, as shown in Graph 3. Because both data sets appeared to show two peaks/valleys, third-order polynomial trendlines were plotted to show the data trends better. As shown by the trendlines, ORP and arsenic concentrations generally show opposite trends as monitoring well depth increases. Arsenic concentrations are initially high near the surface, where ORP is lower or negative, drop between 8 and 12 feet bgs, where ORP increases, and increase again at depths greater than 14 feet, where ORP again shows lower or negative values. Comparing this to the lithology at each monitoring well, it appears that the lower ORP values and higher arsenic values correspond to wells that are screened in coarse-grained material, whereas higher ORP values and lower arsenic values correspond to fine-grained material.

RELATIONSHIP OF ORP AND DISSOLVED ARSENIC CONCENTRATIONS

Finally, in order to verify that the above observed trends did not only exist within the relationship of total arsenic and ORP, ERG completed an analysis of the dissolved arsenic data set. The dissolved data set is much smaller than the total data set (64 data points versus 112 data points) and as most the data were collected after the submittal of the NFA in 2016, is focused on wells near Gilkey Creek. Because of this, only the correlation, temporal variation and depth were analyzed, as the data would already show a greater influence near Gilkey Creek. The results of this analysis are provided in Graphs 4 through 6 in Appendix 5. In general, the dissolved arsenic relationship showed similar trends to that of the total arsenic, as described below.

The calculated Pearson's Correlation Coefficient of this data set was -0.44, showing a slightly lower moderate correlation between ORP and dissolved arsenic concentration. This is illustrated in Graph 4, where a majority of the elevated arsenic concentrations are associated with reducing conditions. The large amount of non-detects and low-concentration samples in the data set appear to be the reason for the lower correlation value compared to the total arsenic data.

The temporal variation of ORP and dissolved arsenic concentrations is shown in Graph 5. Similar to the total arsenic data, the trends of this data are not easily discernible, but appear to show a general decrease in average ORP and increase in average dissolved arsenic concentration in the latter half of the year, with peaks in July and November. The September data is only based on two data points (both of which were non-detect) and the average arsenic line may be skewed because of this.

As depicted in Graph 6, the effect of well screen depth on ORP and dissolved arsenic concentration appears to mimic that of total arsenic, but is less noticeable. Dissolved Arsenic concentrations are initially high near the surface, where ORP is lower or negative, drop between 8 and 12 feet bgs, where ORP



increases, and increase again at depths greater than 14 feet, where ORP again shows lower or negative values.

CONCLUSIONS

Based on the above results and analysis, ERG provides the conclusions summarized below:

- Sampleable amounts of groundwater discharge occurs to Gilkey Creek when the groundwater potentiometric surface elevation is greater than the creek bed elevation and only where sandy material intersects the creek bed. This material is present in greater quantities in the downstream portion of the creek near PW-1 and PW-2, and confined to small lenses and seams near the midstream and upstream portions of the creek. Comparison of porewater sample water quality parameters to nearby groundwater and surface water quality parameters has confirmed that the porewater is primarily composed of groundwater venting into the creek and not surface water loss into the pore space.
- The groundwater discharging through this sandy material into the creek occasionally contains arsenic concentrations greater than the GSI criteria. However, this arsenic is believed to be naturally occurring and not caused by landfilling activities at the Site, based on the following logic:
 - Elevated arsenic concentrations are present on the south side of Gilkey Creek (opposite that of the fill material) at SB/MW-17-19 and TMW-9. With groundwater venting to Gilkey Creek in the Site, groundwater on the south side of Gilkey Creek is considered separate from that which may have come in contact with or migrated from the fill on the north side.
 - Pearson's Correlation Coefficient has shown a moderate negative relationship between ORP and arsenic concentration, meaning negative (reducing) ORP values generally correspond with elevated arsenic concentrations.
 - The Local Bivariate Relationships geostatistics tool confirmed that this negative relationship does exist at the Site and is predominant in the downstream portion of the Site, within the low-lying area.
 - Lower ORP values and average arsenic concentration at the Site appears to peak in the late Summer and early Fall (August/September).
 - Higher arsenic concentrations and lower ORP values occur between 4 and 8 feet bgs and 14 and 20 feet bgs, which generally corresponds to sandy or coarse-grained material.
 - The trends within the relationship of total arsenic and ORP are also observed within the relationship of dissolved arsenic and ORP, but are less discernible, potentially due to the lower number of data points.
 - According to *The Association of Arsenic With Redox Conditions, Depth, and Ground-Water Age in the Glacial Aquifer System of the Northern United States* by the USGS (referenced below), "elevated arsenic concentrations were associated with strongly reducing conditions". Additionally, "Logistic regression was used to investigate the relative



significance of redox, ground-water age, depth, and other water-quality constituents as indicators of elevated arsenic concentrations in the glacial aquifer system. The single variable that explained the greatest amount of variation in the data was redox.” The above means that the correlation between reducing ORP and arsenic at the Site is not a statistical anomaly and is a known geochemical occurrence, where reducing conditions cause reductive desorption or reductive dissolution, releasing arsenic.

- o According to *Effects of redox conditions on the control of arsenic mobility in shallow alluvial aquifers on the Venetian Plain* by the National Research Council of Italy, “The amount of sedimentary organic matter is highly correlated with the arsenic content of the sediments (up to 300 mg/kg), whereas no relationships are detectable between arsenic and other chemical parameters.” This means it is generally the presence of organic material that causes the reducing conditions, which results in arsenic entering solution from sediments. This type of occurrence has been observed at closed un-lined landfills, where arsenic enters solution due to reducing conditions induced by landfill leachate. However, this is due to leachate that is high in organic material, as noted by the USGS in *Landfill Leachate Mobilizes Arsenic Bound in Aquifer Sediments: Saco, Maine*: “The results of geochemical and mineralogical studies conducted by USGS scientists showed that dissolved organic carbon in the leachate plume is dissolving arsenic from arsenic-containing iron oxides in the aquifer and bedrock. The dissolution occurs because the degradation of the dissolved organic carbon in the plume removes oxygen from the water and creates reducing conditions that favor the dissolution of iron oxides and the release of arsenic from the sediments.” However, the filling materials used at the Site consisted of construction debris (concrete, wood, brick), some metallic and plastic fragments, foundry sand, and miscellaneous solid waste from the automotive industry, none of which would produce the organic carbon required to cause reducing conditions.
- o Therefore, if the observed correlation between reducing conditions and elevated arsenic concentration is not caused by the only major activity to take place at the Site (the placement of fill), then there must be a natural occurring process that is producing these conditions. ERG believes that the organic material required to produce the organic carbon that results in reducing conditions/elevated arsenic is present at the Site as decaying plant matter on the surface and most notably in the low-lying area. This is supported by the following:
 - The observed correlation is predominant in the low-lying area, where decaying plant material accumulates in large quantities.
 - Reducing conditions and elevated arsenic concentrations are most frequent during the late summer and early fall, after plant matter that accumulated the previous winter and fall has decayed.
 - Reducing conditions and elevated arsenic concentrations are most frequent near the surface and at depth, within the low-lying area of the Site, corresponding to



areas of coarse-grained material. Historical soil samples have shown elevated arsenic concentrations in fine-grained material in both surface sediments (near the water table) and those at depth, meaning the downward migration of dissolved organic carbon-rich water could induce reducing conditions in these sediments, causing arsenic to enter solution within the groundwater contained in the coarse-grained sediment.

In summary, ERG believes that the downward migration of dissolved carbon-rich water (sourced from decaying plant material) from the surface induces reducing conditions, especially in the low-lying area. These reducing conditions release arsenic that is bound up in iron oxides in the sub-surface soils through reductive desorption or reductive dissolution. These conditions vary depending on location within the Site, the time of year, availability of arsenic in the sediment, and the depth below surface, resulting in the apparent random distribution of arsenic concentrations across the Site. When conditions are right, the released arsenic reaches Gilkey Creek and is vented into the porewater where sandy material is present. The above is shown graphically in the updated CSM in Figure 5. Accordingly, ERG believes the GSI pathway for arsenic within the Site has been fully investigated and that, while the pathway is complete within limited portions of the creek, the investigation indicates that there is not an arsenic GSI risk present at the Site due to former GM operations at the Site as the naturally occurring conditions are causing the elevated arsenic concentrations. The above analysis further reinforces the lines of evidences stated in the comprehensive GSI report submitted in early 2020, as summarized below:

- No Site-related source of arsenic that is not naturally occurring has been identified.
- Surface water sampling of Gilkey Creek and Granger Drain did not reveal total arsenic concentrations above GSI criteria, except for sample SW-1-20 during December 2020 event. However, it is believed that this exceedance was due to sediment in the sample.
- Arsenic is a naturally occurring constituent in both groundwater and soil in the Site area.
- No geochemical groundwater alterations occur *as a result of former operations* at the Site that would result in arsenic going into the dissolved phase. The above analysis indicates that there are natural geochemical alterations occurring at the Site that could cause arsenic to enter into solution.
- Arsenic is only consistently detected above GSI criteria at two wells located near Gilkey Creek.
- Groundwater discharge to Gilkey Creek is limited by both geologic and seasonal conditions.

As such, there appears to be no risk to human health and the environment from arsenic in the GSI pathway at the Site so no further action is warranted.

Thank you for your assistance with this matter. If you would like to discuss this matter further, please contact us at 248-773-7986.



Sincerely,

ENVIRONMENTAL RESOURCES GROUP, LLC

A handwritten signature in black ink that reads "Susan Graves".

Susan Graves
Project Manager

CC: David Favero
Taylor Vergin

Enc. **Appendix 1 - Figures**

- Figure 1 – Site Map
- Figure 2 – Groundwater Contour Map – July 2020
- Figure 3 – Groundwater, Porewater, and Surface Water Analytical Map
- Figure 4 – Local Bivariate Relationship Results
- Figure 5 – Conceptual Site Model

Appendix 2 - Tables

- Table 1 – Groundwater Elevation Data – July 2020
- Table 2 - Groundwater, Porewater, and Surface Water Analytical Results

Appendix 3 – Laboratory Analytical Results

Appendix 4 – Low Flow Field Data Sheets

Appendix 5 – Graphs

- Graph 1 – Relationship of ORP and Total Arsenic Concentration
- Graph 2 – Temporal Variation of ORP and Arsenic Concentration
- Graph 3 – Effect of Monitoring Well Depth on ORP and Arsenic Concentration
- Graph 4 – Relationship of ORP and Dissolved Arsenic Concentration
- Graph 5 – Temporal Variation of ORP and Dissolved Arsenic Concentrations
- Graph 6 – Effect of Monitoring Well Depth on ORP and Dissolved Arsenic Concentration

Appendix 6 – Statistical Analysis Data

References

Carraro A, Fabbri P, Giaretta A, Peruzzo L, Tateo F, Tellini F. Effects of redox conditions on the control of arsenic mobility in shallow alluvial aquifers on the Venetian Plain (Italy). Sci Total Environ. 2015 Nov 1;532:581-94. doi: 10.1016/j.scitotenv.2015.06.003. Epub 2015 Jun 23. PMID: 26115337.



Colman, J.A., and Lyford, F.P., 1999, Sources and Geochemical Associations of Arsenic in Leachate Plumes From a Landfill in Saco, Maine: EOS, Transactions of the 1999 Spring Meeting of American Geophysical Union, Boston, Massachusetts, June 1-4, 1999.

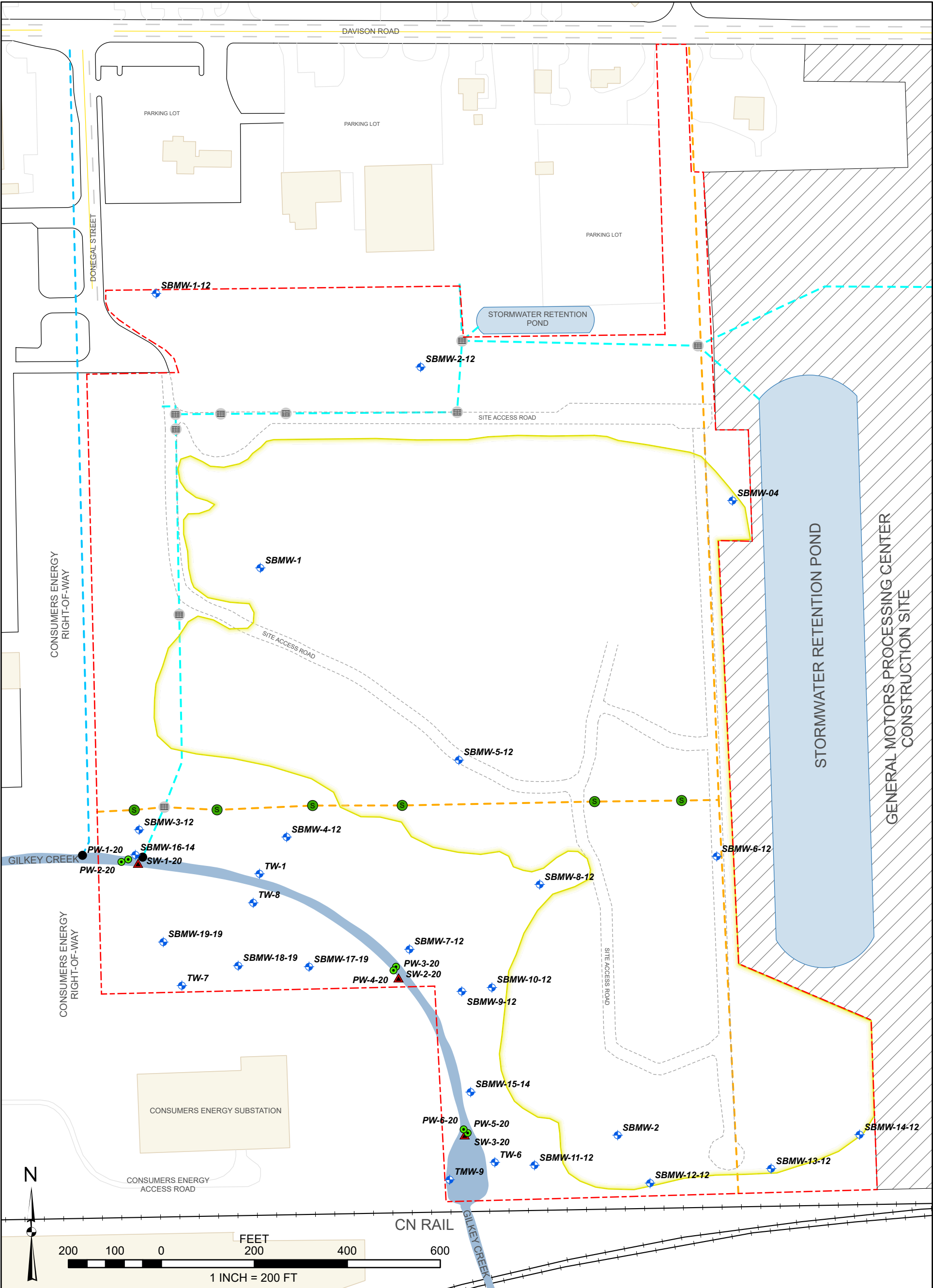
The University of Maine. How Does Arsenic Get into the Groundwater?.
<https://umaine.edu/arsenic/how-does-arsenic-get-into-the-groundwater/>. Accessed February 2 2021

Thomas, M.A., 2007, The association of arsenic with redox conditions, depth, and ground-water age in the glacial aquifer system of the Northern United States: U.S. Geological Survey Scientific Investigations Report 2007-5036, 26 p.

DRAFT

APPENDIX 1

FIGURES



LEGEND

Monitoring Locations

- Porewater Samples - December 2020
- Surface Water Samples - December 2020
- Monitoring Wells

Property Details

- Property Boundary
- Area of Fill (2018 USGS LIDAR)

Utilities

- Drain Outfalls

- Sanitary Sewer Manholes
- Granger Drain Catch Basins
- Sanitary Sewer
- Ketzler Drain
- Granger Drain

RACER TRUST DAVISON ROAD IND. LAND

DAVISON AND DONEGAL, BURTON, MI

SITE MAP - DECEMBER 2020

JOB NO.: 1119.004

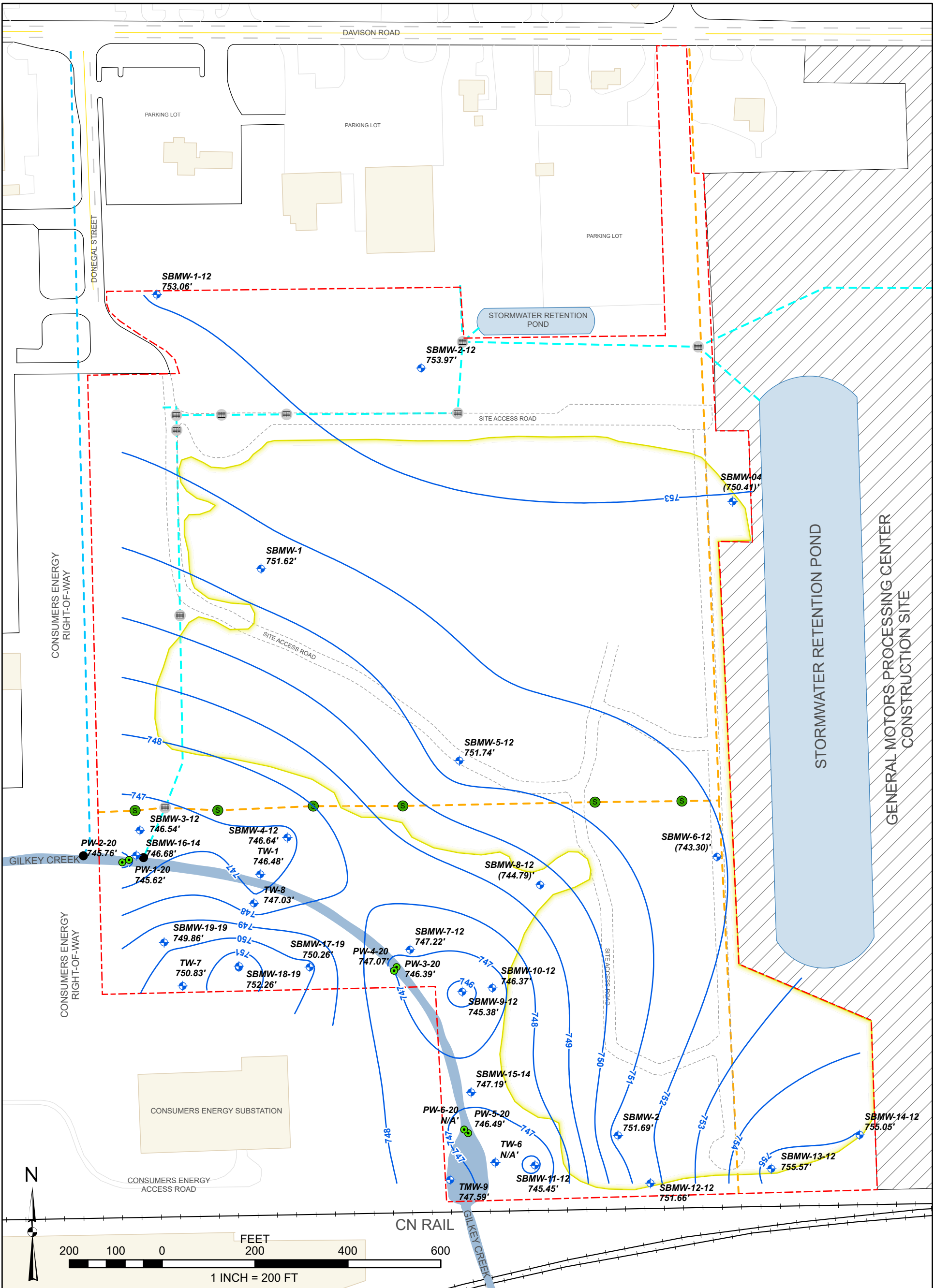
BY: TNV DATE: 12/23/2020

SHEET: FIGURE 1

ERG

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LEGEND

Monitoring Locations

Porewater Samples - December 2020

Monitoring Wells

Property Details

Property Boundary

Utilities

Drain Outfalls

Sanitary Sewer Manholes

Area of Fill (2018 USGS LIDAR)

Granger Drain Catch Basins

Sanitary Sewer

Ketzler Drain

Granger Drain

RACER TRUST DAVISON ROAD IND. LAND

DAVISON AND DONEGAL, BURTON, MI

GW CONTOUR MAP - DECEMBER 2020

JOB NO.: 1119.004

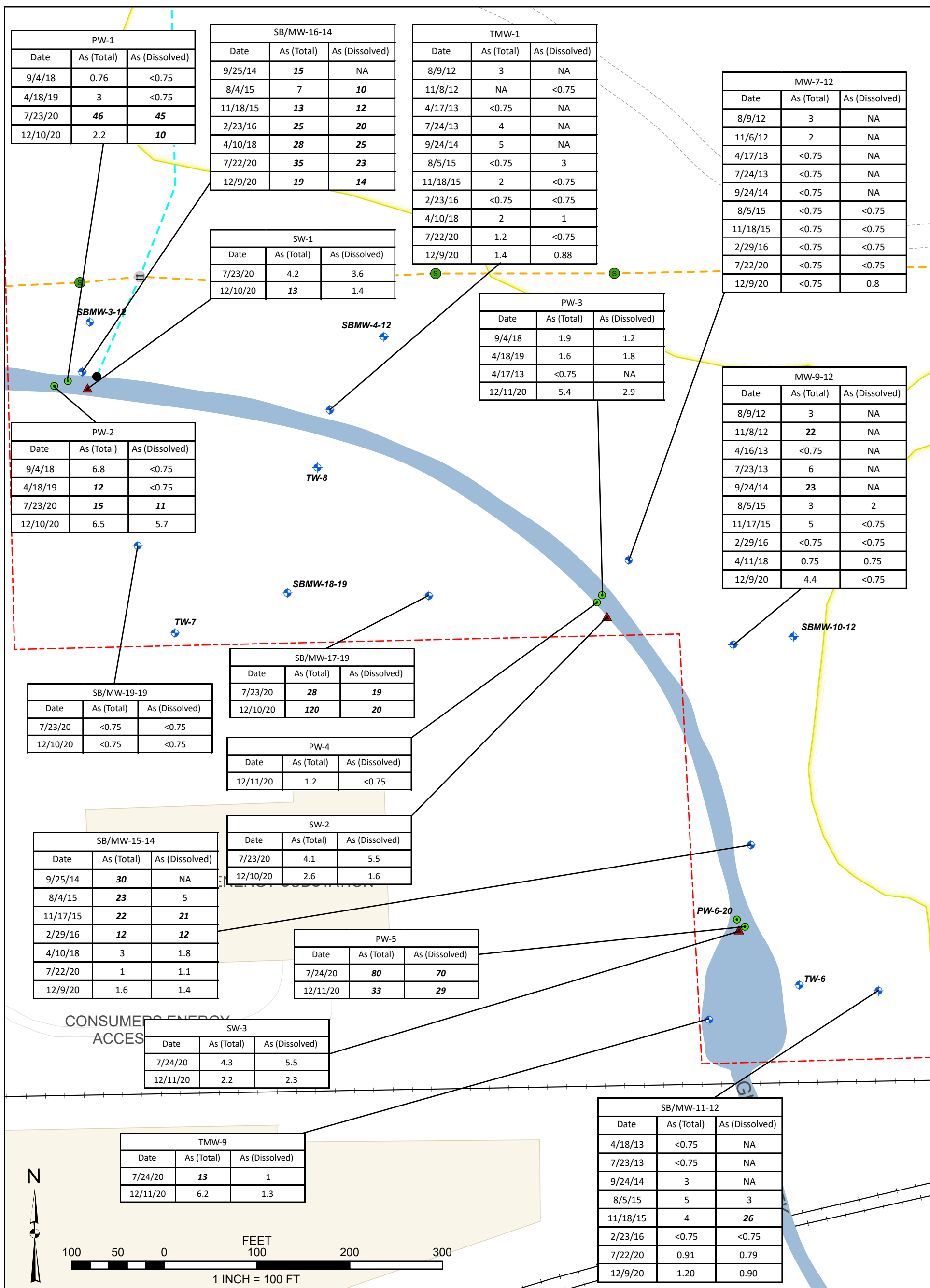
BY: TNV DATE: 12/23/2020

SHEET: FIGURE 2

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NOTE: GROUNDWATER ELEVATIONS IN PARENTHESES WERE INEXPLICABLE AND NOT USED TO CREATE GROUNDWATER CONTOUR MAP



LEGEND

-  Porewater Samples - December 2020
 -  Surface Water Samples - December 2020
 -  Monitoring Wells
 - Property Details**
 -  Property Boundary
 -  Area of Fill (2018 USGS LIDAR)
 - Utilities**
 -  Drain Outfalls
 -  Sanitary Sewer Manholes
 -  Granger Drain Catch Basins
 -  Sanitary Sewer
 -  Ketzler Drain
 -  Granger Drain

Notes:
Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

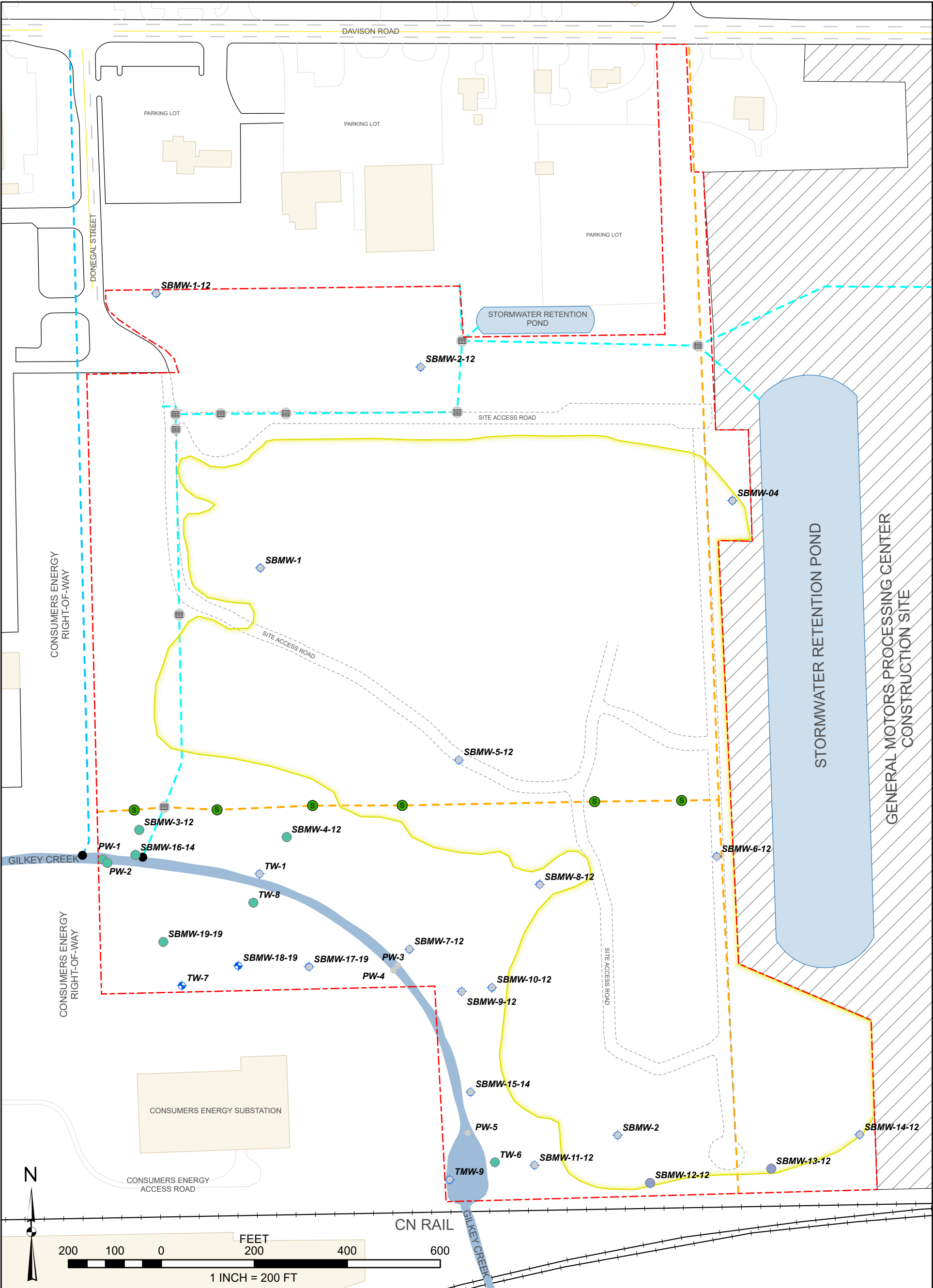
Bold - Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.
Italic - Concentrations exceeding the Groundwater/Surface Water Interface (GSI) CCRRA.

Units are measured in ug/L

RACER TRUST DAVISON ROAD IND. LAND

DAVISON AND DONEGAL, BURTON, MI	
GROUNDWATER ANALYTICAL MAP	
JOB NO.: 1119.004	
BY: TNV	DATE: 1/5/2021
SHEET: FIGURE 3	





LEGEND

Local Bivariate Relationship Results

Type of Relationship

Positive Linear

Negative Linear

Concave

Convex

Undefined Complex

Monitoring Locations

Monitoring Wells

Property Details

Property Boundary

Area of Fill (2018 USGS LiDAR)

Utilities

Drain Outfalls

Sanitary Sewer Manholes

Granger Drain Catch Basins

Sanitary Sewer

Ketzler Drain

Granger Drain

Not Significant

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DAVISON AND DONEGAL, BURTON, MI

LOCAL BIVARIATE RESULTS MAP

JOB NO.: 1119.004

BY: TNV DATE: 2/3/2021

SHEET: FIGURE 4

ERG

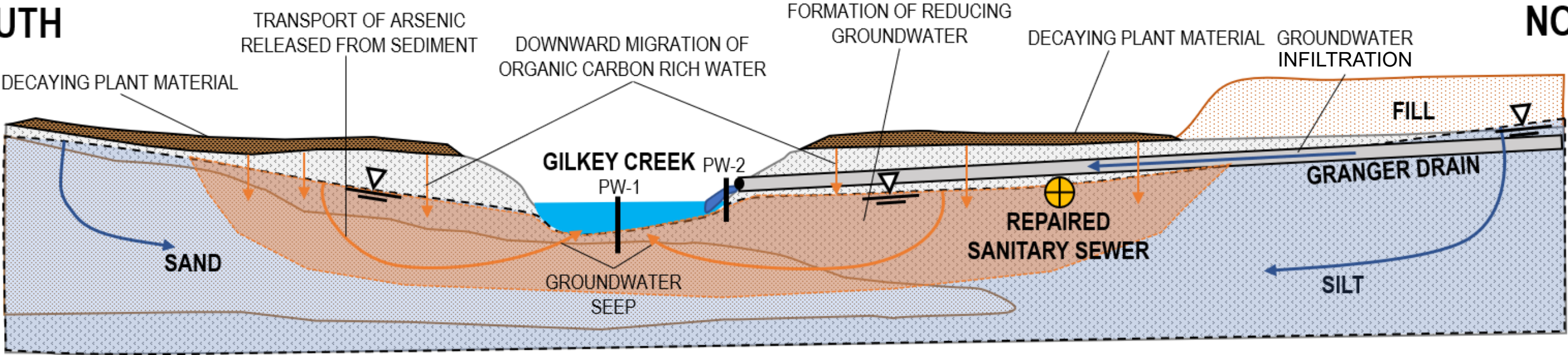
Environmental Resources Group

28003 Center Oaks Court • Suite 106 • Wixom, MI • 48393

Phone: 248-773-7986 • Fax: 248-924-3108

SOUTH

NORTH



DOWNSTREAM AREA

LEGEND

- SOIL BELOW GROUNDWATER POTENTIOMETRIC SURFACE
- AREA OF REDUCING GROUNDWATER

FIGURE 5	PROJECT NO.: 1119.004	APPROVED BY: SG
	DRWG BY: TNV	NOT TO SCALE
	DATE: 3/2/2021	SHEET: 5 of 5

GSI CONCEPTUAL SITE MODEL
DAVISON ROAD INDUSTRIAL LAND
RACER TRUST
DAVISON AND DONEGAL, BURTON, MICHIGAN

Environmental Resources Group

28003 Center Oaks Court • Suite 106 • Wixom, MI • 48393
Phone: 248-773-7986 • Fax: 248-924-3108

APPENDIX 2

TABLES

Northing and Easting Coordinates

TABLE 1
GW Data from December 2020

DAVISON ROAD LANDFILL
DAVISON AND DONEGAL ROAD, BURTON, MI.

Well	Northing	Easting	Ground Elevation at Well (ft.)	Well Depth to Bottom (ft.)	Well Top of Casing Elevation (ft.)	Depth to Water (ft.)	Static Water Level Elevation (ft.)	Surface Water Height (ft.)	Surface Water Elevation (ft.)
SB/MW-1-12	559022.90	13320366.80	759.28	12.84	762.66	9.60	753.06	N/A	N/A
SB/MW-2-12	558864.50	13320936.00	756.29	11.67	759.75	5.78	753.97	N/A	N/A
SB/MW-3-12	557868.00	13320330.50	750.37	10.21	753.62	7.08	746.54	N/A	N/A
SB/MW-4-12	557852.70	13320647.70	750.87	11.26	753.89	7.25	746.64	N/A	N/A
SB/MW-5-12	558018.80	13321018.10	760.91	16.43	764.37	12.63	751.74	N/A	N/A
SB/MW-6-12	557810.70	13321572.90	757.97	20.20	761.11	17.81	743.30	N/A	N/A
SB/MW-7-12	557611.50	13320911.80	752.35	13.95	755.48	8.26	747.22	N/A	N/A
SB/MW-8-12	557750.30	13321192.30	754.99	13.95	758.47	13.68	744.79	N/A	N/A
SB/MW-9-12	557520.30	13321024.60	752.23	15.35	755.52	10.14	745.38	N/A	N/A
SB/MW-10-12	557529.30	13321089.50	751.93	10.38	755.33	8.96	746.37	N/A	N/A
SB/MW-11-12	557146.60	13321181.20	754.66	13.96	758.02	12.57	745.45	N/A	N/A
SB/MW-12-12	557108.30	13321429.50	761.07	19.37	764.44	12.78	751.66	N/A	N/A
SB/MW-13-12	557139.10	13321690.20	761.89	13.83	765.27	9.70	755.57	N/A	N/A
SB/MW-14-12	557212.20	13321880.40	761.84	13.16	765.11	10.06	755.05	N/A	N/A
SB/MW-15-14	557304.07	13321043.54	751.17	21.74	754.47	7.28	747.19	N/A	N/A
SB/MW-16-14	557814.31	13320322.36	751.82	13.17	755.02	8.34	746.68	N/A	N/A
SB/MW-17-19	557573.08	13320696.04	754.02	15.59	758.35	8.09	750.26	N/A	N/A
SB/MW-18-19	557575.96	13320543.61	757.04	14.58	761.85	9.59	752.26	N/A	N/A
SB/MW-19-19	557627.08	13320382.29	755.17	13.7	758.58	8.72	749.86	N/A	N/A
TMW-9	557115.51	13320998.33	749.59	4.95	751.72	4.13	747.59	N/A	N/A
SB/MW-1	558431.90	13320591.00	760.37	15.54	762.58	10.96	751.62	N/A	N/A
SB/MW-2	557211.10	13321359.80	763.82	17.87	766.11	14.42	751.69	N/A	N/A
SB/MW-04	558576.60	13321606.70	761.14	15.28	763.55	13.14	750.41	N/A	N/A
TW-1	557773.60	13320589.40	753.09	15.23	756.01	9.53	746.48	N/A	N/A
TW-6	557152.90	13321095.70	754.17	12.9	756.43	9.68	N/A	N/A	N/A
TW-7	557533.00	13320422.33	758.16	15.03	760.28	9.45	750.83	N/A	N/A
TW-8	557711.54	13320575.93	753.722	17.5	757.92	10.89	747.03	N/A	N/A
PW-1-20	557804.64	13320306.70	746.18	4	747.28	1.66	745.62	N/A	N/A
PW-2-20	557799.29	13320292.03	745.35	4	747.35	1.59	745.76	0.40	745.74
PW-3-20	557573.61	13320882.85	747.12	4	749.19	2.80	746.39	N/A	N/A
PW-4-20	557565.82	13320877.47	745.82	4	748.42	1.35	747.07	0.27	746.09
PW-5-20	557215.87	13321037.01	747.07	4	748.19	1.70	746.49	N/A	N/A
PW-6-20	557223.68	13321028.38	745.61	4	N/A	N/A	N/A	N/A	N/A

NOTES:

NAD83 State Plane Coordinate System, Intl Feet (Zone 2114, Michigan South)
Elevation Reference: NAVD88 Mean Sea Level (MSL)

TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004

Constituent* <i>*(Refer to detailed laboratory report for method reference data)</i>	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	PW-1-18	PW-1-19	PW-1-20	PW-1-20	PW-2-18	PW-2-19	PW-2-20	PW-2-20	PW-3-19	PW-3-20	PW-3-20
					Sample Identification											
					Collection Date	9/4/2018	4/18/2019	7/23/2020	12/10/2020	9/4/2018	4/18/2019	7/23/2020	12/10/2020	4/18/2019	7/23/2020	12/11/2020
Metals (Total)																
Arsenic	7440-38-2	10 (A)	10 (A)	10		0.76	3	46	2.2	6.8	12	15	6.5	1.9	1.6	5.4
Metals (Dissolved)																
Arsenic						<0.75	<0.75	45	10	<0.75	<0.75	11	5.7	1.2	1.8	2.9
Water Quality Parameters																
ORP (mV)						132	90.2	-78.1	-68	176.7	93.6	-98.2	-33.8	34.4	-96.4	-57.2

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

Italic -Concentrations exceeding the Groundwater/Surface Water Interface (GSI) CCRRA.

Units are measured in ug/L

NA = Not Analyzed

NS = Not Sampled

* = Water quality parameters unreliable due to sensor malfunction

Refer to R 299.49 for Footnotes for Generic Cleanup Criteria.

TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004



Constituent* <i>*(Refer to detailed laboratory report for method reference data)</i>	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	PW-4-20	PW-5-20	PW-5-20	SW-1-20	SW-1-20	SW-2-20	SW-2-20	SW-3-20	SW-3-20	SB/MW-7-12		
					Sample Identification												
					Collection Date	12/11/2020	7/24/2020	12/11/2020	7/23/2020	12/10/2020	7/23/2020	12/10/2020	7/24/2020	12/11/2020	8/9/2012	11/6/2012	4/17/2013
Metals (Total)																	
Arsenic	7440-38-2	10 (A)	10 (A)	10		1.2	80	33	4.2	13	4.1	2.6	4.3	2.2	3	2	<0.75
Metals (Dissolved)																	
Arsenic						<0.75	70	29	3.6	1.4	5.5	1.6	3.9	2.3	NA	NA	NA
Water Quality Parameters																	
ORP (mV)						-45.4	-68.3	-103.2	101.4	26.8	125.6	48.4	168	36.2	93.4	4.6	27.2

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

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TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004



Constituent*	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	SB/MW-7-12								SB/MW-9-12			
					Sample Identification												
					Collection Date	7/24/2013	9/24/2014	8/5/2015	11/18/2015	2/29/2016	4/10/2018	7/22/2020	12/9/2020	8/9/2012	11/8/2012	4/16/2013	7/23/2013
Metals (Total)																	
Arsenic	7440-38-2	10 (A)	10 (A)	10		<0.75	<0.75	<0.75	<0.75	<0.75	1.2	<0.75	<0.75	3	22	<0.75	6
Metals (Dissolved)																	
Arsenic						NA	NA	<0.75	<0.75	<0.75	1.2	<0.75	0.8	NA	NA	NA	NA
Water Quality Parameters																	
ORP (mV)						12.7	N/A	409.5	-15.1	291.5	93.2	180.1	50.4	98.8	-79.3	-9.9	-97.4

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

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TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004



Constituent*	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	SB/MW-9-12						SB/MW-11-12					
					Sample Identification												
					Collection Date	9/24/2014	8/5/2015	11/17/2015	2/29/2016	4/11/2018	12/9/2020	4/18/2013	7/23/2013	9/24/2014	8/5/2015	11/18/2015	2/23/2016
Metals (Total)																	
Arsenic	7440-38-2	10 (A)	10 (A)	10		23	3	5	<0.75	0.75	4.4	<0.75	<0.75	3	5	4	<0.75
Metals (Dissolved)																	
Arsenic						NA	2	<0.75	<0.75	0.75	<0.75	NA	NA	NA	3	26	<0.75
Water Quality Parameters																	
ORP (mV)						N/A	-30.2	-10.8	219.2	147.8	-38.6	-10.3	1.1	N/A	65.8	21.7	287.8

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

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TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004

Constituent*	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	SB/MW-11-12		SB/MW-15-14								SB/MW-16-14	
					Sample Identification												
					Collection Date	7/22/2020	12/9/2020	9/25/2014	8/4/2015	11/17/2015	2/29/2016	4/10/2018	7/22/2020	12/9/2020	9/25/2014	8/4/2015	
<i>Metals (Total)</i>																	
Arsenic	7440-38-2	10 (A)	10 (A)	10		0.91	1.2	30	23	22	12	3	1	1.6	15	7	
<i>Metals (Dissolved)</i>																	
Arsenic						0.79	0.9	NA	5	21	12	1.8	1.1	1.4	NA	10	
<i>Water Quality Parameters</i>																	
ORP (mV)						99.4	75.5	69	N/A	-99.8	88.1	65.3	162.5	191.3	75	N/A	

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

Italic -Concentrations exceeding the Groundwater/Surface Water Interface (GSI) CCRRA.

Units are measured in ug/L

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Refer to R 299.49 for Footnotes for Generic Cleanup Criteria.

TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004

Constituent*	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	SB/MW-16-14					SB/MW-17-19		SB/MW-19-19		TMW-1	
					Sample Identification											
					Collection Date	11/18/2015	2/23/2016	4/10/2018	7/22/2020	12/9/2020	7/23/2020	12/10/2020	7/23/2020	12/10/2020	8/9/2012	11/8/2012
Metals (Total)																
Arsenic	7440-38-2	10 (A)	10 (A)	10		13	25	28	35	19	28	120	<0.75	<0.75	3	NA
Metals (Dissolved)																
Arsenic						12	20	25	23	14	19	20	<0.75	<0.75	NA	<0.75
Water Quality Parameters																
ORP (mV)						-33.1	-96	-110.1	-26.7	-105.3	-25.1	-16.9	187.4	252.9	N/A	N/A

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

Italic -Concentrations exceeding the Groundwater/Surface Water Interface (GSI) CCRRA.

Units are measured in ug/L

NA = Not Analyzed

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Refer to R 299.49 for Footnotes for Generic Cleanup Criteria.

TABLE 2 - December 2020 and Historical Arsenic Analytical Results Summary
RACER-Davison Road Industrial Land
December 9 - 11, 2020
ERG Project No.: 1119.004

Constituent*	Chemical Abstract Service Number	Residential Drinking Water Criteria	Nonresidential Drinking Water Criteria	Groundwater Surface Water Interface Criteria	Sample Location	TMW-1										TMW-9	
					Sample Identification												
					Collection Date	4/17/2013	7/24/2013	9/24/2014	8/5/2015	11/18/2015	2/23/2016	4/10/2018	7/22/2020	12/9/2020	7/24/2020	12/11/2020	
<i>Metals (Total)</i>																	
Arsenic	7440-38-2	10 (A)	10 (A)	10		<0.75	4	5	<0.75	2	<0.75	1.9	1.2	1.4	13	6.2	
<i>Metals (Dissolved)</i>																	
Arsenic						NA	NA	NA	3	<0.75	<0.75	1.1	<0.75	0.88	1	1.3	
<i>Water Quality Parameters</i>																	
ORP (mV)						N/A	N/A	N/A	N/A	-17.9	65.3	88.7	43.5	-51.8	193.3*	11	

Notes:

Concentrations were compared to EGLE Cleanup Criteria Requirements for Response Activity (CCRRA), Effective December 30, 2013 (formerly Part 201 Residential Generic Cleanup Criteria and Screening Levels; Part 213 Tier 1 Risk-Based Screening Levels (RBSLs))

Bold -Concentrations exceeding the Residential/Nonresidential Drinking Water CCRRA.

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Refer to R 299.49 for Footnotes for Generic Cleanup Criteria.

APPENDIX 3

LABORATORY ANALYTICAL RESULTS

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-142060-1
Client Project/Site: Racer / 1119.004

For:
Environmental Resources Group, LLC
28003 Center Oaks Ct.
Suite 106
Wixom, Michigan 48393

Attn: Susan Graves



Authorized for release by:
12/23/2020 11:07:48 AM

Michael DelMonico, Project Manager I
(330)497-9396
Michael.DelMonico@Eurofinset.com

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Job ID: 240-142060-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: Environmental Resources Group, LLC

Project: Racer / 1119.004

Report Number: 240-142060-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

Eurofins TestAmerica, Canton attests to the validity of the laboratory data generated by Eurofins TestAmerica facilities reported herein. All analyses performed by Eurofins TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. Eurofins TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of Eurofins TestAmerica and its client.

RECEIPT

The samples were received on 12/17/2020 8:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.1° C and 4.1° C.

DISSOLVED METALS (ICPMS)

Samples MW-15-14 (240-142060-1), MW-11-12 (240-142060-2), MW-9-12 (240-142060-3), MW-7-12 (240-142060-4), TW-1 (240-142060-5), MW-16-14 (240-142060-6), MW-19-19 (240-142060-7), MW-17-19 (240-142060-8), PW-2-20 (240-142060-9), PW-1-20 (240-142060-10), SW-1-20 (240-142060-11), PW-3-20 (240-142060-12), PW-4-20 (240-142060-13), SW-2-20 (240-142060-14), PW-6-20 (240-142060-15), SW-3-20 (240-142060-16) and TMW-9 (240-142060-17) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/18/2020 and analyzed on 12/21/2020.

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

TOTAL RECOVERABLE METALS (ICPMS)

Samples MW-15-14 (240-142060-1), MW-11-12 (240-142060-2), MW-9-12 (240-142060-3), MW-7-12 (240-142060-4), TW-1 (240-142060-5), MW-16-14 (240-142060-6), MW-19-19 (240-142060-7), MW-17-19 (240-142060-8), PW-2-20 (240-142060-9), PW-1-20 (240-142060-10), SW-1-20 (240-142060-11), PW-3-20 (240-142060-12), PW-4-20 (240-142060-13), SW-2-20 (240-142060-14), PW-6-20 (240-142060-15), SW-3-20 (240-142060-16) and TMW-9 (240-142060-17) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 12/18/2020 and analyzed on 12/21/2020.

Case Narrative

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Job ID: 240-142060-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

No analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

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Method Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Sample Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-142060-1	MW-15-14	Water	12/09/20 10:50	12/17/20 08:00	
240-142060-2	MW-11-12	Water	12/09/20 12:00	12/17/20 08:00	
240-142060-3	MW-9-12	Water	12/09/20 12:45	12/17/20 08:00	
240-142060-4	MW-7-12	Water	12/09/20 13:40	12/17/20 08:00	
240-142060-5	TW-1	Water	12/09/20 14:50	12/17/20 08:00	
240-142060-6	MW-16-14	Water	12/09/20 15:55	12/17/20 08:00	
240-142060-7	MW-19-19	Water	12/10/20 09:20	12/17/20 08:00	
240-142060-8	MW-17-19	Water	12/10/20 11:15	12/17/20 08:00	
240-142060-9	PW-2-20	Water	12/10/20 13:35	12/17/20 08:00	
240-142060-10	PW-1-20	Water	12/10/20 14:30	12/17/20 08:00	
240-142060-11	SW-1-20	Water	12/10/20 14:45	12/17/20 08:00	
240-142060-12	PW-3-20	Water	12/10/20 15:55	12/17/20 08:00	
240-142060-13	PW-4-20	Water	12/11/20 09:45	12/17/20 08:00	
240-142060-14	SW-2-20	Water	12/11/20 10:05	12/17/20 08:00	
240-142060-15	PW-6-20	Water	12/11/20 11:35	12/17/20 08:00	
240-142060-16	SW-3-20	Water	12/11/20 11:50	12/17/20 08:00	
240-142060-17	TMW-9	Water	12/11/20 12:10	12/17/20 08:00	

Detection Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-15-14

Lab Sample ID: 240-142060-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.6	J	5.0	0.75	ug/L	1		6020	Total
Arsenic	1.4	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: MW-11-12

Lab Sample ID: 240-142060-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.2	J	5.0	0.75	ug/L	1		6020	Total
Arsenic	0.90	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: MW-9-12

Lab Sample ID: 240-142060-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.4	J	5.0	0.75	ug/L	1		6020	Total Recoverable

Client Sample ID: MW-7-12

Lab Sample ID: 240-142060-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.80	J	5.0	0.75	ug/L	1		6020	Dissolved

Client Sample ID: TW-1

Lab Sample ID: 240-142060-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.4	J	5.0	0.75	ug/L	1		6020	Total
Arsenic	0.88	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: MW-16-14

Lab Sample ID: 240-142060-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		5.0	0.75	ug/L	1		6020	Total
Arsenic	14		5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: MW-19-19

Lab Sample ID: 240-142060-7

No Detections.

Client Sample ID: MW-17-19

Lab Sample ID: 240-142060-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	120		5.0	0.75	ug/L	1		6020	Total
Arsenic	20		5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: PW-2-20

Lab Sample ID: 240-142060-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.5		5.0	0.75	ug/L	1		6020	Total
Arsenic	5.7		5.0	0.75	ug/L	1		6020	Recoverable Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: PW-1-20

Lab Sample ID: 240-142060-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.2	J	5.0	0.75	ug/L	1		6020	Total
Arsenic	10		5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: SW-1-20

Lab Sample ID: 240-142060-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	13		5.0	0.75	ug/L	1		6020	Total
Arsenic	1.4	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: PW-3-20

Lab Sample ID: 240-142060-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	1.2	J	5.0	0.75	ug/L	1		6020	Total Recoverable

Client Sample ID: PW-4-20

Lab Sample ID: 240-142060-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.4		5.0	0.75	ug/L	1		6020	Total
Arsenic	2.9	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: SW-2-20

Lab Sample ID: 240-142060-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.6	J	5.0	0.75	ug/L	1		6020	Total
Arsenic	1.6	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: PW-6-20

Lab Sample ID: 240-142060-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	33		5.0	0.75	ug/L	1		6020	Total
Arsenic	29		5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: SW-3-20

Lab Sample ID: 240-142060-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.2	J	5.0	0.75	ug/L	1		6020	Total
Arsenic	2.3	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

Client Sample ID: TMW-9

Lab Sample ID: 240-142060-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.2		5.0	0.75	ug/L	1		6020	Total
Arsenic	1.3	J	5.0	0.75	ug/L	1		6020	Recoverable Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-15-14

Lab Sample ID: 240-142060-1

Date Collected: 12/09/20 10:50

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.6	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:15	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.4	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:03	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-11-12

Lab Sample ID: 240-142060-2

Date Collected: 12/09/20 12:00

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.2	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:27	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.90	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:15	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-9-12

Lab Sample ID: 240-142060-3

Date Collected: 12/09/20 12:45

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.4	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:29	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:18	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-7-12

Lab Sample ID: 240-142060-4

Date Collected: 12/09/20 13:40

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:32	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.80	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:20	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: TW-1

Date Collected: 12/09/20 14:50

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-5

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.4	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:39	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.88	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:23	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-16-14

Lab Sample ID: 240-142060-6

Date Collected: 12/09/20 15:55

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:42	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	14		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:30	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-19-19

Lab Sample ID: 240-142060-7

Date Collected: 12/10/20 09:20

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:44	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:33	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-17-19

Lab Sample ID: 240-142060-8

Date Collected: 12/10/20 11:15

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	120		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:47	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	20		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:35	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: PW-2-20

Date Collected: 12/10/20 13:35

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-9

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.5		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:49	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.7		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:38	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: PW-1-20

Lab Sample ID: 240-142060-10

Date Collected: 12/10/20 14:30

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.2	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:54	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:40	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: SW-1-20

Date Collected: 12/10/20 14:45

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-11

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:52	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.4	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:43	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: PW-3-20

Lab Sample ID: 240-142060-12

Date Collected: 12/10/20 15:55

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.2	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:57	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:45	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: PW-4-20

Lab Sample ID: 240-142060-13

Date Collected: 12/11/20 09:45

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.4		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:59	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.9	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:48	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: SW-2-20

Lab Sample ID: 240-142060-14

Date Collected: 12/11/20 10:05

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.6	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 20:02	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.6	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:50	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: PW-6-20

Date Collected: 12/11/20 11:35

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-15

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	33		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 20:09	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	29		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 18:53	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: SW-3-20

Lab Sample ID: 240-142060-16

Date Collected: 12/11/20 11:50

Matrix: Water

Date Received: 12/17/20 08:00

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.2	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 20:12	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.3	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:00	1

Client Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: TMW-9

Date Collected: 12/11/20 12:10

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-17

Matrix: Water

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.2		5.0	0.75	ug/L		12/18/20 14:00	12/21/20 20:14	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.3	J	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:03	1

QC Sample Results

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-466079/1-A
Matrix: Water
Analysis Batch: 466536

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 466079

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 19:10	1

Lab Sample ID: LCS 240-466079/2-A
Matrix: Water
Analysis Batch: 466536

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 466079

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	954		ug/L		95	80 - 120

Lab Sample ID: 240-142060-1 MS
Matrix: Water
Analysis Batch: 466536

Client Sample ID: MW-15-14
Prep Type: Total Recoverable
Prep Batch: 466079

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.6	J	1000	949		ug/L		95	75 - 125

Lab Sample ID: 240-142060-1 MSD
Matrix: Water
Analysis Batch: 466536

Client Sample ID: MW-15-14
Prep Type: Total Recoverable
Prep Batch: 466079

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.6	J	1000	1030		ug/L		103	75 - 125	8	20

Lab Sample ID: MB 240-466082/1-A
Matrix: Water
Analysis Batch: 466536

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 466082

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.75	U	5.0	0.75	ug/L		12/18/20 14:00	12/21/20 17:46	1

Lab Sample ID: LCS 240-466082/2-A
Matrix: Water
Analysis Batch: 466536

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 466082

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1000	901		ug/L		90	80 - 120

Lab Sample ID: 240-142060-1 MS
Matrix: Water
Analysis Batch: 466536

Client Sample ID: MW-15-14
Prep Type: Dissolved
Prep Batch: 466082

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.4	J	1000	975		ug/L		97	75 - 125

Lab Sample ID: 240-142060-1 MSD
Matrix: Water
Analysis Batch: 466536

Client Sample ID: MW-15-14
Prep Type: Dissolved
Prep Batch: 466082

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	1.4	J	1000	980		ug/L		98	75 - 125	0	20

Eurofins TestAmerica, Canton

QC Association Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Metals

Prep Batch: 466079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-142060-1	MW-15-14	Total Recoverable	Water	3005A	
240-142060-2	MW-11-12	Total Recoverable	Water	3005A	
240-142060-3	MW-9-12	Total Recoverable	Water	3005A	
240-142060-4	MW-7-12	Total Recoverable	Water	3005A	
240-142060-5	TW-1	Total Recoverable	Water	3005A	
240-142060-6	MW-16-14	Total Recoverable	Water	3005A	
240-142060-7	MW-19-19	Total Recoverable	Water	3005A	
240-142060-8	MW-17-19	Total Recoverable	Water	3005A	
240-142060-9	PW-2-20	Total Recoverable	Water	3005A	
240-142060-10	PW-1-20	Total Recoverable	Water	3005A	
240-142060-11	SW-1-20	Total Recoverable	Water	3005A	
240-142060-12	PW-3-20	Total Recoverable	Water	3005A	
240-142060-13	PW-4-20	Total Recoverable	Water	3005A	
240-142060-14	SW-2-20	Total Recoverable	Water	3005A	
240-142060-15	PW-6-20	Total Recoverable	Water	3005A	
240-142060-16	SW-3-20	Total Recoverable	Water	3005A	
240-142060-17	TMW-9	Total Recoverable	Water	3005A	
MB 240-466079/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-466079/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-142060-1 MS	MW-15-14	Total Recoverable	Water	3005A	
240-142060-1 MSD	MW-15-14	Total Recoverable	Water	3005A	

Prep Batch: 466082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-142060-1	MW-15-14	Dissolved	Water	3005A	
240-142060-2	MW-11-12	Dissolved	Water	3005A	
240-142060-3	MW-9-12	Dissolved	Water	3005A	
240-142060-4	MW-7-12	Dissolved	Water	3005A	
240-142060-5	TW-1	Dissolved	Water	3005A	
240-142060-6	MW-16-14	Dissolved	Water	3005A	
240-142060-7	MW-19-19	Dissolved	Water	3005A	
240-142060-8	MW-17-19	Dissolved	Water	3005A	
240-142060-9	PW-2-20	Dissolved	Water	3005A	
240-142060-10	PW-1-20	Dissolved	Water	3005A	
240-142060-11	SW-1-20	Dissolved	Water	3005A	
240-142060-12	PW-3-20	Dissolved	Water	3005A	
240-142060-13	PW-4-20	Dissolved	Water	3005A	
240-142060-14	SW-2-20	Dissolved	Water	3005A	
240-142060-15	PW-6-20	Dissolved	Water	3005A	
240-142060-16	SW-3-20	Dissolved	Water	3005A	
240-142060-17	TMW-9	Dissolved	Water	3005A	
MB 240-466082/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-466082/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-142060-1 MS	MW-15-14	Dissolved	Water	3005A	
240-142060-1 MSD	MW-15-14	Dissolved	Water	3005A	

Analysis Batch: 466536

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-142060-1	MW-15-14	Dissolved	Water	6020	466082
240-142060-1	MW-15-14	Total Recoverable	Water	6020	466079
240-142060-2	MW-11-12	Dissolved	Water	6020	466082

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QC Association Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Metals (Continued)

Analysis Batch: 466536 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-142060-2	MW-11-12	Total Recoverable	Water	6020	466079
240-142060-3	MW-9-12	Dissolved	Water	6020	466082
240-142060-3	MW-9-12	Total Recoverable	Water	6020	466079
240-142060-4	MW-7-12	Dissolved	Water	6020	466082
240-142060-4	MW-7-12	Total Recoverable	Water	6020	466079
240-142060-5	TW-1	Dissolved	Water	6020	466082
240-142060-5	TW-1	Total Recoverable	Water	6020	466079
240-142060-6	MW-16-14	Dissolved	Water	6020	466082
240-142060-6	MW-16-14	Total Recoverable	Water	6020	466079
240-142060-7	MW-19-19	Dissolved	Water	6020	466082
240-142060-7	MW-19-19	Total Recoverable	Water	6020	466079
240-142060-8	MW-17-19	Dissolved	Water	6020	466082
240-142060-8	MW-17-19	Total Recoverable	Water	6020	466079
240-142060-9	PW-2-20	Dissolved	Water	6020	466082
240-142060-9	PW-2-20	Total Recoverable	Water	6020	466079
240-142060-10	PW-1-20	Dissolved	Water	6020	466082
240-142060-10	PW-1-20	Total Recoverable	Water	6020	466079
240-142060-11	SW-1-20	Dissolved	Water	6020	466082
240-142060-11	SW-1-20	Total Recoverable	Water	6020	466079
240-142060-12	PW-3-20	Dissolved	Water	6020	466082
240-142060-12	PW-3-20	Total Recoverable	Water	6020	466079
240-142060-13	PW-4-20	Dissolved	Water	6020	466082
240-142060-13	PW-4-20	Total Recoverable	Water	6020	466079
240-142060-14	SW-2-20	Dissolved	Water	6020	466082
240-142060-14	SW-2-20	Total Recoverable	Water	6020	466079
240-142060-15	PW-6-20	Dissolved	Water	6020	466082
240-142060-15	PW-6-20	Total Recoverable	Water	6020	466079
240-142060-16	SW-3-20	Dissolved	Water	6020	466082
240-142060-16	SW-3-20	Total Recoverable	Water	6020	466079
240-142060-17	TMW-9	Dissolved	Water	6020	466082
240-142060-17	TMW-9	Total Recoverable	Water	6020	466079
MB 240-466079/1-A	Method Blank	Total Recoverable	Water	6020	466079
MB 240-466082/1-A	Method Blank	Total Recoverable	Water	6020	466082
LCS 240-466079/2-A	Lab Control Sample	Total Recoverable	Water	6020	466079
LCS 240-466082/2-A	Lab Control Sample	Total Recoverable	Water	6020	466082
240-142060-1 MS	MW-15-14	Dissolved	Water	6020	466082
240-142060-1 MS	MW-15-14	Total Recoverable	Water	6020	466079
240-142060-1 MSD	MW-15-14	Dissolved	Water	6020	466082
240-142060-1 MSD	MW-15-14	Total Recoverable	Water	6020	466079

Lab Chronicle

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-15-14

Lab Sample ID: 240-142060-1

Date Collected: 12/09/20 10:50

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:03	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:15	DSH	TAL CAN

Client Sample ID: MW-11-12

Lab Sample ID: 240-142060-2

Date Collected: 12/09/20 12:00

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:15	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:27	DSH	TAL CAN

Client Sample ID: MW-9-12

Lab Sample ID: 240-142060-3

Date Collected: 12/09/20 12:45

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:18	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:29	DSH	TAL CAN

Client Sample ID: MW-7-12

Lab Sample ID: 240-142060-4

Date Collected: 12/09/20 13:40

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:20	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:32	DSH	TAL CAN

Client Sample ID: TW-1

Lab Sample ID: 240-142060-5

Date Collected: 12/09/20 14:50

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:23	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:39	DSH	TAL CAN

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Lab Chronicle

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: MW-16-14

Lab Sample ID: 240-142060-6

Date Collected: 12/09/20 15:55

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:30	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:42	DSH	TAL CAN

Client Sample ID: MW-19-19

Lab Sample ID: 240-142060-7

Date Collected: 12/10/20 09:20

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:33	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:44	DSH	TAL CAN

Client Sample ID: MW-17-19

Lab Sample ID: 240-142060-8

Date Collected: 12/10/20 11:15

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:35	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:47	DSH	TAL CAN

Client Sample ID: PW-2-20

Lab Sample ID: 240-142060-9

Date Collected: 12/10/20 13:35

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:38	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:49	DSH	TAL CAN

Client Sample ID: PW-1-20

Lab Sample ID: 240-142060-10

Date Collected: 12/10/20 14:30

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:40	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:54	DSH	TAL CAN

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Lab Chronicle

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: SW-1-20

Lab Sample ID: 240-142060-11

Date Collected: 12/10/20 14:45

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:43	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:52	DSH	TAL CAN

Client Sample ID: PW-3-20

Lab Sample ID: 240-142060-12

Date Collected: 12/10/20 15:55

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:45	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:57	DSH	TAL CAN

Client Sample ID: PW-4-20

Lab Sample ID: 240-142060-13

Date Collected: 12/11/20 09:45

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:48	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 19:59	DSH	TAL CAN

Client Sample ID: SW-2-20

Lab Sample ID: 240-142060-14

Date Collected: 12/11/20 10:05

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:50	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 20:02	DSH	TAL CAN

Client Sample ID: PW-6-20

Lab Sample ID: 240-142060-15

Date Collected: 12/11/20 11:35

Matrix: Water

Date Received: 12/17/20 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 18:53	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 20:09	DSH	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Client Sample ID: SW-3-20

Date Collected: 12/11/20 11:50

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-16

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 19:00	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 20:12	DSH	TAL CAN

Client Sample ID: TMW-9

Date Collected: 12/11/20 12:10

Date Received: 12/17/20 08:00

Lab Sample ID: 240-142060-17

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			466082	12/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	466536	12/21/20 19:03	DSH	TAL CAN
Total Recoverable	Prep	3005A			466079	12/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	466536	12/21/20 20:14	DSH	TAL CAN

Laboratory References:

TAL CAN = Eurofins TestAmerica, Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Accreditation/Certification Summary

Client: Environmental Resources Group, LLC
Project/Site: Racer / 1119.004

Job ID: 240-142060-1

Laboratory: Eurofins TestAmerica, Canton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

Chain of Custody Record 494874 eurofins

MICHIGAN 190

Environment Testing
TestAmerica

TAL-8210

1-2 | 2-1
3-2 | 4-1

Address:

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: Sue Graves		Site Contact:		Date:		COC No:	
Company Name: Environmental Resources Group		Tel/Email: Sue.graves@ergp.net		Lab Contact:		Carrier:		1 of 2 COCs	
Address: 28003 Center Oaks Ct., Suite 106		Analysis Turnaround Time		Perform MS / MSD (Y / N)				Sampler: Justin Collumash	
City/State/Zip: Wixom, MI 48393		☐ CALENDAR DAYS ☐ WORKING DAYS		Filtered Sample (Y / N)				For Lab Use Only:	
Phone: 248-766-1648		TAT if different from Below: STANDARD		Sample Type (C=Comp, G=Grab)				Walk-In Client:	
Fax:		☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Sample Date		Sample Time		Lab Sampling:	
Project Name: RACER / 1119.004				Sample Date		Sample Time		Job / SDG No.:	
Site:				Sample Identification		Sample Type			
PO #				Sample Date		Sample Time			
				Sample Date		Sample Time			
MW-15-14		12/9/20	10:50	G	GW	2		X	 240-142060 Chain of Custody
MW-11-12			12:00			2		X	
MW-9-12			12:45			2		X	
MW-7-12			13:40			2		X	
TN-1			14:50			2		X	
MW-16-14			15:55			2		X	
MN-19-19		12/10/20	9:25			2		X	
MW-17-19			11:15			2		X	
PW-2-20			13:35			2		X	
PW-1-20			14:30			2		X	
SW-1-20			14:45		SW	2		X	
PW-3-20			15:55		GW	2		X	

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other

Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Special Instructions/QC Requirements & Comments:

Custody Seals Intact:	Yes	No	Custody Seal No.:	Company:	Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
				ERG	ERG Sample Fridge	12/11/20 15:20	ERG	ERG Sample Fridge	12/11/20 15:20	ERG	ERG Sample Fridge	12/11/20 15:20	ERG	ERG Sample Fridge	12/11/20 15:20	ERG	ERG Sample Fridge	12/11/20 15:20	ERG
				ERG	ERG Sample Fridge	12/11/20 11:36	ERG	ERG Sample Fridge	12/11/20 11:36	ERG	ERG Sample Fridge	12/11/20 11:36	ERG	ERG Sample Fridge	12/11/20 11:36	ERG	ERG Sample Fridge	12/11/20 11:36	ERG
				ETA	ETA	12/16/20 8:00	ETA	ETA	12/16/20 8:00	ETA	ETA	12/16/20 8:00	ETA	ETA	12/16/20 8:00	ETA	ETA	12/16/20 8:00	ETA

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TAL-8210

Address:

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Company Name: Environmental Resources Group Address: 28003 Center Oaks Ct., Suite 106 City/State/Zip: Wilton, MI 48393 Phone: 248-766-1048 Fax: Project Name: RACER / 1119.004 Site: P.O.#		Client Contact Project Manager: Sue Graves Tel/Email: sue.graves@ergpr.net Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Site Contact: Lab Contact: Date: Carrier:		COC No: 2 of 2 COCs Sampler: Justin Cummings For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:					
Sample Identification PW-4-20 PW-6-20 PW-3-20 TMW-9		Sample Date 12/11/20 10:05 11:35 11:50 12:10		Sample Type G SW GW SW GW		Matrix GW SW GW SW GW		# of Cont. 2 2 2 2 2		Sample Specific Notes: (Field filtered) Dissolved As Total As	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other											
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.											
Special Instructions/QC Requirements & Comments:											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months											
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Cor'd:		Therm ID No.:			
Relinquished by:		Date/Time: 12/11/20 15:20		Received by: ERG Sample Friday		Date/Time: 12/11/20 15:20		Company: ERG			
Relinquished by:		Date/Time: 12/16/20 11:35		Received by:		Date/Time: 12/16/20 11:36		Company:			
Relinquished by:		Date/Time: 12/16/20		Received by:		Date/Time: 12-17-20 800		Company:			

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 142040

Canton Facility

Client Environmental Resources Site Name

Cooler unpacked by:

Cooler Received on 12-17-20

Opened on 12-17-20

Harry Rager

FedEx: 1st Grd Exp UPS FAS Clipper

Client Drop Off TestAmerica Courier

Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☐ See Multiple Cooler Form

IR GUN# IR-11 (CF +0.9 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

IR GUN #IR-12 (CF +0.5 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA

-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)?

4. Did custody papers accompany the sample(s)?

5. Were the custody papers relinquished & signed in the appropriate place?

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No

7. Did all bottles arrive in good condition (Unbroken)? Yes No

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

10. Were correct bottle(s) used for the test(s) indicated? Yes No

11. Sufficient quantity received to perform indicated analyses? Yes No

12. Are these work share samples and all listed on the COC? Yes No

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt?

Yes No NA pH Strip Lot# HC907861

14. Were VOAs on the COC?

Yes No NA

15. Were air bubbles >6 mm in any VOA vials? Larger than this.

Yes No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #

Yes No NA

17. Was a LL Hg or Me Hg trip blank present? Yes No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

Time preserved: Preservative(s) added/Lot number(s):

VOA Sample Preservation - Date/Time VOAs Frozen:

WI-NC-099

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[illegible]

WI-NC-099 Cooler Receipt Form Page 2 – Multiple Coolers

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container		Preservative	
			pH	Temp	Added (mls)	Lot #
MW-15-14	240-142060-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-15-14	240-142060-B-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-11-12	240-142060-A-2	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-11-12	240-142060-B-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-9-12	240-142060-A-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-9-12	240-142060-B-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-7-12	240-142060-A-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-7-12	240-142060-B-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
TW-1	240-142060-A-5	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
TW-1	240-142060-B-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-16-14	240-142060-A-6	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-16-14	240-142060-B-6	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-19-19	240-142060-A-7	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-19-19	240-142060-B-7	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-17-19	240-142060-A-8	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-17-19	240-142060-B-8	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
PW-2-20	240-142060-A-9	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
PW-2-20	240-142060-B-9	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
PW-1-20	240-142060-A-10	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
PW-1-20	240-142060-B-10	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
SW-1-20	240-142060-A-11	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
SW-1-20	240-142060-B-11	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
PW-3-20	240-142060-A-12	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
PW-3-20	240-142060-B-12	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
PW-4-20	240-142060-A-13	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
PW-4-20	240-142060-B-13	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
SW-2-20	240-142060-A-14	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
SW-2-20	240-142060-B-14	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
PW-6-20	240-142060-A-15	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
PW-6-20	240-142060-B-15	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
SW-3-20	240-142060-A-16	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
SW-3-20	240-142060-B-16	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
TMW-9	240-142060-A-17	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
TMW-9	240-142060-B-17	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____



Environment Testing
TestAmerica

Eurofins TestAmerica Billing Sheet

Client: Environmental Resources Group

Field Personnel: Amanda Battershell

Site: Racer Davison

Date: 12/16/20

☒ Pickup ☐ City Split Pickup ☐ City Split Pickup & Pour Up
☐ Sampling ☐ Rush TAT ☐ Same Day TAT
☐ Composite ☐ Grab ☐ Available CN (field)
☐ On Site (Hrs.) ☐ Drive Time (Hrs.)
☐ Truck Fee ☐ Mileage (out of area)

Equipment Used



240-142060 Field Sheet

☐ ISCO/Composite Sampler ☐ Tyvek Suit
☐ Flow Meter ☐ SS Auger
☐ Tubing (Ft.) ☐ SS Shovel
☐ Rope (Ft.) ☐ Disposable Slot Sampler
☐ Coliwasa ☐ Drum Coring Bit
☐ pH Meter ☐ Air Comp. & Control Box
☐ Disposable Bailer ☐ 3ft. ☐ 6ft. ☐ 7ft.
☐ Misc. /Other Equipment: _____

APPENDIX 4

LOW FLOW DATA SHEETS

Low-Flow Test Report:

Test Date / Time: 12/9/2020 10:31:19 AM
Project: RACER MW-15-14
Operator Name: CJB

Location Name: RACER MW-15-14 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Total Depth: 21.74 ft Initial Depth to Water: 7.29 ft	Pump Type: Peristaltic Pump Intake From TOC: 14.5 ft Estimated Total Volume Pumped: 405 ml Flow Cell Volume: 130 ml Final Flow Rate: 45 ml/min Final Draw Down: 0.32 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Weather Conditions:
40, cloudy

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/9/2020 10:31 AM	00:00	7.24 pH	7.06 °C	2,974.3 µS/cm	3.95 mg/L	0.00 NTU	190.2 mV	7.29 ft	45.00 ml/min
12/9/2020 10:34 AM	03:00	7.24 pH	7.40 °C	2,976.5 µS/cm	3.47 mg/L	0.00 NTU	189.7 mV	7.29 ft	45.00 ml/min
12/9/2020 10:37 AM	06:00	7.24 pH	7.26 °C	2,977.0 µS/cm	3.42 mg/L	0.00 NTU	190.4 mV	7.29 ft	45.00 ml/min
12/9/2020 10:40 AM	09:00	7.25 pH	7.39 °C	2,976.2 µS/cm	3.41 mg/L	0.00 NTU	191.3 mV	7.29 ft	45.00 ml/min

Samples

Sample ID:	Description:
RACER MW-15-14	As Dissolved As 10:50

Low-Flow Test Report:

Test Date / Time: 12/9/2020 11:13:24 AM
Project: RACER TMW-9
Operator Name: JEC

Location Name: RACER TMW-9 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 0 ft Total Depth: 4.95 ft Initial Depth to Water: 4.12 ft	Pump Type: Peristaltic Pump Intake From TOC: 4.7 ft Estimated Total Volume Pumped: 508 ml Flow Cell Volume: 130 ml Final Flow Rate: 48 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Weather Conditions:
Overcast, 38 degrees

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
12/9/2020 11:13 AM	00:00	6.83 pH	5.86 °C	1,183.3 µS/cm	4.24 mg/L	153.10 NTU	-42.0 mV	4.12 ft	48.00 ml/min
12/9/2020 11:23 AM	10:35	7.10 pH	5.88 °C	0.09 µS/cm	11.99 mg/L	0.00 NTU	11.0 mV	4.12 ft	48.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 12/9/2020 11:32:42 AM
Project: RACER MW-11-12
Operator Name: JEC

Location Name: RACER MW-11-12 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 8.96 ft Total Depth: 13.96 ft Initial Depth to Water: 12.79 ft	Pump Type: Peristaltic Pump Intake From TOC: 13.4 ft Estimated Total Volume Pumped: 0.25 gal Flow Cell Volume: 130 ml Final Flow Rate: 50 ml/min Final Draw Down: 0.27 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/9/2020 11:32 AM	00:00	6.72 pH	7.38 °C	3,265.5 µS/cm	5.55 mg/L	0.00 NTU	58.7 mV	12.79 ft	50.00 ml/min
12/9/2020 11:35 AM	03:00	6.69 pH	7.26 °C	3,224.6 µS/cm	5.02 mg/L	0.00 NTU	62.3 mV	12.79 ft	50.00 ml/min
12/9/2020 11:38 AM	06:00	6.68 pH	7.09 °C	3,189.6 µS/cm	4.56 mg/L	0.00 NTU	68.2 mV	12.79 ft	50.00 ml/min
12/9/2020 11:41 AM	09:00	6.68 pH	7.16 °C	3,173.9 µS/cm	4.23 mg/L	0.00 NTU	71.5 mV	12.79 ft	50.00 ml/min
12/9/2020 11:44 AM	12:00	6.68 pH	7.41 °C	3,166.7 µS/cm	4.22 mg/L	0.00 NTU	74.0 mV	12.79 ft	50.00 ml/min
12/9/2020 11:47 AM	15:00	6.68 pH	7.52 °C	3,167.8 µS/cm	4.39 mg/L	0.00 NTU	75.5 mV	12.79 ft	50.00 ml/min

Samples

Sample ID:	Description:
RACER MW-11-12	

Low-Flow Test Report:

Test Date / Time: 12/9/2020 12:24:28 PM
Project: RACER MW-9-12
Operator Name: JEC

Location Name: RACER MW-9-12 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 10.35 ft Total Depth: 15.35 ft Initial Depth to Water: 10.3 ft	Pump Type: Peristaltic Pump Intake From TOC: 12.75 ft Estimated Total Volume Pumped: 0.25 gal Flow Cell Volume: 130 ml Final Flow Rate: 40 ml/min Final Draw Down: 0.2 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/9/2020 12:24 PM	00:00	6.95 pH	7.78 °C	2,619.9 µS/cm	0.87 mg/L	10.26 NTU	-31.8 mV	10.30 ft	40.00 ml/min
12/9/2020 12:27 PM	03:00	6.94 pH	7.87 °C	2,611.4 µS/cm	0.55 mg/L	31.31 NTU	-39.5 mV	10.30 ft	40.00 ml/min
12/9/2020 12:30 PM	06:00	6.94 pH	8.17 °C	2,601.3 µS/cm	0.52 mg/L	17.45 NTU	-40.4 mV	10.30 ft	40.00 ml/min
12/9/2020 12:33 PM	09:00	6.94 pH	8.15 °C	2,599.2 µS/cm	0.44 mg/L	17.31 NTU	-37.3 mV	10.30 ft	40.00 ml/min
12/9/2020 12:36 PM	12:00	6.94 pH	8.12 °C	2,593.2 µS/cm	0.46 mg/L	12.34 NTU	-38.6 mV	10.30 ft	40.00 ml/min

Samples

Sample ID:	Description:
RACER MW-9-12	

Low-Flow Test Report:

Test Date / Time: 12/9/2020 1:20:20 PM
Project: RACER MW-7-12
Operator Name: JEC

Location Name: RACER MW-7-12 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 8.95 ft Total Depth: 13.95 ft Initial Depth to Water: 8.44 ft	Pump Type: Peristaltic Pump Intake From TOC: 11.1 ft Estimated Total Volume Pumped: 0.25 gal Flow Cell Volume: 130 ml Final Flow Rate: 50 ml/min Final Draw Down: 0.06 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
--	--	--

Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/9/2020 1:20 PM	00:00	6.96 pH	7.77 °C	1,995.8 µS/cm	2.38 mg/L	0.00 NTU	52.2 mV	8.44 ft	50.00 ml/min
12/9/2020 1:23 PM	03:00	6.94 pH	7.85 °C	1,993.3 µS/cm	2.18 mg/L	0.00 NTU	51.2 mV	8.44 ft	50.00 ml/min
12/9/2020 1:26 PM	06:00	6.94 pH	8.16 °C	1,993.7 µS/cm	2.06 mg/L	0.00 NTU	50.7 mV	8.44 ft	50.00 ml/min
12/9/2020 1:29 PM	09:00	6.94 pH	8.23 °C	1,991.2 µS/cm	1.98 mg/L	0.00 NTU	50.4 mV	8.44 ft	50.00 ml/min

Samples

Sample ID:	Description:
RACER MW-7-12	

Low-Flow Test Report:

Test Date / Time: 12/9/2020 2:08:51 PM
Project: RACER TW-1
Operator Name: JEC

Location Name: RACER TW-1 Well Diameter: 1 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 10.23 ft Total Depth: 15.23 ft Initial Depth to Water: 10 ft	Pump Type: Peristaltic Pump Intake From TOC: 12.4 ft Estimated Total Volume Pumped: 0.5 gal Flow Cell Volume: 130 ml Final Flow Rate: 50 ml/min Final Draw Down: 0.66 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/9/2020 2:08 PM	00:00	6.92 pH	8.22 °C	1,781.2 µS/cm	1.37 mg/L	8.86 NTU	50.6 mV	10.00 ft	50.00 ml/min
12/9/2020 2:11 PM	03:00	6.91 pH	8.60 °C	1,770.7 µS/cm	0.91 mg/L	7.38 NTU	39.1 mV	10.00 ft	50.00 ml/min
12/9/2020 2:14 PM	06:00	6.90 pH	8.68 °C	1,770.6 µS/cm	0.87 mg/L	2.16 NTU	26.6 mV	10.00 ft	50.00 ml/min
12/9/2020 2:17 PM	09:00	6.89 pH	8.79 °C	1,772.8 µS/cm	0.47 mg/L	0.84 NTU	12.6 mV	10.00 ft	50.00 ml/min
12/9/2020 2:20 PM	12:00	6.88 pH	9.09 °C	1,771.8 µS/cm	0.29 mg/L	0.00 NTU	-2.7 mV	10.00 ft	50.00 ml/min
12/9/2020 2:23 PM	15:00	6.88 pH	9.01 °C	1,772.4 µS/cm	0.22 mg/L	0.31 NTU	-12.5 mV	10.00 ft	50.00 ml/min
12/9/2020 2:26 PM	18:00	6.87 pH	8.84 °C	1,776.4 µS/cm	0.21 mg/L	0.47 NTU	-23.0 mV	10.00 ft	50.00 ml/min
12/9/2020 2:29 PM	21:00	6.86 pH	8.92 °C	1,781.6 µS/cm	0.20 mg/L	0.00 NTU	-31.5 mV	10.00 ft	50.00 ml/min
12/9/2020 2:32 PM	24:00	6.86 pH	8.97 °C	1,789.2 µS/cm	0.19 mg/L	0.00 NTU	-38.6 mV	10.00 ft	50.00 ml/min
12/9/2020 2:35 PM	27:00	6.85 pH	8.97 °C	1,792.3 µS/cm	0.17 mg/L	0.00 NTU	-49.0 mV	10.00 ft	50.00 ml/min
12/9/2020 2:38 PM	30:00	6.85 pH	8.86 °C	1,793.7 µS/cm	0.17 mg/L	0.00 NTU	-51.8 mV	10.00 ft	50.00 ml/min

Samples

Sample ID:	Description:
RACER TW-1	

Low-Flow Test Report:

Test Date / Time: 12/9/2020 3:26:48 PM
Project: RACER MW-16-14
Operator Name: JEC

Location Name: RACER MW-16-14 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 8.17 ft Total Depth: 13.17 ft Initial Depth to Water: 8.37 ft	Pump Type: Peristaltic Pump Intake From TOC: 10.75 ft Estimated Total Volume Pumped: 0.25 gal Flow Cell Volume: 130 ml Final Flow Rate: 58 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/9/2020 3:26 PM	00:00	6.90 pH	8.64 °C	1,134.4 µS/cm	0.56 mg/L	33.76 NTU	-59.5 mV	8.37 ft	58.00 ml/min
12/9/2020 3:29 PM	03:00	6.90 pH	8.82 °C	1,138.6 µS/cm	0.29 mg/L	15.86 NTU	-69.1 mV	8.37 ft	58.00 ml/min
12/9/2020 3:32 PM	06:00	6.90 pH	8.79 °C	1,153.7 µS/cm	0.24 mg/L	15.76 NTU	-70.7 mV	8.37 ft	58.00 ml/min
12/9/2020 3:35 PM	09:00	6.89 pH	9.05 °C	1,138.5 µS/cm	0.18 mg/L	10.51 NTU	-89.1 mV	8.37 ft	58.00 ml/min
12/9/2020 3:38 PM	12:00	6.90 pH	8.89 °C	1,147.2 µS/cm	0.17 mg/L	8.78 NTU	-101.3 mV	8.37 ft	58.00 ml/min
12/9/2020 3:41 PM	15:00	6.90 pH	8.85 °C	1,152.3 µS/cm	0.15 mg/L	9.80 NTU	-101.3 mV	8.37 ft	58.00 ml/min
12/9/2020 3:44 PM	18:00	6.90 pH	8.61 °C	1,145.8 µS/cm	0.14 mg/L	8.18 NTU	-105.3 mV	8.37 ft	58.00 ml/min

Samples

Sample ID:	Description:
RACER MW-16-14	

Low-Flow Test Report:

Test Date / Time: 12/10/2020 8:43:06 AM
Project: RACER MW-19-19
Operator Name: JEC

Location Name: RACER MW-19-19 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 8.7 ft Total Depth: 13.7 ft Initial Depth to Water: 8.81 ft	Pump Type: Peristaltic Pump Intake From TOC: 11.25 ft Estimated Total Volume Pumped: 0.5 gal Flow Cell Volume: 130 ml Final Flow Rate: 60 ml/min Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/10/2020 8:43 AM	00:00	7.59 pH	4.77 °C	299.93 µS/cm	7.57 mg/L	0.27 NTU	248.2 mV	8.81 ft	60.00 ml/min
12/10/2020 8:45 AM	02:11	7.69 pH	4.98 °C	295.83 µS/cm	7.37 mg/L	0.70 NTU	249.1 mV	8.81 ft	60.00 ml/min
12/10/2020 8:48 AM	05:17	7.77 pH	5.39 °C	289.53 µS/cm	7.17 mg/L	0.33 NTU	249.6 mV	8.81 ft	60.00 ml/min
12/10/2020 8:51 AM	08:17	7.81 pH	1.33 °C		8.45 mg/L	1.10 NTU	253.4 mV	8.81 ft	60.00 ml/min
12/10/2020 8:54 AM	11:17	7.82 pH	1.33 °C		8.39 mg/L	0.84 NTU	253.6 mV	8.81 ft	60.00 ml/min
12/10/2020 8:57 AM	14:17	7.81 pH	1.33 °C		8.37 mg/L	2.47 NTU	253.6 mV	8.81 ft	60.00 ml/min
12/10/2020 9:00 AM	17:17	7.78 pH	6.06 °C	299.22 µS/cm	6.83 mg/L	0.86 NTU	252.5 mV	8.81 ft	60.00 ml/min
12/10/2020 9:02 AM	19:44	7.80 pH	1.36 °C		8.32 mg/L	0.70 NTU	252.3 mV	8.81 ft	60.00 ml/min
12/10/2020 9:05 AM	22:44	7.78 pH	1.81 °C		8.26 mg/L	0.67 NTU	251.4 mV	8.81 ft	60.00 ml/min
12/10/2020 9:08 AM	25:44	7.77 pH	2.09 °C		7.95 mg/L	1.41 NTU	252.4 mV	8.81 ft	60.00 ml/min
12/10/2020 9:11 AM	28:44	7.78 pH	2.13 °C		7.82 mg/L	0.71 NTU	252.3 mV	8.81 ft	60.00 ml/min
12/10/2020 9:14 AM	31:44	7.75 pH	6.52 °C	305.17 µS/cm	6.55 mg/L	0.75 NTU	252.9 mV	8.81 ft	60.00 ml/min

Samples

Sample ID:	Description:
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RACER MW-19-19	
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Low-Flow Test Report:

Test Date / Time: 12/10/2020 10:32:50 AM
Project: RACER MW-17-19
Operator Name: JEC

Location Name: RACER MW-17-19 Well Diameter: 2 in Casing Type: PVC Screen Length: 5 ft Top of Screen: 10.59 ft Total Depth: 15.59 ft Initial Depth to Water: 8.5 ft	Pump Type: Peristaltic Pump Intake From TOC: 11.85 ft Estimated Total Volume Pumped: 0.5 gal Flow Cell Volume: 130 ml Final Flow Rate: 35 ml/min Final Draw Down: 0.59 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/10/2020 10:32 AM	00:00	7.29 pH	8.36 °C		5.69 mg/L	135.22 NTU	220.9 mV	8.50 ft	35.00 ml/min
12/10/2020 10:35 AM	03:00	7.32 pH	7.10 °C	520.36 µS/cm	4.66 mg/L	132.11 NTU	193.5 mV	8.50 ft	35.00 ml/min
12/10/2020 10:38 AM	06:00	7.34 pH	7.15 °C	517.82 µS/cm	4.85 mg/L	119.99 NTU	171.1 mV	8.50 ft	35.00 ml/min
12/10/2020 10:41 AM	09:00	7.35 pH	6.92 °C	516.38 µS/cm	5.00 mg/L	121.15 NTU	146.2 mV	8.50 ft	35.00 ml/min
12/10/2020 10:44 AM	12:00	7.36 pH	6.96 °C	518.44 µS/cm	4.93 mg/L	111.63 NTU	57.4 mV	8.50 ft	35.00 ml/min
12/10/2020 10:47 AM	15:00	7.36 pH	7.15 °C	517.12 µS/cm	4.88 mg/L	108.20 NTU	10.1 mV	8.50 ft	35.00 ml/min
12/10/2020 10:50 AM	18:00	7.36 pH	8.66 °C		4.39 mg/L	110.58 NTU	-8.2 mV	8.50 ft	35.00 ml/min
12/10/2020 10:53 AM	21:00	7.36 pH	7.46 °C	511.29 µS/cm	4.44 mg/L	96.26 NTU	-11.2 mV	8.50 ft	35.00 ml/min
12/10/2020 10:56 AM	24:00	7.36 pH	7.42 °C	513.74 µS/cm	4.45 mg/L	99.28 NTU	-6.2 mV	8.50 ft	35.00 ml/min
12/10/2020 10:59 AM	27:00	7.36 pH	7.59 °C	513.78 µS/cm	4.36 mg/L	94.62 NTU	-16.4 mV	8.50 ft	35.00 ml/min
12/10/2020 11:02 AM	30:00	7.36 pH	9.60 °C		3.91 mg/L	103.39 NTU	-16.9 mV	8.50 ft	35.00 ml/min

Samples

Sample ID:	Description:
RACER MW-17-19	

Low-Flow Test Report:

Test Date / Time: 12/10/2020 1:21:13 PM
Project: RACER PW-2-20
Operator Name: JEC

Location Name: RACER PW-2-20 Casing Type: SS Total Depth: 24 in Initial Depth to Water: 19.125 in	Pump Type: Peristaltic Flow Cell Volume: 130 ml Final Flow Rate: 135 ml/min Final Draw Down: 0 in	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/10/2020 1:21 PM	00:00	6.99 pH	7.42 °C	432.04 µS/cm	0.19 mg/L	1.07 NTU	-26.7 mV	1.59 ft	135.00 ml/min
12/10/2020 1:24 PM	03:00	6.96 pH	7.31 °C	432.35 µS/cm	0.09 mg/L	0.32 NTU	-29.3 mV	1.59 ft	135.00 ml/min
12/10/2020 1:27 PM	06:00	6.97 pH	7.30 °C	442.66 µS/cm	0.09 mg/L	0.27 NTU	-31.2 mV	1.59 ft	135.00 ml/min
12/10/2020 1:30 PM	09:00	6.96 pH	7.48 °C	496.62 µS/cm	0.11 mg/L	3.07 NTU	-33.8 mV	1.59 ft	135.00 ml/min

Samples

Sample ID:	Description:
RACER PW-2-20	

Low-Flow Test Report:

Test Date / Time: 12/10/2020 1:54:48 PM
Project:
Operator Name:

Location Name: RACER PW-1-20 Casing Type: SS Screen Length: 2 in Top of Screen: 43.75 in Total Depth: 45.75 in Initial Depth to Water: 19.94 in	Estimated Total Volume Pumped: 2940 ml Flow Cell Volume: 130 ml Final Flow Rate: 140 ml/min Final Draw Down: 0 in	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 0.3	
12/10/2020 1:54 PM	00:00	7.12 pH	7.77 °C	675.47 µS/cm	0.26 mg/L	98.66 NTU	-60.0 mV	1.66 ft	140.00 ml/min
12/10/2020 1:57 PM	03:00	7.06 pH	7.65 °C	674.68 µS/cm	0.20 mg/L	47.14 NTU	-59.3 mV	1.66 ft	140.00 ml/min
12/10/2020 2:00 PM	06:00	7.03 pH	7.55 °C	672.46 µS/cm	0.14 mg/L	133.83 NTU	-58.9 mV	1.66 ft	140.00 ml/min
12/10/2020 2:03 PM	09:00	7.02 pH	7.60 °C	670.37 µS/cm	0.11 mg/L	32.12 NTU	-60.3 mV	1.66 ft	140.00 ml/min
12/10/2020 2:06 PM	12:00	7.01 pH	7.86 °C	669.85 µS/cm	0.09 mg/L	26.16 NTU	-62.5 mV	1.66 ft	140.00 ml/min
12/10/2020 2:09 PM	15:00	7.03 pH	7.73 °C	669.54 µS/cm	0.08 mg/L	19.95 NTU	-64.5 mV	1.66 ft	140.00 ml/min
12/10/2020 2:12 PM	18:00	7.05 pH	7.70 °C	669.03 µS/cm	0.08 mg/L	10.67 NTU	-66.4 mV	1.66 ft	140.00 ml/min
12/10/2020 2:15 PM	21:00	7.06 pH	7.78 °C	669.69 µS/cm	0.09 mg/L	17.32 NTU	-68.0 mV	1.66 ft	140.00 ml/min

Samples

Sample ID:	Description:
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Low-Flow Test Report:

Test Date / Time: 12/10/2020 2:42:36 PM
Project: RACER SW-1-20
Operator Name: CJB

Location Name: RACER SW-1-20 Initial Depth to Water: 0 ft	Pump Type: Peristaltic Flow Cell Volume: 130 ml Final Draw Down: 0 ft	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:
Surface Water Sample

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5
12/10/2020 2:42 PM	00:00	8.11 pH	7.66 °C	1,047.8 µS/cm	11.48 mg/L	2.73 NTU	56.5 mV	0.00 cm
12/10/2020 2:43 PM	01:00	8.32 pH	5.09 °C	1,874.1 µS/cm	17.20 mg/L	4.64 NTU	44.7 mV	0.00 cm
12/10/2020 2:44 PM	02:00	8.12 pH	5.71 °C	1,291.7 µS/cm	19.28 mg/L	2.13 NTU	49.0 mV	0.00 cm
12/10/2020 2:45 PM	03:00	8.22 pH	4.61 °C	1,888.1 µS/cm	20.45 mg/L	4.08 NTU	52.7 mV	0.00 cm
12/10/2020 2:46 PM	04:00	8.17 pH	5.21 °C	1,747.7 µS/cm	17.91 mg/L	5.03 NTU	48.8 mV	0.00 cm
12/10/2020 2:47 PM	05:00	8.17 pH	5.22 °C	1,736.6 µS/cm	18.37 mg/L	4.62 NTU	54.0 mV	0.00 cm
12/10/2020 2:48 PM	06:00	8.18 pH	4.93 °C	1,864.9 µS/cm	18.96 mg/L	4.30 NTU	61.0 mV	0.00 cm
12/10/2020 2:49 PM	07:00	8.18 pH	4.82 °C	1,899.4 µS/cm	19.93 mg/L	4.52 NTU	66.6 mV	0.00 cm
12/10/2020 2:50 PM	08:00	8.18 pH	4.76 °C	1,865.9 µS/cm	20.21 mg/L	4.23 NTU	71.2 mV	0.00 cm
12/10/2020 2:51 PM	09:00	8.03 pH	6.14 °C	1,051.5 µS/cm	15.57 mg/L	1.49 NTU	49.0 mV	0.00 cm
12/10/2020 2:52 PM	10:00	7.99 pH	6.04 °C	1,054.2 µS/cm	13.71 mg/L	1.80 NTU	45.3 mV	0.00 cm
12/10/2020 2:53 PM	11:00	7.92 pH	6.30 °C	1,011.5 µS/cm	13.23 mg/L	1.28 NTU	39.6 mV	0.00 cm
12/10/2020 2:54 PM	12:00	8.00 pH	6.05 °C	1,067.2 µS/cm	13.60 mg/L	3.78 NTU	35.5 mV	0.00 cm
12/10/2020 2:55 PM	13:00	7.89 pH	6.40 °C	996.93 µS/cm	13.16 mg/L	1.27 NTU	29.8 mV	0.00 cm
12/10/2020 2:56 PM	14:00	7.83 pH	6.53 °C	950.88 µS/cm	12.67 mg/L	1.30 NTU	26.8 mV	0.00 cm
12/10/2020 2:57 PM	15:00	7.81 pH	6.60 °C	940.71 µS/cm	12.29 mg/L	1.50 NTU	26.8 mV	0.00 cm

Samples

Sample ID:	Description:
SW-1-20	As Dissolved As 14:45

Low-Flow Test Report:

Test Date / Time: 12/10/2020 3:36:43 PM
Project: RACER PW-3-20
Operator Name: Cjb

Location Name: RACER PW-3-20 Casing Type: Stainless Steel Screen Length: 2 in Top of Screen: 14.75 ft Total Depth: 16.75 ft	Pump Type: Peristaltic Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 120 ml/min	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
12/10/2020 3:36 PM	00:00	6.56 pH	6.16 °C	1,832.2 µS/cm	0.18 mg/L	9.22 NTU	-43.1 mV		120.00 ml/min
12/10/2020 3:39 PM	03:00	6.55 pH	6.21 °C	1,829.1 µS/cm	0.10 mg/L	1.29 NTU	-44.4 mV		120.00 ml/min
12/10/2020 3:42 PM	06:00	6.53 pH	6.25 °C	1,833.1 µS/cm	0.09 mg/L	1.30 NTU	-45.4 mV		120.00 ml/min

Samples

Sample ID:	Description:
RACER PW-3-20	@15:55

Low-Flow Test Report:

Test Date / Time: 12/11/2020 9:02:09 AM
Project: RACER PW-4-20
Operator Name: Cjb

Location Name: RACER PW-4-20 Casing Type: Stainless Steel Screen Length: 2 in Total Depth: 23.13 in Initial Depth to Water: 33.63 in	Pump Type: Peristaltic Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 135 ml/min Final Draw Down: 0 in	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
12/11/2020 9:02 AM	00:00	6.75 pH	3.71 °C	1,419.4 µS/cm	1.05 mg/L	888.66 NTU	-28.1 mV	85.42 cm	135.00 ml/min
12/11/2020 9:05 AM	03:00	6.81 pH	3.94 °C	1,435.2 µS/cm	0.24 mg/L	294.40 NTU	-42.0 mV	85.42 cm	135.00 ml/min
12/11/2020 9:08 AM	06:00	6.83 pH	3.81 °C	1,443.7 µS/cm	0.18 mg/L	232.55 NTU	-47.0 mV	85.42 cm	135.00 ml/min
12/11/2020 9:11 AM	09:00	6.84 pH	3.99 °C	1,455.4 µS/cm	0.23 mg/L	215.76 NTU	-49.6 mV	85.42 cm	135.00 ml/min
12/11/2020 9:14 AM	12:00	6.85 pH	4.02 °C	1,461.9 µS/cm	0.16 mg/L	147.49 NTU	-51.7 mV	85.42 cm	135.00 ml/min
12/11/2020 9:17 AM	15:00	6.85 pH	4.08 °C	1,466.4 µS/cm	0.12 mg/L	149.19 NTU	-53.6 mV	85.42 cm	135.00 ml/min
12/11/2020 9:20 AM	18:00	6.85 pH	4.18 °C	1,472.9 µS/cm	0.13 mg/L	172.21 NTU	-54.3 mV	85.42 cm	135.00 ml/min
12/11/2020 9:23 AM	21:00	6.85 pH	4.30 °C	1,476.7 µS/cm	0.10 mg/L	130.93 NTU	-56.0 mV	85.42 cm	135.00 ml/min
12/11/2020 9:26 AM	24:00	6.86 pH	4.14 °C	1,479.1 µS/cm	0.11 mg/L	164.17 NTU	-57.1 mV	85.42 cm	135.00 ml/min
12/11/2020 9:29 AM	27:00	6.85 pH	4.30 °C	1,484.4 µS/cm	0.12 mg/L	290.13 NTU	-58.0 mV	85.42 cm	135.00 ml/min
12/11/2020 9:32 AM	30:00	6.86 pH	4.26 °C	1,486.5 µS/cm	0.11 mg/L	194.69 NTU	-57.2 mV	85.42 cm	135.00 ml/min

Samples

Sample ID:	Description:
RACER PW-4-20	@9:45

Low-Flow Test Report:

Test Date / Time: 12/11/2020 9:54:02 AM
Project: RACER SW-2-20
Operator Name:

Location Name: SW-2-20	Flow Cell Volume: 130 ml	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5
12/11/2020 9:54 AM	00:00	7.46 pH	8.40 °C		10.89 mg/L	281.67 NTU	11.0 mV	
12/11/2020 9:55 AM	01:00	8.10 pH	1.38 °C	2,036.6 µS/cm	12.68 mg/L	7.56 NTU	12.8 mV	
12/11/2020 9:56 AM	02:00	8.10 pH	1.26 °C	2,047.0 µS/cm	12.69 mg/L	8.26 NTU	21.7 mV	
12/11/2020 9:57 AM	03:00	8.09 pH	1.22 °C	2,050.3 µS/cm	12.73 mg/L	5.68 NTU	29.9 mV	
12/11/2020 9:58 AM	04:00	8.08 pH	1.22 °C	2,050.2 µS/cm	12.75 mg/L	5.87 NTU	37.2 mV	
12/11/2020 9:59 AM	05:00	8.08 pH	1.23 °C	2,050.5 µS/cm	12.78 mg/L	5.34 NTU	43.1 mV	
12/11/2020 10:00 AM	06:00	8.08 pH	1.24 °C	2,050.0 µS/cm	12.81 mg/L	5.01 NTU	48.4 mV	

Samples

Sample ID:	Description:
RACER SW-2-20	@10:05

Low-Flow Test Report:

Test Date / Time: 12/11/2020 10:52:00 AM
Project: RACER PW-6-20
Operator Name: Cjb

Location Name: RACER PW-6-20 Casing Type: Stainless Steel Screen Length: 2 in	Pump Type: Peristaltic Estimated Total Volume Pumped: 0 ml Flow Cell Volume: 130 ml Final Flow Rate: 125 ml/min	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP	Depth To Water	Flow
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10	+/- 5	
12/11/2020 10:52 AM	00:00	7.03 pH	6.27 °C	2,119.2 µS/cm	0.93 mg/L	373.96 NTU	-92.7 mV		125.00 ml/min
12/11/2020 10:55 AM	03:00	7.03 pH	6.34 °C	2,117.3 µS/cm	0.18 mg/L	181.35 NTU	-95.1 mV		125.00 ml/min
12/11/2020 10:58 AM	06:00	7.04 pH	6.40 °C	2,124.7 µS/cm	0.20 mg/L	302.28 NTU	-100.7 mV		125.00 ml/min
12/11/2020 11:01 AM	09:00	7.04 pH	6.45 °C	2,127.1 µS/cm	0.10 mg/L	179.42 NTU	-99.1 mV		125.00 ml/min
12/11/2020 11:04 AM	12:00	7.04 pH	6.41 °C	2,122.0 µS/cm	0.08 mg/L	119.21 NTU	-104.2 mV		125.00 ml/min
12/11/2020 11:07 AM	15:00	7.04 pH	6.40 °C	2,117.7 µS/cm	0.08 mg/L	103.88 NTU	-104.7 mV		125.00 ml/min
12/11/2020 11:10 AM	18:00	7.04 pH	6.43 °C	2,117.4 µS/cm	0.08 mg/L	77.57 NTU	-105.9 mV		125.00 ml/min
12/11/2020 11:13 AM	21:00	7.04 pH	6.48 °C	2,115.2 µS/cm	0.07 mg/L	53.38 NTU	-106.4 mV		125.00 ml/min
12/11/2020 11:16 AM	24:00	7.04 pH	6.55 °C	2,114.0 µS/cm	0.07 mg/L	54.90 NTU	-105.3 mV		125.00 ml/min
12/11/2020 11:19 AM	27:00	7.04 pH	6.59 °C	2,113.3 µS/cm	0.07 mg/L	94.17 NTU	-104.9 mV		125.00 ml/min
12/11/2020 11:22 AM	30:00	7.04 pH	6.71 °C	2,110.3 µS/cm	0.08 mg/L	74.28 NTU	-103.2 mV		125.00 ml/min

Samples

Sample ID:	Description:
RACER PW-6-20	@11:35

Low-Flow Test Report:

Test Date / Time: 12/11/2020 11:37:42 AM
Project: RACER SW-3-20
Operator Name: JEC

Location Name: RACER SW-3-20	Flow Cell Volume: 130 ml Final Flow Rate: 130 ml/min	Instrument Used: Aqua TROLL 600 Serial Number: 514587
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Test Notes:

Low-Flow Readings:

Date Time	Elapsed Time	pH	Temperature	Specific Conductivity	RDO Concentration	Turbidity	ORP
		+/- 0.1	+/- 0.5	+/- 3 %	+/- 0.3	+/- 10	+/- 10
12/11/2020 11:37 AM	00:00	8.16 pH	2.85 °C	1,982.2 µS/cm	13.18 mg/L	9.39 NTU	-38.9 mV
12/11/2020 11:38 AM	01:00	8.08 pH	14.53 °C		9.11 mg/L	8.57 NTU	-20.9 mV
12/11/2020 11:39 AM	02:00	8.11 pH	2.42 °C	2,007.3 µS/cm	14.60 mg/L	8.57 NTU	-5.7 mV
12/11/2020 11:40 AM	03:00	8.09 pH	2.45 °C	2,007.0 µS/cm	15.03 mg/L	8.87 NTU	5.1 mV
12/11/2020 11:41 AM	04:00	8.07 pH	2.47 °C	2,004.9 µS/cm	14.96 mg/L	8.31 NTU	13.7 mV
12/11/2020 11:42 AM	05:00	8.06 pH	2.47 °C	2,004.9 µS/cm	14.91 mg/L	7.56 NTU	21.1 mV
12/11/2020 11:43 AM	06:00	8.05 pH	2.49 °C	2,004.6 µS/cm	14.87 mg/L	6.56 NTU	26.6 mV
12/11/2020 11:44 AM	07:00	8.05 pH	2.49 °C	1,995.3 µS/cm	14.92 mg/L	8.36 NTU	31.5 mV
12/11/2020 11:45 AM	08:00	8.05 pH	2.52 °C	1,998.3 µS/cm	15.57 mg/L	9.84 NTU	36.2 mV

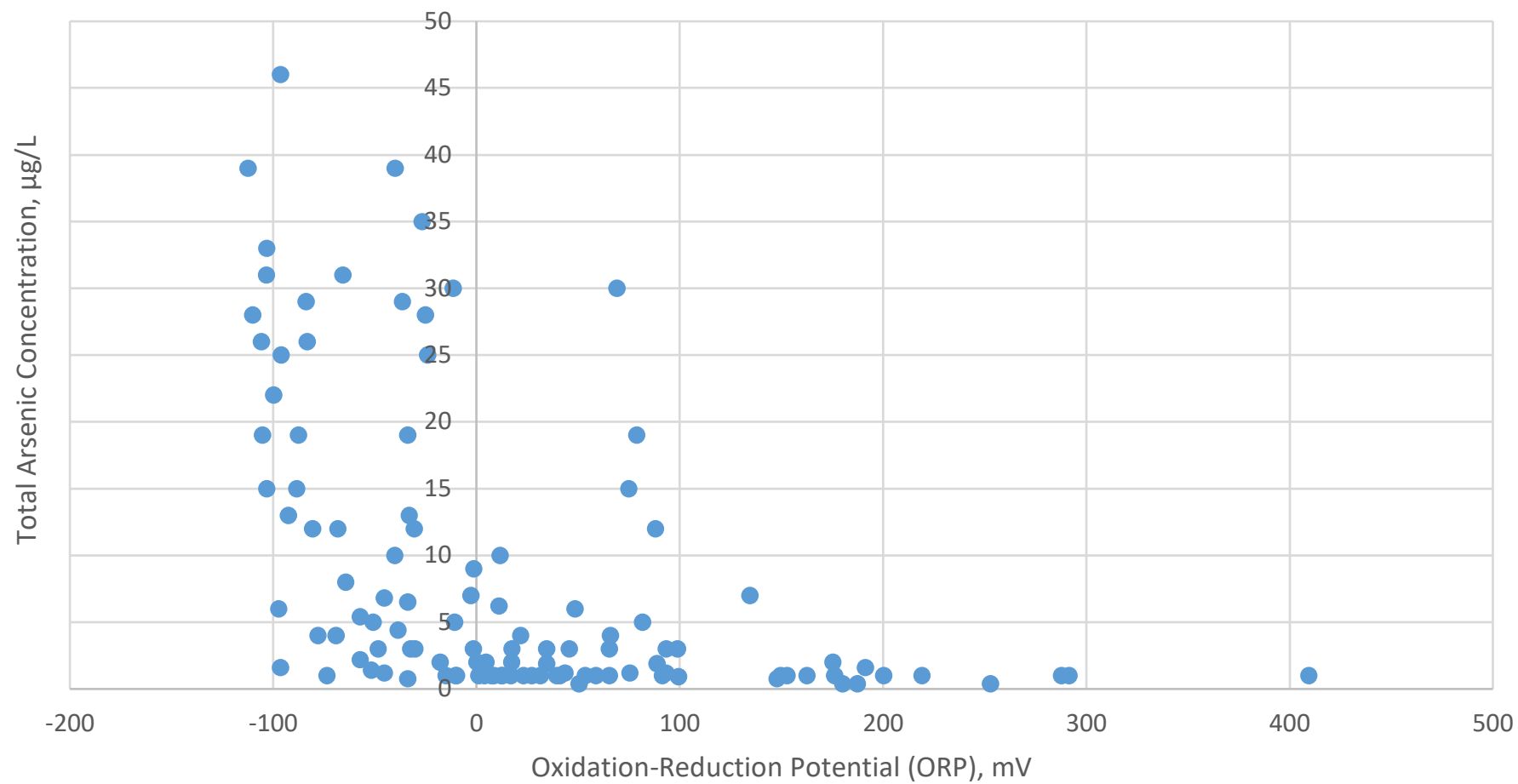
Samples

Sample ID:	Description:
SW-3-20	As Dissolved As 11:50

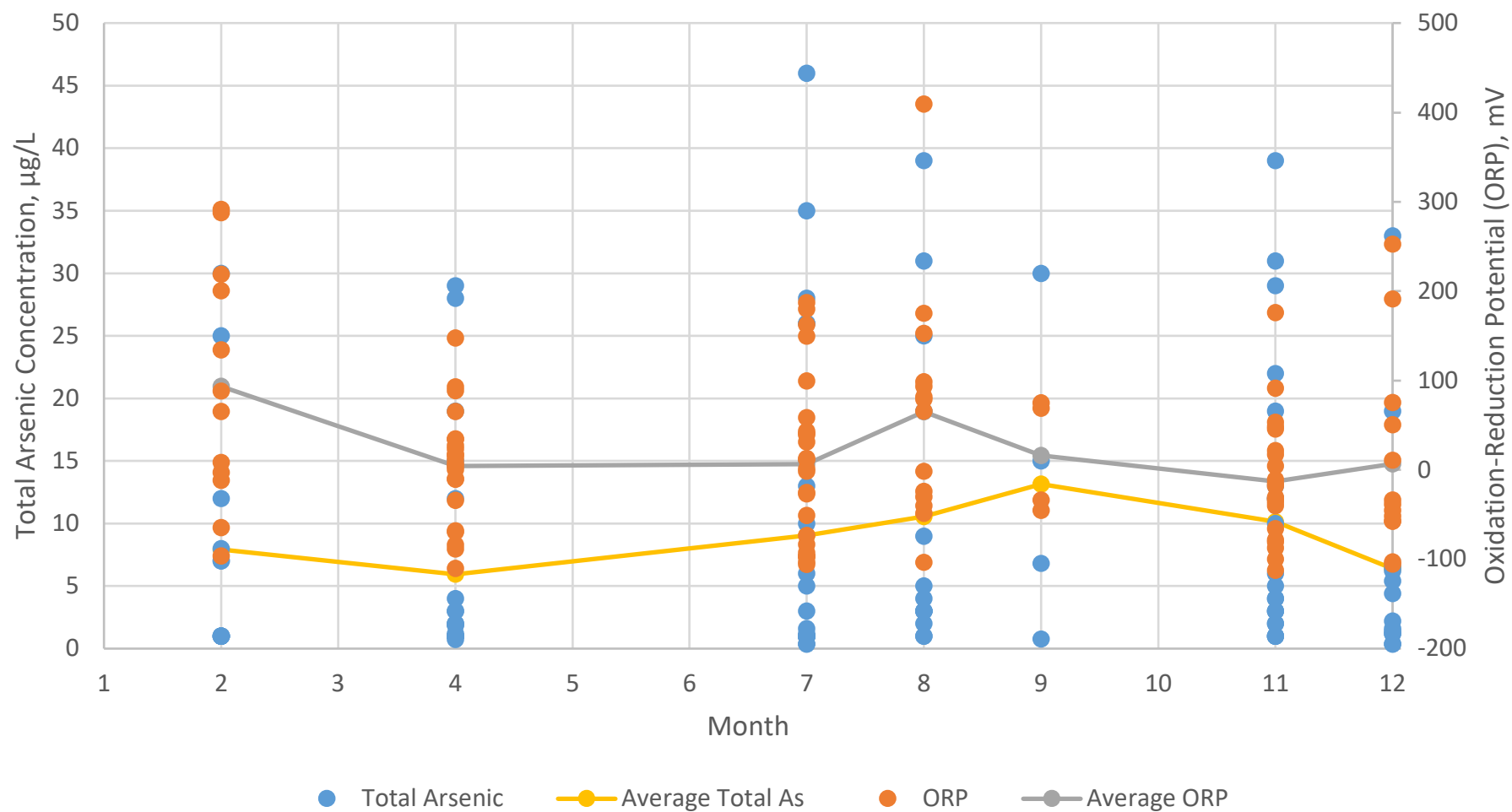
APPENDIX 5

GRAPHS

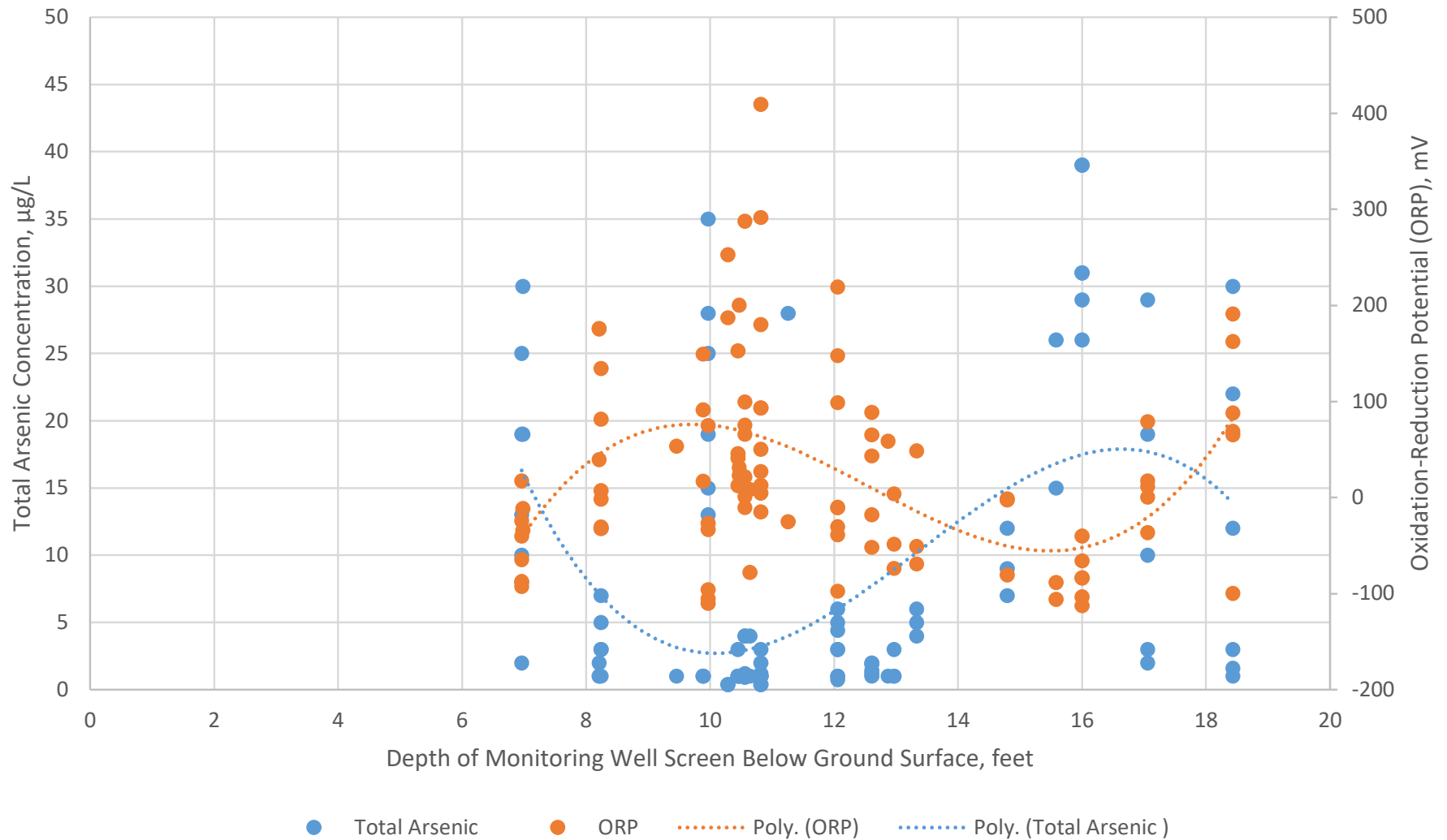
Graph 1 - Relationship of ORP and Total Arsenic Concentrations



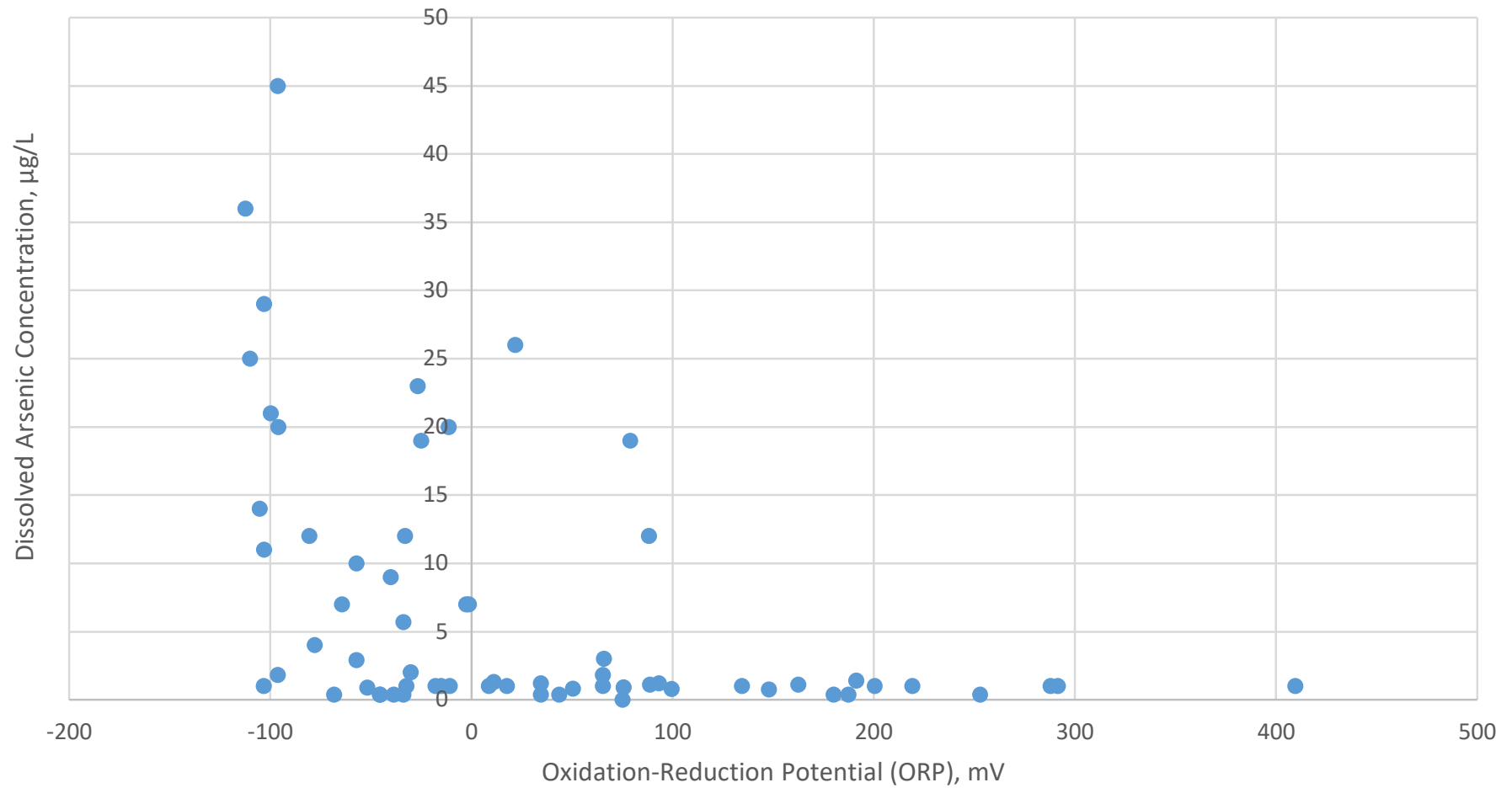
Graph 2 - Temporal Variation of ORP and Arsenic Concentrations



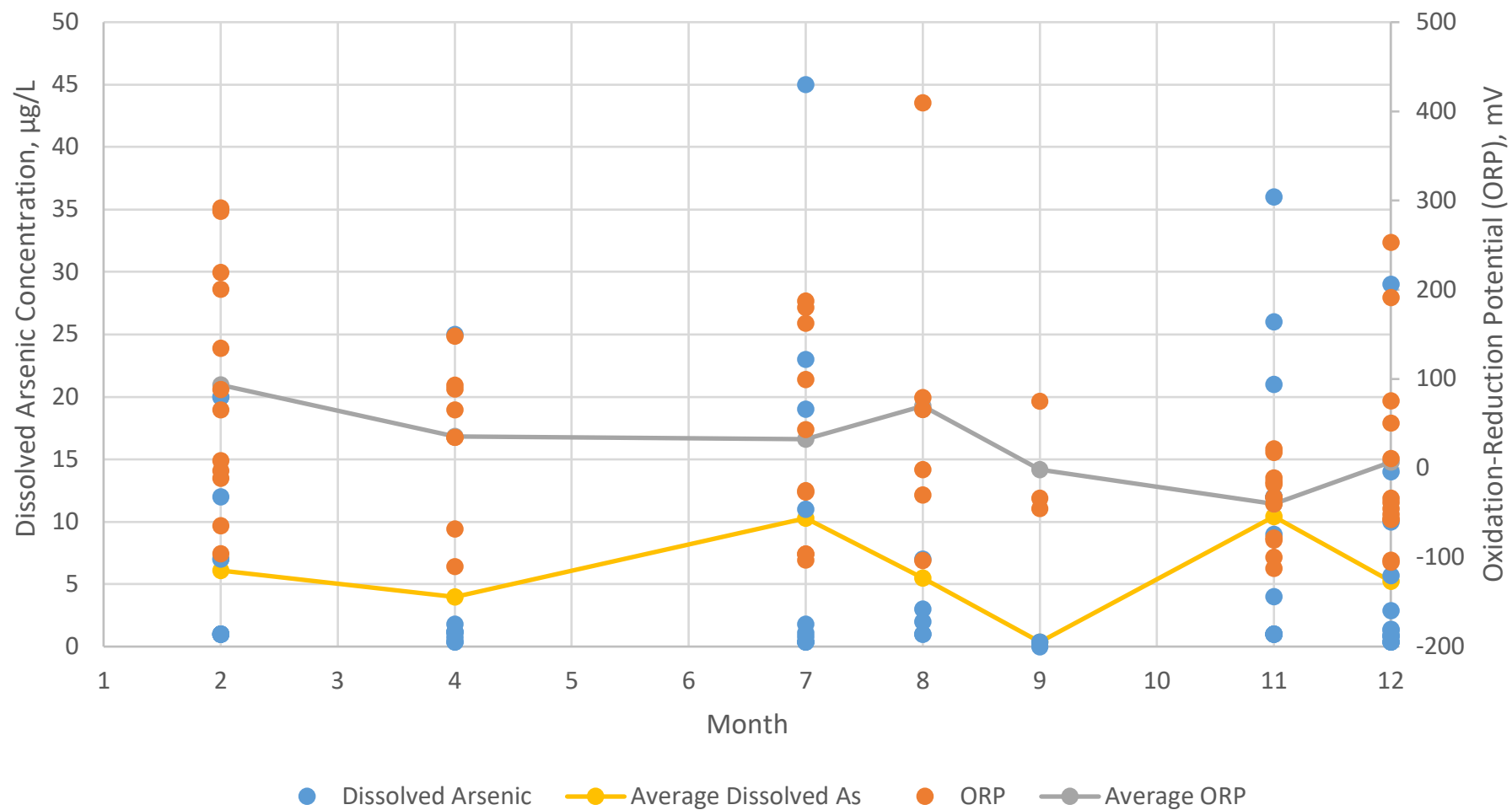
Graph 3 - Effect of Monitoring Well Depth on ORP and Arsenic Conc.



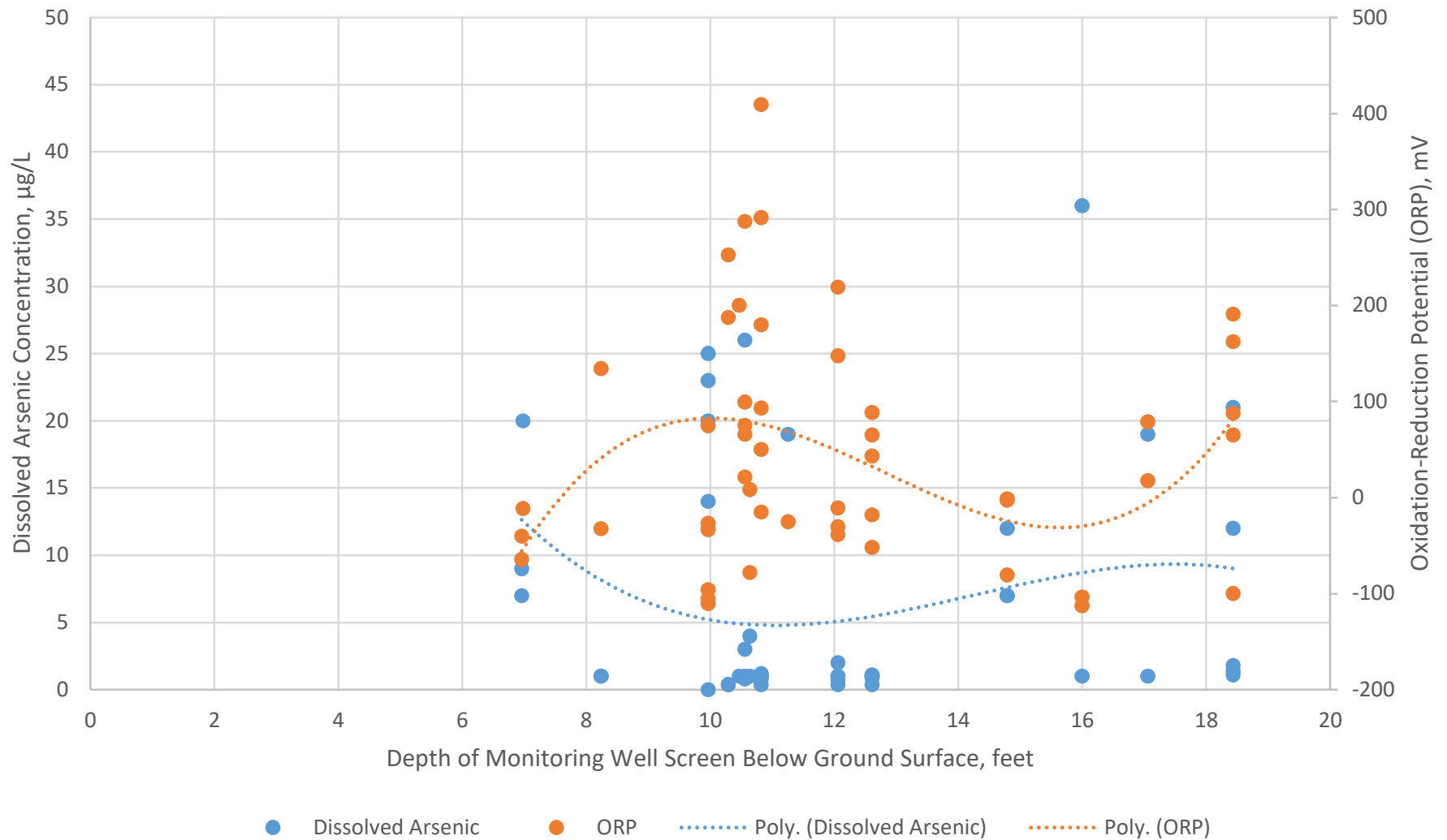
Graph 4 - Relationship of ORP and Dissolved Arsenic Concentrations



Graph 5 - Temporal Variation of ORP and Dissolved Arsenic Concentrations



Graph 6 - Effect of Monitoring Well Depth on ORP and Arsenic Conc.



APPENDIX 6

STATISTICAL ANALYSIS DATA

Statistical Analysis

All Data

Well ID	Date	Total Arsenic	Dissolved Arsenic	ORP
MW-1	8/8/12	6	NA	N/A
MW-1	11/6/12	6	NA	48.5
MW-1	4/23/13	4	NA	-69.2
MW-1	7/24/13	5	NA	-50.9
MW-1	9/23/14	NS	NS	N/A
MW-1	4/14/15	NS	NS	N/A
MW-1	8/4/15	NS	NS	N/A
MW-1	11/16/15	NS	NS	N/A
MW-1	2/23/16	NS	NS	N/A
MW-1-12	8/8/12	<2	NA	N/A
MW-1-12	11/6/12	<2	NA	53.4
MW-1-12	4/23/13	<2	NA	N/A
MW-1-12	7/24/13	51	NA	62.5
MW-1-12	9/23/14	NS	NS	N/A
MW-1-12	4/14/15	NS	NS	N/A
MW-1-12	8/4/15	NS	NS	N/A
MW-1-12	11/16/15	NS	NS	N/A
MW-1-12	2/23/16	NS	NS	N/A
MW-2	8/8/12	102	NA	-129
MW-2	11/6/12	104	NA	-123.3
MW-2	4/23/13	15	NA	-88.4
MW-2	7/24/13	26	NA	-105.9
MW-2	9/23/14	NS	NS	N/A
MW-2	4/14/15	96	NA	N/A
MW-2	8/4/15	97	4	-154.2
MW-2	11/16/15	66	62	-135
MW-2	2/23/16	126	97	
MW-2-12	8/8/12	2	NA	175.4
MW-2-12	11/6/12	<2	NA	176.2
MW-2-12	4/23/13	<2	NA	N/A
MW-2-12	7/25/13	<2	NA	39.4
MW-2-12	9/23/14	NS	NS	N/A
MW-2-12	4/14/15	NS	NS	N/A
MW-2-12	8/4/15	NS	NS	N/A
MW-2-12	11/16/15	NS	NS	N/A
MW-2-12	2/23/16	NS	NS	N/A
MW-3-12	8/9/12	25	NA	-24.1
MW-3-12	11/6/12	19	NA	-87.5
MW-3-12	4/17/13	2	NA	17.3
MW-3-12	7/24/13	13	NA	-92.6
MW-3-12	9/23/14	25	NA	N/A
MW-3-12	4/15/15 *	52	NA	N/A
MW-3-12	8/5/15	14	4	N/A
MW-3-12	11/18/15	10	9	-40.2
MW-3-12	2/23/16	8	7	-64.4
MW-4-12	8/9/12	5	NA	81.7
MW-4-12	11/6/12	12	NA	-30.6
MW-4-12	4/17/13	<2	NA	7.3
MW-4-12	7/24/13	3	NA	-1.6
MW-4-12	9/23/14	4	NA	N/A
MW-4-12	4/15/15 *	18	NA	N/A
MW-4-12	8/5/15	<2	3	N/A
MW-4-12	11/18/15	3	<2	-32.4
MW-4-12	2/23/16	7	<2	134.5
MW-4-04	8/9/12	8	NA	N/A
MW-4-04	11/6/12	NS-I H2O	NS-I H2O	N/A
MW-4-04	4/23/13	<2	NA	N/A

Statistical Analysis

All Data

MW-4-04	7/25/13	<2	NA	58.8
MW-4-04	9/23/14	NS	NS	N/A
MW-4-04	4/14/15	NS	NS	N/A
MW-4-04	8/5/15	NS	NS	N/A
MW-4-04	11/16/15	NS	NS	N/A
MW-4-04	2/23/16	NS	NS	N/A
MW-5-12	8/10/12	3	NA	-48.4
MW-5-12	11/8/12	NA	<2	-61.6
MW-5-12	4/23/13	<2	NA	3.9
MW-5-12	7/24/13	<2	NA	-73.5
MW-5-12	9/23/14	NS	NS	N/A
MW-5-12	4/14/15	NS	NS	N/A
MW-5-12	8/5/15	NS	NS	N/A
MW-5-12	11/16/15	NS	NS	N/A
MW-5-12	2/23/16	NS	NS	N/A
MW-6-12	8/10/12	19	19	78.9
MW-6-12	11/6/12	29	NA	-36.4
MW-6-12	4/23/13	2	NA	0.3
MW-6-12	7/25/13	10	NA	11.6
MW-6-12	9/23/14	NS	NS	N/A
MW-6-12	4/14/15 *	85	NA	N/A
MW-6-12	8/4/15	3	<2	N/A
MW-6-12	11/16/15	3	<2	17.5
MW-6-12	2/29/16	<2	<2	N/A
MW-7-12	8/9/12	3	NA	93.4
MW-7-12	11/6/12	2	NA	4.6
MW-7-12	4/17/13	<2	NA	27.2
MW-7-12	7/24/13	<2	NA	12.7
MW-7-12	9/24/14	<2	NA	N/A
MW-7-12	4/16/15 *	20	NA	N/A
MW-7-12	8/5/15	<2	<2	409.5
MW-7-12	11/18/15	<2	<2	-15.1
MW-7-12	2/29/16	<2	<2	291.5
MW-7-12	4/10/18	1.2	1.2	93.2
MW-7-12	7/22/20	<0.75	<0.75	180.1
MW-7-12	12/9/20	<0.75	0.8	50.4
MW-8-12	8/9/12	39	NA	N/A
MW-8-12	11/6/12	NS-I H2O	NS-I H2O	N/A
MW-8-12	4/17/13	<2	NA	23.2
MW-8-12	7/25/13	<2	NA	31.4
MW-8-12	9/23/14	NS	NS	N/A
MW-8-12	4/16/15 *	7	NA	N/A
MW-8-12	8/5/15	NS-I H2O	NS-I H2O	N/A
MW-8-12	11/18/15	89	NS-I H2O	N/A
MW-8-12	2/23/16	<2	<2	200.4
MW-9-12	8/9/12	3	NA	98.8
MW-9-12	11/8/12	NA	22	-79.3
MW-9-12	4/16/13	<2	NA	-9.9
MW-9-12	7/23/13	6	NA	-97.4
MW-9-12	9/24/14	23	NA	N/A
MW-9-12	4/16/15 *	21	NA	N/A
MW-9-12	8/5/15	3	2	-30.2
MW-9-12	11/17/15	5	<2	-10.8
MW-9-12	2/29/16	<2	<2	219.2
MW-9-12	4/11/18	0.75	0.75	147.8
MW-9-12	12/9/20	4.4	<0.75	-38.6
MW-10-12	8/10/12	166	NA	-49
MW-10-12	11/8/12	NS-I H2O	NS-I H2O	N/A

Statistical Analysis

All Data

MW-10-12	4/16/13	19	NA	-33.9
MW-10-12	7/25/13	51	NA	-61.9
MW-10-12	9/23/14	NS	NS	N/A
MW-10-12	4/16/15 *	33	NA	N/A
MW-10-12	8/4/15	92	77	-72.5
MW-10-12	11/18/15	819	112	N/A
MW-10-12	2/29/16	30	20	-11.4
MW-11-12	8/9/12	NS-I H2O	NS-I H2O	N/A
MW-11-12	11/6/12	NS-I H2O	NS-I H2O	N/A
MW-11-12	4/18/13	<2	NA	-10.3
MW-11-12	7/23/13	<2	NA	1.1
MW-11-12	9/25/14	3	NA	N/A
MW-11-12	4/16/15 *	5	NA	N/A
MW-11-12	8/4/15	4	3	65.8
MW-11-12	11/17/15	4	26	21.7
MW-11-12	2/29/16	<2	<2	287.8
MW-11-12	7/22/20	0.91	0.79	99.4
MW-11-12	12/19/20	1.2	0.9	75.5
MW-12-12	8/9/12	39	NA	-40
MW-12-12	11/8/12	31	NA	-65.7
MW-12-12	4/22/13	29	NA	-83.9
MW-12-12	7/23/13	26	NA	-83.3
MW-12-12	9/24/14	53	NA	N/A
MW-12-12	4/16/15 *	100	NA	N/A
MW-12-12	8/4/15	31	<2	-103.4
MW-12-12	11/17/15	39	36	-112.4
MW-12-12	2/29/16	45	19	N/A
MW-13-12	8/9/12	<2	NA	152.8
MW-13-12	11/6/12	3	NA	45.6
MW-13-12	4/22/13	<2	NA	12.3
MW-13-12	7/23/13	<2	NA	41
MW-13-12	9/24/14	7	NA	N/A
MW-13-12	4/14/15	NS	NS	N/A
MW-13-12	8/5/15	NS	NS	N/A
MW-13-12	11/16/15	NS	NS	N/A
MW-13-12	2/23/16	NS	NS	N/A
MW-14-12	8/9/12	<2	NA	N/A
MW-14-12	11/6/12	<2	NA	91.4
MW-14-12	4/22/13	<2	NA	16.9
MW-14-12	7/23/13	<2	NA	149.6
MW-14-12	9/24/14	<2	NA	N/A
MW-14-12	4/14/15	NS	NS	N/A
MW-14-12	8/5/15	NS	NS	N/A
MW-14-12	11/16/15	NS	NS	N/A
MW-14-12	2/23/16	NS	NS	N/A
SB/MW-15-14	9/25/14	30	NA	69
SB/MW-15-14	4/16/15 *	45	NA	N/A
SB/MW-15-14	8/4/15	23	5	N/A
SB/MW-15-14	11/17/15	22	21	-99.8
SB/MW-15-14	2/29/16	12	12	88.1
SB/MW-15-14	4/10/18	3	1.8	65.3
SB/MW-15-14	7/22/20	1	1.1	162.5
SB/MW-15-14	12/9/20	1.6	1.4	191.3
SB/MW-16-14	9/25/14	15	NA	75
SB/MW-16-14	4/15/15 *	68	NA	N/A
SB/MW-16-14	8/4/15	7	10	N/A
SB/MW-16-14	11/18/15	13	12	-33.1
SB/MW-16-14	2/23/16	25	20	-96

Statistical Analysis
All Data

SB/MW-16-14	4/10/18	28	25	-110.1
SB/MW-16-14	7/22/20	35	23	-26.7
SB/MW-16-14	12/9/20	19	14	-105.3
TMW-1	8/9/12	3	NA	N/A
TMW-1	11/8/12	NA	<2	N/A
TMW-1	4/17/13	<2	NA	N/A
TMW-1	7/24/13	4	NA	N/A
TMW-1	9/24/14	5	NA	N/A
TMW-1	4/15/15 *	9	NA	N/A
TMW-1	8/5/15	<2	3	N/A
TMW-1	11/18/15	2	<2	-17.9
TMW-1	2/23/16	<2	<2	65.3
TMW-1	4/10/18	1.9	1.1	88.7
TMW-1	7/22/20	1.2	<0.75	43.5
TMW-1	12/9/20	1.4	0.88	-51.8
TMW-6	8/10/12	9	NA	N/A
TMW-6	11/8/12	NA	<2	N/A
TMW-6	4/18/13	<2	NA	N/A
TMW-6	7/23/13	2	NA	N/A
TMW-6	9/25/14	8	NA	N/A
TMW-6	4/16/15 *	4	NA	N/A
TMW-6	8/4/15	4	<2	N/A
TMW-6	11/17/15	4	4	-78
TMW-6	2/29/16	<2	<2	8.6
TMW-8	8/10/12	NS-CNL	NS-CNL	N/A
TMW-8	11/8/12	NS-CNL	NS-CNL	N/A
TMW-8	4/18/13	NS-CNL	NS-CNL	132
TMW-8	7/23/13	NS-CNL	NS-CNL	90.2
TMW-8	9/24/14	8	NA	-78.1
TMW-8	4/15/15 *	427	NA	-68
TMW-8	8/5/15	9	7	176.7
TMW-8	11/18/15	12	12	93.6
TMW-8	2/23/16	7	7	-98.2
PW-1	9/4/18	0.76	<0.75	-33.8
PW-1	4/18/19	3	<0.75	34.4
PW-1	7/23/20	46	45	-96.4
PW-1	12/10/20	2.2	10	-57.2
PW-2	9/4/18	6.8	<0.75	-45.4
PW-2	4/18/19	12	<0.75	-68.3
PW-2	7/23/20	15	11	-103.2
PW-2	12/10/20	6.5	5.7	-33.8
PW-3	4/18/19	1.9	1.2	34.4
PW-3	7/23/20	1.6	1.8	-96.4
PW-3	12/11/20	5.4	2.9	-57.2
PW-4	12/11/20	1.2	<0.75	-45.4
PW-5	7/24/20	80	70	-68.3
PW-5	12/11/20	33	29	-103.2
SB/MW-17-19	7/23/20	28	19	-25.1
SB/MW-17-19	12/10/20	120	20	-16.9
SB/MW-19-19	7/23/20	<0.75	<0.75	187.4
SB/MW-19-19	12/10/20	<0.75	<0.75	252.9
TMW-9	7/24/20	13	1	193.3*
TMW-9	12/9/20	6.2	1.3	11

Statistical Analysis
Valid Data

Well ID	Date	Total Arsenic	Dissolved Arsenic	ORP	Outlier
MW-1	11/6/12	6	NA	48.5	FALSE
MW-1	4/23/13	4	NA	-69.2	FALSE
MW-1	7/24/13	5	NA	-50.9	FALSE
MW-1-12	11/6/12	1	NA	53.4	FALSE
MW-1-12	7/24/13	51	NA	62.5	TRUE
MW-2	8/8/12	102	NA	-129	TRUE
MW-2	11/6/12	104	NA	-123.3	TRUE
MW-2	4/23/13	15	NA	-88.4	FALSE
MW-2	7/24/13	26	NA	-105.9	FALSE
MW-2	8/4/15	97	4	-154.2	TRUE
MW-2	11/16/15	66	62	-135	TRUE
MW-2-12	8/8/12	2	NA	175.4	FALSE
MW-2-12	11/6/12	1	NA	176.2	FALSE
MW-2-12	7/25/13	1	NA	39.4	FALSE
MW-3-12	8/9/12	25	NA	-24.1	FALSE
MW-3-12	11/6/12	19	NA	-87.5	FALSE
MW-3-12	4/17/13	2	NA	17.3	FALSE
MW-3-12	7/24/13	13	NA	-92.6	FALSE
MW-3-12	11/18/15	10	9	-40.2	FALSE
MW-3-12	2/23/16	8	7	-64.4	FALSE
MW-4-12	8/9/12	5	NA	81.7	FALSE
MW-4-12	11/6/12	12	NA	-30.6	FALSE
MW-4-12	4/17/13	1	NA	7.3	FALSE
MW-4-12	7/24/13	3	NA	-1.6	FALSE
MW-4-12	11/18/15	3	1	-32.4	FALSE
MW-4-12	2/23/16	7	1	134.5	FALSE
MW-4-04	7/25/13	1	NA	58.8	FALSE
MW-5-12	8/10/12	3	NA	-48.4	FALSE
MW-5-12	4/23/13	1	NA	3.9	FALSE
MW-5-12	7/24/13	1	NA	-73.5	FALSE
MW-6-12	8/10/12	19	19	78.9	FALSE
MW-6-12	11/6/12	29	NA	-36.4	FALSE
MW-6-12	4/23/13	2	NA	0.3	FALSE
MW-6-12	7/25/13	10	NA	11.6	FALSE
MW-6-12	11/16/15	3	1	17.5	FALSE
MW-7-12	8/9/12	3	NA	93.4	FALSE
MW-7-12	11/6/12	2	NA	4.6	FALSE
MW-7-12	4/17/13	1	NA	27.2	FALSE
MW-7-12	7/24/13	1	NA	12.7	FALSE
MW-7-12	8/5/15	1	1	409.5	FALSE
MW-7-12	11/18/15	1	1	-15.1	FALSE
MW-7-12	2/29/16	1	1	291.5	FALSE
MW-7-12	4/10/18	1.2	1.2	93.2	FALSE
MW-7-12	7/22/20	0.375	0.375	180.1	FALSE
MW-7-12	12/9/20	0.375	0.8	50.4	FALSE
MW-8-12	4/17/13	1	NA	23.2	FALSE
MW-8-12	7/25/13	1	NA	31.4	FALSE
MW-8-12	2/23/16	1	1	200.4	FALSE
MW-9-12	8/9/12	3	NA	98.8	FALSE
MW-9-12	4/16/13	1	NA	-9.9	FALSE
MW-9-12	7/23/13	6	NA	-97.4	FALSE
MW-9-12	8/5/15	3	2	-30.2	FALSE

Statistical Analysis

Valid Data

MW-9-12	11/17/15	5	1	-10.8	FALSE
MW-9-12	2/29/16	1	1	219.2	FALSE
MW-9-12	4/11/18	0.75	0.75	147.8	FALSE
MW-9-12	12/9/20	4.4	0.375	-38.6	FALSE
MW-10-12	8/10/12	166	NA	-49	TRUE
MW-10-12	4/16/13	19	NA	-33.9	FALSE
MW-10-12	7/25/13	51	NA	-61.9	TRUE
MW-10-12	8/4/15	92	77	-72.5	TRUE
MW-10-12	2/29/16	30	20	-11.4	FALSE
MW-11-12	4/18/13	1	NA	-10.3	FALSE
MW-11-12	7/23/13	1	NA	1.1	FALSE
MW-11-12	8/4/15	4	3	65.8	FALSE
MW-11-12	11/17/15	4	26	21.7	FALSE
MW-11-12	2/29/16	1	1	287.8	FALSE
MW-11-12	7/22/20	0.91	0.79	99.4	FALSE
MW-11-12	12/19/20	1.2	0.9	75.5	FALSE
MW-12-12	8/9/12	39	NA	-40	FALSE
MW-12-12	11/8/12	31	NA	-65.7	FALSE
MW-12-12	4/22/13	29	NA	-83.9	FALSE
MW-12-12	7/23/13	26	NA	-83.3	FALSE
MW-12-12	8/4/15	31	1	-103.4	FALSE
MW-12-12	11/17/15	39	36	-112.4	FALSE
MW-13-12	8/9/12	1	NA	152.8	FALSE
MW-13-12	11/6/12	3	NA	45.6	FALSE
MW-13-12	4/22/13	1	NA	12.3	FALSE
MW-13-12	7/23/13	1	NA	41	FALSE
MW-14-12	11/6/12	1	NA	91.4	FALSE
MW-14-12	4/22/13	1	NA	16.9	FALSE
MW-14-12	7/23/13	1	NA	149.6	FALSE
SB/MW-15-14	9/25/14	30	NA	69	FALSE
SB/MW-15-14	11/17/15	22	21	-99.8	FALSE
SB/MW-15-14	2/29/16	12	12	88.1	FALSE
SB/MW-15-14	4/10/18	3	1.8	65.3	FALSE
SB/MW-15-14	7/22/20	1	1.1	162.5	FALSE
SB/MW-15-14	12/9/20	1.6	1.4	191.3	FALSE
SB/MW-16-14	9/25/14	15	NA	75	FALSE
SB/MW-16-14	11/18/15	13	12	-33.1	FALSE
SB/MW-16-14	2/23/16	25	20	-96	FALSE
SB/MW-16-14	4/10/18	28	25	-110.1	FALSE
SB/MW-16-14	7/22/20	35	23	-26.7	FALSE
SB/MW-16-14	12/9/20	19	14	-105.3	FALSE
TMW-1	11/18/15	2	1	-17.9	FALSE
TMW-1	2/23/16	1	1	65.3	FALSE
TMW-1	4/10/18	1.9	1.1	88.7	FALSE
TMW-1	7/22/20	1.2	0.375	43.5	FALSE
TMW-1	12/9/20	1.4	0.88	-51.8	FALSE
TMW-6	11/17/15	4	4	-78	FALSE
TMW-6	2/29/16	1	1	8.6	FALSE
TMW-8	8/5/15	9	7	-1.4	FALSE
TMW-8	11/18/15	12	12	-80.6	FALSE
TMW-8	2/23/16	7	7	-2.7	FALSE
PW-1	9/4/18	0.76	0.375	-33.8	FALSE
PW-1	4/18/19	3	0.375	34.4	FALSE

Statistical Analysis

Valid Data

PW-1	7/23/20	46	45	-96.4	FALSE
PW-1	12/10/20	2.2	10	-57.2	FALSE
PW-2	9/4/18	6.8	0.375	-45.4	FALSE
PW-2	4/18/19	12	0.375	-68.3	FALSE
PW-2	7/23/20	15	11	-103.2	FALSE
PW-2	12/10/20	6.5	5.7	-33.8	FALSE
PW-3	4/18/19	1.9	1.2	34.4	FALSE
PW-3	7/23/20	1.6	1.8	-96.4	FALSE
PW-3	12/11/20	5.4	2.9	-57.2	FALSE
PW-4	12/11/20	1.2	0.375	-45.4	FALSE
PW-5	7/24/20	80	70	-68.3	TRUE
PW-5	12/11/20	33	29	-103.2	FALSE
SB/MW-17-19	7/23/20	28	19	-25.1	FALSE
SB/MW-17-19	12/10/20	120	20	-16.9	TRUE
SB/MW-19-19	7/23/20	0.375	0.375	187.4	FALSE
SB/MW-19-19	12/10/20	0.375	0.375	252.9	FALSE
TMW-9	12/9/20	6.2	1.3	11	FALSE

Statistical Analysis
Valid Data - No Outliers

Well ID	Date	Total Arsenic	Dissolved Arsenic	ORP
MW-1	11/6/12	6	NA	48.5
MW-1	7/24/13	5	NA	-50.9
MW-1	4/23/13	4	NA	-69.2
MW-10-12	2/29/16	30	20	-11.4
MW-10-12	4/16/13	19	NA	-33.9
MW-11-12	8/4/15	4	3	65.8
MW-11-12	11/17/15	4	26	21.7
MW-11-12	12/19/20	1.2	0.9	75.5
MW-11-12	2/29/16	1	1	287.8
MW-11-12	4/18/13	1	NA	-10.3
MW-11-12	7/23/13	1	NA	1.1
MW-11-12	7/22/20	0.91	0.79	99.4
MW-1-12	11/6/12	1	NA	53.4
MW-12-12	8/9/12	39	NA	-40
MW-12-12	11/17/15	39	36	-112.4
MW-12-12	8/4/15	31	1	-103.4
MW-12-12	11/8/12	31	NA	-65.7
MW-12-12	4/22/13	29	NA	-83.9
MW-12-12	7/23/13	26	NA	-83.3
MW-13-12	11/6/12	3	NA	45.6
MW-13-12	4/22/13	1	NA	12.3
MW-13-12	7/23/13	1	NA	41
MW-13-12	8/9/12	1	NA	152.8
MW-14-12	4/22/13	1	NA	16.9
MW-14-12	7/23/13	1	NA	149.6
MW-14-12	11/6/12	1	NA	91.4
MW-2	7/24/13	26	NA	-105.9
MW-2	4/23/13	15	NA	-88.4
MW-2-12	8/8/12	2	NA	175.4
MW-2-12	7/25/13	1	NA	39.4
MW-2-12	11/6/12	1	NA	176.2
MW-3-12	8/9/12	25	NA	-24.1
MW-3-12	11/6/12	19	NA	-87.5
MW-3-12	7/24/13	13	NA	-92.6
MW-3-12	11/18/15	10	9	-40.2
MW-3-12	2/23/16	8	7	-64.4
MW-3-12	4/17/13	2	NA	17.3
MW-4-04	7/25/13	1	NA	58.8
MW-4-12	11/6/12	12	NA	-30.6
MW-4-12	2/23/16	7	1	134.5
MW-4-12	8/9/12	5	NA	81.7
MW-4-12	7/24/13	3	NA	-1.6
MW-4-12	11/18/15	3	1	-32.4
MW-4-12	4/17/13	1	NA	7.3
MW-5-12	8/10/12	3	NA	-48.4
MW-5-12	4/23/13	1	NA	3.9
MW-5-12	7/24/13	1	NA	-73.5
MW-6-12	11/6/12	29	NA	-36.4
MW-6-12	8/10/12	19	19	78.9
MW-6-12	7/25/13	10	NA	11.6
MW-6-12	11/16/15	3	1	17.5
MW-6-12	4/23/13	2	NA	0.3
MW-7-12	8/9/12	3	NA	93.4
MW-7-12	11/6/12	2	NA	4.6
MW-7-12	4/10/18	1.2	1.2	93.2
MW-7-12	2/29/16	1	1	291.5
MW-7-12	4/17/13	1	NA	27.2
MW-7-12	7/24/13	1	NA	12.7

Statistical Analysis
Valid Data - No Outliers

MW-7-12	8/5/15	1	1	409.5
MW-7-12	11/18/15	1	1	-15.1
MW-7-12	7/22/20	0.375	0.375	180.1
MW-7-12	12/9/20	0.375	0.8	50.4
MW-8-12	2/23/16	1	1	200.4
MW-8-12	4/17/13	1	NA	23.2
MW-8-12	7/25/13	1	NA	31.4
MW-9-12	7/23/13	6	NA	-97.4
MW-9-12	11/17/15	5	1	-10.8
MW-9-12	12/9/20	4.4	0.375	-38.6
MW-9-12	8/9/12	3	NA	98.8
MW-9-12	8/5/15	3	2	-30.2
MW-9-12	2/29/16	1	1	219.2
MW-9-12	4/16/13	1	NA	-9.9
MW-9-12	4/11/18	0.75	0.75	147.8
PW-1	7/23/20	46	45	-96.4
PW-1	4/18/19	3	0.375	34.4
PW-1	12/10/20	2.2	10	-57.2
PW-1	9/4/18	0.76	0.375	-33.8
PW-2	7/23/20	15	11	-103.2
PW-2	4/18/19	12	0.375	-68.3
PW-2	9/4/18	6.8	0.375	-45.4
PW-2	12/10/20	6.5	5.7	-33.8
PW-3	12/11/20	5.4	2.9	-57.2
PW-3	4/18/19	1.9	1.2	34.4
PW-3	7/23/20	1.6	1.8	-96.4
PW-4	12/11/20	1.2	0.375	-45.4
PW-5	12/11/20	33	29	-103.2
SB/MW-15-14	9/25/14	30	NA	69
SB/MW-15-14	11/17/15	22	21	-99.8
SB/MW-15-14	2/29/16	12	12	88.1
SB/MW-15-14	4/10/18	3	1.8	65.3
SB/MW-15-14	12/9/20	1.6	1.4	191.3
SB/MW-15-14	7/22/20	1	1.1	162.5
SB/MW-16-14	7/22/20	35	23	-26.7
SB/MW-16-14	4/10/18	28	25	-110.1
SB/MW-16-14	2/23/16	25	20	-96
SB/MW-16-14	12/9/20	19	14	-105.3
SB/MW-16-14	9/25/14	15	NA	75
SB/MW-16-14	11/18/15	13	12	-33.1
SB/MW-17-19	7/23/20	28	19	-25.1
SB/MW-19-19	7/23/20	0.375	0.375	187.4
SB/MW-19-19	12/10/20	0.375	0.375	252.9
TMW-1	11/18/15	2	1	-17.9
TMW-1	4/10/18	1.9	1.1	88.7
TMW-1	12/9/20	1.4	0.88	-51.8
TMW-1	7/22/20	1.2	0.375	43.5
TMW-1	2/23/16	1	1	65.3
TMW-6	11/17/15	4	4	-78
TMW-6	2/29/16	1	1	8.6
TMW-8	11/18/15	12	12	-80.6
TMW-8	8/5/15	9	7	-1.4
TMW-8	2/23/16	7	7	-2.7
TMW-9	12/9/20	6.2	1.3	11