

Revitalizing Auto Communities Environmental
Response (RACER) Trust

2018 ANNUAL GROUNDWATER MONITORING REPORT

RACER Trust Lansing Industrial Land
Lansing, Michigan

May 15, 2019

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Alex Villhauer
Staff Geologist

Prepared for:

Revitalizing Auto Communities
Environmental Response Trust

Prepared by:

Arcadis of Michigan, LLC

28550 Cabot Drive

Suite 500

Novi

Michigan 48377

Tel 248 994 2240

Fax 248 994 2241



Patrick J. Curry, PG (IN), CPG
Principal Geologist

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Randy S. Christensen
Certified Project Manager

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Acronyms and Abbreviations

Annual Report	2017 Annual Groundwater Monitoring Report
APC Site	former Adam's Plating Company Superfund Site
Arcadis	Arcadis of Michigan, LLC
bgs	below ground surface
COC	constituent of concern
CSM	Conceptual Site Model
DW criteria	Part 201 residential drinking water criteria
EGLE	Michigan Department of Environment, Great Lakes, and Energy
FSP	Field Sampling Plan
ft/ft	foot per foot
GSI	groundwater-surface water interface
IGMP	Revised Interim Groundwater Monitoring Work Plan
LNAPL	light nonaqueous phase liquid
µg/L	microgram per liter
mg/L	milligram per liter
NTU	nephelometric turbidity unit
PCB	polychlorinated biphenyl
PFAS	per- and polyfluoroalkyl substances
QAPP	Quality Assurance Project Plan
QC	quality control
RACER	Revitalizing Auto Communities Environmental Response
RCRA	Resource Conservation and Recovery Act
RL	reporting limit
RRD	Remediation and Redevelopment Act
SIM	selected ion monitoring
site	RACER Trust Plants 2, 3, and 6 located in Lansing, Michigan
SOP	Standard Operating Procedure
TestAmerica	TestAmerica Laboratories, Inc. in Burlington, Vermont
USEPA	United States Environmental Protection Agency

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VOC volatile organic compound

EXECUTIVE SUMMARY

This 2018 Annual Groundwater Monitoring Report (Annual Report) was prepared on behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust in support of the Resource Conservation and Recovery Act facility investigation and corrective measures study prepared for RACER Trust Lansing Industrial Land, located in Lansing, Michigan (Site). The Site consists of former Plants 2, 3, and 6.

This Annual Report summarizes groundwater monitoring completed between January and December 2018. Results from these events were combined with review of the updated plume stability evaluation to provide a body of evidence for the conclusions presented in this report. Note that results of groundwater analyzed for per- and polyfluorinated alkylated substances (PFAS) in 2018 are or will be reported separately and are not included in this report.

Groundwater potentiometric surface maps for the three saturated zones at the Site indicate stable and increasing groundwater elevations. Perched groundwater elevations are generally stable and within the range of seasonal variation. Bedrock well gauging shows higher groundwater elevations and a flatter, more variable horizontal gradient in the bedrock aquifer in December 2018. Bedrock elevation trends are likely to result from seasonal variability and changing municipal pumping patterns.

Arcadis has developed a series of plots to evaluate the light nonaqueous phase liquid (LNAPL) trends for the Plant 2 and Plant 3 LNAPL areas. LNAPL tends to thicken until it equilibrates within the well and stabilizes. In 2018, approximately 49.5 gallons of LNAPL were removed from the LNAPL monitoring wells. Additional work completed to further characterize the Plant 2 LNAPL area will be provided under separate cover.

Groundwater sample results indicate that concentrations of several volatile organic compounds (VOCs) and metals exceed residential drinking water criteria during at least one sampling event at the Site. Elevated concentrations of metals are, in most cases, a result of natural geochemical conditions and/or slight shifts in Site geochemistry associated with the presence of VOCs. The exception is nickel on the eastern boundary of Plant 3, which is attributed to off-site conditions.

1,4-Dioxane data indicate expansion of the lower 1,4-dioxane plume to the southeast and east of the LNAPL on Plant 2. Several weathered bedrock monitoring wells along the southern half of the plume indicate increasing concentration trends. Wells in the northern portion of the plume generally show stable to decreasing concentrations. 1,4-Dioxane was not detected during 2018 on-site in the deeper bedrock monitoring wells installed along the core of the plume or in bedrock at the western property boundary.

1,4-Dioxane concentrations along the western Plant 2 property boundary exceed Part 201 criteria at several locations similar to previous years but are likely commingled with impacts associated with the former Adams Plating Company Site (APC Site), which makes it difficult to determine concentration trends or potential for migration. The APC Site is located along the west boundary of Plant 2 along Rosemary Street. The proximity of the APC Site and the lack of a clear line of demarcation for 1,4-dioxane in both the perched and weathered bedrock zones suggest that a degree of commingling occurs along the western RACER property boundary. Commingling of impacts from the Site and the APC Site confuses the delineation and stability analysis for 1,4-dioxane along the western Plant 2 property.

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Detections of 1,4-dioxane in Lansing Township wells TWP-90-03, TWP-90-04, and TWP-90-05 (sampled in November 2018 for low-level 1,4-dioxane) may result from several regional and/or numerous nonpoint sources. Annual sampling of Lansing Township wells will continue to monitor the stability of low-level 1,4-dioxane in the municipal wells.

Based on these conclusions, no immediate action is recommended at this time. An engineered remediation system, outlined in the 2017 Interim Measure Workplan (Arcadis 2017c), is being designed to address the lower 1,4-dioxane plume.

1 INTRODUCTION

On behalf of the Revitalizing Auto Communities Environmental Response (RACER) Trust, Arcadis of Michigan, LLC (Arcadis) prepared this 2018 Annual Groundwater Monitoring Report (Annual Report) to support the Resource Conservation and Recovery Act (RCRA) corrective action process for RACER Trust Lansing Industrial Land, located in Lansing, Michigan (Site; **Figure 1**). The Site consists of former Plants 2, 3 and 6. This Annual Report summarizes groundwater monitoring completed between January and December 2018, consistent with the requirements of the Revised Interim Groundwater Monitoring Work Plan (IGMP; Arcadis 2017a), which was approved by the Michigan Department of Environment, Great Lakes and Energy (EGLE) on February 8, 2017.

The following sampling events were completed in accordance with the IGMP (Arcadis 2017a):

- *First quarter 2018.* A quarterly event completed in March 2018.
- *Second quarter 2018.* A combined semi-annual and biennial event completed in May 2018.
- *Third quarter 2018.* A quarterly event completed in September 2018.
- *Fourth quarter 2018.* An annual event completed in December 2018. Additional work in the fourth quarter included annual municipal well sampling (November 2018).

As outlined in the IGMP (Arcadis 2017a), this Annual Report includes quarterly data (e.g., tabulated data, figures, analytical narrative) and provides the following:

- Objective and scope of the sampling events
- Summary of groundwater elevations and light nonaqueous phase liquid (LNAPL) gauging data, including contour maps and trend plots
- Summary of LNAPL recovery completed in accordance with the 2015 LNAPL Removal Work Plan (Arcadis 2015b)
- Updated plume stability discussion
- Summary of Lansing Township water supply well sampling
- Conclusions and recommendations for revisions to the IGMP (Arcadis 2017a) as appropriate.

2 SAMPLING METHODS

This section discusses the sampling methodology used at the Site. The Field Sampling Plan (FSP; Arcadis 2011a) for the Site provides detailed methodology regarding the collection of groundwater samples and includes appropriate Arcadis standard operating procedures (SOPs).

2.1 Groundwater Monitoring Methods

During the fourth quarter 2018 annual sampling event, and before sample collection, site-wide gauging was completed using an electronic water level meter. LNAPL wells were gauged using an oil/water

interface probe. During the first, third, and fourth quarter 2018 sampling events, gauging was limited to those wells selected for sampling and LNAPL monitoring. All gauging was completed within 24 hours with few exceptions due to access or other issues. Groundwater samples were collected in a manner consistent with the low-flow sampling techniques outlined in the FSP and the SOP for low-flow sample collection (Arcadis 2011a), and generally consistent with EGLE's Remediation and Redevelopment Division (RRD) Op Memo 2, Attachment 5 (EGLE 2004). An emphasis was placed on collecting low-turbidity samples (less than 10 nephelometric turbidity units [NTUs]) for metals analysis.

Groundwater samples were analyzed following EGLE's RRD Op Memo 2, Attachment 5 guidelines (EGLE 2004), as established in the RCRA Facility Investigation Work Plan (Phase 1; Arcadis 2011b). The IGMP (Arcadis 2017a) provides the rationale for selecting the monitoring constituents of concern (COCs). The most current sampling matrix provided as part of the IGMP (Arcadis 2017a) is included as **Table 1**. In general, groundwater samples were submitted for analysis for one or more of the following:

- 1,4-Dioxane by United States Environmental Protection Agency (USEPA) Method 8260B SIM
- 1,4-Dioxane by USEPA Method 522
- Target Compound List volatile organic compounds (VOCs), as defined in Table 3 of the Quality Assurance Project Plan (QAPP; Arcadis 2011c), by USEPA Method 8260B
- Selected metals (arsenic, total chromium, copper, lead, nickel, and vanadium) by USEPA Method 6020, and, at discrete locations, metals associated with known impacts (e.g., hexavalent chromium in Area 14 at Plant 3). Filtered metals were submitted for specific wells when turbidity less than 10 NTU could not be achieved during purging (USEPA Method 6020).

Field quality control (QC) samples were collected and analyzed in accordance with the QAPP (Arcadis 2011c). One sample delivery group per plant underwent complete validation/verification as described in the FSP and QAPP (Arcadis 2011a and 2011c, respectively). This varies from the approved QAPP (Arcadis 2011c), which requires all datasets to be fully validated. This quality assurance/QC approach is sufficient for quarterly validation, which does not require the same rigor as the RCRA Facility Investigation data.

2.2 Municipal Well Sampling

Lansing Township wells (TWP-90-03, TWP-90-04, and TWP-90-05) were sampled on November 13, 2018. The locations and analytical reports for the municipal wells are provided in **Appendix A**. Samples were collected from the sampling ports during normal well operations (except as noted below) and submitted to TestAmerica Laboratories, Inc. in Burlington, Vermont (TestAmerica), for analysis for 1,4-dioxane using USEPA Method 522, which provides a reporting limit (RL) of 0.20 microgram per litre (µg/L).

Township well TWP-90-04 was taken out of service in November 2018 by Lansing Board of Water and Light. The pump was turned on and allowed to cycle before sampling. Lansing Board of Water and Light anticipates TWP-90-04 will remain out of service until spring 2019.

2.3 Light Nonaqueous Phase Liquid Monitoring

LNAPL thicknesses in monitoring wells are monitored to verify that LNAPL is stable and not migrating. LNAPL monitoring wells were gauged quarterly with an oil/water interface probe. Gauging methods were consistent with the 2014 Revised Interim Groundwater Monitoring Work Plan (Arcadis 2014a), which builds on procedures outlined in the FSP (Arcadis 2011a).

As outlined in the Summary of LNAPL Transmissivity Results (Arcadis 2015a), provided to EGLE on March 30, 2015, LNAPL transmissivity estimates for the LNAPL wells installed in the deeper, confined LNAPL zone at Plant 2 are two to three orders of magnitude less than the criterion established by EGLE to define LNAPL that can be recovered in a cost-effective and efficient manner. However, given that polychlorinated biphenyls (PCBs) are present in the deeper LNAPL zone at elevated concentrations, and because LNAPL accumulates at significant thickness at several wells (LMW-14-03D, LMW-14-12D, LMW-14-15D and LMW-14-16D) due to the presence of confined LNAPL conditions, LNAPL has been manually recovered from these wells monthly since April 2017.

2.4 Groundwater Elevation Monitoring

Monitoring wells were gauged during sampling using an electronic water level meter generally within a 24-hour period. To evaluate seasonality, site-wide gauging is rotated annually between the second quarter and fourth quarter events. In 2018, site-wide gauging was completed during the fourth quarter 2018 annual sampling event. During the first, second, and third quarter sampling events, gauging was limited to those wells selected for sampling. Gauging methods were consistent with the FSP and IGMP (Arcadis 2011a, 2017a).

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

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

3 RESULTS

This section summarizes the sampling activities completed between January and December 2018. **Table 2** presents groundwater analytical data collected during the reporting period. As a frame of reference, figures showing exceedances of the Part 201 residential drinking water criteria (DW criteria) for each quarterly event are provided as **Appendix B**. **Appendices C** and **D** provide the validated laboratory analytical reports and low-flow groundwater sampling field logs, respectively.

3.1 Groundwater Monitoring Results

Figures 2 and **3** show monitoring well locations and the extent of groundwater impacts. The groundwater analytical results and trends observed throughout 2018 are discussed below:

- The figures depicting the lower 1,4-dioxane plume have been changed to reflect several changes in the conceptual site model. 1,4-Dioxane was detected in MW-16-75 above the DW criteria at a concentration of 10 µg/L during December 2018. MW-16-75 is a weathered bedrock monitoring well installed in 2016 to act as a sentinel at the toe of the lower 1,4-dioxane plume. MW-16-75 has historically been non-detect for 1,4-dioxane since installation in 2016. In addition, weathered bedrock monitoring wells MW-16-74 and MW-16-76 contained detections of 1,4-dioxane below DW criteria at the southern toe during December 2018; and MW-16-84, MW-17-86 and MW-16-81 exhibit increasing concentrations, showing expansion of the plume to the south and east of the Plant 2 LNAPL area. These results suggest that the 1,4-dioxane plume on Plant 2 is continuing to expand at the toe. The arrival of the plume front at MW-16-75 two years after installation is consistent with the previously calculated groundwater plume velocity of 25 to 54 feet per year included as an assumption in the biosparge remedy design (Arcadis 2017c).
- VOC concentrations detected in groundwater were consistent with previous monitoring results. VOC concentrations exceeding DW criteria during at least one event include 1,4-dioxane, 1,1-dichloroethene, vinyl chloride, benzene, ethylbenzene, isopropyl benzene, tetrachloroethene, and total xylenes. VOC concentrations that exceed Part 201 criteria are limited to the perched zone.
- Metals detected at concentrations exceeding DW criteria during at least one event include arsenic, lead, nickel, and vanadium, consistent with previous monitoring results.
- Hexavalent chromium concentrations exceeded the DW criterion in monitoring well CH-14-RO in the north-central portion of Plant 3 near the former plating operation. This is consistent with previous groundwater investigations and monitoring results.

During the monitoring period, additional COCs were detected in the perched zone and weathered bedrock at or near the Site boundary. These detections and one or more explanations for their occurrence are summarized below:

- *MW-14-58*. The concentration of 1,4-dioxane in MW-14-58, located in the perched zone, ranged from 58 to 78 µg/L during the monitoring period, exceeding the DW criteria of 7.2 µg/L. As previously reported, the detections of 1,4-dioxane at this location could be associated in part with the perched plume at Plant 2 but are likely commingled with the perched groundwater plume at the former Adams Plating Company Site (APC Site). Possible commingling of impacts from the Site and the APC Site

complicates further delineation to the west. Based on the October 2014 sampling event completed by EGLE at the APC Site, 1,4-dioxane within the perched zone is delineated to the west by monitoring wells at the APC Site. **Appendix E** includes the October 2014 sampling results for the APC Site.

- *MW-14-56.* 1,4-Dioxane was detected in this weathered bedrock well, located near the western Plant 2 property boundary, at concentrations ranging from 7 to 14 µg/L during the reporting period, exceeding the DW criteria of 7.2 µg/L. As discussed with EGLE on January 2016, results along W. Genesee Street suggest that this detection could be related to a deeper 1,4-dioxane impact associated with the APC Site.
- *MW-15-73.* 1,4-Dioxane was detected in this weathered bedrock well, installed in December 2015 along the western property boundary of Plant 2, at concentrations ranging from 4 to 11 µg/L during the reporting period. Well MW-15-73 was installed as a replacement well for MW-13-42 and is near the APC Site. Borings further west along W. Genesee Street suggest greater concentrations likely associated with the APC Site. This well will continue to be monitored semiannually.
- *MW-16-80.* 1,4-Dioxane was detected in this weathered bedrock well, located at the western Plant 2 property boundary, at concentrations ranging from 23 to 27 µg/L during the reporting period, exceeding the DW criteria of 7.2 µg/L. Monitoring well MW-16-80 is located across the street from the APC Site, and the detected 1,4-dioxane is potentially related to former operations at the APC Site. This well will continue to be monitored semiannually.
- *MW-13-32.* Total nickel was detected in this shallow monitoring well, located in the southeastern corner of Plant 3 within Area 16, at concentrations of 0.381 and 0.761 milligrams per liter (mg/L; DW criterion: 0.10 mg/L) during the second and fourth quarters 2018, respectively. In addition, well MW-13-31 (located west of MW-13-32) has occasionally indicated elevated concentrations of nickel. The nickel concentration detected in MW-13-31 was less than DW criteria during the second quarter, at 0.025 mg/L, and greater than DW criteria at a concentration of 0.209 mg/L in fourth quarter 2017. Groundwater elevation in this area has indicated that perched groundwater flow is westerly, onto the Site. A summary of the nickel occurrence at Plant 3 was provided to EGLE for both soil and groundwater (Arcadis 2014b, 2015b, 2015c).
- *MW-12-16.* Arsenic was detected in this interbedded zone well, located in the southern right-of-way of Michigan Avenue and to the south of Plant 6, Area 7, at a concentration of 0.015 mg/L in second quarter 2017 and 0.013 mg/L in fourth quarter 2017 (DW criteria of 0.01 mg/L). The plume stability analysis outlined in Section 4 indicates no significant trend at this location. MW-12-16 is screened in a confined sand unit at approximately 30 feet bgs, which is also screened by three other monitoring wells nearby. Groundwater elevations for these wells have consistently shown a northerly flow, onto the Site, since 2014. Based on the hydraulic isolation of this well and the apparent northerly groundwater flow direction, EGLE has agreed that arsenic at this location is related to regional background conditions and not associated with Site impacts.
- Various metals (primarily arsenic, lead, nickel, and vanadium) were detected at concentrations greater than DW criteria near the property boundaries at several other monitoring well locations similar to previous sampling events. As outlined in Section 4, an evaluation of the plume stability indicates that metals at the Site are stable and are spatially limited.

In addition to the specific concerns outlined above, an updated plume stability analysis is included in Section 4. No immediate action is recommended based on the 2018 groundwater monitoring data.

3.1.1 Former Adam's Plating Company Site

The APC Site is located along Rosemary Street along the west side of Plant 2 and is currently managed and regulated under the USEPA Region 5 Superfund Program. Plating operations were performed at the APC Site from 1964 until it was destroyed by fire in 2010. Remedial action at the APC Site included excavation of former tanks and shallow soil impacted by VOCs and metals. Subsequent investigations have shown impacts to shallow groundwater, including metals, VOCs, 1,4-dioxane, and per- and polyfluoroalkyl substances (PFAS). The lateral extent of the perched 1,4-dioxane and PFAS plumes at the APC Site have not been delineated to EGLE Part 201 criteria, and both plumes appear to extend east onto RACER property. Further, work completed to evaluate 1,4-dioxane impacts in weathered bedrock along the Plant 2 property boundary have shown 1,4-dioxane in weathered bedrock south of the Adams Plating Company facility on Genesee Street (Arcadis 2016b). These detections are consistent with a weathered bedrock plume at the APC Site with a southerly flow component.

In addition, 1,4-dioxane impacts to the weathered bedrock monitoring well MW-16-80, located across the street from the APC Site, are inconsistent with the lower 1,4-dioxane plume morphology at the RACER property. To date, the extent of the deeper weathered bedrock or bedrock impacts associated with APC have not been investigated. The commingling of impacts from the Site and the APC Site, both in the perched and weathered bedrock zones, confounds delineation and stability analysis for 1,4-dioxane along the western Plant 2 property boundary. The 1,4-dioxane data for the APC Site and a map showing the potential extent of impacts are provided on a figure included in **Appendix E**. Note, the most recent publicly available data for the APC Site are from 2014.

3.1.2 Storm Sewer Sampling

Storm sewer samples were collected for analysis of VOCs and select metals from three manholes in December of 2018: P2-MH-NW on Plant 2, P3-MH-NE on Plant 3, and P6-MH2-SW on Plant 6. No samples exhibited detections above groundwater-surface water interface (GSI) criteria. The results and sample locations are provided in **Appendix F**.

3.1.3 Municipal Well Sampling Results

The results of the Lansing Township well sampling indicate an estimated (less than the laboratory RL) 1,4-dioxane concentration of 0.18 µg/L in Lansing Township well TWP-90-04, and detections of 0.20 and 0.36 µg/L in Lansing Township wells TWP-90-03 and TWP-90-05, respectively. Widespread 1,4-dioxane detections are potentially related to a 1,4-dioxane “background condition” in and around Lansing, as demonstrated by the low-level 1,4-dioxane sampling completed at the Site in 2017. 1,4-Dioxane was not detected on site in the deeper bedrock monitoring wells installed along the core of the lower 1,4-dioxane plume or in bedrock at the western Plants 2 and 3 property boundaries during 2018. Annual sampling of Lansing Township wells will continue to monitor the stability of low-level 1,4-dioxane in the wells. The locations of the municipal wells and the 1,4-dioxane results are summarized on a figure included in **Appendix A**.

3.2 Light Nonaqueous Phase Liquid Monitoring

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

3.2.1 Light Nonaqueous Phase Liquid Recovery

As outlined in the Summary of LNAPL Transmissivity Results and the 2015 LNAPL Removal Work Plan (Arcadis 2015a, 2015b), the low LNAPL transmissivity suggests that recoverability of the Plant 2 LNAPL is low. However, given that PCBs are present in the deeper LNAPL zone at elevated concentrations, and the LNAPL accumulates at significant thickness in several wells due to the presence of confined LNAPL conditions, LNAPL had been manually recovered from several wells since 2016 (initially quarterly, then monthly beginning in 2017). LNAPL recovery from January through December 2018 is summarized in **Table 4**. In 2018, an estimated 49.5 gallons of LNAPL were recovered from the five wells meeting the criteria outlined as part of the 2015 LNAPL Removal Work Plan (Arcadis 2015b).

With monthly LNAPL recovery, there has been a decrease in the thickness of accumulated LNAPL between recovery events at three of the five LNAPL recovery wells (LMW-12-03D, LMW-12-10, and LMW-15-16D). Only two wells (LMW-14-12D and LMW-14-15D) accumulate LNAPL at a sufficient rate to support monthly recovery. Therefore, it is proposed to reduce the frequency of LNAPL recovery to quarterly, except at LMW-14-12D and LMW-14-15D, which will continue monthly. The overall monitoring and mitigation of LNAPL will be re-evaluated as part of the forthcoming Plant 2 LNAPL Conceptual Site Model (CSM) and corrective measures evaluation.

3.3 Groundwater Elevation Monitoring

Table 5 summarizes groundwater elevation measurements collected at the Site. Groundwater elevation trend graphs for key wells at each plant are provided in **Appendix H**. Trends within each water-bearing zone are discussed below.

3.3.1 Perched Zone

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

The trend graphs included in **Appendix H** indicate that groundwater elevations in the perched zone have been relatively stable at Plants 2 and 3. Groundwater elevations in perched wells on Plant 6 are more variable, with some wells showing a long-term increase in water levels potentially associated with the surface and subsurface modifications during demolition. During October and November 2018, an additional round of gauging was completed at Plant 3 before storm sewer bulkheading. Comparison of pre-bulkheading groundwater elevations to groundwater elevations observed during December 2018 shows minor fluctuations that were generally decreasing and are within the range of seasonal variation. Evaluation of groundwater elevations on Plant 3 will continue during 2019 to determine the effect of storm sewer bulkheading on the Site hydrogeology.

3.3.2 Deep Overburden

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

The trend graphs included in **Appendix H** show that steady increases in water levels were observed in deep overburden water levels beginning in 2016 and could be related to increased recharge through the Site as well as long-term trends in municipal pumping.

3.3.3 Weathered Bedrock and Bedrock

The long-term trends for bedrock monitoring wells show an increasing potentiometric surface in bedrock and weathered bedrock since 2016. Potentiometric surface trend graphs for select bedrock wells are included in **Appendix H**. Bedrock wells were gauged in 2018 were completed during the December sampling, the previous site-wide gauging event was completed in April 2017. From spring 2017 to fall 2018, the potentiometric surface in bedrock increased between 5 and 10 feet. At the same time, the vertical gradient in bedrock decreased by more than 50 percent from spring 2017 to winter 2018. The effect is an overall flatter, more variable bedrock horizontal gradient with higher corrected potentiometric surface observed on Plants 2 and 6. The rise in potentiometric surface, and overall increasing trend observed since 2016, is likely attributed to changes in municipal pumping patterns, both long-term and seasonally.

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

For the bedrock (and by extension, the weathered bedrock), the effective head or “corrected” groundwater elevation can be calculated based on the observed vertical gradients. As indicated in **Table 6**, the vertical gradient tends to be limited near the coliseum and increases to the south to a maximum of

0.22 foot per foot (ft/ft) downward at wells MW-15-72/MW-12-05R (located in central Plant 2) before stabilizing to 0.18 ft/ft downward at wells MW-13-52/MW-13-50 (located on western Plant 6). This variation in vertical gradient appears to coincide with the transition between bedrock formations. Near the coliseum, where the bedrock encountered consists of the more uniform and permeable Grand River Formation, the vertical gradient is negligible. To the south, within the interbedded sandstone and shale of the Saginaw Formation, there is a significant vertical gradient due to the vertical anisotropy created by the interbedded shale and sandstone of the Saginaw Formation. Review of the bedrock wells and other deep boring logs suggests an approximate geologic contact between the Grand River and Saginaw Formations oriented roughly southwest-northeast. **Figure 7** includes the interpreted location of the geologic contact.

To calculate the effective head for the bedrock (**Figure 7**), an average downward gradient 0.13 ft/ft was applied to bedrock monitoring wells installed within the Saginaw Formation as follows:

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

Where:

GW_{eff} = effective groundwater elevation

GW = measured groundwater elevation

dh/dl = vertical gradient

ΔElev = change in elevation between deepest well and measured well

As shown on **Figure 7**, the corrected bedrock groundwater contours are a good match for the distribution of the lower 1,4-dioxane plume located within the weathered bedrock zone. Although the potentiometric surface is generally higher, and the horizontal gradient is flatter, the overall pattern is similar to that of spring 2017. The potentiometric high in central Plant 2 correlates to the area where the lower 1,4-dioxane plume migration slows and some leakage from the perched zone occurs (Arcadis 2016b, 2016c). Further, the corrected potentiometric surface suggests an easterly component of flow within the bedrock/weathered bedrock beneath the Plant 2 LNAPL area, an observation supported by the continued easterly expansion of the lower 1,4-dioxane plume.

4 GROUNDWATER PLUME STABILITY

A preliminary geochemical and plume stability assessment for groundwater at the Site was completed in April 2014 (Arcadis 2014b). The primary objective of this assessment was to provide an initial evaluation of plume stability and determine the suitability of monitored plume stability as a remedial alternative. The preliminary plume stability assessment used data collected between October 2011 and first quarter 2014 as well as geochemical data collected during the August and September 2013 events.

Updated plume stability assessments were completed using the most recent analytical results collected during first through fourth quarter 2018. Previously completed plume stability assessments include:

- 2014-2015 Annual Groundwater Monitoring Report (Arcadis 2015d), incorporating additional data collected during 2014 and first quarter 2015.

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- 2015-2016 Annual Groundwater Monitoring Report (Arcadis 2016a), incorporating additional data collected during 2015 and first quarter 2016.
- 2016 Annual Groundwater Monitoring Report (Arcadis 2017b), incorporating additional data collected during second quarter through fourth quarter 2016.
- 2017 Annual Groundwater Monitoring Report (Arcadis 2018), incorporating additional data collected during first quarter through fourth quarter 2017.

Results of the previous five site-wide plume stability assessments were consistent and demonstrate that the increasing trends are generally limited to 1,4-dioxane in select weathered bedrock wells and non-site-related metals mobilized by changes in groundwater geochemistry associated with the Site. The plume stability assessment presented in this section represents an updated analysis of time-series concentration trends using data collected through fourth quarter 2018.

The updated statistical analysis of dissolved-phase COC concentrations with time was completed using the Mann-Kendall slope trend test, consistent with the methodology used in previous evaluations. Per the IGMP (Arcadis 2017a), the updated analysis was limited to monitoring wells with COCs that have demonstrated increasing trends during the previous analysis, boundary wells, and new wells that did not have enough samples at the time of the previous analysis. In addition to the new limitations mentioned above, wells and COCs met the following criteria for evaluation:

- At least four sampling events have been completed.
- At least 65 percent of the sampling results were greater than detection limits (minimum of three sampling results greater than detection limits).
- At least one detection in the dataset exceeded the lowest criteria.

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

The following updated plume stability evaluation includes the following information:

- **Table 7** presents comprehensive Mann-Kendall analysis results.
- DW criteria exceedances during the 2018 sampling events are shown on the figures provided in **Appendix B**.
- The overall trend results are shown on **Figures 8 and 9**.
- **Appendix I** presents plots of concentrations through time for all well/COC pairs meeting criteria for trend analysis.

Other notes:

- Only monitoring wells evaluated using the Mann-Kendall test are shown on **Figures 8 and 9**.

- Trends were not observed for metals in the deep monitoring wells, and that summary figure has been eliminated from this report.

4.1 Perched Zone

4.1.1 1,4-Dioxane

The 1,4-dioxane plume appears to be stable to decreasing within the perched zone as demonstrated with 2014 plume stability evaluation and each successive annual report (Arcadis 2014b, 2015d, 2016a, 2017b, 2018).

4.1.2 Volatile Organic Compounds

Concentrations of VOCs in the perched zone are sporadic, and a large plume footprint was not observed; rather, VOC concentrations in groundwater greater than DW criteria are limited to discrete source areas (e.g., Area 2, Area 9) and areas immediately surrounding observed LNAPL at Plants 2 and 3. Review of VOC data found that the criteria for statistical assessment were met for only one location in Area 9. An increasing benzene trend was identified in MWBP-12-UST1-4. This well is near the southern property boundary of Plant 6. Nearby well MWBP-12A-UST1-4, between MWBP-12-UST1-4 and the property boundary, has not yielded detectable benzene concentrations during recent sampling events. Monitoring of MWBP-12-UST1-4 and MWBP-12A-UST1-4 will continue to ensure that benzene is not migrating toward the Site boundary.

4.1.3 Metals

During the previous five plume stability assessments, the majority of statistical analyses run on concentrations of metals in perched zone monitoring wells were determined to be decreasing or exhibit no trend, suggesting overall stability in metals impacts greater than criteria. Most of the exceedances are within or near areas with VOC or LNAPL impacts, and increasing trends generally occur where VOC impacts are enough to cause a shift to more reducing geochemical conditions. Because VOC impacts and LNAPL are spatially limited, metals impacts are as well. Additionally, the low concentrations observed in VOC-impacted areas (e.g., failure to meet the criteria listed at the beginning of this section for inclusion in this analysis) indicated that VOCs are unlikely to be a long-term driver of reducing conditions. A geochemical shift toward slightly more oxidizing conditions is anticipated where many of the observed metal species are less mobile. The trend evaluation for metals focused on monitoring wells near the Site boundary to evaluate the potential for off-site metal impacts. The following increasing trends were observed, with remaining monitoring wells at the Site boundary exhibiting stable to decreasing concentrations of metals:

- Arsenic in MWBP-10-UST5-6, located northwest of MW-12-16 along the southern Plant 6 boundary, was detected at concentrations of 0.018 and 0.017 mg/L in May and December 2018, respectively. Arsenic concentrations at this location are within the range of state-wide background concentrations (Cummings 1989), and water levels measured at wells within the same sand unit at Area 9 show a consistent gradient to the north (flow onto the Site), suggesting that the arsenic detected in MW-12-16

is not site-related. As agreed with EGLE, additional evaluation beyond continued monitoring is not required for the area.

The overall monitoring approach with respect to metals will be re-evaluated as part of an updated IGMP due to be submitted to EGLE in the second quarter of 2019.

4.2 Deep Overburden and Weathered Bedrock

4.2.1 1,4-Dioxane

Since the initial plume stability assessment in 2014, concentrations within the lower 1,4-dioxane plume have generally shifted toward decreasing or stable trends in the northern portion of the plume and Plant 3 source area with increasing trends towards the toe of the plume and the Plant 2 LNAPL area. Ten weathered bedrock and deep overburden wells exhibited increasing trends for 1,4-dioxane (MW-13-34, MW-13-45, MW-13-48, MW-14-56, MW-15-72, MW-15-73, MW-16-81, MW-16-84, MW-17-86, and PW-14-03). Notable trends within the lower 1,4-dioxane plume include the following:

- Deep overburden monitoring well MW-13-25 is located on Plant 3 near the southwest edge of the plume, south of the source area. Low concentrations during 2013 and 2014, combined with increases during 2015 and 2016, result in an increasing trend at MW-13-25; however, 1,4-dioxane concentrations have been decreasing at MW-13-25 since the fourth quarter 2016. During the second and fourth quarter 2018 monitoring events, 1,4-dioxane concentrations decreased to 7 and 3 µg/L respectively, below the DW criterion of 7.2 µg/L.
- MW-13-34 and MW-13-48 are nested at the Plant 3 property boundary and installed within the weathered bedrock and deep overburden, respectively. Both wells exhibit increasing 1,4-dioxane trends. Concentrations in MW-13-34 have been slowly increasing since initial sampling in 2013, though samples taken in 2018 were slightly lower. After steadily increasing from initial sampling (2013) through March 2015, concentrations in MW-13-48 have been steadily decreasing. 1,4-Dioxane concentrations at this location are expected to continue to stabilize and/or decrease similar to those in the northern portion of the lower 1,4-dioxane plume.
- Monitoring wells MW-15-73 and MW-13-45 are located within the weathered bedrock toward the west and east extents of the lower 1,4-dioxane plume. Together with monitoring well MW-13-43, which is located along the plume axis, they comprise a transect across the plume. MW-15-73 was installed as a replacement for MW-13-42, and sampling of MW-13-42 has been discontinued per the IGMP (Arcadis 2017a) for this reason. MW-15-73 has shown consistent detections of 1,4-dioxane, with only the most recent sample exceeding the DW criterion of 7.2 µg/L, since installation in 2015. This increasing trend could be attributed to contributions from the APC Site. Concentrations in MW-13-45 have been stable since late 2015.
- MW-14-56, a weathered bedrock well located along the western property boundary of Plant 2, shows an increasing trend (i.e., 6 to 14 µg/L) in 1,4-dioxane concentrations.
- Monitoring well MW-15-72 is screened in the weathered bedrock to the west of the Plant 2 LNAPL, where the lower 1,4-dioxane plume diverges into three separate lobes as detailed in the Lower 1,4-Dioxane Toe Investigation and the Supplemental Lower 1,4-Dioxane Toe Investigation Reports (Arcadis 2016b and 2016c, respectively). The most recent evaluation of MW-15-72 demonstrates an increasing trend, though concentrations have been largely stable since 2016.

- As part of the 2016 supplemental toe investigation, two weathered bedrock monitoring wells (MW-16-81 and MW-16-84) were installed to monitor other sub-lobes of the lower 1,4-dioxane plume. 1,4-Dioxane concentrations in MW-16-81 and MW-16-84 have been steadily increasing since initial sampling in 2016. The increasing trends, coupled with mounding of the bedrock water table in central Plant 2, are likely indications of leakage from the perched zone.
- MW-17-86, an additional weathered bedrock sentinel well installed in 2017 and located at the edge of the northeast sub-lobe, has also demonstrated an increasing trend.

A biosparge remedy, currently in the initial stages of installation at the Site (Arcadis 2017c), is designed to target the lower 1,4-dioxane plume and will help minimize further expansion and migration of 1,4-dioxane at concentrations above 7.2 µg/L.

4.2.2 Metals

In general, concentrations of metals appear to be stable or decreasing. No metals plume could be identified in the deep overburden and weathered bedrock, and concentrations of metals greater than criteria were present at discrete locations only. Spatially limited increasing trends in arsenic concentrations remain near Areas 14 and 17, but can be attributed to minor shifts in geochemistry and are generally within the range of state-wide levels (Cummings 1989). The majority of identified exceedances approach the DW criteria.

4.2.3 Bedrock

Previous plume stability assessments demonstrated that metals exceedances in bedrock wells are sporadic and intermittent with few discernible trends, and concentrations are generally considered stable, with detected exceedances near DW criteria. 1,4-Dioxane or other VOCs were not detected in on-site bedrock monitoring wells in 2018. Exceedances and the increasing arsenic trend are not collocated with any known metals sources or impacts of VOCs and do not appear to be site-related; rather, they are likely due to natural fluctuations in geochemistry of the bedrock zone.

5 CONCLUSIONS

This Annual Report summarizes the non-PFAS groundwater monitoring activities completed between January and December 2018, consistent with the IGMP (Arcadis 2017a). Based on the results of the sampling and review of the plume stability evaluation, the following conclusions are offered:

- *Groundwater potentiometric surface maps.* Contour maps for the three saturated zones at the Site show a complex hydrogeologic system. The potentiometric surface in the perched zone has been stable and, in some cases, increasing in elevation since monitoring began in 2011. Potentiometric trends within the lower zones (deep overburden, weathered bedrock, and bedrock) have been increasing since 2016, likely related to seasonal variability but primarily related to changes in municipal pumping patterns.
 - o *Bedrock groundwater elevations* – Bedrock groundwater measurements were completed in December 2018. The previous site-wide gauging event was completed in April 2017. From spring 2017 to fall 2018, the potentiometric surface in bedrock has increased between 5 and 10

feet, while at the same time, the vertical gradient in bedrock decreased by more than 50 percent. The effect is an overall flatter, more variable horizontal gradient (particularly on Plant 2).

- o *Plant 3 perched groundwater elevations* – Perched groundwater elevations at Plant 3 were evaluated to determine the effect of bulkheading of the Plant 3 storm sewers (completed in November 2018) on Site hydraulics. Comparison of pre-bulkheading groundwater elevations (October 2018) to groundwater elevations observed during December 2018 shows minor fluctuations that are generally decreasing and within the range of seasonal variation. The trend will be monitored quarterly and re-evaluated once additional data are available for review.
- *Light nonaqueous phase liquid (LNAPL)*. Trend plots indicate that, when present, LNAPL thickness gradually increases until it reaches equilibrium within the well and stabilizes; there is no indication of LNAPL migration. LNAPL is monitored monthly in a subset of monitoring wells screened across the deeper LNAPL zone on Plant 2 and removed when significant volume collects. Approximately 49.5 gallons of LNAPL were removed from monitoring wells during 2018. An evaluation of the natural degradation of LNAPL, as well as the potential for LNAPL to be a source of 1,4-dioxane and PFAS, is currently underway and will be reported under separate cover as part of the Plant 2 LNAPL conceptual site model and final corrective measures evaluation.
- *VOC and Metals*. Groundwater sample results indicate that concentrations of several VOCs and metals exceed residential drinking water criteria during at least one sampling event at the Site. Elevated concentrations of metals are, in most cases, a result of natural geochemical conditions and/or slight shifts in Site geochemistry associated with the presence of VOCs. The exception is nickel on the eastern boundary of Plant 3, which is attributed to off-site conditions.
- *1,4-Dioxane*. 1,4-Dioxane concentrations along the western Plant 2 property boundary exceed Part 201 criteria at several locations similar to previous years but are likely commingled with impacts associated with the former APC Site, which makes it difficult to determine concentration trends or potential for migration.
- *1,4-Dioxane*. 1,4-Dioxane concentrations were detected in two weathered bedrock wells located at the toe of the lower 1,4-dioxane plume that have previously been non-detect. Other weathered bedrock wells near the toe of the lower plume and in the vicinity of the Plant 2 LNAPL area show increasing concentrations. These data indicate continued expansion of the plume to the southeast and east of the LNAPL on Plant 2. Wells in the northern portion of the lower 1,4-dioxane plume demonstrate stable to decreasing concentrations. 1,4-Dioxane was not detected on site in the deeper bedrock monitoring wells installed along the core of the lower 1,4-dioxane plume or in bedrock at the western property boundary during 2018. The interpreted extent of the lower 1,4-dioxane plume shown on the figures has been updated to reflect these changes.
- *APC Site*. The APC Site is located along the west boundary of Plant 2 along Rosemary Street. The proximity of the APC Site and the lack of a clear line of demarcation for 1,4-dioxane in both the perched and weathered bedrock zones suggest that a degree of commingling occurs along the western RACER property boundary. Commingling of impacts from the Site and the APC Site confuses the delineation and stability analysis for 1,4-dioxane along the western Plant 2 property.
- *Municipal well sampling*. Lansing Township wells TWP-90-03, TWP-90-04, and TWP-90-05 were sampled in November 2018 for low-level 1,4-dioxane using USEPA Method 522. Estimated

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concentrations of 1,4-dioxane (0.15 to 0.20 µg/L) were less than or at the laboratory RL in Lansing Township wells TWP-90-03 and TWP-90-04, and a detection of 0.36 µg/L was reported at Lansing Township well TWP-90-05. The low-level detections of 1,4-dioxane in the region may result from several regional and/or numerous nonpoint sources. Annual sampling of Lansing Township wells will continue to monitor the stability of low-level 1,4-dioxane in the municipal wells.

- *Plume stability.* Results of the updated statistical analysis are largely consistent with the findings of the 2017 plume stability assessment (Arcadis 2017b), with a few exceptions, as summarized below:
 - o Concentrations of 1,4-dioxane in the perched zone are considered stable based on analysis of the existing dataset. 1,4-Dioxane has not been detected in monitoring wells installed around the perimeter of the perched plume, except for MW-14-58, which is located near the perched 1,4-dioxane plume at the APC Site.
 - o Concentrations of 1,4-dioxane along the core of the deep overburden and weathered bedrock demonstrate variability. Wells on the northern terminus at the plume (MW-13-22, MW-12-21, MW-13-25, MW-13-29) show stable or decreasing trends, while several wells, most notably in the area of the Plant 2 LNAPL and the associated “northeastern lobe” (MW-13-45, MW-15-72, MW-16-81, MW-17-86, and MW-16-84) demonstrate increasing trends. Increasing concentrations of 1,4-dioxane in wells near the property boundary (MW-15-73 and MW-14-56) could be due to contributions from the former APC Site.
 - o 1,4-Dioxane was not detected on site in the deeper bedrock monitoring wells installed along the core of the lower 1,4-dioxane plume or in bedrock at the western property boundary during 2018.

Based on these conclusions, no immediate action is recommended at this time. An engineered remediation system outlined in the 2017 Interim Measure Workplan (Arcadis 2017c) is being designed to address the 1,4-dioxane plume in the weathered bedrock. Revisions to the IGMP will include newly installed monitoring wells, the addition of PFAS to the sampling strategy, and changes to sampling frequency for metals, SVOCs, VOCs, and 1,4-dioxane.

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TABLES



Table 1
Revised Interim Groundwater Monitoring Summary
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well	Gauging*	Analyte				Primary Function
		VOCs	1,4-Dioxane	Select Metals**	SVOCs†	
Plant 2						
Perched						
MW-01(2)	A	A				VOC sentinel
MW-03(2)	A	B		B		groundwater elevation monitoring
MW-12-09	A	B	A			perched 1,4-dioxane sentinel
MW-12-18	SA	SA		B		VOC sentinel
P2-MW-04	A		A		B†	perched 1,4-dioxane monitoring, SVOC evaluation
P2-SB-20	A	B	A			perched 1,4-dioxane sentinel
LMW-12-01	Q					LNAPL Monitoring
LMW-12-02	Q					LNAPL Monitoring
LMW-12-03D	Q					LNAPL Monitoring
LMW-12-03S	Q					LNAPL Monitoring
LMW-12-04	Q					LNAPL Monitoring
LMW-12-05	Q					LNAPL Monitoring
LMW-12-06	Q					LNAPL Monitoring
LMW-12-07	Q					LNAPL Monitoring
LMW-12-08	Q					LNAPL Monitoring
LMW-14-12D	Q					LNAPL Monitoring
LMW-14-13D	Q					LNAPL Monitoring
LMW-14-14D	Q					LNAPL Monitoring
LMW-14-15D	Q					LNAPL Monitoring
LMW-15-16D	Q					LNAPL Monitoring
LMW-15-17D	Q					LNAPL Monitoring
PMW-01	Q					LNAPL Monitoring
PMW-02	Q					LNAPL Monitoring
PMW-03	Q					LNAPL Monitoring
P2-SB-37	Q					LNAPL Monitoring
MW-02(2)	A	B			B†	SVOC evaluation
MW-12-07	A	B				groundwater elevation monitoring
MW-12-08	A					groundwater elevation monitoring
MW-12-17	A	B				groundwater elevation monitoring
P2-MW-01	A					groundwater elevation monitoring
P2-MW-02	A	B				groundwater elevation monitoring
P2-MW-03	A					groundwater elevation monitoring
P2-SB-03	A	B	B			groundwater elevation monitoring
P2-SB-06	A		B		B†	SVOC evaluation
MW-14-54	A				B†	VOC monitoring, SVOC evaluation
MW-14-55	A	A				VOC monitoring
MW-14-57	A	A	A			perched 1,4-dioxane monitoring
MW-14-58	SA	A	SA			perched 1,4-dioxane monitoring
MW-14-59	A	A	A		B†	perched 1,4-dioxane monitoring, SVOC evaluation
MW-14-60	A	A	A		B†	perched 1,4-dioxane monitoring, SVOC evaluation
MW-14-62	A	A	A		B†	perched 1,4-dioxane monitoring, SVOC evaluation
Deep Overburden and Weathered Bedrock						
MW-13-42	A					groundwater elevation monitoring
MW-13-43	SA		SA			lower 1,4-dioxane monitoring
MW-13-45	SA	B	SA			lower 1,4-dioxane monitoring
MW-13-51	A		B			groundwater elevation monitoring
MW-14-56	SA	B	SA	B		lower 1,4-dioxane sentinel
MW-14-61	A	B	A			lower 1,4-dioxane sentinel
MW-14-63	SA	B	SA			lower 1,4-dioxane sentinel
MW-15-72	SA	A	SA			lower 1,4-dioxane monitoring, <4 samples‡
MW-15-73	SA	A	SA	B		lower 1,4-dioxane sentinel, <4 samples‡
MW-16-74	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-75	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-76	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-77	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-78	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-79	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-80	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-81	Q	SA	Q			lower 1,4-dioxane monitoring, <4 samples‡
MW-16-82	Q	SA	Q			lower 1,4-dioxane monitoring, <4 samples‡
MW-16-83	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
MW-16-84	Q	SA	Q			lower 1,4-dioxane monitoring, <4 samples‡
MW-16-85	SA	A	SA			lower 1,4-dioxane sentinel, <4 samples‡
PW-14-01	SA		SA			lower 1,4-dioxane monitoring
PW-14-02	SA	A	SA			lower 1,4-dioxane monitoring
TW-14-02	SA	A	SA			lower 1,4-dioxane monitoring
Bedrock						
MW-12-01	SA	B	SA			bedrock sentinel
MW-12-02	SA	B	SA			bedrock sentinel
MW-12-05	SA	B	SA			bedrock sentinel
MW-13-44	SA	B	SA			bedrock sentinel
MW-12-06	SA	B	SA			bedrock sentinel
Lansing Township Wells						
TWP-03	-		A ^(a)			Municipal Well
TWP-04	-		A ^(a)			Municipal Well
TWP-05	-		A ^(a)			Municipal Well

Notes:

^a Analyzed for 1,4-dioxane via low-level United States Environmental Protection Agency Method 522.

1. New wells will be added to the figures and incorporated into the annual monitoring once four samples are collected and a constituent of concern list is determined.

A = annual

B = biennial (starting second quarter 2018)

LNAPL = light nonaqueous phase liquid

Q = quarterly

RACER = Revitalizing Auto Communities Environmental Response

SA = semiannual

SVOC = semivolatile organic compound

VOC = volatile organic compound

* Site-wide gauging to alternate between semiannual events to account for seasonal variability. Semiannual gauging includes all wells sampled semiannually.

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

† SVOCs will be sampled every other biennial event, or once every 4 years (first event: 2020)

‡ New wells will be sampled semiannually until sampling frequency is reevaluated after collection of four data points.

< = less than

- = Not Guaged

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



Well	Gauging*	Analyte					Primary Function
		VOCs	1,4-Dioxane	Select Metals**	Hexavalent Chromium	SVOCs†	
Plant 3							
Perched							
CH-14-RO	A	B		A	A		metals monitoring
MW-05(3)	A	A					VOC sentinel
MW-06(3)	A	A				B†	VOC sentinel, SVOC evaluation
MW-13-31	SA			SA		B†	boundary monitoring, SVOC evaluation
MW-13-32	SA			SA			boundary monitoring
MW-13-33	A			B			boundary monitoring
UNK-09	A						groundwater elevation monitoring
UNK-10	A	A				B†	VOC sentinel, SVOC evaluation
UNK-11	A	A		B			VOC sentinel
LMW-12-09	Q						LNAPL Monitoring
LMW-12-10	Q						LNAPL Monitoring
LMW-12-11	Q						LNAPL Monitoring
UNK-13	Q						LNAPL Monitoring
UNK-14	Q						LNAPL Monitoring
MW-04(3)	A						groundwater elevation monitoring
MW-12-19	A						groundwater elevation monitoring
P3-SB-07	A						groundwater elevation monitoring
P3-SB-28	A	B				B†	SVOC evaluation
UNK-15	A						groundwater elevation monitoring
MW-14-65	A	A				B†	VOC sentinel, SVOC evaluation
Deep Overburden and Weathered Bedrock							
MW-12-20	A	B	B				lower 1,4-dioxane sentinel
MW-12-21	SA	A	SA	B			lower 1,4-dioxane monitoring
MW-13-22	A	A	A				lower 1,4-dioxane monitoring
MW-13-23	A		A				lower 1,4-dioxane sentinel
MW-13-24	A		A				lower 1,4-dioxane sentinel
MW-13-25	SA	B	SA				lower 1,4-dioxane monitoring
MW-13-26	A		B				lower 1,4-dioxane sentinel
MW-13-29	A		A				lower 1,4-dioxane monitoring
MW-13-30	A	B	B				lower 1,4-dioxane sentinel
MW-13-34	SA	A	SA				lower 1,4-dioxane monitoring
MW-13-40	A		A				lower 1,4-dioxane/metals sentinel
MW-13-41	A		A	B			lower 1,4-dioxane/metals sentinel
MW-13-46	SA	B	SA				lower 1,4-dioxane monitoring
MW-13-48	SA	A	SA				lower 1,4-dioxane monitoring
MW-13-49	A	B	A				lower 1,4-dioxane
MW-19	A	B	A				lower 1,4-dioxane sentinel
MW-22	A	B	B	A			metals sentinel
MW-23	A	B	B	A			metals sentinel
MW-91-2	A	B	A	A	A		lower 1,4-dioxane/metals sentinel
MW-02-02(3)	A	B	A	B			lower 1,4-dioxane sentinel
MW-02-04(3)	A		A	B			lower 1,4-dioxane sentinel
MW-02-01(3)	A						groundwater elevation monitoring
MW-02-03(3)	A						groundwater elevation monitoring
MW-04-03(3)	A	B					VOC Sentinel
MW-04-04(3)	A	B					VOC Sentinel
MW-13-27	A						groundwater elevation monitoring
MW-14-64	A	B	A				lower 1,4-dioxane sentinel
MW-15-71	A		A				lower 1,4-dioxane sentinel
PW-14-03	SA	A	SA				lower 1,4-dioxane monitoring
Bedrock							
MW-91-5	SA	B	SA				bedrock sentinel
MW-91-6	SA	B	SA				bedrock sentinel
MW-13-28	SA	B	SA				bedrock sentinel
MW-13-38	SA	B	SA				bedrock sentinel
MW-13-39B	A						groundwater elevation monitoring
MW-13-47	SA	B	SA				bedrock sentinel
MW-04-01(3)	A	B	B				bedrock sentinel
MW-04-02(3)	A	B					bedrock sentinel
MW-12-04	A						groundwater elevation monitoring
MW-13-37	A						groundwater elevation monitoring
MW-88-1	A						groundwater elevation monitoring
MW-91-3	A	B	B				bedrock sentinel
MW-91-4	A	B					bedrock sentinel

Notes:

1. New wells will be added to the figures and incorporated into the annual monitoring once four samples are collected and a constituent of concern list is determined.

A = annual

B = biennial (starting second quarter 2018)

Q = quarterly

RACER = Revitalizing Auto Communities Environmental Response

SA = semiannual

SVOC = semivolatile organic compound

VOC = volatile organic compound

* Site-wide gauging to alternate between semiannual events to account for seasonal variability. Semiannual gauging includes all wells sampled semi-annually.

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

† SVOCs will be sampled every other biennial event, or once every 4 years (first event: 2020)

Table 1
Revised Interim Groundwater Monitoring Summary
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well	Gauging*	Analyte					Primary Function
		VOCs	1,4-Dioxane	Select Metals**	TAL Metals***	SVOCs†	
Plant 6							
Perched							
MW-02-03(6)	A	A	A			B†	perched 1,4-dioxane monitoring, SVOC evaluation
MW-03-04	A	B	A				perched 1,4-dioxane monitoring
MW-03-06	A	A	A	B		B†	perched 1,4-dioxane sentinel, SVOC evaluation
MW-03-08	A	A	A				perched 1,4-dioxane/ VOC monitoring
MW-04-05(6)	A	A	A	B			perched 1,4-dioxane/ VOC sentinel
MW-12-11	SA			SA			boundary monitoring
MW-12-12	SA			SA			boundary monitoring
MW-12-13	SA			SA			boundary monitoring
MW-12-16	SA	B		SA			boundary monitoring
MW-13-35	SA	B		SA			boundary monitoring
MW-13-36R	SA			SA			boundary monitoring
MWBP-10-UST5-6	SA	A		SA			boundary monitoring
MWBP-11-UST1-4	A	A		B			VOCs/metal monitoring
MWBP-12A-UST1-4	A	A		B			VOCs/metal monitoring
MWBP-12-UST1-4	A	A		B		B†	VOCs/metal monitoring, SVOC evaluation
P6-SB-18	A						groundwater elevation monitoring
P6-SB-35	A						groundwater elevation monitoring
P6-SB-37	A						groundwater elevation monitoring
MW-02-01(6)	A						groundwater elevation monitoring
MW-02-02(6)	A					B†	SVOC evaluation
MW-03-02	A			B			groundwater elevation monitoring
MW-03-05	A	A	A				perched 1,4-dioxane sentinel
MW-03-07	A						groundwater elevation monitoring
MW-12-09	A						groundwater elevation monitoring
MW-12-10	A						groundwater elevation monitoring
MW-12-14	A						groundwater elevation monitoring
MW-12-15	A	B					groundwater elevation monitoring
MWBP-12-UST5-6	A						groundwater elevation monitoring
MWBP-13A-UST1-4	A	B		B			groundwater elevation monitoring
P6-MW-01	A						groundwater elevation monitoring
P6-SB-07	A					B†	SVOC evaluation
P6-SB-21	A						groundwater elevation monitoring
SME-MW-02	A						groundwater elevation monitoring
MW-14-66	A	B		B			perched 1,4-dioxane/metals sentinel
MW-14-67	A	B		B			perched 1,4-dioxane/metals sentinel
MW-14-68	A						sentinel (DRY)
MW-14-69	A						sentinel (DRY)
MW-14-70	A						groundwater elevation monitoring
Deep Overburden and Weathered Bedrock							
MW-13-52	A	B	B				groundwater elevation monitoring
MW-13-53	A	B	B				groundwater elevation monitoring
Bedrock							
MW-04-01(6)	A	B	B				bedrock sentinel
MW-04-04R	A	B	B				bedrock sentinel
MW-04-06R	A	B	B				bedrock sentinel
MW-12-03	A						groundwater elevation monitoring
MW-13-50	A	B	B				bedrock sentinel
Storm Sewer							
P6-MH2-SW	A	A	A		A		Storm sewer GSI monitoring

Notes:

1. New wells will be added to the figures and incorporated into the annual monitoring once four samples are collected and a constituent of concern list is determined.

A = annual

B = biennial (starting second quarter 2018)

GSI = Groundwater/Surface Water Interface

Q = quarterly

RACER = Revitalizing Auto Communities Environmental Response

SA = semiannual

SVOC = semivolatile organic compound

VOC = volatile organic compound

* Site-wide gauging to alternate between semiannual events to account for seasonal variability. Semiannual gauging includes all wells sampled semiannually.

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

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

[†] SVOCs will be sampled every other biennial event, or once every 4 years (first event: 2020)

Reference:

Arcadis. 2011. Quality Assurance Project Plan. RACER Trust, Lansing, Michigan Plants 2, 3, and 6 Industrial Land. August 26.

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	AS-16-01 05/10/18 AS-16-01_051018	AS-16-01 09/05/18 AS-16-01_090518	AS-16-01 12/05/18 AS-16-01_120518	AS-16-02 05/11/18 AS-16-02_051118	AS-16-02 09/06/18 AS-16-02_090618	AS-16-02 12/04/18 AS-16-02_120418	CH-14-RO 05/11/18 CH-14-RO_051118	CH-14-RO 12/06/18 CH-14-RO_120618	MW-01(2) 12/11/18 MW-01(2)_121118	MW-02(2) 05/10/18 MW-02(2)_051018	MW-02-02(3) 05/14/18 MW-02-02(3)_051418	MW-02-02(3) 12/10/18 MW-02-02(3)_121018
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,4-Dioxane	7.2	2,800	µg/L	53 ^a	23 ^a	73 ^a	8 ^a	3	2	NA	NA	NA	NA	NA	<1
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
2-Hexanone	1,000	--	µg/L	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Acetone	730	1,700	µg/L	NA	NA	NA	NA	NA	NA	<10	<10	<10	14	<10	NA
1,1,2-Trichloroethane	5	330	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Bromodichloromethane	80	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,1-Dichloroethane	880	740	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Bromoform	80	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,1-Dichloroethene	7	130	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Bromomethane (Methyl bromide)	10	35	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,2-Dichloroethane	5	360	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Carbon disulfide	800	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Carbon tetrachloride	5	45	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Chlorobenzene	100	25	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Trichloroethene	5	200	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Tetrachloroethene	5	60	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Vinyl chloride	2	13	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Chloroethane	430	1,100	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Benzene	5	200	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Methyl acetate	--	--	µg/L	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	NA
Ethylbenzene	74	18	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Methylene chloride	5	1,500	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Styrene	100	80	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Toluene	790	270	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	14	<1	<1	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	NA
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,2-Dichloropropane	5	230	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Cyclohexane	--	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Methyl cyclohexane	--	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Dibromochloromethane	80	--	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
Isopropyl benzene	800	28	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
o-Xylene	280	41	µg/L	NA	NA	NA	NA	NA	NA	<1	<1	<1	<1	<1	NA
m&p-Xylene	280	41	µg/L	NA	NA	NA	NA	NA	NA	<2	<2	<2	<2	<2	NA
Total Xylenes	280	41	µg/L	NA	NA	NA	NA	NA	NA	<3	<3	<3	<3	<3	NA

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	AS-16-01 05/10/18 AS-16-01_051018	AS-16-01 09/05/18 AS-16-01_090518	AS-16-01 12/05/18 AS-16-01_120518	AS-16-02 05/11/18 AS-16-02_051118	AS-16-02 09/06/18 AS-16-02_090618	AS-16-02 12/04/18 AS-16-02_120418	CH-14-RO 05/11/18 CH-14-RO_051118	CH-14-RO 12/06/18 CH-14-RO_120618	MW-01(2) 12/11/18 MW-01(2)_121118	MW-02(2) 05/10/18 MW-02(2)_051018	MW-02-02(3) 05/14/18 MW-02-02(3)_051418	MW-02-02(3) 12/10/18 MW-02-02(3)_121018
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	0.025	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	0.1	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	34.6	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	37.9	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.002 [<0.002]	NA	NA	0.002	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	0.05	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	7.23 [6.89] ^b	NA	NA	<0.005	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	6.68 [6.6] ^{ab}	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	NA	NA	<0.005	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.003 [<0.003]	NA	NA	<0.003	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	0.007	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	0.014 [0.014]	NA	NA	0.017	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.004	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	NA	NA	<0.005	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	0.02	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.02	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	32.4	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	35.7	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.002	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	0.048	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	7.04 ^b	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.003	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	0.007	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	0.014	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	0.004	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-02-03(6) 12/05/18 MW-02-03(6)_120518	MW-02-04(3) 05/11/18 MW-02-04(3)_051118	MW-02-04(3) 12/05/18 MW-02-04(3)_120518	MW-03(2) 05/10/18 MW-03(2)_051018	MW-03-02 05/16/18 MW-03-02_051618	MW-03-04 05/15/18 MW-03-04_051518	MW-03-04 12/05/18 MW-03-04_120518	MW-03-05 12/06/18 MW-03-05_120618	MW-03-06 05/15/18 MW-03-06_051518	MW-03-06 12/06/18 MW-03-06_120618	MW-04-01(3) 05/16/18 MW-04-01(3)_051618	MW-04-01(6) 05/10/18 MW-04-01(6)_051018
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,2-Dichlorobenzene	600	13	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,4-Dichlorobenzene	75	17	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,4-Dioxane	7.2	2,800	µg/L	20 ^a	NA	4	NA	NA	NA	37 ^a	<1	NA	7	<1	<1
1,1,1-Trichloroethane	200	89	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
2-Hexanone	1,000	--	µg/L	<10	NA	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	<10	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Acetone	730	1,700	µg/L	<10	NA	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	<10	<10
1,1,2-Trichloroethane	5	330	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Bromodichloromethane	80	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,1-Dichloroethane	880	740	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Bromoform	80	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,1-Dichloroethene	7	130	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Bromomethane (Methyl bromide)	10	35	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,2-Dichloroethane	5	360	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Carbon disulfide	800	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Carbon tetrachloride	5	45	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
cis-1,2-Dichloroethene	70	620	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Chlorobenzene	100	25	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Chloroform (Trichloromethane)	80	350	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Trichloroethene	5	200	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Chloromethane (Methyl chloride)	260	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Tetrachloroethene	5	60	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
cis-1,3-Dichloropropene	--	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Vinyl chloride	2	13	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Chloroethane	430	1,100	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Benzene	5	200	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Methyl acetate	--	--	µg/L	<10	NA	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	<10	<10
Ethylbenzene	74	18	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Methylene chloride	5	1,500	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Styrene	100	80	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Toluene	790	270	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
trans-1,3-Dichloropropene	--	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	2
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10	NA	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	<10	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10	NA	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	<10	<10
1,2,4-Trichlorobenzene	70	99	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,2-Dichloropropane	5	230	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
1,3-Dichlorobenzene	6.6	28	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Cyclohexane	--	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Methyl cyclohexane	--	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Dibromochloromethane	80	--	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
Isopropyl benzene	800	28	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
o-Xylene	280	41	µg/L	<1	NA	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	<1	<1
m&p-Xylene	280	41	µg/L	<2	NA	NA	<2	NA	<2 [<2]	NA	<2	NA	<2	<2	<2
Total Xylenes	280	41	µg/L	<3	NA	NA	<3	NA	<3 [<3]	NA	<3	NA	<3	<3	<3

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-02-03(6) 12/05/18 MW-02-03(6)_120518	MW-02-04(3) 05/11/18 MW-02-04(3)_051118	MW-02-04(3) 12/05/18 MW-02-04(3)_120518	MW-03(2) 05/10/18 MW-03(2)_051018	MW-03-02 05/16/18 MW-03-02_051618	MW-03-04 05/15/18 MW-03-04_051518	MW-03-04 12/05/18 MW-03-04_120518	MW-03-05 12/06/18 MW-03-05_120618	MW-03-06 05/15/18 MW-03-06_051518	MW-03-06 12/06/18 MW-03-06_120618	MW-04-01(3) 05/16/18 MW-04-01(3)_051618	MW-04-01(6) 05/10/18 MW-04-01(6)_051018
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	0.017 [0.018] ^{ab}	NA	<0.002	0.015 ^{ab}	NA	NA	NA	0.008	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	<0.005 [<0.005]	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	<0.005 [<0.005]	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	<0.003 [<0.003]	NA	<0.003	<0.003	NA	NA	NA	<0.003	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	0.010 [0.01]	NA	0.025	<0.005	NA	NA	NA	0.01	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	<0.005 [<0.005]	NA	<0.005	<0.005	NA	NA	NA	<0.005	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-04-02(3) 05/14/18 MW-04-02(3)_051418	MW-04-03(3) 05/10/18 MW-04-03(3)_051018	MW-04-04(3) 05/11/18 MW-04-04(3)_051118	MW-04-04R 05/10/18 MW-04-04R_051018	MW-04-05(6) 05/11/18 MW-04-05(6)_051118	MW-04-05(6) 12/05/18 MW-04-05(6)_120518	MW-04-06R 05/10/18 MW-04-06R_051018	MW-05(3) 12/05/18 MW-05(3)_120518	MW-06(3) 12/05/18 MW-06(3)_120518	MW-12-01 05/09/18 MW-12-01_050918	MW-12-01 12/10/18 MW-12-01_121018	MW-12-02 05/11/18 MW-12-02_051118
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	NA	NA	NA	<1 [<1]	NA	3	<1	NA	NA	<1	<1	<1
1,1,1-Trichloroethane	200	89	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	7	<1	NA	<1
2-Hexanone	1,000	--	µg/L	<10	<10	<10	<10 [<10]	NA	<10	<10	<10	<10	<10	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Acetone	730	1,700	µg/L	<10	<10	<10	<10 [<10]	NA	<10	<10	<10	<10	<10	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Bromodichloromethane	80	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,1-Dichloroethane	880	740	µg/L	3	<1	<1	<1 [<1]	NA	<1	<1	<1	1	<1	NA	<1
Bromoform	80	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,1-Dichloroethene	7	130	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,2-Dichloroethane	5	360	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Carbon disulfide	800	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Carbon tetrachloride	5	45	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	15	<1	3	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Chlorobenzene	100	25	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Trichloroethene	5	200	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Tetrachloroethene	5	60	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Vinyl chloride	2	13	µg/L	7 ^a	11 ^a	3 ^a	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Chloroethane	430	1,100	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Benzene	5	200	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Methyl acetate	--	--	µg/L	<10	<10	<10	<10 [<10]	NA	<10	<10	<10	<10	<10	NA	<10
Ethylbenzene	74	18	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Methylene chloride	5	1,500	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Styrene	100	80	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Toluene	790	270	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10	<10	<10	<10 [<10]	NA	<10	<10	<10	<10	<10	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10	<10	<10	<10 [<10]	NA	<10	<10	<10	<10	<10	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,2-Dichloropropane	5	230	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Cyclohexane	--	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Methyl cyclohexane	--	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Dibromochloromethane	80	--	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
Isopropyl benzene	800	28	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
o-Xylene	280	41	µg/L	<1	<1	<1	<1 [<1]	NA	<1	<1	<1	<1	<1	NA	<1
m&p-Xylene	280	41	µg/L	<2	<2	<2	<2 [<2]	NA	<2	<2	<2	<2	<2	NA	<2
Total Xylenes	280	41	µg/L	<3	<3	<3	<3 [<3]	NA	<3	<3	<3	<3	<3	NA	<3

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-04-02(3) 05/14/18 MW-04-02(3)_051418	MW-04-03(3) 05/10/18 MW-04-03(3)_051018	MW-04-04(3) 05/11/18 MW-04-04(3)_051118	MW-04-04R 05/10/18 MW-04-04R_051018	MW-04-05(6) 05/11/18 MW-04-05(6)_051118	MW-04-05(6) 12/05/18 MW-04-05(6)_120518	MW-04-06R 05/10/18 MW-04-06R_051018	MW-05(3) 12/05/18 MW-05(3)_120518	MW-06(3) 12/05/18 MW-06(3)_120518	MW-12-01 05/09/18 MW-12-01_050918	MW-12-01 12/10/18 MW-12-01_121018	MW-12-02 05/11/18 MW-12-02_051118
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	<0.002	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	<0.003	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-12-02 12/04/18 MW-12-02_120418	MW-12-05R 05/10/18 MW-12-05R_051018	MW-12-05R 12/11/18 MW-12-05R_121118	MW-12-06 05/09/18 MW-12-06_050918	MW-12-06 12/10/18 MW-12-06_121018	MW-12-07 05/09/18 MW-12-07_050918	MW-12-08 05/09/18 MW-12-08_050918	MW-12-09 05/09/18 MW-12-09_050918	MW-12-09 12/06/18 MW-12-09_120618	MW-12-11 05/11/18 MW-12-11_051118	MW-12-11 12/04/18 MW-12-11_120418	MW-12-12 05/15/18 MW-12-12_051518
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,4-Dioxane	7.2	2,800	µg/L	<1	<1	<1	<1 [<1]	<1	NA	NA	NA	7	NA	NA	NA
1,1,1-Trichloroethane	200	89	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
2-Hexanone	1,000	--	µg/L	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Acetone	730	1,700	µg/L	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	NA	NA	NA	NA
1,1,2-Trichloroethane	5	330	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Bromodichloromethane	80	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,1-Dichloroethane	880	740	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Bromoform	80	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,1-Dichloroethene	7	130	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Bromomethane (Methyl bromide)	10	35	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,2-Dichloroethane	5	360	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Carbon disulfide	800	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Carbon tetrachloride	5	45	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Chlorobenzene	100	25	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Trichloroethene	5	200	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Tetrachloroethene	5	60	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Vinyl chloride	2	13	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Chloroethane	430	1,100	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Benzene	5	200	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Methyl acetate	--	--	µg/L	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	NA	NA	NA	NA
Ethylbenzene	74	18	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Methylene chloride	5	1,500	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Styrene	100	80	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Toluene	790	270	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	NA	NA	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	<10	NA	<10 [<10]	NA	<10	NA	<10	NA	NA	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,2-Dichloropropane	5	230	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Cyclohexane	--	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Methyl cyclohexane	--	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Dibromochloromethane	80	--	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
Isopropyl benzene	800	28	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
o-Xylene	280	41	µg/L	NA	<1	NA	<1 [<1]	NA	<1	NA	<1	NA	NA	NA	NA
m&p-Xylene	280	41	µg/L	NA	<2	NA	<2 [<2]	NA	<2	NA	<2	NA	NA	NA	NA
Total Xylenes	280	41	µg/L	NA	<3	NA	<3 [<3]	NA	<3	NA	<3	NA	NA	NA	NA

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-12-02 12/04/18 MW-12-02_120418	MW-12-05R 05/10/18 MW-12-05R_051018	MW-12-05R 12/11/18 MW-12-05R_121118	MW-12-06 05/09/18 MW-12-06_050918	MW-12-06 12/10/18 MW-12-06_121018	MW-12-07 05/09/18 MW-12-07_050918	MW-12-08 05/09/18 MW-12-08_050918	MW-12-09 05/09/18 MW-12-09_050918	MW-12-09 12/06/18 MW-12-09_120618	MW-12-11 05/11/18 MW-12-11_051118	MW-12-11 12/04/18 MW-12-11_120418	MW-12-12 05/15/18 MW-12-12_051518
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.015 ^{ab}	0.014 ^{ab}	0.002
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	0.04	<0.005
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	<0.003	<0.003
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	0.013	0.025
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.01	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.01	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-12-12 12/06/18 MW-12-12_120618	MW-12-13 05/14/18 MW-12-13_051418	MW-12-13 12/06/18 MW-12-13_120618	MW-12-15 05/14/18 MW-12-15_051418	MW-12-16 05/11/18 MW-12-16_051118	MW-12-16 12/10/18 MW-12-16_121018	MW-12-17 05/11/18 MW-12-17_051118	MW-12-18 05/09/18 MW-12-18_050818	MW-12-18 12/10/18 MW-12-18_121018	MW-12-20 05/08/18 MW-12-20_050818	MW-12-21 05/08/18 MW-12-21_050818	MW-12-21 12/11/18 MW-12-21_121118
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1	200 Y ^a	251 Y ^a
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
2-Hexanone	1,000	--	µg/L	NA	NA	NA	<10	<10	NA	<10	<10	<10	<10	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Acetone	730	1,700	µg/L	NA	NA	NA	<10	<10	NA	<10	<10	<10	<10	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Bromodichloromethane	80	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,1-Dichloroethane	880	740	µg/L	NA	NA	NA	<1	<1	NA	<1	1	2	<1	NA	<1
Bromoform	80	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,1-Dichloroethene	7	130	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,2-Dichloroethane	5	360	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Carbon disulfide	800	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Carbon tetrachloride	5	45	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Chlorobenzene	100	25	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Trichloroethene	5	200	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Tetrachloroethene	5	60	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Vinyl chloride	2	13	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Chloroethane	430	1,100	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Benzene	5	200	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Methyl acetate	--	--	µg/L	NA	NA	NA	<10	<10	NA	<10	<10	<10	<10	NA	<10
Ethylbenzene	74	18	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Methylene chloride	5	1,500	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Styrene	100	80	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Toluene	790	270	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	NA	<10	<10	NA	<10	<10	<10	<10	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	NA	<10	<10	NA	<10	<10	<10	<10	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,2-Dichloropropane	5	230	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Cyclohexane	--	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Methyl cyclohexane	--	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Dibromochloromethane	80	--	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
Isopropyl benzene	800	28	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
o-Xylene	280	41	µg/L	NA	NA	NA	<1	<1	NA	<1	<1	<1	<1	NA	<1
m&p-Xylene	280	41	µg/L	NA	NA	NA	<2	<2	NA	<2	<2	<2	<2	NA	<2
Total Xylenes	280	41	µg/L	NA	NA	NA	<3	<2	NA	<3	<3	<3	<3	NA	<3

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-12-12 12/06/18 MW-12-12_120618	MW-12-13 05/14/18 MW-12-13_051418	MW-12-13 12/06/18 MW-12-13_120618	MW-12-15 05/14/18 MW-12-15_051418	MW-12-16 05/11/18 MW-12-16_051118	MW-12-16 12/10/18 MW-12-16_121018	MW-12-17 05/11/18 MW-12-17_051118	MW-12-18 05/09/18 MW-12-18_050818	MW-12-18 12/10/18 MW-12-18_121018	MW-12-20 05/08/18 MW-12-20_050818	MW-12-21 05/08/18 MW-12-21_050818	MW-12-21 12/11/18 MW-12-21_121118
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	<0.002	<0.002	<0.002	NA	0.015 ^{ab}	0.013 ^{ab}	NA	<0.002	NA	NA	<0.002	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	0.01	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	NA	NA	<0.005	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	0.006	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	NA	NA	<0.005	NA
Lead	0.004	0.044	mg/L	0.004	<0.003	<0.003	NA	<0.003	<0.003	NA	<0.003	NA	NA	<0.003	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	0.016	0.013	0.009	NA	<0.005	<0.005	NA	<0.005	NA	NA	0.008	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	0.008 ^a	<0.005	<0.005	NA	<0.005	<0.005	NA	<0.005	NA	NA	<0.005	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	<0.002	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Lead (dissolved)	0.004	0.044	mg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.008	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

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



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-22 12/12/18 MW-13-22_121218	MW-13-23 12/11/18 MW-13-23_121118	MW-13-24 12/12/18 MW-13-24_121218	MW-13-25 05/08/18 MW-13-25_050818	MW-13-25 12/04/18 MW-13-25_120418	MW-13-26 05/15/18 MW-13-26_051518	MW-13-28 05/14/18 MW-13-28_051418	MW-13-28 12/11/18 MW-13-28_121118	MW-13-29 12/10/18 MW-13-29_121018	MW-13-30 05/09/18 MW-13-30_050918	MW-13-31 05/15/18 MW-13-31_051518	MW-13-31 12/07/18 MW-13-31_120718
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,4-Dioxane	7.2	2,800	µg/L	160 ^a	4	<1	6 [7]	3 [3]	<1	<1	<1	16 ^a	<1	NA	NA
1,1,1-Trichloroethane	200	89	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
2-Hexanone	1,000	--	µg/L	<10	NA	NA	<10 [<10]	NA	NA	<10	NA	NA	<10	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Acetone	730	1,700	µg/L	<10	NA	NA	<10 [<10]	NA	NA	<10	NA	NA	<10	NA	NA
1,1,2-Trichloroethane	5	330	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Bromodichloromethane	80	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,1-Dichloroethane	880	740	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Bromoform	80	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,1-Dichloroethene	7	130	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Bromomethane (Methyl bromide)	10	35	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,2-Dichloroethane	5	360	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Carbon disulfide	800	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Carbon tetrachloride	5	45	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Chlorobenzene	100	25	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Trichloroethene	5	200	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Tetrachloroethene	5	60	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Vinyl chloride	2	13	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Chloroethane	430	1,100	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Benzene	5	200	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Methyl acetate	--	--	µg/L	<10	NA	NA	<10 [<10]	NA	NA	<10	NA	NA	<10	NA	NA
Ethylbenzene	74	18	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Methylene chloride	5	1,500	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Styrene	100	80	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Toluene	790	270	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10	NA	NA	<10 [<10]	NA	NA	<10	NA	NA	<10	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10	NA	NA	<10 [<10]	NA	NA	<10	NA	NA	<10	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,2-Dichloropropane	5	230	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Cyclohexane	--	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Methyl cyclohexane	--	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Dibromochloromethane	80	--	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
Isopropyl benzene	800	28	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
o-Xylene	280	41	µg/L	<1	NA	NA	<1 [<1]	NA	NA	<1	NA	NA	<1	NA	NA
m&p-Xylene	280	41	µg/L	<2	NA	NA	<2 [<2]	NA	NA	<2	NA	NA	<2	NA	NA
Total Xylenes	280	41	µg/L	<3	NA	NA	<3 [<3]	NA	NA	<3	NA	NA	<3	NA	NA

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-22 12/12/18 MW-13-22_121218	MW-13-23 12/11/18 MW-13-23_121118	MW-13-24 12/12/18 MW-13-24_121218	MW-13-25 05/08/18 MW-13-25_050818	MW-13-25 12/04/18 MW-13-25_120418	MW-13-26 05/15/18 MW-13-26_051518	MW-13-28 05/14/18 MW-13-28_051418	MW-13-28 12/11/18 MW-13-28_121118	MW-13-29 12/10/18 MW-13-29_121018	MW-13-30 05/09/18 MW-13-30_050918	MW-13-31 05/15/18 MW-13-31_051518	MW-13-31 12/07/18 MW-13-31_120718
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002	<0.002
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	0.497 ^b
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	0.017
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	0.010 ^a
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.025	0.209 ^{ab}
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.005
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.118 ^a
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-32 05/15/18 MW-13-32_051518	MW-13-32 12/07/18 MW-13-32_120718	MW-13-33 05/15/18 MW-13-33_051518	MW-13-34 05/14/18 MW-13-34_051418	MW-13-34 12/11/18 MW-13-34_121118	MW-13-35 05/11/18 MW-13-35_051118	MW-13-35 12/10/18 MW-13-35_121018	MW-13-36R 05/14/18 MW-13-36R_051418	MW-13-36R 12/07/18 MW-13-36R_120718	MW-13-38 05/11/18 MW-13-38_051118	MW-13-38 12/10/18 MW-13-38_121018	MW-13-41 05/11/18 MW-13-41_051118
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,4-Dioxane	7.2	2,800	µg/L	NA	NA	NA	75 ^a	70 ^a	NA	NA	NA	NA	<1 [<1]	<1	NA
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
2-Hexanone	1,000	--	µg/L	NA	NA	NA	NA	<10	<10	NA	NA	NA	<10 [<10]	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Acetone	730	1,700	µg/L	NA	NA	NA	NA	<10	<10	NA	NA	NA	<10 [<10]	NA	NA
1,1,2-Trichloroethane	5	330	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Bromodichloromethane	80	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,1-Dichloroethane	880	740	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Bromoform	80	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,1-Dichloroethene	7	130	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Bromomethane (Methyl bromide)	10	35	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,2-Dichloroethane	5	360	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Carbon disulfide	800	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Carbon tetrachloride	5	45	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Chlorobenzene	100	25	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Trichloroethene	5	200	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Tetrachloroethene	5	60	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Vinyl chloride	2	13	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Chloroethane	430	1,100	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Benzene	5	200	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Methyl acetate	--	--	µg/L	NA	NA	NA	NA	<10	<10	NA	NA	NA	<10 [<10]	NA	NA
Ethylbenzene	74	18	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Methylene chloride	5	1,500	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Styrene	100	80	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Toluene	790	270	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	NA	NA	<10	<10	NA	NA	NA	<10 [<10]	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	NA	NA	<10	<10	NA	NA	NA	<10 [<10]	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,2-Dichloropropane	5	230	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Cyclohexane	--	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Methyl cyclohexane	--	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Dibromochloromethane	80	--	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
Isopropyl benzene	800	28	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
o-Xylene	280	41	µg/L	NA	NA	NA	NA	<1	<1	NA	NA	NA	<1 [<1]	NA	NA
m&p-Xylene	280	41	µg/L	NA	NA	NA	NA	<2	<2	NA	NA	NA	<2 [<2]	NA	NA
Total Xylenes	280	41	µg/L	NA	NA	NA	NA	<3	<3	NA	NA	NA	<3 [<3]	NA	NA

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-32 05/15/18 MW-13-32_051518	MW-13-32 12/07/18 MW-13-32_120718	MW-13-33 05/15/18 MW-13-33_051518	MW-13-34 05/14/18 MW-13-34_051418	MW-13-34 12/11/18 MW-13-34_121118	MW-13-35 05/11/18 MW-13-35_051118	MW-13-35 12/10/18 MW-13-35_121018	MW-13-36R 05/14/18 MW-13-36R_051418	MW-13-36R 12/07/18 MW-13-36R_120718	MW-13-38 05/11/18 MW-13-38_051118	MW-13-38 12/10/18 MW-13-38_121018	MW-13-41 05/11/18 MW-13-41_051118
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	<0.002	<0.002	<0.002	NA	NA	<0.002	0.002	<0.002	<0.002	NA	NA	0.011 ^{ab}
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	0.244 ^b	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	0.012		<0.005	NA	NA	<0.005	<0.005	0.007	<0.005	NA	NA	<0.005
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	<0.005	0.012	<0.005	NA	NA	<0.005	<0.005	0.013	0.005	NA	NA	<0.005
Lead	0.004	0.044	mg/L	<0.003	<0.003	<0.003	NA	NA	<0.003	<0.003	<0.003	<0.003	NA	NA	<0.003
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	0.381 ^{ab}	0.761 ^{ab}	<0.005	NA	NA	<0.005	<0.005	<0.005	<0.005	NA	NA	0.028
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	<0.005	<0.005	<0.005	NA	NA	<0.005	0.006 ^a	0.008 ^a	0.011 ^a	NA	NA	<0.005
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	<0.002	NA	<0.002	NA	NA	0.012 ^{ab}
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	<0.005
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	<0.005
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	<0.003	NA	<0.003	NA	NA	<0.003
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	<0.005	NA	<0.005	NA	NA	0.025
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	<0.005	NA	0.011 ^a	NA	NA	<0.005
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-41 12/10/18 MW-13-41_121018	MW-13-43 05/08/18 MW-13-43_050818	MW-13-43 12/11/18 MW-13-43_121118	MW-13-44 05/10/18 MW-13-44_051018	MW-13-44 12/11/18 MW-13-44_121118	MW-13-45 05/09/18 MW-13-45_050918	MW-13-45 12/07/18 MW-13-45_120718	MW-13-46 05/11/18 MW-13-46_051118	MW-13-46 12/10/18 MW-13-46_121018	MW-13-47 05/14/18 MW-13-47_051418	MW-13-47 12/11/18 MW-13-47_121118	MW-13-48 05/14/18 MW-13-48_051418
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,4-Dioxane	7.2	2,800	µg/L	18 ^a	260 Y [270 Y] ^a	320 Y ^a	<1	<1	53 ^a	52 ^a	<1	<1	<1	<1	141 ^a
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
2-Hexanone	1,000	--	µg/L	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Acetone	730	1,700	µg/L	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA
1,1,2-Trichloroethane	5	330	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Bromodichloromethane	80	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,1-Dichloroethane	880	740	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Bromoform	80	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,1-Dichloroethene	7	130	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Bromomethane (Methyl bromide)	10	35	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,2-Dichloroethane	5	360	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Carbon disulfide	800	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Carbon tetrachloride	5	45	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Chlorobenzene	100	25	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Trichloroethene	5	200	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Tetrachloroethene	5	60	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Vinyl chloride	2	13	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Chloroethane	430	1,100	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Benzene	5	200	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Methyl acetate	--	--	µg/L	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA
Ethylbenzene	74	18	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Methylene chloride	5	1,500	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Styrene	100	80	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Toluene	790	270	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	NA	<10	NA	<10	NA	<10	NA	<10	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,2-Dichloropropane	5	230	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Cyclohexane	--	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Methyl cyclohexane	--	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Dibromochloromethane	80	--	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
Isopropyl benzene	800	28	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
o-Xylene	280	41	µg/L	NA	NA	NA	<1	NA	<1	NA	<1	NA	<1	NA	NA
m&p-Xylene	280	41	µg/L	NA	NA	NA	<2	NA	<2	NA	<2	NA	<2	NA	NA
Total Xylenes	280	41	µg/L	NA	NA	NA	<3	NA	<3	NA	<3	NA	<3	NA	NA

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-41 12/10/18 MW-13-41_121018	MW-13-43 05/08/18 MW-13-43_050818	MW-13-43 12/11/18 MW-13-43_121118	MW-13-44 05/10/18 MW-13-44_051018	MW-13-44 12/11/18 MW-13-44_121118	MW-13-45 05/09/18 MW-13-45_050918	MW-13-45 12/07/18 MW-13-45_120718	MW-13-46 05/11/18 MW-13-46_051118	MW-13-46 12/10/18 MW-13-46_121018	MW-13-47 05/14/18 MW-13-47_051418	MW-13-47 12/11/18 MW-13-47_121118	MW-13-48 05/14/18 MW-13-48_051418
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-48 12/11/18 MW-13-48_121118	MW-13-49 05/11/18 MW-13-49_051118	MW-13-49 12/10/18 MW-13-49_121018	MW-13-50 05/10/18 MW-13-50_051018	MW-13-51 05/10/18 MW-13-51_051018	MW-13-52 05/14/18 MW-13-52_051418	MW-13-53 05/14/18 MW-13-53_051418	MW-14-54 05/09/18 MW-14-54_050918	MW-14-54 12/10/18 MW-14-54_121018	MW-14-55 12/06/18 MW-14-55_120618	MW-14-56 05/08/18 MW-14-56_050818	MW-14-56 12/06/18 MW-14-56_120618
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<1	<1	<1 [<1]	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<1	<1	<1 [<1]	NA
1,2-Dichlorobenzene	600	13	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,4-Dichlorobenzene	75	17	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,4-Dioxane	7.2	2,800	µg/L	117 [105] ^a	NA	<1	<1	<1	<1	<1	NA	NA	NA	7 [7]	14 ^a
1,1,1-Trichloroethane	200	89	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
2-Hexanone	1,000	--	µg/L	<10 [<10]	<10	NA	<10	NA	<10	<10	NA	<100 Y	<10	<10 [<10]	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Acetone	730	1,700	µg/L	<10 [<10]	<10	NA	<10	NA	<10	<10	NA	<100 Y	<10	<10 [<10]	NA
1,1,2-Trichloroethane	5	330	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Bromodichloromethane	80	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,1-Dichloroethane	880	740	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Bromoform	80	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,1-Dichloroethene	7	130	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Bromomethane (Methyl bromide)	10	35	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,2-Dichloroethane	5	360	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Carbon disulfide	800	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Carbon tetrachloride	5	45	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
cis-1,2-Dichloroethene	70	620	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Chlorobenzene	100	25	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Chloroform (Trichloromethane)	80	350	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Trichloroethene	5	200	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Chloromethane (Methyl chloride)	260	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Tetrachloroethene	5	60	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	7 ^a	<1 [<1]	NA
cis-1,3-Dichloropropene	--	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Vinyl chloride	2	13	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Chloroethane	430	1,100	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Benzene	5	200	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	260 Y ^{ab}	<1	<1 [<1]	NA
Methyl acetate	--	--	µg/L	<10 [<10]	<10	NA	<10	NA	<10	<10	NA	<100 Y	<10	<10 [<10]	NA
Ethylbenzene	74	18	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	1,200 Y ^{ab}	<1	<1 [<1]	NA
Methylene chloride	5	1,500	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Styrene	100	80	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Toluene	790	270	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	100 Y	<1	<1 [<1]	NA
trans-1,3-Dichloropropene	--	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10 [<10]	<10	NA	<10	NA	<10	<10	NA	<100 Y	<10	<10 [<10]	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10 [<10]	<10	NA	<10	NA	<10	<10	NA	<100 Y	<10	<10 [<10]	NA
1,2,4-Trichlorobenzene	70	99	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,2-Dichloropropane	5	230	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
1,3-Dichlorobenzene	6.6	28	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Cyclohexane	--	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	50 Y ^b	<1	<1 [<1]	NA
Methyl cyclohexane	--	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Dibromochloromethane	80	--	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	<10 Y	<1	<1 [<1]	NA
Isopropyl benzene	800	28	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	50 Y ^b	<1	<1 [<1]	NA
o-Xylene	280	41	µg/L	<1 [<1]	<1	NA	<1	NA	<1	<1	NA	50 Y ^{ab}	<1	<1 [<1]	NA
m&p-Xylene	280	41	µg/L	<2 [<2]	<2	NA	<2	NA	<2	<2	NA	780 Y ^{ab}	<2	<2 [<2]	NA
Total Xylenes	280	41	µg/L	<3 [<3]	<3	NA	<3	NA	<3	<3	NA	780 Y ^{ab}	<3	<3 [<3]	NA

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2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-13-48 12/11/18 MW-13-48_121118	MW-13-49 05/11/18 MW-13-49_051118	MW-13-49 12/10/18 MW-13-49_121018	MW-13-50 05/10/18 MW-13-50_051018	MW-13-51 05/10/18 MW-13-51_051018	MW-13-52 05/14/18 MW-13-52_051418	MW-13-53 05/14/18 MW-13-53_051418	MW-14-54 05/09/18 MW-14-54_050918	MW-14-54 12/10/18 MW-14-54_121018	MW-14-55 12/06/18 MW-14-55_120618	MW-14-56 05/08/18 MW-14-56_050818	MW-14-56 12/06/18 MW-14-56_120618
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002 [<0.002]	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.014 [0.013]	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003 [<0.003]	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.021 [0.022]	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005 [<0.005]	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-14-57 12/06/18 MW-14-57_120618	MW-14-58 05/09/18 MW-14-58_050918	MW-14-58 12/05/18 MW-14-58_120518	MW-14-59 12/07/18 MW-14-59_120718	MW-14-60 05/09/18 MW-14-60_050918	MW-14-60 12/07/18 MW-14-60_120718	MW-14-61 05/09/18 MW-14-61_050918	MW-14-61 12/10/18 MW-14-61_121018	MW-14-62 05/09/18 MW-14-62_050918	MW-14-62 12/11/18 MW-14-62_121118	MW-14-63 05/11/18 MW-14-63_051118	MW-14-63 12/04/18 MW-14-63_120418
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,2-Dichlorobenzene	600	13	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,4-Dichlorobenzene	75	17	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,4-Dioxane	7.2	2,800	µg/L	7	58 ^a	78 ^a	60 [60] ^a	NA	115 ^a	NA	142 ^a	NA	59 ^a	<1	<1
1,1,1-Trichloroethane	200	89	µg/L	10	NA	<1	<1 [<1]	NA	<1	3	NA	NA	<1	<1	NA
2-Hexanone	1,000	--	µg/L	<10	NA	<10	<10 [<10]	NA	<10	<10	NA	NA	<10	<10	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Acetone	730	1,700	µg/L	<10	NA	<10	<10 [<10]	NA	<10	<10	NA	NA	<10	<10	NA
1,1,2-Trichloroethane	5	330	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Bromodichloromethane	80	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,1-Dichloroethane	880	740	µg/L	1	NA	<1	4 [4]	NA	<1	33	NA	NA	84	<1	NA
Bromoform	80	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,1-Dichloroethene	7	130	µg/L	<1	NA	<1	24 [25] ^a	NA	<1	<1	NA	NA	<1	<1	NA
Bromomethane (Methyl bromide)	10	35	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,2-Dichloroethane	5	360	µg/L	<1	NA	<1	<1 [<1]	NA	1	<1	NA	NA	<1	<1	NA
Carbon disulfide	800	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Carbon tetrachloride	5	45	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
cis-1,2-Dichloroethene	70	620	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Chlorobenzene	100	25	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Chloroform (Trichloromethane)	80	350	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Trichloroethene	5	200	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Chloromethane (Methyl chloride)	260	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Tetrachloroethene	5	60	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
cis-1,3-Dichloropropene	--	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Vinyl chloride	2	13	µg/L	<1	NA	<1	<1 [<1]	NA	9 ^a	<1	NA	NA	1	<1	NA
Chloroethane	430	1,100	µg/L	<1	NA	<1	<1 [<1]	NA	42	113	NA	NA	4	<1	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Benzene	5	200	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Methyl acetate	--	--	µg/L	<10	NA	<10	<10 [<10]	NA	<10	<10	NA	NA	<10	<10	NA
Ethylbenzene	74	18	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Methylene chloride	5	1,500	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Styrene	100	80	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Toluene	790	270	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
trans-1,3-Dichloropropene	--	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10	NA	<10	<10 [<10]	NA	<10	<10	NA	NA	<10	<10	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10	NA	<10	<10 [<10]	NA	<10	<10	NA	NA	<10	<10	NA
1,2,4-Trichlorobenzene	70	99	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,2-Dichloropropane	5	230	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
1,3-Dichlorobenzene	6.6	28	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Cyclohexane	--	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Methyl cyclohexane	--	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Dibromochloromethane	80	--	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
Isopropyl benzene	800	28	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
o-Xylene	280	41	µg/L	<1	NA	<1	<1 [<1]	NA	<1	<1	NA	NA	<1	<1	NA
m&p-Xylene	280	41	µg/L	<2	NA	<2	<2 [<2]	NA	<2	<2	NA	NA	<2	<2	NA
Total Xylenes	280	41	µg/L	<3	NA	<3	<3 [<3]	NA	<3	<3	NA	NA	<3	<3	NA

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-14-57 12/06/18 MW-14-57_120618	MW-14-58 05/09/18 MW-14-58_050918	MW-14-58 12/05/18 MW-14-58_120518	MW-14-59 12/07/18 MW-14-59_120718	MW-14-60 05/09/18 MW-14-60_050918	MW-14-60 12/07/18 MW-14-60_120718	MW-14-61 05/09/18 MW-14-61_050918	MW-14-61 12/10/18 MW-14-61_121018	MW-14-62 05/09/18 MW-14-62_050918	MW-14-62 12/11/18 MW-14-62_121118	MW-14-63 05/11/18 MW-14-63_051118	MW-14-63 12/04/18 MW-14-63_120418
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-14-64 05/09/18 MW-14-64_050918	MW-14-64 12/12/18 MW-14-64_121218	MW-14-65 12/06/18 MW-14-65_120618	MW-14-66 05/14/18 MW-14-66_051418	MW-14-67 05/14/18 MW-14-67_051418	MW-14-70 05/10/18 MW-14-70_051018	MW-15-71 12/12/18 MW-15-71_121218	MW-15-72 05/08/18 MW-15-72_050818	MW-15-72 09/05/18 MW-15-72_090518	MW-15-72 12/05/18 MW-15-72_120518	MW-15-73 05/10/18 MW-15-73_051018	MW-15-73 12/05/18 MW-15-73_120518
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	NA	<1	NA	NA	NA	NA	<1	260 Y ^a	240 Y ^a	290 Y ^a	4	11 ^a
1,1,1-Trichloroethane	200	89	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
2-Hexanone	1,000	--	µg/L	<10	NA	<10	<10 [<10]	<10	NA	NA	NA	NA	<10	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Acetone	730	1,700	µg/L	<10	NA	<10	<10 [<10]	<10	NA	NA	NA	NA	<10	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Bromodichloromethane	80	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,1-Dichloroethane	880	740	µg/L	<1	NA	<1	1 [1]	<1	NA	NA	NA	NA	<1	NA	<1
Bromoform	80	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,1-Dichloroethene	7	130	µg/L	<1	NA	<1	2 [2]	<1	NA	NA	NA	NA	<1	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,2-Dichloroethane	5	360	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Carbon disulfide	800	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Carbon tetrachloride	5	45	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Chlorobenzene	100	25	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Trichloroethene	5	200	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Tetrachloroethene	5	60	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Vinyl chloride	2	13	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Chloroethane	430	1,100	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Benzene	5	200	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Methyl acetate	--	--	µg/L	<10	NA	<10	<10 [<10]	<10	NA	NA	NA	NA	<10	NA	<10
Ethylbenzene	74	18	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Methylene chloride	5	1,500	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Styrene	100	80	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Toluene	790	270	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10	NA	<10	<10 [<10]	<10	NA	NA	NA	NA	<10	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10	NA	<10	<10 [<10]	<10	NA	NA	NA	NA	<10	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,2-Dichloropropane	5	230	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Cyclohexane	--	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Methyl cyclohexane	--	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Dibromochloromethane	80	--	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
Isopropyl benzene	800	28	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
o-Xylene	280	41	µg/L	<1	NA	<1	<1 [<1]	<1	NA	NA	NA	NA	<1	NA	<1
m&p-Xylene	280	41	µg/L	<2	NA	<2	<2 [<2]	<2	NA	NA	NA	NA	<2	NA	<2
Total Xylenes	280	41	µg/L	<3	NA	<3	<3 [<3]	<3	NA	NA	NA	NA	<3	NA	<3

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



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-14-64 05/09/18 MW-14-64_050918	MW-14-64 12/12/18 MW-14-64_121218	MW-14-65 12/06/18 MW-14-65_120618	MW-14-66 05/14/18 MW-14-66_051418	MW-14-67 05/14/18 MW-14-67_051418	MW-14-70 05/10/18 MW-14-70_051018	MW-15-71 12/12/18 MW-15-71_121218	MW-15-72 05/08/18 MW-15-72_050818	MW-15-72 09/05/18 MW-15-72_090518	MW-15-72 12/05/18 MW-15-72_120518	MW-15-73 05/10/18 MW-15-73_051018	MW-15-73 12/05/18 MW-15-73_120518
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	0.005 [0.005]	<0.002	NA	NA	NA	NA	NA	<0.002	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	<0.005 [<0.005]	<0.005	NA	NA	NA	NA	NA	<0.005	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	<0.005 [<0.005]	<0.005	NA	NA	NA	NA	NA	<0.005	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	<0.003 [<0.003]	<0.003	NA	NA	NA	NA	NA	<0.003	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	<0.005 [<0.005]	<0.005	NA	NA	NA	NA	NA	<0.005	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	<0.005 [<0.005]	<0.005	NA	NA	NA	NA	NA	<0.005	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

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2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-16-74 05/08/18 MW-16-74_050818	MW-16-74 12/06/18 MW-16-74_120618	MW-16-75 05/08/18 MW-16-75_050818	MW-16-75 12/06/18 MW-16-75_120618	MW-16-76 05/09/18 MW-16-76_050918	MW-16-76 12/10/18 MW-16-76_121018	MW-16-77 05/08/18 MW-16-77_050818	MW-16-77 12/06/18 MW-16-77_120618	MW-16-78 05/16/18 MW-16-78_051618	MW-16-78 12/10/18 MW-16-78_121018	MW-16-79 05/08/18 MW-16-79_050818	MW-16-79 12/11/18 MW-16-79_121118
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	<1	6	<1	10 ^a	<1	5	<1	4	<1	<1	<1	<1
1,1,1-Trichloroethane	200	89	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
2-Hexanone	1,000	--	µg/L	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Acetone	730	1,700	µg/L	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Bromodichloromethane	80	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,1-Dichloroethane	880	740	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Bromoform	80	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,1-Dichloroethene	7	130	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,2-Dichloroethane	5	360	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Carbon disulfide	800	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Carbon tetrachloride	5	45	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Chlorobenzene	100	25	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Trichloroethene	5	200	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Tetrachloroethene	5	60	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Vinyl chloride	2	13	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Chloroethane	430	1,100	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Benzene	5	200	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Methyl acetate	--	--	µg/L	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
Ethylbenzene	74	18	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Methylene chloride	5	1,500	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Styrene	100	80	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Toluene	790	270	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,2-Dichloropropane	5	230	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Cyclohexane	--	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Methyl cyclohexane	--	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Dibromochloromethane	80	--	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
Isopropyl benzene	800	28	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
o-Xylene	280	41	µg/L	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1	NA	<1
m&p-Xylene	280	41	µg/L	NA	<2	NA	<2	NA	<2	NA	<2	NA	<2	NA	<2
Total Xylenes	280	41	µg/L	NA	<3	NA	<3	NA	<3	NA	<3	NA	<3	NA	<3

Table 2
Groundwater Analytical Results, January to December 2018
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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-16-74 05/08/18 MW-16-74_050818	MW-16-74 12/06/18 MW-16-74_120618	MW-16-75 05/08/18 MW-16-75_050818	MW-16-75 12/06/18 MW-16-75_120618	MW-16-76 05/09/18 MW-16-76_050918	MW-16-76 12/10/18 MW-16-76_121018	MW-16-77 05/08/18 MW-16-77_050818	MW-16-77 12/06/18 MW-16-77_120618	MW-16-78 05/16/18 MW-16-78_051618	MW-16-78 12/10/18 MW-16-78_121018	MW-16-79 05/08/18 MW-16-79_050818	MW-16-79 12/11/18 MW-16-79_121118
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-16-80 05/08/18 MW-16-80_050818	MW-16-80 12/05/18 MW-16-80_120518	MW-16-81 05/08/18 MW-16-81_050818	MW-16-81 09/05/18 MW-16-81_090518	MW-16-81 12/11/18 MW-16-81_121118	MW-16-82 05/09/18 MW-16-82_050918	MW-16-82 09/06/18 MW-16-82_090618	MW-16-82 12/11/18 MW-16-82_121118	MW-16-83 05/09/18 MW-16-83_050918	MW-16-83 12/05/18 MW-16-83_120518	MW-16-84 05/08/18 MW-16-84_050818	MW-16-84 09/06/18 MW-16-84_090618
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,2-Dichlorobenzene	600	13	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,4-Dichlorobenzene	75	17	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,4-Dioxane	7.2	2,800	µg/L	23 ^a	27 ^a	1,400 Y ^a	180 Y ^a	2,100 Y ^a	<1	<1 [1]	<1	<1	<1	59 ^a	56 ^a
1,1,1-Trichloroethane	200	89	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
2-Hexanone	1,000	--	µg/L	NA	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Acetone	730	1,700	µg/L	NA	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	NA
1,1,2-Trichloroethane	5	330	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Bromodichloromethane	80	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,1-Dichloroethane	880	740	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Bromoform	80	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,1-Dichloroethene	7	130	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Bromomethane (Methyl bromide)	10	35	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,2-Dichloroethane	5	360	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Carbon disulfide	800	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Carbon tetrachloride	5	45	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
cis-1,2-Dichloroethene	70	620	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Chlorobenzene	100	25	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Chloroform (Trichloromethane)	80	350	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Trichloroethene	5	200	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Chloromethane (Methyl chloride)	260	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Tetrachloroethene	5	60	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
cis-1,3-Dichloropropene	--	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Vinyl chloride	2	13	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Chloroethane	430	1,100	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Benzene	5	200	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Methyl acetate	--	--	µg/L	NA	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	NA
Ethylbenzene	74	18	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Methylene chloride	5	1,500	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Styrene	100	80	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Toluene	790	270	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
trans-1,3-Dichloropropene	--	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	<10	<10	NA	<10	<10	NA	<10	NA	<10	<10	NA
1,2,4-Trichlorobenzene	70	99	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,2-Dichloropropane	5	230	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
1,3-Dichlorobenzene	6.6	28	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Cyclohexane	--	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Methyl cyclohexane	--	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Dibromochloromethane	80	--	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
Isopropyl benzene	800	28	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
o-Xylene	280	41	µg/L	NA	<1	<1	NA	<1	<1	NA	<1	NA	<1	<1	NA
m&p-Xylene	280	41	µg/L	NA	<2	<2	NA	<2	<2	NA	<2	NA	<2	<2	NA
Total Xylenes	280	41	µg/L	NA	<3	<3	NA	<3	<3	NA	<3	NA	<3	<3	NA

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-16-80 05/08/18 MW-16-80_050818	MW-16-80 12/05/18 MW-16-80_120518	MW-16-81 05/08/18 MW-16-81_050818	MW-16-81 09/05/18 MW-16-81_090518	MW-16-81 12/11/18 MW-16-81_121118	MW-16-82 05/09/18 MW-16-82_050918	MW-16-82 09/06/18 MW-16-82_090618	MW-16-82 12/11/18 MW-16-82_121118	MW-16-83 05/09/18 MW-16-83_050918	MW-16-83 12/05/18 MW-16-83_120518	MW-16-84 05/08/18 MW-16-84_050818	MW-16-84 09/06/18 MW-16-84_090618
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-16-84 12/10/18 MW-16-84_121018	MW-16-85 05/08/18 MW-16-85_050818	MW-16-85 12/07/18 MW-16-85_120718	MW-17-86 05/08/18 MW-17-86_050818	MW-17-86 12/10/18 MW-17-86_121018	MW-17-87 05/09/18 MW-17-87_050918	MW-17-87 12/05/18 MW-17-87_120518	MW-19 05/10/18 MW-19_051018	MW-19 12/07/18 MW-19_120718	MW-22 05/10/18 MW-22_051018	MW-22 12/06/18 MW-22_120618	MW-23 05/10/18 MW-23_051018
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	77 ^a	1	7	44 ^a	75 ^a	<1	2	NA	<1	<1 [<1]	NA	<1
1,1,1-Trichloroethane	200	89	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
2-Hexanone	1,000	--	µg/L	<10	NA	<10	NA	<10	<10	NA	<10	NA	<10 [<10]	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Acetone	730	1,700	µg/L	<10	NA	<10	NA	<10	42	NA	<10	NA	<10 [<10]	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Bromodichloromethane	80	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,1-Dichloroethane	880	740	µg/L	<1	NA	<1	NA	1	<1	NA	<1	NA	<1 [<1]	NA	<1
Bromoform	80	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,1-Dichloroethene	7	130	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,2-Dichloroethane	5	360	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Carbon disulfide	800	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Carbon tetrachloride	5	45	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Chlorobenzene	100	25	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Trichloroethene	5	200	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Tetrachloroethene	5	60	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Vinyl chloride	2	13	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Chloroethane	430	1,100	µg/L	<1	NA	<1	NA	17	<1	NA	<1	NA	<1 [<1]	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Benzene	5	200	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Methyl acetate	--	--	µg/L	<10	NA	<10	NA	<10	<10	NA	<10	NA	<10 [<10]	NA	<10
Ethylbenzene	74	18	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Methylene chloride	5	1,500	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Styrene	100	80	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Toluene	790	270	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10	NA	<10	NA	<10	<10	NA	<10	NA	<10 [<10]	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10	NA	<10	NA	<10	<10	NA	<10	NA	<10 [<10]	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,2-Dichloropropane	5	230	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Cyclohexane	--	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Methyl cyclohexane	--	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Dibromochloromethane	80	--	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
Isopropyl benzene	800	28	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
o-Xylene	280	41	µg/L	<1	NA	<1	NA	<1	<1	NA	<1	NA	<1 [<1]	NA	<1
m&p-Xylene	280	41	µg/L	<2	NA	<2	NA	<2	<2	NA	<2	NA	<2 [<2]	NA	<2
Total Xylenes	280	41	µg/L	<3	NA	<3	NA	<3	<3	NA	<3	NA	<3 [<3]	NA	<3

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-16-84 12/10/18 MW-16-84_121018	MW-16-85 05/08/18 MW-16-85_050818	MW-16-85 12/07/18 MW-16-85_120718	MW-17-86 05/08/18 MW-17-86_050818	MW-17-86 12/10/18 MW-17-86_121018	MW-17-87 05/09/18 MW-17-87_050918	MW-17-87 12/05/18 MW-17-87_120518	MW-19 05/10/18 MW-19_051018	MW-19 12/07/18 MW-19_120718	MW-22 05/10/18 MW-22_051018	MW-22 12/06/18 MW-22_120618	MW-23 05/10/18 MW-23_051018
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.003	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.002	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

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Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-23 12/05/18 MW-23_120518	MW-91-2 05/11/18 MW-91-2_051118	MW-91-2 12/04/18 MW-91-2_120418	MW-91-4 05/11/18 MW-91-4_051118	MW-91-5 05/09/18 MW-91-5_050918	MW-91-5 12/11/18 MW-91-5_121118	MW-91-6 05/14/18 MW-91-6_051418	MW-91-6 12/10/18 MW-91-6_121018	MWBP-10-UST5-6 05/14/18 VBP-10-UST5-6_0514	MWBP-10-UST5-6 12/03/18 BP-10-UST5-6_2018	MWBP-11-UST1-4 05/11/18 VBP-11-UST1-4_0511	MWBP-11-UST1-4 12/10/18 VBP-11-UST1-4_1210
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	NA	NA	4	NA	<1	<1	<1	<1	NA	NA	NA	NA
1,1,1-Trichloroethane	200	89	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
2-Hexanone	1,000	--	µg/L	NA	<10	NA	<10	<10	NA	<10	NA	NA	<10	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Acetone	730	1,700	µg/L	NA	<10	NA	<10	<10	NA	<10	NA	NA	<10	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Bromodichloromethane	80	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,1-Dichloroethane	880	740	µg/L	NA	<1	NA	2	<1	NA	<1	NA	NA	<1	NA	<1
Bromoform	80	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,1-Dichloroethene	7	130	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,2-Dichloroethane	5	360	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Carbon disulfide	800	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Carbon tetrachloride	5	45	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	NA	<1	NA	16	<1	NA	<1	NA	NA	<1	NA	<1
Chlorobenzene	100	25	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Trichloroethene	5	200	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Tetrachloroethene	5	60	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Vinyl chloride	2	13	µg/L	NA	<1	NA	9 ^a	<1	NA	<1	NA	NA	<1	NA	<1
Chloroethane	430	1,100	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Benzene	5	200	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Methyl acetate	--	--	µg/L	NA	<10	NA	<10	<10	NA	<10	NA	NA	<10	NA	<10
Ethylbenzene	74	18	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Methylene chloride	5	1,500	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Styrene	100	80	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Toluene	790	270	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	<10	NA	<10	<10	NA	<10	NA	NA	<10	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	<10	NA	<10	<10	NA	<10	NA	NA	<10	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,2-Dichloropropane	5	230	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Cyclohexane	--	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Methyl cyclohexane	--	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Dibromochloromethane	80	--	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
Isopropyl benzene	800	28	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
o-Xylene	280	41	µg/L	NA	<1	NA	<1	<1	NA	<1	NA	NA	<1	NA	<1
m&p-Xylene	280	41	µg/L	NA	<2	NA	<2	<2	NA	<2	NA	NA	<2	NA	<2
Total Xylenes	280	41	µg/L	NA	<3	NA	<3	<3	NA	<3	NA	NA	<3	NA	<3

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MW-23 12/05/18 MW-23_120518	MW-91-2 05/11/18 MW-91-2_051118	MW-91-2 12/04/18 MW-91-2_120418	MW-91-4 05/11/18 MW-91-4_051118	MW-91-5 05/09/18 MW-91-5_050918	MW-91-5 12/11/18 MW-91-5_121118	MW-91-6 05/14/18 MW-91-6_051418	MW-91-6 12/10/18 MW-91-6_121018	MWBP-10-UST5-6 05/14/18 VBP-10-UST5-6_0514	MWBP-10-UST5-6 12/03/18 BP-10-UST5-6_2018	MWBP-11-UST1-4 05/11/18 VBP-11-UST1-4_0511	MWBP-11-UST1-4 12/10/18 VBP-11-UST1-4_1210
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	0.012 ^{ab}	NA	0.007	NA	NA	NA	NA	NA	0.018 ^{ab}	0.017 ^{ab}	0.012 ^{ab}	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	<0.005	NA	0.005	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	<0.01	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	<0.005	NA	<0.005	NA	NA	NA	NA	NA	<0.005	<0.005	0.005	NA
Lead	0.004	0.044	mg/L	<0.003	NA	<0.003	NA	NA	NA	NA	NA	<0.003	<0.003	<0.003	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	<0.005	NA	<0.005	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	<0.005	NA	<0.005	NA	NA	NA	NA	NA	<0.005	<0.005	<0.005	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	0.007	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MWBP-12A-UST1-4 05/10/18 BP-12A-UST1-4_051	MWBP-12A-UST1-4 12/07/18 BP-12A-USTI-4_120	MWBP-12-UST1-4 05/11/18 VBP-12-UST1-4_051	MWBP-12-UST1-4 12/07/18 WBP-12-USTI-4_1207	MWBP-13A-UST1-4 05/15/18 BP-13A-UST1-4_051	P2-MW-02 05/09/18 P2-MW-02_050918	P2-MW-03 05/10/18 P2-MW-03_051018	P2-SB-03 05/08/18 P2-SB-03_050818	P2-SB-06 05/15/18 P2-SB-06_051518	P2-SB-20 05/08/18 P2-SB-20_050818	P2-SB-20 12/06/18 P2-SB-20_120618	P2-SB-37 12/12/18 P2-SB-37_12122018
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,4-Dioxane	7.2	2,800	µg/L	NA	NA	NA	NA	NA	NA	NA	<1	27 ^a	NA	<1	244 Y ^a
1,1,1-Trichloroethane	200	89	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
2-Hexanone	1,000	--	µg/L	NA	<10	NA	<10	<10	<10	NA	<10	NA	<10	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Acetone	730	1,700	µg/L	NA	<10	NA	<10	<10	<10	NA	<10	NA	<10	NA	NA
1,1,2-Trichloroethane	5	330	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Bromodichloromethane	80	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,1-Dichloroethane	880	740	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Bromoform	80	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,1-Dichloroethene	7	130	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Bromomethane (Methyl bromide)	10	35	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,2-Dichloroethane	5	360	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Carbon disulfide	800	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Carbon tetrachloride	5	45	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Chlorobenzene	100	25	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Trichloroethene	5	200	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Tetrachloroethene	5	60	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Vinyl chloride	2	13	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Chloroethane	430	1,100	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Benzene	5	200	µg/L	NA	<1	NA	6 ^a	<1	<1	NA	<1	NA	<1	NA	NA
Methyl acetate	--	--	µg/L	NA	<10	NA	<10	<10	<10	NA	<10	NA	<10	NA	NA
Ethylbenzene	74	18	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Methylene chloride	5	1,500	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Styrene	100	80	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Toluene	790	270	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	<10	NA	<10	<10	<10	NA	<10	NA	<10	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	<10	NA	<10	<10	<10	NA	<10	NA	<10	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,2-Dichloropropane	5	230	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Cyclohexane	--	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Methyl cyclohexane	--	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Dibromochloromethane	80	--	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
Isopropyl benzene	800	28	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
o-Xylene	280	41	µg/L	NA	<1	NA	<1	<1	<1	NA	<1	NA	<1	NA	NA
m&p-Xylene	280	41	µg/L	NA	<2	NA	<2	<2	<2	NA	<2	NA	<2	NA	NA
Total Xylenes	280	41	µg/L	NA	<3	NA	<3	<3	<3	NA	<3	NA	<3	NA	NA

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	MWBP-12A-UST1-4 05/10/18 BP-12A-UST1-4_051	MWBP-12A-UST1-4 12/07/18 BP-12A-USTI-4_120	MWBP-12-UST1-4 05/11/18 VBP-12-UST1-4_051	MWBP-12-UST1-4 12/07/18 WBP-12-USTI-4_1207	MWBP-13A-UST1-4 05/15/18 BP-13A-UST1-4_051	P2-MW-02 05/09/18 P2-MW-02_050918	P2-MW-03 05/10/18 P2-MW-03_051018	P2-SB-03 05/08/18 P2-SB-03_050818	P2-SB-06 05/15/18 P2-SB-06_051518	P2-SB-20 05/08/18 P2-SB-20_050818	P2-SB-20 12/06/18 P2-SB-20_120618	P2-SB-37 12/12/18 P2-SB-37_12122018
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	0.009	NA	0.015 ^{ab}	NA	<0.002	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	<0.005	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	<0.003	NA	<0.003	NA	<0.003	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	0.011	NA	<0.005	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	<0.005	NA	0.009 ^a	NA	<0.005	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	P3-SB-28 05/15/18 P3-SB-28_051518	P6-SB-21 05/10/18 P6-SB-21_051018	P6-SB-35 05/10/18 P6-SB-35_051018	PW-14-01 05/14/18 PW-14-01_051418	PW-14-01 09/05/18 PW-14-01_090518	PW-14-01 12/05/18 PW-14-01_120518	PW-14-02 05/10/18 PW-14-02_051018	PW-14-02 12/11/18 PW-14-02_121118	PW-14-03 05/09/18 PW-14-03_050918	PW-14-03 12/11/18 PW-14-03_121118	TW-14-01 05/14/18 TW-14-01_051418	TW-14-01 09/06/18 TW-14-01_090618
Volatile Organic Compounds															
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,2-Dichlorobenzene	600	13	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,4-Dichlorobenzene	75	17	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,4-Dioxane	7.2	2,800	µg/L	NA	NA	NA	190 Y ^a	110 Y ^a	109 [117] ^a	210 Y ^a	240 Y ^a	500 Y ^a	378 Y ^a	25 ^a	4
1,1,1-Trichloroethane	200	89	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
2-Hexanone	1,000	--	µg/L	<10 [<10]	NA	NA	NA	NA	NA	NA	<10	NA	<10	NA	NA
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Acetone	730	1,700	µg/L	<10 [<10]	NA	NA	NA	NA	NA	NA	<10	NA	<10	NA	NA
1,1,2-Trichloroethane	5	330	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Bromodichloromethane	80	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,1-Dichloroethane	880	740	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Bromoform	80	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,1-Dichloroethene	7	130	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Bromomethane (Methyl bromide)	10	35	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,2-Dichloroethane	5	360	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Carbon disulfide	800	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Carbon tetrachloride	5	45	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
cis-1,2-Dichloroethene	70	620	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Chlorobenzene	100	25	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
trans-1,2-Dichloroethene	100	1,500	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Chloroform (Trichloromethane)	80	350	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Trichloroethene	5	200	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Chloromethane (Methyl chloride)	260	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Tetrachloroethene	5	60	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
cis-1,3-Dichloropropene	--	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Vinyl chloride	2	13	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Chloroethane	430	1,100	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Benzene	5	200	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Methyl acetate	--	--	µg/L	<10 [<10]	NA	NA	NA	NA	NA	NA	<10	NA	<10	NA	NA
Ethylbenzene	74	18	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Methylene chloride	5	1,500	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Styrene	100	80	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Toluene	790	270	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
trans-1,3-Dichloropropene	--	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	<10 [<10]	NA	NA	NA	NA	NA	NA	<10	NA	<10	NA	NA
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	<10 [<10]	NA	NA	NA	NA	NA	NA	<10	NA	<10	NA	NA
1,2,4-Trichlorobenzene	70	99	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,2-Dichloropropane	5	230	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
1,3-Dichlorobenzene	6.6	28	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Cyclohexane	--	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Methyl cyclohexane	--	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Dibromochloromethane	80	--	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
Isopropyl benzene	800	28	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
o-Xylene	280	41	µg/L	<1 [<1]	NA	NA	NA	NA	NA	NA	<1	NA	<1	NA	NA
m&p-Xylene	280	41	µg/L	<2 [<2]	NA	NA	NA	NA	NA	NA	<2	NA	<2	NA	NA
Total Xylenes	280	41	µg/L	<3 [<3]	NA	NA	NA	NA	NA	NA	<3	NA	<3	NA	NA

Table 2
Groundwater Analytical Results, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	P3-SB-28 05/15/18 P3-SB-28_051518	P6-SB-21 05/10/18 P6-SB-21_051018	P6-SB-35 05/10/18 P6-SB-35_051018	PW-14-01 05/14/18 PW-14-01_051418	PW-14-01 09/05/18 PW-14-01_090518	PW-14-01 12/05/18 PW-14-01_120518	PW-14-02 05/10/18 PW-14-02_051018	PW-14-02 12/11/18 PW-14-02_121118	PW-14-03 05/09/18 PW-14-03_050918	PW-14-03 12/11/18 PW-14-03_121118	TW-14-01 05/14/18 TW-14-01_051418	TW-14-01 09/06/18 TW-14-01_090618
Inorganics															
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered															
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	TW-14-01 12/04/18 TW-14-01_120418	TW-14-02 05/08/18 TW-14-02_050818	TW-14-02 09/05/18 TW-14-02_090518	TW-14-02 12/05/18 TW-14-02_120518	TW-16-01 05/10/18 TW-16-01_051018	TW-16-01 09/05/18 TW-16-01_090518	TW-16-01 12/04/18 TW-16-01_120418	UNK-10 12/06/18 UNK-10_120618	UNK-11 05/15/18 UNK-11_051518	UNK-11 12/05/18 UNK-11_120518
Volatile Organic Compounds													
1,2-Dibromo-3-chloropropane (DBCP)	0.2	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,2-Dibromoethane (Ethylene dibromide)	0.05	5.7	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,2-Dichlorobenzene	600	13	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,4-Dichlorobenzene	75	17	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,4-Dioxane	7.2	2,800	µg/L	7	400 Y ^a	310 Y ^a	169 [161] ^a	172 [174] ^a	89 ^a	235 Y ^a	NA	NA	NA
1,1,1-Trichloroethane	200	89	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
2-Hexanone	1,000	--	µg/L	NA	NA	NA	<10 [<10]	NA	NA	NA	<10	NA	<10
1,1,2,2-Tetrachloroethane	8.5	78	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Acetone	730	1,700	µg/L	NA	NA	NA	<10 [<10]	NA	NA	NA	<10	NA	<10
1,1,2-Trichloroethane	5	330	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Bromodichloromethane	80	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,1-Dichloroethane	880	740	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Bromoform	80	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,1-Dichloroethene	7	130	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Bromomethane (Methyl bromide)	10	35	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,2-Dichloroethane	5	360	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Carbon disulfide	800	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Carbon tetrachloride	5	45	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
cis-1,2-Dichloroethene	70	620	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Chlorobenzene	100	25	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
trans-1,2-Dichloroethene	100	1,500	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Chloroform (Trichloromethane)	80	350	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Trichloroethene	5	200	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Chloromethane (Methyl chloride)	260	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Tetrachloroethene	5	60	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
cis-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Vinyl chloride	2	13	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Chloroethane	430	1,100	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Dichlorodifluoromethane (CFC-12)	1,700	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Benzene	5	200	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Methyl acetate	--	--	µg/L	NA	NA	NA	<10 [<10]	NA	NA	NA	<10	NA	<10
Ethylbenzene	74	18	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Methylene chloride	5	1,500	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Styrene	100	80	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Toluene	790	270	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
trans-1,3-Dichloropropene	--	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Methyl tert butyl ether (MTBE)	40	7,100	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Trichlorofluoromethane (CFC-11)	2,600	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Trifluorotrichloroethane (Freon 113)	170,000	32	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
2-Butanone (Methyl ethyl ketone) (MEK)	13,000	2,200	µg/L	NA	NA	NA	<10 [<10]	NA	NA	NA	<10	NA	<10
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	1,800	--	µg/L	NA	NA	NA	<10 [<10]	NA	NA	NA	<10	NA	<10
1,2,4-Trichlorobenzene	70	99	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,2-Dichloropropane	5	230	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
1,3-Dichlorobenzene	6.6	28	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Cyclohexane	--	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Methyl cyclohexane	--	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Dibromochloromethane	80	--	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
Isopropyl benzene	800	28	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
o-Xylene	280	41	µg/L	NA	NA	NA	<1 [<1]	NA	NA	NA	<1	NA	<1
m&p-Xylene	280	41	µg/L	NA	NA	NA	<2 [<2]	NA	NA	NA	<2	NA	<2
Total Xylenes	280	41	µg/L	NA	NA	NA	<3 [<3]	NA	NA	NA	<3	NA	<3

Table 2
Groundwater Analytical Results, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan



Location ID: Date Collected: Sample Name:	MI GW (DEQ2013) RES DW	MI GW (DEQ2013) GSI	Units	TW-14-01 12/04/18 TW-14-01_120418	TW-14-02 05/08/18 TW-14-02_050818	TW-14-02 09/05/18 TW-14-02_090518	TW-14-02 12/05/18 TW-14-02_120518	TW-16-01 05/10/18 TW-16-01_051018	TW-16-01 09/05/18 TW-16-01_090518	TW-16-01 12/04/18 TW-16-01_120418	UNK-10 12/06/18 UNK-10_120618	UNK-11 05/15/18 UNK-11_051518	UNK-11 12/05/18 UNK-11_120518
Inorganics													
Aluminum	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Antimony	0.006	0.13	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.01	NA
Barium	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Boron	0.5	7.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	0.005	0.0045	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Chromium VI (hexavalent)	0.1	0.011	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Lead	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.003	NA
Manganese	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.002	0.0000013	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Selenium	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	0.034	0.0002	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	NA
Zinc	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Inorganic Compounds-Filtered													
Aluminum (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron (dissolved)	0.3	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (dissolved)	400	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sodium (dissolved)	230	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Arsenic (dissolved)	0.01	0.01	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium (dissolved)	2	1.2	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium (dissolved)	--	0.16	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt (dissolved)	0.04	0.1	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Copper (dissolved)	1	0.02	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead (dissolved)	0.004	0.044	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (dissolved)	0.05	4.5	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel (dissolved)	0.1	0.12	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Selenium (dissolved)	0.05	--	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium (dissolved)	0.0045	0.027	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Zinc (dissolved)	2.4	0.26	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

See notes on last page.

Notes:
^a Sample result exceeds residential drinking water criteria.
^b Sample result exceeds groundwater surface water interface criteria.

Bold fonts represent data where detections were noted greater than the laboratory method detection limit.
Shading indicates result exceeding one or more MDEQ Part 201 Generic Cleanup Criteria and Screening Levels, dated December 30, 2013 (1,4-dioxane criteria issued October 2016).
Data shown in [] represent duplicate sample analytical results.

MDEQ = Michigan Department of Environmental Quality
mg/L = milligrams per liter
MI GW (DEQ2013) GSI = MDEQ 2013 Groundwater/Surface Water Interface Criteria
MI GW (DEQ2013) RES DW = MDEQ 2013 Residential Drinking Water Criteria
NA = not analyzed
RACER = Revitalizing Auto Communities Environmental Response
µg/L = micrograms per liter
- - = not listed in the MDEQ criteria tables
< = less than

Laboratory and Validation Data Qualifiers:
X = Elevated reporting limit due to matrix interference.
Y = Elevated reporting limit due to high target concentration.

Table 3
LNAPL Thickness, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Date Collected	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Depth to LNAPL (feet below TOC)	Calculated Thickness NAPL (feet)	Groundwater Elevation (feet msl)
Plant 2								
LMW-12-01	03/08/18	864.91	862.14	14.76	8.83	NP	NP	856.08
LMW-12-01	05/07/18	864.91	862.14	14.76	9.87	NP	NP	855.04
LMW-12-01	09/04/18	864.91	862.14	14.77	12.83	NP	NP	852.08
LMW-12-01	12/03/18	864.91	862.14	14.75	10.18	NP	NP	854.73
LMW-12-02	03/08/18	865.25	862.17	12.89	6.72	NP	NP	858.53
LMW-12-02	05/07/18	865.25	862.17	11.90	7.26	NP	NP	857.99
LMW-12-02	09/04/18	865.25	862.17	12.90	8.40	NP	NP	856.85
LMW-12-02	12/03/18	865.25	862.17	NM	7.43	7.39	0.04	857.86*
LMW-12-03D	01/25/18	864.99	862.08	NM	11.90	10.23	1.67	854.59*
LMW-12-03D	02/22/18	864.99	862.08	NM	10.52	9.18	1.34	855.68*
LMW-12-03D	03/08/18	864.99	862.08	NM	12.17	10.37	1.80	854.44*
LMW-12-03D	04/28/18	864.99	862.08	NM	12.10	10.90	1.20	853.97*
LMW-12-03D	05/07/18	864.99	862.08	NM	12.08	11.02	1.06	853.86*
LMW-12-03D	06/21/18	864.99	862.08	NM	13.80	10.97	2.83	853.74*
LMW-12-03D	07/20/18	864.99	862.08	NM	15.40	11.63	3.77	852.98*
LMW-12-03D	08/17/18	864.99	862.08	NM	13.50	12.34	1.16	852.53*
LMW-12-03D	09/04/18	864.99	862.08	NM	12.88	12.14	0.74	852.78*
LMW-12-03D	10/21/18	864.99	862.08	NM	13.05	11.02	2.03	853.77*
LMW-12-03D	11/28/18	864.99	862.08	NM	13.75	11.65	2.10	853.13*
LMW-12-03D	12/03/18	864.99	862.08	NM	12.33	11.47	0.86	853.43*
LMW-12-03S	03/08/18	864.93	862.06	11.75	7.37	NP	NP	857.56
LMW-12-03S	05/07/18	864.93	862.06	11.75	7.95	NP	NP	856.98
LMW-12-03S	09/04/18	864.93	862.06	11.76	8.40	NP	NP	856.53
LMW-12-03S	12/03/18	864.93	862.06	11.75	7.07	7.06	0.01	857.87*
LMW-12-04	03/08/18	864.94	862.12	22.90	9.64	NP	NP	855.30
LMW-12-04	05/07/18	864.94	862.12	22.89	10.75	NP	NP	854.19
LMW-12-04	09/04/18	864.94	862.12	22.91	11.97	NP	NP	852.97
LMW-12-04	12/03/18	864.94	862.12	NM	11.91	11.89	0.02	853.05*
LMW-12-05	03/08/18	865.03	862.17	NM	10.46	10.41	0.05	854.61*
LMW-12-05	05/07/18	865.03	862.17	NM	11.25	11.24	0.01	853.79*
LMW-12-05	09/04/18	865.03	862.17	NM	13.42	13.24	0.18	851.77*
LMW-12-05	12/03/18	865.03	862.17	14.39	11.90	NP	NP	853.13
LMW-12-06	03/08/18	865.02	862.15	11.96	7.00	NP	NP	858.02
LMW-12-06	05/07/18	865.02	862.15	11.97	7.21	NP	NP	857.81
LMW-12-06	09/04/18	865.02	862.15	12.97	7.21	NP	NP	857.81
LMW-12-06	12/03/18	865.02	862.15	11.97	7.03	NP	NP	857.99
LMW-12-07	03/08/18	864.13	861.50	11.95	5.36	NP	NP	858.77
LMW-12-07	05/07/18	864.13	861.50	11.95	5.70	NP	NP	858.43
LMW-12-07	09/04/18	864.13	861.50	11.95	6.79	NP	NP	857.34
LMW-12-07	12/03/18	864.13	861.50	NM	5.37	5.35	0.02	858.78*
LMW-12-08	03/08/18	864.40	861.56	NM	9.12	8.12	1.00	856.18*
LMW-12-08	05/07/18	864.40	861.56	NM	9.35	8.40	0.95	855.90*
LMW-12-08	09/04/18	864.40	861.56	NM	10.25	8.82	1.43	855.44*
LMW-12-08	12/03/18	864.40	861.56	NM	10.12	8.01	2.11	856.18*
LMW-14-12D	01/25/18	864.59	862.11	NM	24.80	8.24	16.56	854.69*
LMW-14-12D	02/22/18	864.59	862.11	NM	24.83	8.72	16.11	854.25*
LMW-14-12D	03/08/18	864.59	862.11	NM	24.83	8.45	16.38	854.49*
LMW-14-12D	04/28/18	864.59	862.11	NM	24.85	8.85	16.00	854.13*
LMW-14-12D	05/07/18	864.59	862.11	NM	24.30	9.31	14.99	853.77*
LMW-14-12D	06/21/18	864.59	862.11	NM	24.85	9.28	15.57	853.75*
LMW-14-12D	07/20/18	864.59	862.11	NM	24.85	9.72	15.13	853.35*
LMW-14-12D	08/17/18	864.59	862.11	NM	24.85	10.43	14.42	852.71*
LMW-14-12D	09/04/18	864.59	862.11	NM	24.90	10.61	14.29	852.54*
LMW-14-12D	10/21/18	864.59	862.11	NM	24.85	9.12	15.73	853.89*
LMW-14-12D	11/28/18	864.59	862.11	NM	24.85	10.13	14.72	852.98*
LMW-14-12D	12/03/18	864.59	862.11	NM	24.91	9.75	15.16	853.32*

Table 3
LNAPL Thickness, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Date Collected	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Depth to LNAPL (feet below TOC)	Calculated Thickness NAPL (feet)	Groundwater Elevation (feet msl)
Plant 2								
LMW-14-13D	01/25/18	865.03	862.06	NM	9.78	NP	NP	855.25
LMW-14-13D	02/22/18	865.03	862.06	NM	9.16	NP	NP	855.87
LMW-14-13D	03/08/18	865.03	862.06	24.35	9.90	NP	NP	855.13
LMW-14-13D	04/28/18	865.03	862.06	24.35	10.36	NP	NP	854.67
LMW-14-13D	05/07/18	865.03	862.06	24.35	10.64	NP	NP	854.39
LMW-14-13D	06/21/18	865.03	862.06	24.35	10.58	NP	NP	854.45
LMW-14-13D	07/20/18	865.03	862.06	24.34	12.44	NP	NP	852.59
LMW-14-13D	08/17/18	865.03	862.06	24.35	12.13	NP	NP	852.90
LMW-14-13D	09/04/18	865.03	862.06	24.37	12.04	NP	NP	852.99
LMW-14-13D	10/21/18	865.03	862.06	24.35	10.65	NP	NP	854.38
LMW-14-13D	11/28/18	865.03	862.06	24.35	11.33	NP	NP	853.70
LMW-14-13D	12/03/18	865.03	862.06	24.33	10.93	NP	NP	854.10
LMW-14-14D	01/25/18	864.89	861.90	NM	11.89	NP	NP	853.00
LMW-14-14D	02/22/18	864.89	861.90	NM	11.04	NP	NP	853.85
LMW-14-14D	03/08/18	864.89	861.90	22.63	9.46	NP	NP	855.43
LMW-14-14D	04/28/18	864.89	861.90	25.02	12.81	NP	NP	852.08
LMW-14-14D	05/07/18	864.89	861.90	25.03	12.47	NP	NP	852.42
LMW-14-14D	06/21/18	864.89	861.90	24.96	12.69	NP	NP	852.20
LMW-14-14D	07/20/18	864.89	861.90	25.00	13.51	NP	NP	851.38
LMW-14-14D	08/17/18	864.89	861.90	25.00	13.80	NP	NP	851.09
LMW-14-14D	09/04/18	864.89	861.90	25.00	13.51	NP	NP	851.38
LMW-14-14D	10/21/18	864.89	861.90	24.95	12.42	NP	NP	852.47
LMW-14-14D	11/28/18	864.89	861.90	24.95	13.22	NP	NP	851.67
LMW-14-14D	12/03/18	864.89	861.90	NM	12.85	12.78	0.07	852.10*
LMW-14-15D	01/25/18	865.11	861.66	NM	22.17	9.51	12.66	854.33*
LMW-14-15D	02/22/18	865.11	861.66	NM	22.20	9.12	13.08	854.68*
LMW-14-15D	03/08/18	865.11	861.66	NM	25.04	12.24	12.80	851.58*
LMW-14-15D	04/28/18	865.11	861.66	NM	22.44	10.05	12.39	853.81*
LMW-14-15D	05/07/18	865.11	861.66	NM	22.30	10.25	12.05	853.65*
LMW-14-15D	06/21/18	865.11	861.66	NM	22.65	10.16	12.49	853.69*
LMW-14-15D	07/20/18	865.11	861.66	NM	22.63	11.04	11.59	852.91*
LMW-14-15D	08/17/18	865.11	861.66	NM	22.65	11.69	10.96	852.32*
LMW-14-15D	09/04/18	865.11	861.66	NM	22.60	11.47	11.13	852.52*
LMW-14-15D	10/21/18	865.11	861.66	NM	22.59	10.07	12.52	853.78*
LMW-14-15D	11/28/18	865.11	861.66	NM	22.60	10.93	11.67	853.01*
LMW-14-15D	12/03/18	865.11	861.66	NM	21.61	10.78	10.83	853.24*
LMW-15-16D	01/25/18	865.20	862.24	NM	15.65	12.35	3.30	852.52*
LMW-15-16D	02/22/18	865.20	862.24	NM	16.80	13.39	3.41	851.47*
LMW-15-16D	03/08/18	865.20	862.24	NM	17.36	12.50	4.86	852.21*
LMW-15-16D	04/28/18	865.20	862.24	NM	16.18	12.88	3.30	851.99*
LMW-15-16D	05/07/18	865.20	862.24	NM	16.43	13.33	3.10	851.56*
LMW-15-16D	06/21/18	865.20	862.24	NM	17.93	12.93	5.00	851.77*
LMW-15-16D	07/20/18	865.20	862.24	NM	20.95	13.40	7.55	851.04*
LMW-15-16D	08/17/18	865.20	862.24	NM	17.05	14.48	2.57	850.46*
LMW-15-16D	09/04/18	865.20	862.24	NM	17.60	14.65	2.95	850.25*
LMW-15-16D	10/21/18	865.20	862.24	NM	19.27	12.59	6.68	851.94*
LMW-15-16D	11/28/18	865.20	862.24	NM	23.05	13.30	9.75	850.92*
LMW-15-16D	12/03/18	865.20	862.24	NM	16.89	13.78	3.11	851.11*
LMW-15-17D	01/25/18	865.21	862.24	NM	10.30	NP	NP	854.91
LMW-15-17D	02/22/18	865.21	862.24	NM	9.87	NP	NP	855.34
LMW-15-17D	03/08/18	865.21	862.24	27.28	10.40	NP	NP	854.81
LMW-15-17D	04/28/18	865.21	862.24	27.29	10.88	NP	NP	854.33
LMW-15-17D	05/07/18	865.21	862.24	27.29	11.05	NP	NP	854.16
LMW-15-17D	06/21/18	865.21	862.24	27.30	11.02	NP	NP	854.19
LMW-15-17D	07/20/18	865.21	862.24	27.30	11.81	NP	NP	853.40
LMW-15-17D	08/17/18	865.21	862.24	27.31	12.51	NP	NP	852.70

Table 3
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2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Date Collected	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Depth to LNAPL (feet below TOC)	Calculated Thickness NAPL (feet)	Groundwater Elevation (feet msl)
Plant 2								
LMW-15-17D	09/04/18	865.21	862.24	27.30	12.33	NP	NP	852.88
LMW-15-17D	10/21/18	865.21	862.24	27.29	10.10	NP	NP	855.11
LMW-15-17D	11/28/18	865.21	862.24	27.29	11.82	NP	NP	853.39
LMW-15-17D	12/03/18	865.21	862.24	NM	11.56	11.55	0.01	853.66*
P2-SB-37	03/08/18	865.90	861.90	NM	7.01	5.82	1.19	859.96*
P2-SB-37	05/07/18	865.90	861.90	NM	7.40	6.05	1.35	859.71*
P2-SB-37	09/04/18	865.90	861.90	NM	9.31	8.39	0.92	857.42*
P2-SB-37	12/03/18	865.90	861.90	NM	8.31	6.78	1.53	858.97*
PMW-01	03/08/18	860.85	861.33	NM	2.73	1.33	1.40	859.38*
PMW-01	05/07/18	860.85	861.33	NM	3.47	1.76	1.71	858.92*
PMW-01	09/04/18	860.85	861.33	NM	4.95	3.21	1.74	857.46*
PMW-01	12/03/18	860.85	861.33	NM	4.60	1.61	2.99	858.94*
PMW-02	03/08/18	860.94	861.33	NM	0.86	0.66	0.20	860.26*
PMW-02	05/07/18	860.94	861.33	NM	1.28	1.26	0.02	859.68*
PMW-02	09/04/18	860.94	861.33	NM	2.48	2.42	0.06	858.51*
PMW-03	03/08/18	861.59	862.12	6.10	1.56	NP	NP	860.03
PMW-03	05/07/18	861.59	862.12	6.10	2.33	NP	NP	859.26
PMW-03	09/04/18	861.59	862.12	6.11	3.11	NP	NP	858.48
PMW-03	12/03/18	861.59	862.12	6.10	1.65	NP	NP	859.94
Plant 3								
LMW-12-09	03/08/18	863.22	860.40	10.75	3.83	NP	NP	859.39
LMW-12-09	05/07/18	863.22	860.40	11.76	4.51	NP	NP	858.71
LMW-12-09	09/04/18	863.22	860.40	10.77	5.15	NP	NP	858.07
LMW-12-09	12/04/18	863.22	860.40	NM	4.01	3.97	0.04	859.25*
LMW-12-10	01/25/18	866.82	863.60	NM	10.95	10.27	0.68	856.48*
LMW-12-10	02/22/18	866.82	863.60	NM	10.98	10.20	0.78	856.54*
LMW-12-10	03/08/18	866.82	863.60	NM	11.90	11.03	0.87	855.70*
LMW-12-10	04/28/18	866.82	863.60	12.15	11.02	NP	NP	855.80
LMW-12-10	05/07/18	866.82	863.60	NM	11.95	11.15	0.80	855.59*
LMW-12-10	06/21/18	866.82	863.60	NM	12.72	12.01	0.71	854.74*
LMW-12-10	07/20/18	866.82	863.60	NM	12.48	11.56	0.92	855.17*
LMW-12-10	08/17/18	866.82	863.60	NM	11.66	10.54	1.12	856.17*
LMW-12-10	09/04/18	866.82	863.60	NM	10.62	10.22	0.40	856.56*
LMW-12-10	10/21/18	866.82	863.60	NM	11.39	10.64	0.75	856.10*
LMW-12-10	11/28/18	866.82	863.60	NM	11.63	10.68	0.95	856.04*
LMW-12-10	12/03/18	866.82	863.60	NM	11.58	10.54	1.04	856.18*
LMW-12-11	03/08/18	866.53	863.53	22.84	11.40	NP	NP	855.13
LMW-12-11	05/07/18	866.53	863.53	22.85	11.80	NP	NP	854.73
LMW-12-11	09/04/18	866.53	863.53	22.86	13.20	NP	NP	853.33
LMW-12-11	12/03/18	866.53	863.53	22.90	12.90	NP	NP	853.63
LMW-12-11	12/03/18	866.53	863.53	NM	12.95	12.88	0.07	853.64*
UNK-14	03/08/18	859.32	859.70	NM	4.08	2.57	1.51	856.60*
UNK-14	05/07/18	859.32	859.70	NM	4.30	2.79	1.51	856.38*
UNK-14	09/04/18	859.32	859.70	NM	5.46	4.05	1.41	855.13*
UNK-14	12/04/18	859.32	859.70	15.62	2.18	NP	NP	857.14

Notes:

LNAPL = light nonaqueous phase liquid

msl = mean sea level

NAPL = nonaqueous phase liquid

NM = not measured

NP = no product

TOC = top of casing

RACER = Revitalizing Auto Communities Environmental Response

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

Table 4
LNAPL Recovery, January through December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Recovery Date**	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Depth to LNAPL (feet below TOC)	Starting LNAPL Thickness (feet)	Groundwater Elevation (feet msl)	Estimated LNAPL Volume Recovered (gallons)	Cumulative LNAPL Volume Recovered (gallons)	Liquid Recovered (Gallons) ***	2018 Cumulative Liquid Recovery (Gallons)
LMW-12-03D	01/25/18	864.99	862.08	NM	11.90	10.23	1.67	854.59*	0.25	0.25	0.25	0.25
LMW-12-03D	02/22/18	864.99	862.08	NM	10.52	9.18	1.34	855.68*	0.25	0.50	0.25	0.50
LMW-12-03D	03/28/18	864.99	862.08	NM	12.17	10.37	1.80	854.44*	0.25	0.75	0.25	0.75
LMW-12-03D	04/28/18	864.99	862.08	NM	12.10	10.90	1.20	853.97*	0.25	1.00	0.25	1.00
LMW-12-03D	05/07/18	864.99	862.08	NM	12.08	11.02	1.06	853.86*	0.25	1.25	0.25	1.25
LMW-12-03D	06/21/18	864.99	862.08	NM	13.80	10.97	2.83	853.74*	0.50	1.75	0.50	1.75
LMW-12-03D	07/20/18	864.99	862.08	NM	15.40	11.63	3.77	852.98*	0.50	2.25	0.50	2.25
LMW-12-03D	08/17/18	864.99	862.08	NM	13.50	12.34	1.16	852.53*	0.00	2.25	0.00	2.25
LMW-12-03D	09/04/18	864.99	862.08	NM	12.88	12.14	0.74	852.78*	0.00	2.25	0.00	2.25
LMW-12-03D	10/21/18	864.99	862.08	NM	13.05	11.02	2.03	853.77*	0.25	2.50	0.25	2.50
LMW-12-03D	11/28/18	864.99	862.08	NM	13.75	11.65	2.10	853.13*	0.25	2.75	0.25	2.75
LMW-12-03D	12/03/18	864.99	862.08	NM	12.33	11.47	0.86	853.43*	0.00	2.75	0.00	2.75
LMW-12-10	01/25/18	866.82	863.60	NM	10.95	10.27	0.68	856.48*	0.00	0.00	0.00	0.00
LMW-12-10	02/22/18	866.82	863.60	NM	10.98	10.20	0.78	856.54*	0.00	0.00	0.00	0.00
LMW-12-10	03/28/18	866.82	863.60	NM	11.90	11.03	0.87	855.70*	0.00	0.00	0.00	0.00
LMW-12-10	04/28/18	866.82	863.60	12.15	11.02	NP	NP	855.80	0.25	0.25	0.25	0.25
LMW-12-10	05/07/18	866.82	863.60	NM	11.95	11.15	0.80	855.59*	0.00	0.25	0.00	0.25
LMW-12-10	06/21/18	866.82	863.60	NM	12.72	12.01	0.71	854.74*	0.00	0.25	0.00	0.25
LMW-12-10	07/20/18	866.82	863.60	NM	12.48	11.56	0.92	855.17*	0.00	0.25	0.00	0.25
LMW-12-10	08/17/18	866.82	863.60	NM	11.66	10.54	1.12	856.17*	0.00	0.25	0.00	0.25
LMW-12-10	09/04/18	866.82	863.60	NM	10.62	10.22	0.40	856.56*	0.00	0.25	0.00	0.25
LMW-12-10	10/21/18	866.82	863.60	NM	11.39	10.64	0.75	856.10*	0.00	0.25	0.00	0.25
LMW-12-10	11/28/18	866.82	863.60	NM	11.63	10.68	0.95	856.04*	0.00	0.25	0.00	0.25
LMW-12-10	12/03/18	866.82	863.60	NM	11.58	10.54	1.04	856.18*	0.00	0.25	0.00	0.25
LMW-14-12D	01/25/18	864.59	862.11	NM	24.80	8.24	16.56	854.69*	2.50	2.50	2.50	2.50
LMW-14-12D	02/22/18	864.59	862.11	NM	24.83	8.72	16.11	854.25*	2.50	5.00	2.50	5.00
LMW-14-12D	03/28/18	864.59	862.11	NM	24.83	8.45	16.38	854.49*	2.50	7.50	2.50	7.50
LMW-14-12D	04/28/18	864.59	862.11	NM	24.85	8.85	16.00	854.13*	2.50	10.00	2.50	10.00
LMW-14-12D	05/07/18	864.59	862.11	NM	24.30	9.31	14.99	853.77*	2.25	12.25	2.25	12.25
LMW-14-12D	06/21/18	864.59	862.11	NM	24.85	9.28	15.57	853.75*	2.50	14.75	2.50	14.75
LMW-14-12D	07/20/18	864.59	862.11	NM	24.85	9.72	15.13	853.35*	2.25	17.00	2.25	17.00
LMW-14-12D	08/17/18	864.59	862.11	NM	24.85	10.43	14.42	852.71*	0.00	17.00	0.00	17.00
LMW-14-12D	09/04/18	864.59	862.11	NM	24.90	10.61	14.29	852.54*	0.00	17.00	0.00	17.00
LMW-14-12D	10/21/18	864.59	862.11	NM	24.85	9.12	15.73	853.89*	2.50	19.50	2.50	19.50
LMW-14-12D	11/28/18	864.59	862.11	NM	24.85	10.13	14.72	852.98*	2.50	22.00	2.50	22.00
LMW-14-12D	12/03/18	864.59	862.11	NM	24.91	9.75	15.16	853.32*	0.00	22.00	0.00	22.00
LMW-14-15D	01/25/18	865.11	861.66	NM	22.17	9.51	12.66	854.33*	2.00	2.00	2.00	2.00
LMW-14-15D	02/22/18	865.11	861.66	NM	22.20	9.12	13.08	854.68*	2.00	4.00	2.00	4.00
LMW-14-15D	03/28/18	865.11	861.66	NM	25.04	12.24	12.80	851.58*	2.00	6.00	2.00	6.00
LMW-14-15D	04/28/18	865.11	861.66	NM	22.44	10.05	12.39	853.81*	2.00	8.00	2.00	8.00
LMW-14-15D	05/07/18	865.11	861.66	NM	22.30	10.25	12.05	853.65*	2.00	10.00	2.00	10.00
LMW-14-15D	06/21/18	865.11	861.66	NM	22.65	10.16	12.49	853.69*	2.00	12.00	2.00	12.00
LMW-14-15D	07/20/18	865.11	861.66	NM	22.63	11.04	11.59	852.91*	1.75	13.75	1.75	13.75
LMW-14-15D	08/17/18	865.11	861.66	NM	22.65	11.69	10.96	852.32*	0.00	13.75	0.00	13.75

Table 4
LNAPL Recovery, January through December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Recovery Date**	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Depth to LNAPL (feet below TOC)	Starting LNAPL Thickness (feet)	Groundwater Elevation (feet msl)	Estimated LNAPL Volume Recovered (gallons)	Cumulative LNAPL Volume Recovered (gallons)	Liquid Recovered (Gallons) ***	2018 Cumulative Liquid Recovery (Gallons)
LMW-14-15D	09/04/18	865.11	861.66	NM	22.60	11.47	11.13	852.52*	0.00	13.75	0.00	13.75
LMW-14-15D	10/21/18	865.11	861.66	NM	22.59	10.07	12.52	853.78*	2.00	15.75	2.00	15.75
LMW-14-15D	11/28/18	865.11	861.66	NM	22.60	10.93	11.67	853.01*	1.75	17.50	1.75	17.50
LMW-14-15D	12/03/18	865.11	861.66	NM	21.61	10.78	10.83	853.24*	0.00	17.50	0.00	17.50
LMW-15-16D	01/25/18	865.20	862.24	NM	15.65	12.35	3.30	852.52*	0.50	0.50	0.50	0.50
LMW-15-16D	02/22/18	865.20	862.24	NM	16.80	13.39	3.41	851.47*	0.50	1.00	0.50	1.00
LMW-15-16D	03/28/18	865.20	862.24	NM	17.36	12.50	4.86	852.21*	0.75	1.75	0.75	1.75
LMW-15-16D	04/28/18	865.20	862.24	NM	16.18	12.88	3.30	851.99*	0.50	2.25	0.50	2.25
LMW-15-16D	05/07/18	865.20	862.24	NM	16.43	13.33	3.10	851.56*	0.50	2.75	0.50	2.75
LMW-15-16D	06/21/18	865.20	862.24	NM	17.93	12.93	5.00	851.77*	0.75	3.50	0.75	3.50
LMW-15-16D	07/20/18	865.20	862.24	NM	20.95	13.40	7.55	851.04*	1.00	4.50	1.00	4.50
LMW-15-16D	08/17/18	865.20	862.24	NM	17.05	14.48	2.57	850.46*	0.00	4.50	0.00	4.50
LMW-15-16D	09/04/18	865.20	862.24	NM	17.60	14.65	2.95	850.25*	0.00	4.50	0.00	4.50
LMW-15-16D	10/21/18	865.20	862.24	NM	19.27	12.59	6.68	851.94*	1.00	5.50	1.00	5.50
LMW-15-16D	11/28/18	865.20	862.24	NM	23.05	13.30	9.75	850.92*	1.50	7.00	1.50	7.00
LMW-15-16D	12/03/18	865.20	862.24	NM	16.89	13.78	3.11	851.11*	0.00	7.00	0.00	7.00

Per Well Totals (January - December 2018)

Well ID	LNAPL Volume Recovered (gallons)	Total Liquid Recovered (gallons)
LMW-12-03D	2.75	2.75
LMW-12-10	0.25	0.25
LMW-14-12D	22.00	22.00
LMW-14-15D	17.50	17.50
LMW-15-16D	7.00	7.00
Total:	49.50	49.50

2018 Quarterly Event Totals

Quarter	LNAPL Volume Recovered (gallons)	Total Liquid Recovered (gallons)
1st Quarter 2018	16.00	16.00
2nd Quarter 2018	16.25	16.25
3rd Quarter 2018	5.50	5.50
4th Quarter 2018	11.75	11.75
Total:	49.50	49.50

Cumulative Totals (June 2015 - December 2018)

Well ID	LNAPL Volume Recovered (gallons)	Total Liquid Recovered (gallons)
LMW-12-03D	14.28	18.32
LMW-12-10	4.05	4.05
LMW-14-12D	70.60	74.44
LMW-14-15D	47.34	51.00
LMW-15-16D	26.16	27.90
Total:	162.43	175.71

Notes:

LNAPL = light nonaqueous phase liquid

msl = mean sea level

NA = not applicable

NM = not measured

PVC = polyvinyl chloride

RACER = Revitalizing Auto Communities Environmental Response

TOC = top of casing

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

** Depth-to-water and depth-to-LNAPL measurements were collected at beginning of the associated quarterly groundwater sampling event or LNAPL gauging event.

*** Recovery performed via 1.5-inch-diameter weighted PVC bailers. Volume includes groundwater and LNAPL recovered.

Table 5
Groundwater Elevations, January to December 2018
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Date Collected	Screened Interval Top (feet bgs)	Screened Interval Bottom (feet bgs)	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Groundwater Elevation (feet msl)
Plant 2								
AS-16-01	05/07/18	72	77	862.74	862.13	75.35	60.76	801.98
AS-16-01	09/04/18	72	77	862.74	862.13	75.25	60.40	802.34
AS-16-01	12/04/18	72	77	862.74	862.13	76.50	59.38	803.36
AS-16-02	05/07/18	73	78	861.96	862.17	76.10	62.03	799.93
AS-16-02	09/04/18	73	78	861.96	862.17	76.10	61.32	800.64
AS-16-02	12/04/18	73	78	861.96	862.17	77.10	59.95	802.01
LMW-12-01	03/08/18	7	12	864.91	862.14	14.76	8.83	856.08
LMW-12-01	05/07/18	7	12	864.91	862.14	14.76	9.87	855.04
LMW-12-01	09/04/18	7	12	864.91	862.14	14.77	12.83	852.08
LMW-12-01	12/03/18	7	12	864.91	862.14	14.75	10.18	854.73
LMW-12-02	03/08/18	5	10	865.25	862.17	12.89	6.72	858.53
LMW-12-02	05/07/18	5	10	865.25	862.17	11.90	7.26	857.99
LMW-12-02	09/04/18	5	10	865.25	862.17	12.90	8.40	856.85
LMW-12-02	09/04/18	5	10	865.25	862.17	NM	7.43	857.86*
LMW-12-03D	01/25/18	17.3	22.3	864.99	862.08	NM	11.90	854.59*
LMW-12-03D	02/22/18	17.3	22.3	864.99	862.08	NM	10.52	855.68*
LMW-12-03D	03/08/18	17.3	22.3	864.99	862.08	NM	12.17	854.44*
LMW-12-03D	04/28/18	17.3	22.3	864.99	862.08	NM	12.10	853.97*
LMW-12-03D	05/07/18	17.3	22.3	864.99	862.08	NM	12.08	853.86*
LMW-12-03D	06/21/18	17.3	22.3	864.99	862.08	NM	13.80	853.74*
LMW-12-03D	07/20/18	17.3	22.3	864.99	862.08	NM	15.40	852.98*
LMW-12-03D	08/17/18	17.3	22.3	864.99	862.08	NM	13.50	852.53*
LMW-12-03D	09/04/18	17.3	22.3	864.99	862.08	NM	12.88	852.78*
LMW-12-03D	10/21/18	17.3	22.3	864.99	862.08	NM	13.05	853.77*
LMW-12-03D	11/28/18	17.3	22.3	864.99	862.08	NM	13.75	853.13*
LMW-12-03D	12/03/18	17.3	22.3	864.99	862.08	NM	12.33	853.43*
LMW-12-03S	03/08/18	4	9	864.93	862.06	11.75	7.37	857.56
LMW-12-03S	05/07/18	4	9	864.93	862.06	11.75	7.95	856.98
LMW-12-03S	09/04/18	4	9	864.93	862.06	11.76	8.40	856.53
LMW-12-03S	12/03/18	4	9	864.93	862.06	11.75	7.07	857.87*
LMW-12-04	03/08/18	16	21	864.94	862.12	22.90	9.64	855.30
LMW-12-04	05/07/18	16	21	864.94	862.12	22.89	10.75	854.19
LMW-12-04	09/04/18	16	21	864.94	862.12	22.91	11.97	852.97
LMW-12-04	12/03/18	16	21	864.94	862.12	NM	11.91	853.05*
LMW-12-05	03/08/18	7	12	865.03	862.17	NM	10.46	854.61*
LMW-12-05	05/07/18	7	12	865.03	862.17	NM	11.25	853.79*
LMW-12-05	09/04/18	7	12	865.03	862.17	NM	13.42	851.77*
LMW-12-05	12/03/18	7	12	865.03	862.17	14.39	11.90	853.13
LMW-12-06	03/08/18	4	9	865.02	862.15	11.96	7.00	858.02
LMW-12-06	05/07/18	4	9	865.02	862.15	11.97	7.21	857.81
LMW-12-06	09/04/18	4	9	865.02	862.15	12.97	7.21	857.81
LMW-12-06	12/03/18	4	9	865.02	862.15	11.97	7.03	857.99
LMW-12-07	03/08/18	4	9	864.13	861.50	11.95	5.36	858.77
LMW-12-07	05/07/18	4	9	864.13	861.50	11.95	5.70	858.43
LMW-12-07	09/04/18	4	9	864.13	861.50	11.95	6.79	857.34
LMW-12-07	12/03/18	4	9	864.13	861.50	NM	5.37	858.78*
LMW-12-08	03/08/18	8	13	864.40	861.56	NM	9.12	856.18*
LMW-12-08	05/07/18	8	13	864.40	861.56	NM	9.35	855.90*
LMW-12-08	09/04/18	8	13	864.40	861.56	NM	10.25	855.44*
LMW-12-08	12/03/18	8	13	864.40	861.56	NM	10.12	856.18*

Table 5
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Date Collected	Screened Interval Top (feet bgs)	Screened Interval Bottom (feet bgs)	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Groundwater Elevation (feet msl)
Plant 2								
LMW-14-12D	01/25/18	18	23	864.59	862.11	NM	24.80	854.69*
LMW-14-12D	02/22/18	18	23	864.59	862.11	NM	24.83	854.25*
LMW-14-12D	03/08/18	18	23	864.59	862.11	NM	24.83	854.49*
LMW-14-12D	04/28/18	18	23	864.59	862.11	NM	24.85	854.13*
LMW-14-12D	05/07/18	18	23	864.59	862.11	NM	24.30	853.77*
LMW-14-12D	06/21/18	18	23	864.59	862.11	NM	24.85	853.75*
LMW-14-12D	07/20/18	18	23	864.59	862.11	NM	24.85	853.35*
LMW-14-12D	08/17/18	18	23	864.59	862.11	NM	24.85	852.71*
LMW-14-12D	09/04/18	18	23	864.59	862.11	NM	24.90	852.54*
LMW-14-12D	10/21/18	18	23	864.59	862.11	NM	24.85	853.89*
LMW-14-12D	11/28/18	18	23	864.59	862.11	NM	24.85	852.98*
LMW-14-12D	12/03/18	18	23	864.59	862.11	NM	24.91	853.32*
LMW-14-13D	01/25/18	17.5	22.5	865.03	862.06	NM	9.78	855.25
LMW-14-13D	02/22/18	17.5	22.5	865.03	862.06	NM	9.16	855.87
LMW-14-13D	03/08/18	17.5	22.5	865.03	862.06	24.35	9.90	855.13
LMW-14-13D	04/28/18	17.5	22.5	865.03	862.06	24.35	10.36	854.67
LMW-14-13D	05/07/18	17.5	22.5	865.03	862.06	24.35	10.64	854.39
LMW-14-13D	06/21/18	17.5	22.5	865.03	862.06	24.35	10.58	854.45
LMW-14-13D	07/20/18	17.5	22.5	865.03	862.06	24.34	12.44	852.59
LMW-14-13D	08/17/18	17.5	22.5	865.03	862.06	24.35	12.13	852.90
LMW-14-13D	09/04/18	17.5	22.5	865.03	862.06	24.37	12.04	852.99
LMW-14-13D	10/21/18	17.5	22.5	865.03	862.06	24.35	10.65	854.38
LMW-14-13D	11/28/18	17.5	22.5	865.03	862.06	24.35	11.33	853.70
LMW-14-13D	12/03/18	17.5	22.5	865.03	862.06	24.33	10.93	854.10
LMW-14-14D	01/25/18	18	23	864.89	861.90	NM	11.89	853.00
LMW-14-14D	02/22/18	18	23	864.89	861.90	NM	11.04	853.85
LMW-14-14D	03/08/18	18	23	864.89	861.90	22.63	9.46	855.43
LMW-14-14D	04/28/18	18	23	864.89	861.90	25.02	12.81	852.08
LMW-14-14D	05/07/18	18	23	864.89	861.90	25.03	12.47	852.42
LMW-14-14D	06/21/18	18	23	864.89	861.90	24.96	12.69	852.20
LMW-14-14D	07/20/18	18	23	864.89	861.90	25.00	13.51	851.38
LMW-14-14D	08/17/18	18	23	864.89	861.90	25.00	13.80	851.09
LMW-14-14D	09/04/18	18	23	864.89	861.90	25.00	13.51	851.38
LMW-14-14D	10/21/18	18	23	864.89	861.90	24.95	12.42	852.47
LMW-14-14D	11/28/18	18	23	864.89	861.90	24.95	13.22	851.67
LMW-14-14D	12/03/18	18	23	864.89	861.90	NM	12.85	852.10*
LMW-14-15D	01/25/18	18	23	865.11	861.66	NM	22.17	854.33*
LMW-14-15D	02/22/18	18	23	865.11	861.66	NM	22.20	854.68*
LMW-14-15D	03/08/18	18	23	865.11	861.66	NM	25.04	851.58*
LMW-14-15D	04/28/18	18	23	865.11	861.66	NM	22.44	853.81*
LMW-14-15D	05/07/18	18	23	865.11	861.66	NM	22.30	853.65*
LMW-14-15D	06/21/18	18	23	865.11	861.66	NM	22.65	853.69*
LMW-14-15D	07/20/18	18	23	865.11	861.66	NM	22.63	852.91*
LMW-14-15D	08/17/18	18	23	865.11	861.66	NM	22.65	852.32*
LMW-14-15D	09/04/18	18	23	865.11	861.66	NM	22.60	852.52*
LMW-14-15D	10/21/18	18	23	865.11	861.66	NM	22.59	853.78*
LMW-14-15D	11/28/18	18	23	865.11	861.66	NM	22.60	853.01*
LMW-14-15D	12/03/18	18	23	865.11	861.66	NM	21.61	853.24*

Table 5
Groundwater Elevations, January to December 2018
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RACER Trust Plants 2, 3, and 6
Lansing, Michigan

Well ID	Date Collected	Screened Interval Top (feet bgs)	Screened Interval Bottom (feet bgs)	Reference Elevation (TOC)	Ground Surface Elevation (feet msl)	Total Well Depth (feet below TOC)	Depth to Water (feet below TOC)	Groundwater Elevation (feet msl)
Plant 2								
LMW-15-16D	01/25/18	19.5	24.5	865.20	862.24	NM	15.65	852.52*
LMW-15-16D	02/22/18	19.5	24.5	865.20	862.24	NM	16.80	851.47*
LMW-15-16D	03/08/18	19.5	24.5	865.20	862.24	NM	17.36	852.21*
LMW-15-16D	04/28/18	19.5	24.5	865.20	862.24	NM	16.18	851.99*
LMW-15-16D	05/07/18	19.5	24.5	865.20	862.24	NM	16.43	851.56*
LMW-15-16D	06/21/18	19.5	24.5	865.20	862.24	NM	17.93	851.77*
LMW-15-16D	07/20/18	19.5	24.5	865.20	862.24	NM	20.95	851.04*
LMW-15-16D	08/17/18	19.5	24.5	865.20	862.24	NM	17.05	850.46*
LMW-15-16D	09/04/18	19.5	24.5	865.20	862.24	NM	17.60	850.25*
LMW-15-16D	10/21/18	19.5	24.5	865.20	862.24	NM	19.27	851.94*
LMW-15-16D	11/28/18	19.5	24.5	865.20	862.24	NM	23.05	850.92*
LMW-15-16D	12/03/18	19.5	24.5	865.20	862.24	NM	16.89	851.11*
LMW-15-17D	01/25/18	20	25	865.21	862.24	NM	10.30	854.91
LMW-15-17D	02/22/18	20	25	865.21	862.24	NM	9.87	855.34
LMW-15-17D	03/08/18	20	25	865.21	862.24	27.28	10.40	854.81
LMW-15-17D	04/28/18	20	25	865.21	862.24	27.29	10.88	854.33
LMW-15-17D	05/07/18	20	25	865.21	862.24	27.29	11.05	854.16
LMW-15-17D	06/21/18	20	25	865.21	862.24	27.30	11.02	854.19
LMW-15-17D	07/20/18	20	25	865.21	862.24	27.30	11.81	853.40
LMW-15-17D	08/17/18	20	25	865.21	862.24	27.31	12.51	852.70
LMW-15-17D	09/04/18	20	25	865.21	862.24	27.30	12.33	852.88
LMW-15-17D	10/21/18	20	25	865.21	862.24	27.29	10.10	855.11
LMW-15-17D	11/28/18	20	25	865.21	862.24	27.29	11.82	853.39
LMW-15-17D	12/03/18	20	25	865.21	862.24	NM	11.56	853.66*
MW-01(2)	12/03/18	10	20	875.79	876.10	16.00	7.75	868.04
MW-02(2)	05/07/18	12	22	875.96	876.20	21.15	11.65	864.31
MW-02(2)	12/03/18	12	22	875.96	876.20	21.15	9.81	866.15
MW-03(2)	05/07/18	12	22	876.70	876.79	19.10	9.40	867.30
MW-03(2)	12/03/18	12	22	876.70	876.79	19.10	8.20	868.50
MW-12-01	05/07/18	87	110	867.94	865.46	111.15	72.85	795.09
MW-12-01	12/03/18	87	110	867.94	865.46	91.50	68.49	799.45
MW-12-02	05/07/18	87	110	853.91	851.88	93.30	63.01	790.90
MW-12-02	12/03/18	87	110	853.91	851.88	101.30	57.50	796.41
MW-12-05R	03/05/18	100	112	864.79	862.30	112.32	73.74	791.05
MW-12-05R	05/07/18	100	112	864.79	862.30	112.00	71.85	792.94
MW-12-05R	12/04/18	100	112	864.79	862.30	114.00	67.29	797.50
MW-12-06	05/07/18	80.6	99.5	864.64	861.69	107.00	71.48	793.16
MW-12-06	12/03/18	80.6	99.5	864.64	861.69	104.00	66.96	797.68
MW-12-07	05/07/18	10	15	872.11	869.21	17.80	7.70	864.41
MW-12-07	12/03/18	10	15	872.11	869.21	17.70	6.29	865.82
MW-12-08	05/07/18	19	24	864.53	861.55	27.39	6.64	857.89
MW-12-08	12/03/18	19	24	864.53	861.55	27.40	7.20	857.33
MW-12-09	05/07/18	14	19	863.54	860.63	21.55	13.85	849.69
MW-12-09	12/03/18	14	19	863.54	860.63	21.60	14.17	849.37
MW-12-17	05/07/18	9.5	14.5	875.47	875.83	14.00	6.52	868.95
MW-12-17	12/03/18	9.5	14.5	875.47	875.83	14.00	7.15	868.32
MW-12-18	05/07/18	28	33	866.43	864.19	34.73	23.39	843.04
MW-12-18	12/03/18	28	33	866.43	864.19	34.80	24.10	842.33
MW-13-42	12/03/18	70	75	861.61	860.03	77.40	64.50	797.11
MW-13-43	05/07/18	72	77	863.82	860.97	79.70	68.06	795.76
MW-13-43	09/04/18	72	77	863.82	860.97	79.71	66.70	797.12
MW-13-43	12/03/18	72	77	863.82	860.97	79.70	64.94	798.88

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Plant 2								
MW-13-44	03/05/18	96	115	864.24	861.03	119.13	74.98	789.26
MW-13-44	05/07/18	96	115	864.24	861.03	119.00	72.73	791.51
MW-13-44	12/03/18	96	115	864.24	861.03	121.20	67.52	796.72
MW-13-45	05/07/18	72	77	863.80	861.54	78.35	67.71	796.09
MW-13-45	12/03/18	72	77	863.80	861.54	78.30	65.41	798.39
MW-13-51	05/07/18	77	87	875.34	872.51	90.50	71.61	803.73
MW-13-51	12/04/18	77	87	875.34	872.51	90.30	70.05	805.29
MW-14-54	05/07/18	14	19	865.21	862.21	19.03	14.05	851.16
MW-14-54	12/03/18	14	19	865.21	862.21	19.07	14.78	850.43
MW-14-55	12/03/18	13	18	864.17	861.73	20.01	17.86	846.31
MW-14-56	05/07/18	71	76	863.27	860.56	78.95	67.55	795.72
MW-14-56	12/03/18	71	76	863.27	860.56	79.10	64.25	799.02
MW-14-57	12/03/18	15	20	863.97	861.10	21.40	14.03	849.94
MW-14-58	05/07/18	22	27	863.12	860.12	29.93	14.29	848.83
MW-14-58	12/03/18	22	27	863.12	860.12	29.94	14.33	848.79
MW-14-59	12/03/18	12	17	864.61	861.80	18.85	7.34	857.27
MW-14-60	05/07/18	15	20	864.65	861.80	23.57	12.78	851.87
MW-14-60	12/03/18	15	20	864.65	861.80	23.60	12.85	851.80
MW-14-61	05/07/18	70	75	865.51	862.30	77.50	69.54	795.97
MW-14-61	12/03/18	70	75	865.51	862.30	77.50	66.57	798.94
MW-14-62	05/07/18	12	17	865.17	862.25	19.63	6.42	858.75
MW-14-62	12/03/18	12	17	865.17	862.25	19.60	6.40	858.77
MW-14-63	05/07/18	68	73	854.64	851.68	76.80	63.47	791.17
MW-14-63	12/03/18	68	73	854.64	851.68	76.70	57.94	796.70
MW-15-72	05/07/18	63	68	865.09	862.35	70.39	59.06	806.03
MW-15-72	09/04/18	63	68	865.09	862.35	70.37	58.73	806.36
MW-15-72	12/04/18	63	68	865.09	862.35	70.35	58.50	806.59
MW-15-73	05/07/18	78	83	861.56	859.12	81.00	69.66	791.90
MW-15-73	09/04/18	78	83	861.56	859.12	81.02	67.18	794.38
MW-15-73	12/03/18	78	83	861.56	859.12	80.90	64.23	797.33
MW-16-74	05/07/18	66	71	864.81	862.10	73.68	67.42	797.39
MW-16-74	09/04/18	66	71	864.81	862.10	73.70	66.41	798.40
MW-16-74	12/03/18	66	71	864.81	862.10	74.10	65.45	799.36
MW-16-75	05/07/18	66	71	864.87	862.13	74.03	62.05	802.82
MW-16-75	09/04/18	66	71	864.87	862.13	74.18	61.39	803.48
MW-16-75	12/03/18	66	71	864.87	862.13	74.10	60.56	804.31
MW-16-76	05/07/18	70	75	867.76	865.12	82.10	62.58	805.18
MW-16-76	12/03/18	70	75	867.76	865.12	82.40	63.17	804.59
MW-16-77	05/07/18	66	71	866.17	863.42	74.02	62.32	803.85
MW-16-77	09/04/18	66	71	866.17	863.42	74.00	61.26	804.91
MW-16-77	12/03/18	66	71	866.17	863.42	74.00	59.75	806.42
MW-16-78	05/07/18	68	73	864.98	862.09	76.20	66.00	798.98
MW-16-78	12/03/18	68	73	864.98	862.09	76.20	63.66	801.32
MW-16-79	05/07/18	68	73	864.80	862.07	75.69	67.87	796.93
MW-16-79	12/03/18	68	73	864.80	862.07	76.00	65.25	799.55
MW-16-80	05/07/18	68	73	853.03	853.41	73.41	61.71	791.32
MW-16-80	12/03/18	68	73	853.03	853.41	73.40	57.10	795.93
MW-16-81	03/05/18	70	75	864.68	862.04	77.38	68.12	796.56
MW-16-81	05/07/18	70	75	864.68	862.04	77.31	67.75	796.93
MW-16-81	09/04/18	70	75	864.68	862.04	77.33	66.85	797.83
MW-16-81	12/03/18	70	75	864.68	862.04	77.25	65.50	799.18

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Plant 2								
MW-16-82	03/05/18	70	75	864.79	862.10	77.21	68.65	796.14
MW-16-82	05/07/18	70	75	864.79	862.10	77.20	67.80	796.99
MW-16-82	09/04/18	70	75	864.79	862.10	77.16	66.90	797.89
MW-16-82	12/03/18	70	75	864.79	862.10	76.80	65.43	799.36
MW-16-83	05/07/18	71	76	862.97	860.17	79.00	69.80	793.17
MW-16-83	12/03/18	71	76	862.97	860.17	79.50	65.01	797.96
MW-16-84	03/05/18	72	77	864.09	861.81	81.19	71.20	792.89
MW-16-84	05/07/18	72	77	864.09	861.81	81.20	70.30	793.79
MW-16-84	09/04/18	72	77	864.09	861.81	81.15	68.58	795.51
MW-16-84	12/03/18	72	77	864.09	861.81	81.15	66.33	797.76
MW-16-85	05/07/18	74	79	864.77	861.87	81.90	71.33	793.44
MW-16-85	12/03/18	74	79	864.77	861.87	82.00	67.34	797.43
MW-17-86	05/07/18	73	78	864.55	861.92	81.40	68.57	795.98
MW-17-86	12/03/18	73	78	864.55	861.92	82.20	65.57	798.98
MW-17-87	05/07/18	100	112	862.82	860.44	114.00	69.98	792.84
MW-17-87	12/03/18	100	112	862.82	860.44	115.20	64.99	797.83
P2-MW-01	12/03/18	31	36	858.00	858.35	35.80	12.82	845.18
P2-MW-02	05/07/18	31	41	872.24	872.70	40.21	37.14	835.10
P2-MW-02	12/04/18	31	41	872.24	872.70	40.20	37.00	835.24
P2-MW-03	05/07/18	27	32	854.18	854.66	27.19	9.58	844.60
P2-MW-03	12/03/18	27	32	854.18	854.66	27.20	9.52	844.66
P2-SB-03	05/07/18	14	19	863.89	861.03	22.10	16.53	847.36
P2-SB-03	12/03/18	14	19	863.89	861.03	22.10	16.37	847.52
P2-SB-06	05/07/18	24	29	866.06	862.09	33.60	18.36	847.70
P2-SB-06	12/03/18	24	29	866.06	862.09	33.60	18.20	847.86
P2-SB-20	05/07/18	8	13	864.46	861.12	16.30	9.08	855.38
P2-SB-20	12/03/18	8	13	864.46	861.12	16.28	9.27	855.19
P2-SB-37	03/08/18	5	10	865.90	861.90	NM	7.01	859.96*
P2-SB-37	05/07/18	5	10	865.90	861.90	NM	7.40	859.71*
P2-SB-37	09/04/18	5	10	865.90	861.90	NM	9.31	857.42*
P2-SB-37	12/03/18	5	10	865.90	861.90	NM	8.31	858.97*
PMW-01	03/08/18	2.59	7.59	860.85	861.33	NM	2.73	859.38*
PMW-01	05/07/18	2.59	7.59	860.85	861.33	NM	3.47	858.92*
PMW-01	09/04/18	2.59	7.59	860.85	861.33	NM	4.95	857.46*
PMW-01	12/03/18	2.59	7.59	860.85	861.33	NM	4.60	858.94*
PMW-02	03/08/18	2.59	7.59	860.94	861.33	NM	0.86	860.26*
PMW-02	05/07/18	2.59	7.59	860.94	861.33	NM	1.28	859.68*
PMW-02	09/04/18	2.59	7.59	860.94	861.33	NM	2.48	858.51*
PMW-03	03/08/18	1.2	6.2	861.59	862.12	6.10	1.56	860.03
PMW-03	05/07/18	1.2	6.2	861.59	862.12	6.10	2.33	859.26
PMW-03	09/04/18	1.2	6.2	861.59	862.12	6.11	3.11	858.48
PMW-03	12/03/18	1.2	6.2	861.59	862.12	6.10	1.65	859.94
PW-14-01	05/14/18	71.6	76.8	864.97	862.38	81.85	63.58	801.39
PW-14-01	09/04/18	71.6	76.8	864.97	862.38	81.85	63.38	801.59
PW-14-01	12/04/18	71.6	76.8	864.97	862.38	91.90	62.41	802.56
PW-14-02	05/07/18	75	80	863.87	860.93	85.00	67.79	796.08
PW-14-02	12/03/18	75	80	863.87	860.93	85.20	64.61	799.26
TW-14-01	05/14/18	70	75	865.08	862.27	78.00	61.05	804.03
TW-14-01	09/04/18	70	75	865.08	862.27	78.10	76.90	788.18
TW-14-01	12/04/18	70	75	865.08	862.27	79.40	74.25	790.83
TW-14-02	05/07/18	67	72	865.01	862.13	74.43	63.42	801.59
TW-14-02	09/04/18	67	72	865.01	862.13	74.60	69.30	795.71
TW-14-02	12/04/18	67	72	865.01	862.13	75.40	59.05	805.96

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Plant 2								
TW-16-01	05/07/18	73	78	861.81	862.16	76.10	61.76	800.05
TW-16-01	09/04/18	73	78	861.81	862.16	77.75	60.87	800.94
TW-16-01	12/04/18	73	78	861.81	862.16	78.90	59.15	802.66
Plant 3								
CH-14-RO	03/05/18	7	12	866.44	863.68	14.84	6.68	859.76
CH-14-RO	05/07/18	7	12	866.44	863.68	14.84	7.55	858.89
CH-14-RO	09/04/18	7	12	866.44	863.68	14.83	8.90	857.54
CH-14-RO	10/01/18	7	12	866.44	863.68	14.84	6.45	859.99
CH-14-RO	12/03/18	7	12	866.44	863.68	14.79	7.02	859.42
LMW-12-09	03/08/18	3	8	863.22	860.40	10.75	3.83	859.39
LMW-12-09	05/07/18	3	8	863.22	860.40	11.76	4.51	858.71
LMW-12-09	09/04/18	3	8	863.22	860.40	10.77	5.15	858.07
LMW-12-09	12/04/18	3	8	863.22	860.40	NM	4.01	859.25*
LMW-12-10	01/25/18	14	19	866.82	863.60	NM	10.95	856.48*
LMW-12-10	02/22/18	14	19	866.82	863.60	NM	10.98	856.54*
LMW-12-10	03/08/18	14	19	866.82	863.60	NM	11.90	855.70*
LMW-12-10	04/28/18	14	19	866.82	863.60	12.15	11.02	855.80
LMW-12-10	05/07/18	14	19	866.82	863.60	NM	11.95	855.59*
LMW-12-10	06/21/18	14	19	866.82	863.60	NM	12.72	854.74*
LMW-12-10	07/20/18	14	19	866.82	863.60	NM	12.48	855.17*
LMW-12-10	08/17/18	14	19	866.82	863.60	NM	11.66	856.17*
LMW-12-10	09/04/18	14	19	866.82	863.60	NM	10.62	856.56*
LMW-12-10	10/21/18	14	19	866.82	863.60	NM	11.39	856.10*
LMW-12-10	11/28/18	14	19	866.82	863.60	NM	11.63	856.04*
LMW-12-10	12/03/18	14	19	866.82	863.60	NM	11.58	856.18*
LMW-12-11	03/08/18	15	20	866.53	863.53	22.84	11.40	855.13
LMW-12-11	05/07/18	15	20	866.53	863.53	22.85	11.80	854.73
LMW-12-11	09/04/18	15	20	866.53	863.53	22.86	13.20	853.33
LMW-12-11	12/03/18	15	20	866.53	863.53	22.90	12.90	853.63
LMW-12-11	12/03/18	15	20	866.53	863.53	NM	12.95	853.64*
MW-02-01(3)	05/07/18	59	69	865.54	863.35	72.11	53.82	811.72
MW-02-01(3)	12/03/18	59	69	865.54	863.35	72.11	53.78	811.76
MW-02-02(3)	05/07/18	74	84	862.70	863.11	83.71	84.83	777.87
MW-02-02(3)	12/03/18	74	84	862.70	863.11	83.71	62.50	800.20
MW-02-03(3)	05/07/18	79	89	859.63	859.90	89.15	61.68	797.95
MW-02-03(3)	12/03/18	79	89	859.63	859.90	89.03	59.46	800.17
MW-02-04(3)	03/05/18	76	86	862.61	862.93	84.09	62.72	799.89
MW-02-04(3)	05/07/18	76	86	862.61	862.93	83.97	61.51	801.10
MW-02-04(3)	09/04/18	76	86	862.61	862.93	84.00	60.40	802.21
MW-02-04(3)	12/03/18	76	86	862.61	862.93	83.98	59.54	803.07
MW-04(3)	10/01/18	10.5	15.5	859.40	859.79	15.72	5.21	854.19
MW-04(3)	12/03/18	10.5	15.5	859.40	859.79	15.70	4.34	855.06
MW-04-02(3)	05/07/18	126	136	861.09	861.26	132.60	63.56	797.53
MW-04-02(3)	12/03/18	126	136	861.09	861.26	133.61	61.51	799.58
MW-04-03(3)	05/07/18	80	90	860.72	861.00	87.35	62.62	798.10
MW-04-03(3)	12/03/18	80	90	860.72	861.00	87.25	60.41	800.31
MW-04-04(3)	05/07/18	72	82	855.72	856.11	81.87	52.22	803.50
MW-04-04(3)	12/03/18	72	82	855.72	856.11	81.41	55.42	800.30
MW-05(3)	10/01/18	10	15	859.02	859.79	15.21	5.04	853.98
MW-06(3)	10/01/18	6.5	11.5	859.52	859.79	11.55	4.03	855.49
MW-06(3)	12/04/18	6.5	11.5	859.52	859.79	10.35	2.60	856.92
MW-12-04	12/04/18	77	100	844.08	844.26	99.89	45.52	798.56

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Plant 3								
MW-12-20	05/07/18	75	80	864.20	861.45	79.48	65.92	798.28
MW-12-20	12/03/18	75	80	864.20	861.45	79.45	63.22	800.98
MW-12-21	05/07/18	70	75	864.50	861.45	78.04	66.18	798.32
MW-12-21	12/03/18	70	75	864.50	861.45	78.04	64.01	800.49
MW-13-22	12/03/18	89	94	864.37	861.50	96.15	64.29	800.08
MW-13-23	12/03/18	69	74	864.31	861.45	77.51	66.48	797.83
MW-13-24	12/03/18	69	74	864.35	861.48	77.33	63.10	801.25
MW-13-25	05/07/18	67	72	863.77	860.49	75.00	68.20	795.57
MW-13-25	12/03/18	67	72	863.77	860.49	74.08	66.80	796.97
MW-13-26	12/03/18	72	77	863.95	861.67	79.17	62.48	801.47
MW-13-27	12/03/18	67	72	864.50	861.54	75.88	67.68	796.82
MW-13-28	05/07/18	99	115.5	864.42	861.61	114.75	68.31	796.11
MW-13-28	12/03/18	99	115.5	864.42	861.61	114.75	64.85	799.57
MW-13-29	12/03/18	68	73	862.81	859.81	76.30	66.19	796.62
MW-13-30	05/07/18	72	77	864.53	861.66	79.80	66.80	797.73
MW-13-30	12/03/18	72	77	864.53	861.66	79.77	64.22	800.31
MW-13-31	05/07/18	5	10	861.27	858.36	12.79	7.05	854.22
MW-13-31	12/03/18	5	10	861.27	858.36	12.80	9.19	852.08
MW-13-32	05/07/18	5	10	860.11	857.32	12.63	5.87	854.24
MW-13-32	12/03/18	5	10	860.11	857.32	12.64	7.78	852.33
MW-13-33	05/07/18	12	17	860.71	857.69	19.19	8.98	851.73
MW-13-33	12/03/18	12	17	860.71	857.69	19.20	11.36	849.35
MW-13-34	05/07/18	74	79	853.92	851.82	79.88	62.23	791.69
MW-13-34	12/03/18	74	79	853.92	851.82	79.97	57.20	796.72
MW-13-35	12/04/18	25	30	864.81	865.23	29.60	23.47	841.34
MW-13-36R	12/03/18	5.5	10.5	878.04	875.28	12.75	4.14	873.90
MW-13-37	09/04/18	97	112	866.02	863.75	114.46	68.67	797.35
MW-13-37	12/04/18	97	112	866.02	863.75	114.39	67.24	798.78
MW-13-38	05/07/18	107	124	866.47	863.71	129.10	70.61	795.86
MW-13-38	09/04/18	107	124	866.47	863.71	126.32	69.56	796.91
MW-13-38	12/04/18	107	124	866.47	863.71	128.35	68.20	798.27
MW-13-39B	12/03/18	97	112	860.20	857.33	104.40	61.92	798.28
MW-13-41	05/07/18	77	82	866.38	863.68	84.69	63.47	802.91
MW-13-41	12/04/18	77	82	866.38	863.68	84.71	62.05	804.33
MW-13-46	05/07/18	68	73	854.54	852.12	74.63	61.55	792.99
MW-13-46	12/03/18	68	73	854.54	852.12	74.60	57.56	796.98
MW-13-47	05/07/18	99	119	853.74	851.89	113.65	61.26	792.48
MW-13-47	12/03/18	99	119	853.74	851.89	113.61	56.41	797.33
MW-13-48	05/07/18	65	70	854.83	852.17	73.07	60.09	794.74
MW-13-48	12/03/18	65	70	854.83	852.17	72.98	58.47	796.36
MW-13-49	05/07/18	73	78	853.01	850.55	81.64	62.17	790.84
MW-13-49	12/03/18	73	78	853.01	850.55	82.12	57.05	795.96
MW-14-64	05/07/18	98.6	103.6	864.56	861.77	106.58	67.87	796.69
MW-14-64	12/03/18	98.6	103.6	864.56	861.77	106.32	64.47	800.09
MW-14-65	10/01/18	5	10	866.34	863.71	13.23	6.25	860.09
MW-14-65	12/03/18	5	10	866.34	863.71	13.20	6.37	859.97
MW-15-71	12/03/18	110	115	864.56	861.58	118.21	63.71	800.85
MW-18-88	09/04/18	6	11	863.7	860.93	15.06	7.09	856.61
MW-18-88	10/01/18	6	11	863.7	860.93	15.03	5.19	858.51
MW-18-88	12/03/18	6	11	863.7	860.93	15.02	3.69	860.01
MW-18-89	09/04/18	7	12	866.53	863.51	15.68	8.83	857.70
MW-18-89	10/01/18	7	12	866.53	863.51	15.65	6.05	860.48
MW-18-89	12/03/18	7	12	866.53	863.51	15.60	7.57	858.96

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Plant 3								
MW-18-90	09/04/18	15	20	866.53	863.51	23.24	11.66	854.87
MW-18-90	10/01/18	15	20	866.53	863.51	23.28	10.25	856.28
MW-18-90	12/03/18	15	20	866.53	863.51	23.15	10.09	856.44
MW-18-91	09/04/18	7	12	865.94	863.43	15.10	8.14	857.80
MW-18-91	10/01/18	7	12	865.94	863.43	15.08	3.59	862.35
MW-18-91	12/03/18	7	12	865.94	863.43	15.04	5.78	860.16
MW-18-92	09/04/18	23	28	870.43	869.08	30.13	20.17	850.26
MW-18-92	10/01/18	23	28	870.43	869.08	30.12	20.77	849.66
MW-18-92	12/03/18	23	28	870.43	869.08	30.09	17.10	853.33
MW-19	05/07/18	55	65	859.74	859.92	64.38	52.85	806.89
MW-19	12/04/18	55	65	859.74	859.92	64.21	51.84	807.90
MW-22	05/07/18	52.5	62.5	859.69	860.08	63.42	52.01	807.68
MW-22	12/04/18	52.5	62.5	859.69	860.08	63.43	50.85	808.84
MW-23	05/07/18	52	62	859.45	859.76	61.34	51.28	808.17
MW-23	12/04/18	52	62	859.45	859.76	61.35	50.40	809.05
MW-88-1	12/03/18	103.5	140	858.75	859.06	137.21	63.53	795.22
MW-91-2	03/05/18	68	78	863.62	863.88	76.66	60.40	803.22
MW-91-2	05/07/18	68	78	863.62	863.88	76.58	59.93	803.69
MW-91-2	09/04/18	68	78	863.62	863.88	76.58	59.18	804.44
MW-91-2	12/03/18	68	78	863.62	863.88	76.60	58.16	805.46
MW-91-3	05/07/18	105	117	860.81	859.35	119.05	67.40	793.41
MW-91-3	12/04/18	105	117	860.81	859.35	120.00	64.54	796.27
MW-91-4	05/07/18	116	132.5	855.59	855.93	132.28	58.32	797.27
MW-91-4	12/03/18	116	132.5	855.59	855.93	130.60	56.51	799.08
MW-91-5	05/07/18	112.5	128	860.61	861.20	127.15	62.35	798.26
MW-91-5	12/03/18	112.5	128	860.61	861.20	127.05	59.44	801.17
MW-91-6	05/07/18	82	98	851.84	852.22	95.56	58.82	793.02
MW-91-6	12/03/18	82	98	851.84	852.22	95.34	54.19	797.65
MW-93-1	12/03/18	65	75	866.05	863.56	70.13	65.26	800.79
P3-SB-07	10/01/18	11	16	866.84	863.63	19.64	8.12	858.72
P3-SB-07	12/03/18	11	16	866.84	863.63	19.61	9.18	857.66
P3-SB-28	05/07/18	8	13	866.43	863.63	10.26	6.01	860.42
P3-SB-28	10/01/18	8	13	866.43	863.63	10.36	3.69	862.74
P3-SB-28	12/03/18	8	13	866.43	863.63	10.35	5.51	860.92
PW-14-03	05/07/18	85	90	864.31	861.55	95.80	69.68	794.63
PW-14-03	12/03/18	85	90	864.31	861.55	94.30	65.78	798.53
UNK-09	10/01/18	11	16	859.42	860.02	15.28	2.33	857.09
UNK-09	12/04/18	11	16	859.42	860.02	15.28	0.50	858.92
UNK-10	10/01/18	11	16	859.34	860.05	15.35	2.88	856.46
UNK-10	12/04/18	11	16	859.34	860.05	15.28	1.01	858.33
UNK-11	05/07/18	6.5	11.5	859.91	860.17	11.75	4.39	855.52
UNK-11	12/03/18	6.5	11.5	859.91	860.17	11.81	3.71	856.20
UNK-13	03/08/18	11	16	859.11	859.91	15.00	3.90	855.21
UNK-13	05/07/18	11	16	859.11	859.91	14.98	4.38	854.73
UNK-13	09/04/18	11	16	859.11	859.91	14.97	4.36	854.75
UNK-13	12/04/18	11	16	859.11	859.91	14.98	3.82	855.29
UNK-14	03/08/18	10.4	15.4	859.32	859.70	NM	4.08	856.60*
UNK-14	05/07/18	10.4	15.4	859.32	859.70	NM	4.30	856.38*
UNK-14	09/04/18	10.4	15.4	859.32	859.70	NM	5.46	855.13*
UNK-14	12/04/18	10.4	15.4	859.32	859.70	15.62	2.18	857.14
UNK-15	10/01/18	11	16	859.56	859.94	15.66	2.72	856.84
UNK-15	12/04/18	11	16	859.56	859.94	15.67	2.22	857.34

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Plant 6								
B-BP-16	12/03/18	7	12	869.38	869.63	11.70	6.35	863.03
MW-02-01(6)	12/03/18	35	45	865.54	863.35	40.65	27.08	838.46
MW-02-02(6)	12/03/18	35	45	868.04	868.41	44.15	29.25	838.79
MW-02-03(6)	12/03/18	35	45	869.54	869.97	45.20	30.13	839.41
MW-03-02	05/07/18	30	40	864.52	864.76	39.25	22.04	842.48
MW-03-04	05/15/18	33	43	865.28	865.53	42.65	22.06	843.22
MW-03-04	12/03/18	33	43	865.28	865.53	43.30	22.18	843.10
MW-03-05	12/03/18	35	45	868.90	869.14	48.55	24.34	844.56
MW-03-06	05/07/18	30	40	870.45	870.80	40.55	36.23	834.22
MW-03-06	12/03/18	30	40	870.45	870.80	41.40	36.10	834.35
MW-03-07	12/03/18	30	40	866.88	867.02	41.10	25.67	841.21
MW-04-01(6)	05/07/18	78	88	866.85	867.15	88.85	71.12	795.73
MW-04-01(6)	12/03/18	78	88	866.85	867.15	89.50	67.90	798.95
MW-04-04R	05/07/18	82	110	873.31	870.64	111.08	76.90	796.41
MW-04-04R	09/04/18	82	110	873.31	870.64	111.05	75.29	798.02
MW-04-04R	12/03/18	82	110	873.31	870.64	117.10	73.66	799.65
MW-04-05(6)	05/07/18	20	30	858.33	858.87	29.64	9.95	848.38
MW-04-05(6)	12/03/18	20	30	858.33	858.87	29.75	9.11	849.22
MW-04-06R	05/07/18	74	99.5	861.56	858.59	77.95	66.18	795.38
MW-04-06R	09/04/18	74	99.5	861.56	858.59	77.95	64.47	797.09
MW-04-06R	12/03/18	74	99.5	861.56	858.59	65.90	65.90	795.66
MW-12-03	12/03/18	57	80	859.10	856.71	86.45	61.14	797.96
MW-12-10R	09/04/18	10	15	862.29	858.92	17.97	12.24	850.05
MW-12-10R	12/03/18	10	15	862.29	858.92	17.97	9.83	852.46
MW-12-11	05/07/18	13	18	857.26	857.68	16.80	3.15	854.11
MW-12-11	09/04/18	13	18	857.26	857.68	16.78	9.48	847.78
MW-12-11	12/03/18	13	18	857.26	857.68	16.80	6.37	850.89
MW-12-12	05/07/18	13	18	874.34	874.61	17.20	7.26	867.08
MW-12-12	12/03/18	13	18	874.34	874.61	17.21	5.59	868.75
MW-12-13	05/07/18	18.5	23.5	882.60	880.51	25.40	10.23	872.37
MW-12-13	12/03/18	18.5	23.5	882.60	880.51	25.60	9.67	872.93
MW-12-14	09/04/18	25	30	872.56	869.28	32.04	25.54	847.02
MW-12-14	12/03/18	25	30	872.56	869.28	32.15	25.67	846.89
MW-12-15	05/07/18	18	23	865.23	865.49	22.65	19.76	845.47
MW-12-15	05/14/18	18	23	865.23	865.49	22.65	19.48	845.75
MW-12-15	12/04/18	18	23	865.23	865.49	22.83	19.67	845.56
MW-12-16	05/07/18	28	33	864.24	864.73	32.10	23.05	841.19
MW-12-16	12/04/18	28	33	864.24	864.73	32.55	22.74	841.50
MW-13-35	05/07/18	25	30	864.81	865.23	29.50	23.80	841.01
MW-13-36R	05/07/18	5.5	10.5	878.04	875.28	12.80	6.36	871.68
MW-13-50	05/07/18	85	107	872.85	869.93	110.00	76.69	796.16
MW-13-50	12/04/18	85	107	872.85	869.93	112.00	72.94	799.91
MW-13-52	05/07/18	70	80	872.50	869.84	81.40	69.82	802.68
MW-13-52	05/14/18	70	80	872.50	869.84	81.43	69.55	802.95
MW-13-52	12/04/18	70	80	872.50	869.84	81.60	68.81	803.69
MW-13-53	05/07/18	73	83	875.56	873.10	85.50	75.02	800.54
MW-13-53	05/14/18	73	83	875.56	873.10	85.44	74.69	800.87
MW-13-53	12/04/18	73	83	875.56	873.10	86.00	72.85	802.71
MW-14-66	05/07/18	14	19	877.85	874.73	22.20	5.18	872.67
MW-14-66	09/04/18	14	19	877.85	874.73	22.22	5.85	872.00
MW-14-66	12/03/18	14	19	877.85	874.73	22.22	4.51	873.34
MW-14-67	05/07/18	13	18	877.76	875.07	20.85	5.92	871.84
MW-14-67	12/03/18	13	18	877.76	875.07	20.85	5.06	872.70
MW-14-68	12/03/18	36	41	878.44	875.42	44.60	44.60	833.84

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Plant 6								
MW-14-69	12/03/18	41	46	883.62	880.72	49.90	49.90	833.72
MW-14-70	05/07/18	16	21	882.79	880.08	23.11	10.53	872.26
MW-14-70	12/03/18	16	21	882.79	880.08	23.15	10.00	872.79
MWBP-10-UST1-4	12/03/18	15	25	868.07	868.53	11.45	4.65	863.42
MWBP-10-UST5-6	05/07/18	28	38	867.70	867.99	36.85	30.51	837.19
MWBP-10-UST5-6	05/14/18	28	38	867.70	867.99	36.83	30.28	837.42
MWBP-10-UST5-6	12/04/18	28	38	867.70	867.99	36.85	30.33	837.37
MWBP-11-UST1-4	05/07/18	9	19	868.66	869.07	11.20	2.75	865.91
MWBP-11-UST1-4	12/04/18	9	19	868.66	869.07	11.25	2.07	866.59
MWBP-12A-UST1-4	05/07/18	28	38	869.74	869.96	36.65	29.09	840.65
MWBP-12A-UST1-4	12/03/18	28	38	869.74	869.96	37.25	28.35	841.39
MWBP-12-UST1-4	05/07/18	15	25	870.02	870.58	11.25	9.11	860.91
MWBP-12-UST1-4	12/03/18	15	25	870.02	870.58	11.30	7.12	862.90
MWBP-13A-UST1-4	05/07/18	28	38	869.99	870.10	38.00	32.34	837.65
MWBP-13A-UST1-4	05/15/18	28	38	869.99	870.10	38.00	31.96	838.03
MWBP-13A-UST1-4	12/04/18	28	38	869.99	870.10	38.50	32.17	837.82
P6-MW-01	12/03/18	23	28	870.10	866.87	31.25	28.55	841.55
P6-SB-07	12/03/18	15	20	877.36	874.36	23.65	5.65	871.71
P6-SB-18	12/03/18	3	8	878.46	874.60	12.15	4.22	874.24
P6-SB-21	05/07/18	3	8	874.20	870.92	11.11	2.90	871.30
P6-SB-21	12/03/18	3	8	874.20	870.92	11.10	2.40	871.80
P6-SB-35	05/07/18	3	8	877.76	874.28	11.96	4.61	873.15
P6-SB-35	12/03/18	3	8	877.76	874.28	11.97	3.79	873.97
P6-SB-37	12/03/18	5	10	878.12	874.32	13.92	4.27	873.85
SME-MW-02	12/03/18	33	38	869.30	NS	38.00	32.70	836.60
UNK-03	12/03/18	7	12	868.85	869.14	11.82	4.70	864.15

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Notes:

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

bgs = below ground surface

LNAPL = light nonaqueous phase liquid

msl = mean sea level

NM = not collected or not available

NS = not surveyed

RACER = Revitalizing Auto Communities Environmental Response

TOC = top of casing

Table 6
Bedrock Vertical Gradients
2018 Annual Groundwater Monitoring Report
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		Screen (feet belowgrade)			Reference Elevation (feet amsl)	Groundwater Elevation 12/03/18-12/04/18 (feet amsl)	Vertical Gradient (ft/ft)	Formation
		Top	Bottom	Mid-point				
Plant 2								
MW-14-63	W. Bedrock	68	73	70.5	854.64	796.70	0.01	GR Fm
MW-12-02	Bedrock	87	110	98.5	853.91	796.41		
MW-13-43	W. Bedrock	72	77	74.5	863.82	798.88	0.07	Sag Fm
MW-13-44	Bedrock	96	115	105.5	864.24	796.72		
MW-14-61	W. Bedrock	70	75	72.5	865.51	798.94	0.07	Sag Fm
MW-12-06	Bedrock	80.6	99.5	90.1	864.64	797.68		
MW-15-72	W. Bedrock	63	68	65.5	865.09	806.59	0.22	Sag Fm
MW-12-05R	Bedrock	100	112	106.0	864.79	797.50		
Plant 3								
MW-13-22	W. Bedrock	89	94	91.5	864.37	800.08	0.03	GR Fm
MW-13-28	Bedrock	99	115.5	107.3	864.42	799.57		
MW-13-46	W. Bedrock	68	73	70.5	854.54	796.98	0.03	GR Fm
MW-91-6	Bedrock	82	98	90	851.84	797.65		
MW-04-03(3)	Deep Overburden	80	90	85	860.72	800.31	0.02	GR Fm
MW-04-02(3)	Bedrock	126	136	131	861.09	799.58		
MW-04-04(3)	Deep Overburden	72	82	77	855.72	800.30	0.03	GR Fm
MW-91-4	Bedrock	116	132.5	124.3	855.59	799.08		
MW-13-41	Deep Overburden	77	82	79.5	866.38	804.33	0.17	Sag Fm
MW-13-38	Bedrock	107	124	115.5	866.47	798.27		
Plant 6								
MW-13-52	W. Bedrock	70	80	75	872.50	803.69	0.18	Sag Fm
MW-13-50	Bedrock	85	107	96	872.85	799.91		

Notes:

ft/ft = foot per foot
 GR Fm = Grand River Formation
 amsl = above mean sea level
 RACER = Revitalizing Auto Communities Environmental Response
 Sag Fm = Saginaw Formation
 W. Bedrock = weathered bedrock

Vertical Gradient Geometric Mean Sag Fm 0.13
 Vertical Gradient Geometric Mean GR Fm 0.02

Table 7
Mann-Kendall Trend Test Results
2018 Annual Groundwater Monitoring Report
RACER Trust Plants 2, 3, and 6
Lansing, Michigan

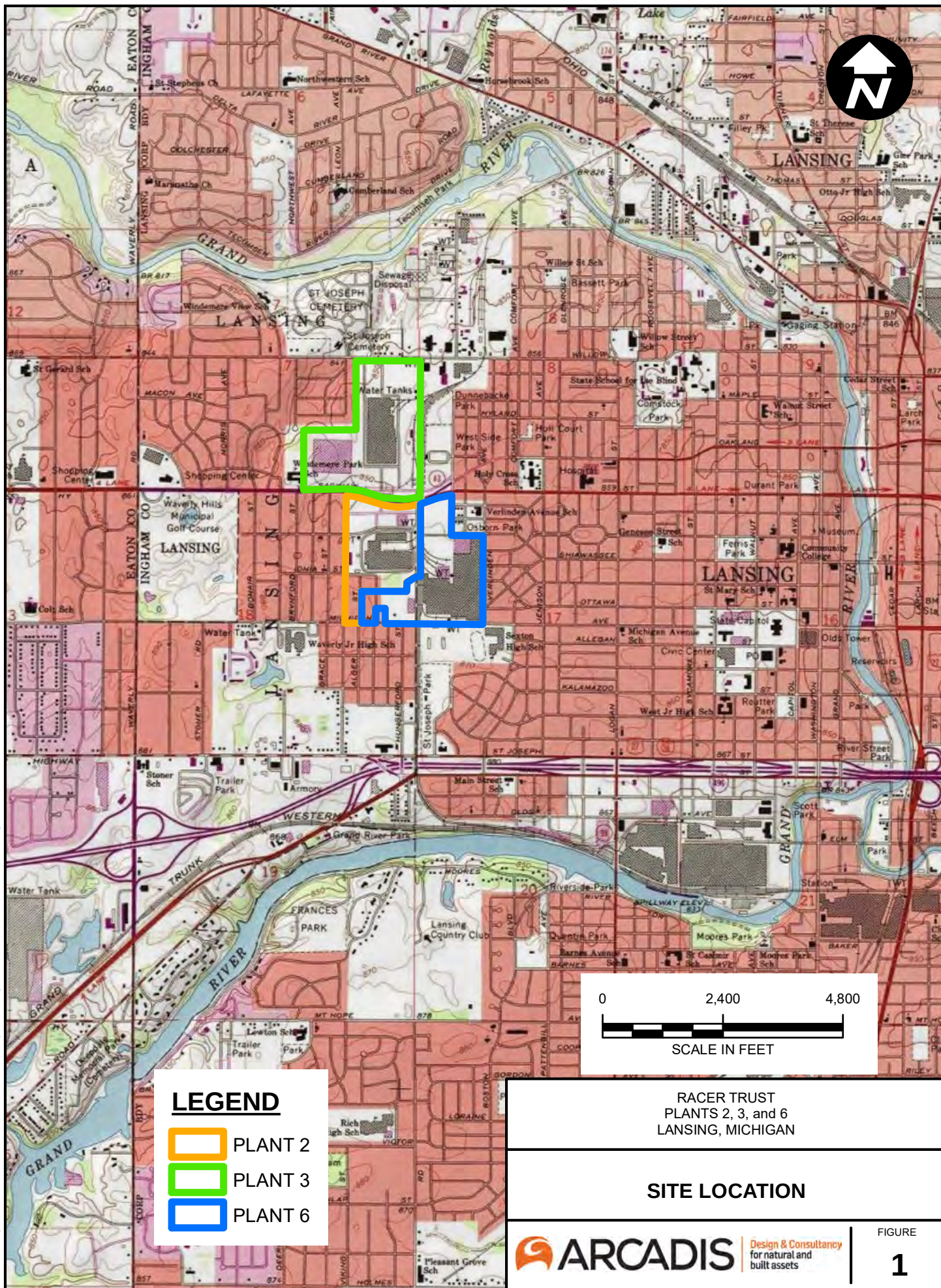


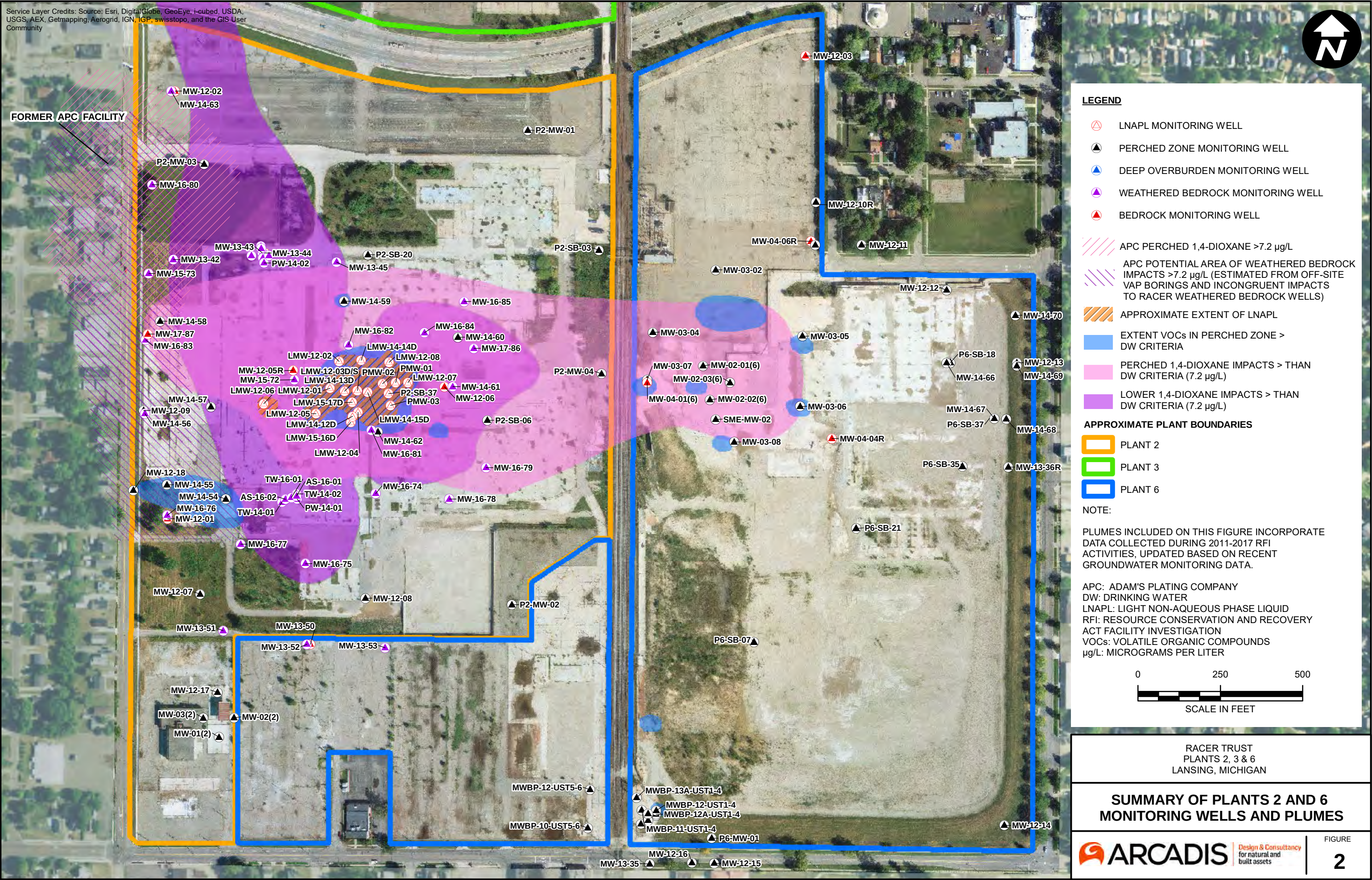
Analyte	Well ID	Start Date	End Date	Most Recent Result	Recent Result Units	Sample Size (n)	Minimum Result	Maximum Result	Standard Deviation	Arithmetic Mean	Geometric Mean	Sum of Trend (S)	Probability (p)	Result	% of Detects
Perched															
Metals															
Arsenic	MW-03(2)	10/18/2011	05/10/2018	<0.002	mg/L	14	<0.002	0.015	4.62E-03	0.007	0.005	12	0.2691	NO TREND	82.35%
Arsenic	MW-03-06	11/07/2011	05/15/2018	0.008	mg/L	12	0.005	0.033	8.93E-03	0.017	0.014	15	0.1680	NO TREND	100.00%
Arsenic	MW-12-11	12/18/2012	12/04/2018	0.014	mg/L	15	<0.002	0.062	0.0145	0.012	8.29E-03	19	0.1846	NO TREND	93.75%
Arsenic	MW-12-16	12/18/2012	12/10/2018	0.013	mg/L	14	0.011	0.051	0.0114	0.022	0.020	16	0.2038	NO TREND	100.00%
Arsenic	MW-13-35	09/20/2013	12/10/2018	0.002	mg/L	14	<0.002	0.012	3.18E-03	0.004	0.003	-55	0.0012	DECREASING TREND	73.68%
Arsenic	MWBP-10-UST5-6	10/07/2011	12/03/2018	0.017	mg/L	17	<0.002	0.051	0.0137	0.012	0.007	90	0.0001	INCREASING TREND	85.00%
Arsenic	MWBP-12-UST1-4	10/18/2011	05/11/2018	0.015	mg/L	12	0.006	0.018	3.98E-03	0.013	0.013	8	0.3137	NO TREND	100.00%
Copper	MW-13-31	08/22/2013	12/07/2018	0.017	mg/L	18	<0.005	0.266	0.0712	0.040	0.015	-27	0.1605	NO TREND	90.00%
Copper	MW-13-32	08/27/2013	12/07/2018	0.012	mg/L	18	<0.005	0.067	0.0166	0.018	0.013	-69	0.0011	DECREASING TREND	88.89%
Nickel	MW-12-11	12/18/2012	12/04/2018	0.013	mg/L	15	<0.005	0.493	0.126	0.071	0.029	-9	0.3461	NO TREND	93.75%
Nickel	MW-12-12	12/18/2012	12/06/2018	0.016	mg/L	16	0.007	1.15	0.333	0.204	0.065	-14	0.2792	NO TREND	100.00%
Nickel	MW-12-18	12/19/2012	05/09/2018	<0.005	mg/L	6	<0.005	0.104	0.0456	0.037	0.017	-13	0.0083	DECREASING TREND	85.71%
Nickel	MW-13-31	08/22/2013	12/07/2018	0.209	mg/L	18	0.013	20.7	4.863	1.469	0.087	17	0.2722	NO TREND	100.00%
Nickel	MW-13-32	08/27/2013	12/07/2018	0.761	mg/L	18	0.043	4.66	1.214	1.326	0.851	-17	0.2722	NO TREND	100.00%
Vanadium	MW-13-36R	12/18/2013	12/07/2018	0.011	mg/L	15	<0.005	0.027	5.53E-03	0.011	0.010	13	0.2747	NO TREND	93.75%
Volatile Organic Compounds															
1,4-Dioxane	MW-14-58	09/17/2014	12/05/2018	78	µg/L	11	14	78	20.5	46.091	41.140	14	0.1550	NO TREND	100.00%
Benzene	MWBP-12-UST1-4	10/18/2011	12/07/2018	6	µg/L	12	<1	157	57.5	45.417	13.353	40	0.0034	INCREASING TREND	80.00%
Weathered Bedrock and Deep Overburden															
Metals															
Arsenic	MW-13-41	12/17/2013	05/11/2018	0.011	mg/L	10	0.011	0.024	4.35E-03	0.018	0.017	-4	0.3980	NO TREND	100.00%
Nickel	MW-14-56	09/18/2014	05/08/2018	0.022	mg/L	6	0.021	0.683	0.315	0.241	0.091	-5	0.2350	NO TREND	100.00%
Volatile Organic Compounds															
1,4-Dioxane	MW-12-21	02/08/2013	12/11/2018	251	µg/L	15	<5	510	142	330.067	252.156	-49	0.0086	DECREASING TREND	93.75%
1,4-Dioxane	MW-13-22	03/28/2013	12/12/2018	160	µg/L	15	52	270	65.9	170.333	154.633	1	0.5000	NO TREND	100.00%
1,4-Dioxane	MW-13-25	04/02/2013	12/04/2018	3	µg/L	16	3	25	6.32	12.563	10.856	24	0.1492	NO TREND	88.89%
1,4-Dioxane	MW-13-29	04/23/2013	12/10/2018	16	µg/L	12	15	130	31.5	32.333	26.027	-43	0.0019	DECREASING TREND	100.00%
1,4-Dioxane	MW-13-34	08/20/2013	12/11/2018	70	µg/L	15	17	99	20.7	62.133	58.043	58	0.0024	INCREASING TREND	100.00%
1,4-Dioxane	MW-13-41	12/17/2013	12/10/2018	18	µg/L	11	11	19	3.38	14.273	13.918	6	0.3429	NO TREND	100.00%
1,4-Dioxane	MW-13-43	12/13/2013	12/11/2018	320	µg/L	18	220	360	40.7	287.778	285.086	7	0.4097	NO TREND	100.00%
1,4-Dioxane	MW-13-45	12/13/2013	12/07/2018	52	µg/L	17	<3	56	14.8	42.000	36.642	66	0.0037	INCREASING TREND	94.44%
1,4-Dioxane	MW-13-48	12/19/2013	12/11/2018	117	µg/L	16	34	380	96	176.063	146.981	39	0.0434	INCREASING TREND	100.00%
1,4-Dioxane	MW-14-56	09/18/2014	12/06/2018	14	µg/L	15	<5	14	2.19	7.733	7.493	50	0.0063	INCREASING TREND	88.24%
1,4-Dioxane	MW-14-61	09/19/2014	12/10/2018	142	µg/L	10	<3	142	42.81	21.900	9.138	1	0.5000	NO TREND	76.92%
1,4-Dioxane	MW-15-72	03/16/2016	12/05/2018	290	µg/L	10	135	300	50.4	243.500	237.854	16	0.0930	INCREASING TREND	100.00%
1,4-Dioxane	MW-15-73	03/15/2016	12/05/2018	11	µg/L	8	<3	11	2.4	5.875	5.495	18	0.0160	INCREASING TREND	80.00%
1,4-Dioxane	MW-16-80	06/28/2016	12/05/2018	27	µg/L	7	<3	46	12.8	25.286	20.375	2	0.4430	NO TREND	87.50%
1,4-Dioxane	MW-16-81	06/28/2016	12/11/2018	2,100	µg/L	11	100	2,100	630	746.364	518.741	35	0.0041	INCREASING TREND	100.00%
1,4-Dioxane	MW-16-84	09/23/2016	12/10/2018	77	µg/L	10	29	77	14.01	49.800	48.012	30	0.0035	INCREASING TREND	100.00%
1,4-Dioxane	MW-17-86	04/25/2017	12/10/2018	75	µg/L	4	11	75	27.10	39.750	32.031	6	0.0420	INCREASING TREND	100.00%
1,4-Dioxane	PW-14-02	09/18/2014	12/11/2018	240	µg/L	11	103	580	143	289.364	260.725	-13	0.1736	NO TREND	100.00%
1,4-Dioxane	PW-14-03	09/18/2014	12/11/2018	378	µg/L	11	77	530	138	356.818	317.718	22	0.0505	INCREASING TREND	100.00%

Notes:
mg/L = milligrams per liter
n = number of samples
p = Indication of statistical significance of trend direction. Concentration trends considered statistically significant at p-values less than 0.1 (90% confidence level).
RACER = Revitalizing Auto Communities Environmental Response
% = percent
< = less than
S = Mann-Kendall test statistic. Sign indicates trend direction.
µg/L = micrograms per liter

FIGURES

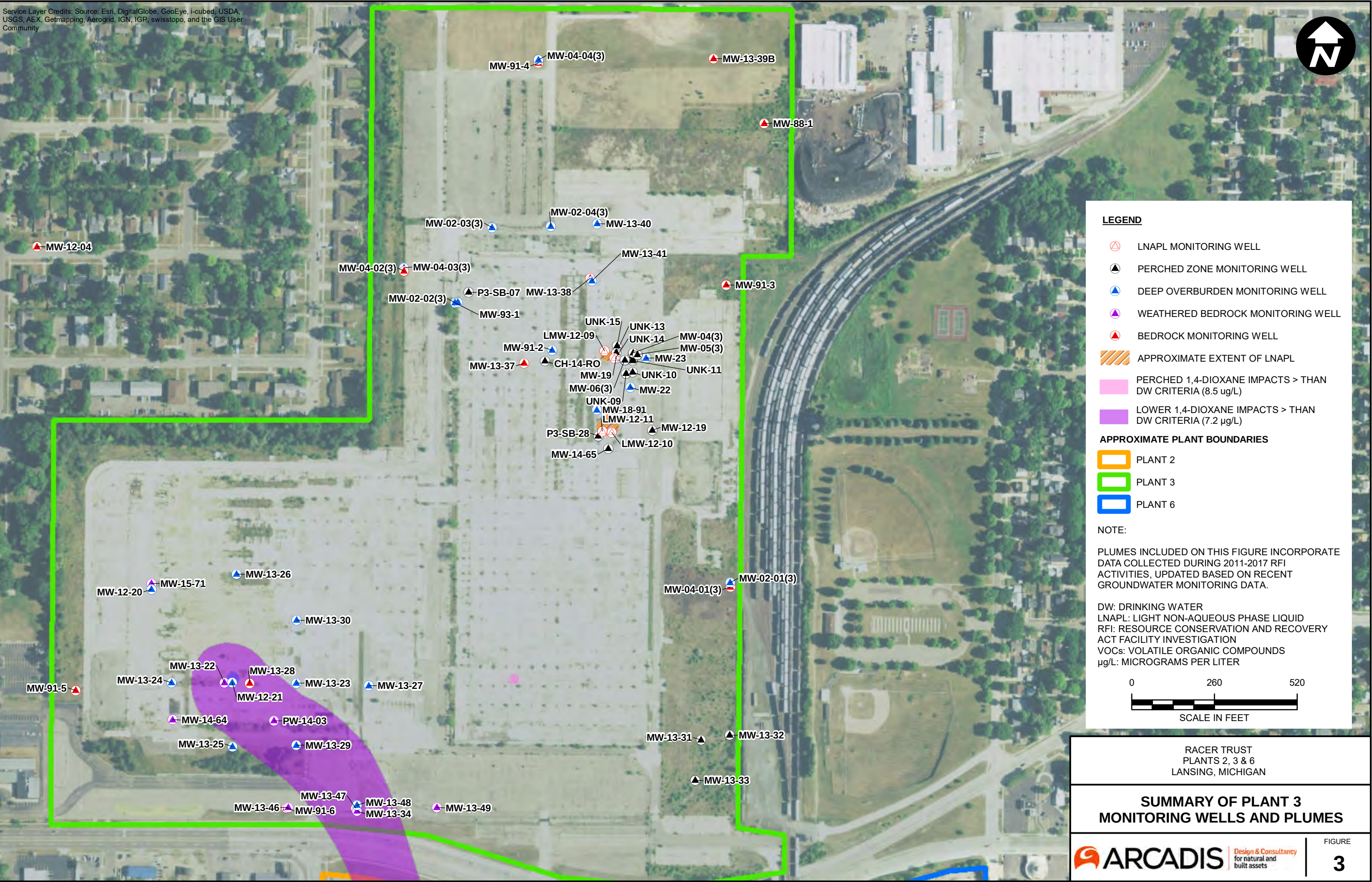


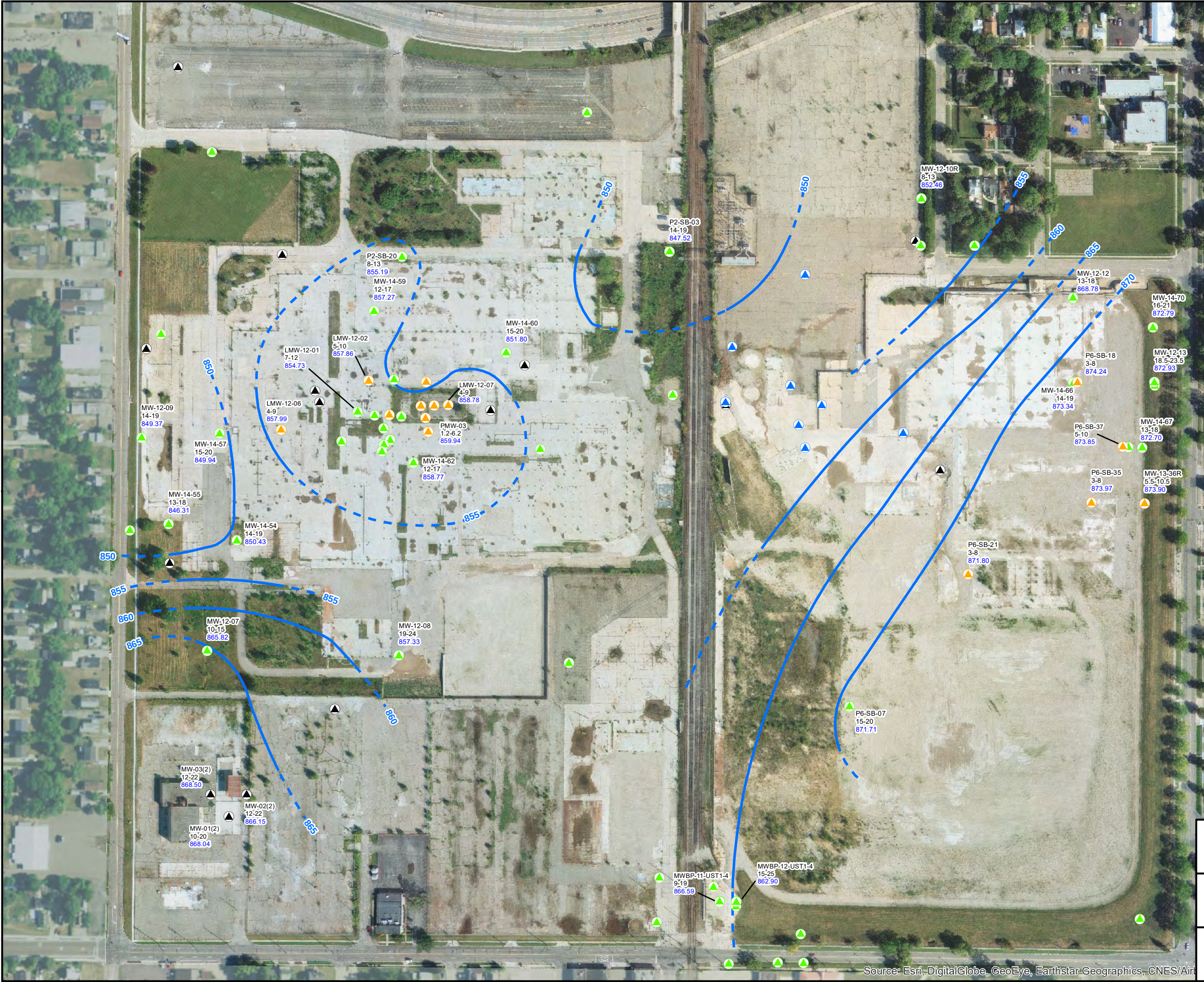




DIV: ENV DB: A.SMITH PIC: J. Barrett CPM: R. Christensen TM: A. Vilhauer TR: PROJECT NUMBER: B0064479.2019 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl
Z:\GIS\Projects\ENV\RACER_Lansing\Docs\2018 Annual Report\Revised_20190419\FIG 3 P3 Monitoring Wells 04172019.mxd PLOTTED: 4/19/2019 1:38:59 PM BY: iyarbrough

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community





LEGEND

MONITORING WELL / STRATIGRAPHIC UNIT

SHALLOW SAND / FILL

INTERBEDDED ZONE

GLACIAL TILL

BEDROCK WELL

GROUNDWATER ELEVATION CONTOUR (FT MSL)

GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

NOTES:

1. DEPTH TO WATER MEASUREMENTS WERE TAKEN DECEMBER 2018 AND WERE COLLECTED FROM THE TOP OF THE WELL CASING

2. WELL LABELING:
WELL NAME
WELL SCREEN (FT BGS)
GROUNDWATER ELEVATION 12/03-04/18 (FT MSL)

3. LNAPL MONITORING WELLS CORRECTED FOR PRESENCE OF LNAPL

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

ASTERISK (*): GROUNDWATER ELEVATIONS HAVE BEEN CORRECTED FOR THE PRESENCE OF LNAPL USING A MEASURED LNAPL DENSITY OF 0.8995 GRAMS PER MILLILITER.
DOUBLE ASTERISK (**): PERCHED MONITORING WELL NOT USED FOR CONTOURING DUE TO SCREENED INTERVAL.
BGS: BELOW GROUND SURFACE
FT: FEET
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
MSL: MEAN SEA LEVEL

0240480

SCALE IN FEET

RACER TRUST
LANSING, MICHIGAN
PLANTS 2, 3 & 6

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

ARCADIS Design & Consultancy
for natural and
built assets

FIGURE

4



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Air



LEGEND

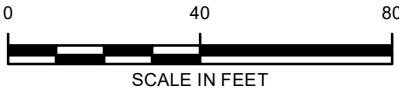
MONITORING WELL / STRATIGRAPHIC UNIT

- SHALLOW SAND / FILL
- INTERBEDDED ZONE
- GLACIAL TILL
- BEDROCK WELL
- NO LOG
- GROUNDWATER ELEVATION CONTOUR (FT MSL)
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)

NOTES:

1. DEPTH TO WATER MEASUREMENTS WERE TAKEN DECEMBER 2018 AND WERE COLLECTED FROM THE TOP OF THE WELL CASING.
2. WELL LABELING:
WELL NAME
WELL SCREEN (FT BGS)
GROUNDWATER ELEVATION 12/03-04/18 (FT MSL)
3. LNAPL MONITORING WELLS CORRECTED FOR PRESENCE OF LNAPL
4. GROUNDWATER CONTOURS ONLY CONSIDER MONITORING WELLS INSTALLED <= 25 FEET BELOW GRADE

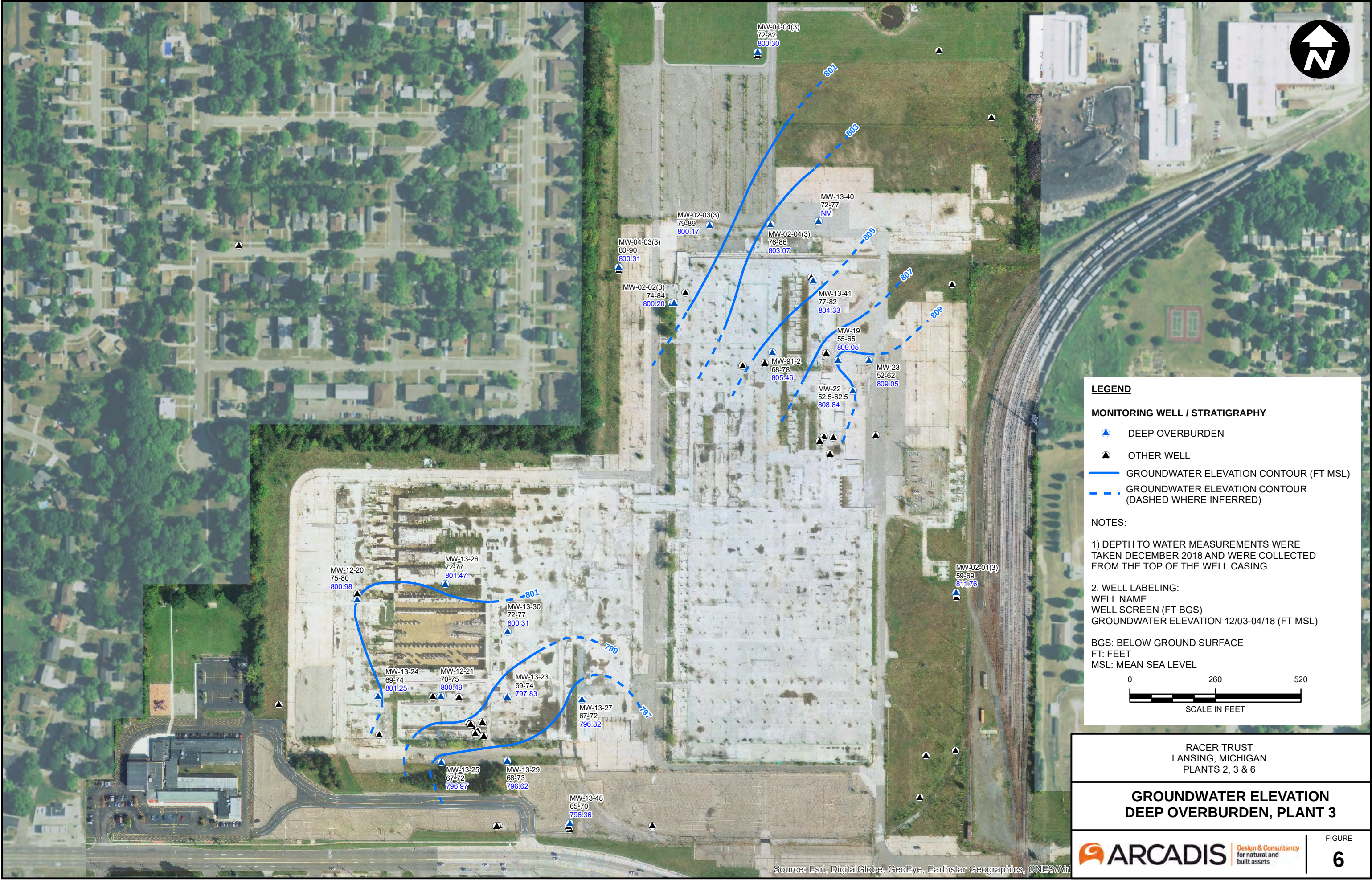
BGS: BELOW GROUND SURFACE
FT: FEET
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
ASTERISK (*): GROUNDWATER ELEVATIONS HAVE BEEN CORRECTED FOR THE PRESENCE OF LNAPL USING A MEASURED LNAPL DENSITY OF 0.8995 G/ML
MSL: MEAN SEA LEVEL
NM: NOT MEASURED



RACER TRUST
LANSING, MICHIGAN
PLANTS 2, 3 & 6

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







CITY: KNOXVILLE DIV: ENV DB: A. SMITH PIC: PM: R. Christensen TM: A. Villhauer TR: P. Curry PROJECT NUMBER: B0064479.2018 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl Z:\GISProjects\ENV\RACER_Lansing\Docs\2018 Annual Report\Revised_20190419\FIG 7 BR GW ContourDec2018_RevApr2019.mxd PLOTTED: 4/26/2019 1:55:48 PM BY: tyarbrough

NOTES:

Monitoring wells located in the Saginaw Formation are corrected for an average vertical gradient of 0.13 (ft/ft, downward).

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

(B) - Baseline well (deepest well)

NU - Groundwater elevation not used in contour map creation.

793.41/789.50 - Uncorrected GW Elev / Corrected GW Elev

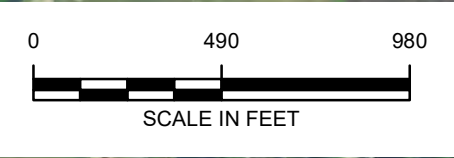
Groundwater elevation measurements collected from well top of casing on December 2018.

Elevation is given in feet above mean sea level.

Elev: elevation
ft: feet
GW: groundwater
MSL: Mean Sea Level
µg/L: micrograms per liter

LEGEND

- GROUNDWATER ELEVATION CONTOUR (FT MSL)
- APPROXIMATE LOCATION OF GROUNDWATER ELEVATION CONTOUR (FT MSL)
- APPROXIMATE LOCATION OF GRAND RIVER/SAGINAW FORMATION GEOLOGIC CONTACT
- BEDROCK MONITORING WELL



RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

BEDROCK GROUNDWATER
ELEVATION SUMMARY
DECEMBER 2018



FIGURE

7



NOTES:

FIGURE INCLUDES ONLY MONITORING WELLS THAT WERE UTILIZED FOR THE MANN-KENDALL ANALYSIS.

* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:

- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA
- EITHER AN INCREASING TREND WAS IDENTIFIED DURING THE PREVIOUS ANALYSIS, THE WELL IS LOCATED AT THE PROPERTY BOUNDARY, OR THE TREND HAS NOT BEEN ANALYZED PREVIOUSLY DUE TO INSUFFICIENT DATA.

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

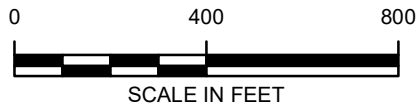
APC: ADAM'S PLATING COMPANY
COC: CONSTITUENT OF CONCERN
DW: DRINKING WATER
GW: GROUNDWATER
LNAPL: LIGHT NON-AQUEOUS PHASE LIQUID
µg/L: MICROGRAMS PER LITER
VOCs: VOLATILE ORGANIC COMPOUNDS

LEGEND

PERCHED MONITORING WELLS SELECTED FOR EVALUATION

- INCREASING METALS TREND OBSERVED
- STABLE, OR DECREASING TREND OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS*

- PLANT 2
- PLANT 3
- PLANT 6
- APC PERCHED 1,4-DIOXANE >7.2 µg/L
- APPROXIMATE EXTENT OF LNAPL
- EXTENT VOCs IN PERCHED ZONE > DW CRITERIA
- PERCHED 1,4-DIOXANE IMPACTS > THAN



RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

**VOC AND METALS TRENDS
IN PERCHED GROUNDWATER**

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community



CITY: NOVI DIV: ENV DB: A.SMITH PIC: PM: R. Christensen TM: A. Villhauer TR: P. Curry PROJECT NUMBER: B0064479 2019 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Intl Z:\GIS\Projects_LANSING\DOCS\2018 Annual Report\FIG 9 Deep OB Weathered BR Trends_05092019.mxd PLOTTED: 5/9/2019 3:01:34 PM BY: DStockard

FORMER APC FACILITY

NOTES:

FIGURE INCLUDES ONLY MONITORING WELLS THAT WERE UTILIZED FOR THE MANN-KENDALL ANALYSIS.
* MANN-KENDALL TREND ANALYSIS CONDUCTED AT 90% CONFIDENCE LEVEL FOR WELL/COC PAIRS MEETING THE FOLLOWING CRITERIA:
- AT LEAST FOUR SAMPLING EVENTS HAVE BEEN COMPLETED
- AT LEAST 65% OF SAMPLING RESULTS WERE ABOVE DETECTION LIMITS
- AT LEAST ONE DETECTION IN THE DATASET EXCEEDED THE LOWEST CRITERIA
- EITHER AN INCREASING TREND WAS IDENTIFIED DURING THE PREVIOUS ANALYSIS, THE WELL IS LOCATED AT THE PROPERTY BOUNDARY, OR THE TREND HAS NOT BEEN ANALYZED PREVIOUSLY DUE TO INSUFFICIENT DATA.

**ESTIMATED FROM OFF-SITE VAP BORINGS AND INCONGRUENT IMPACTS TO RACER WEATHERED BEDROCK WELLS

APC: ADAM'S PLATING COMPANY
COC: CONSTITUENT OF CONCERN
DW: DRINKING WATER
GW: GROUNDWATER
µg/L: MICROGRAMS PER LITER

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

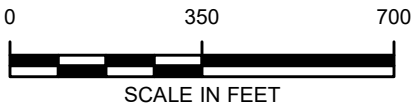
LEGEND

DEEP OVERBURDEN AND WEATHERED BEDROCK MONITORING WELLS

- INCREASING 1,4-DIOXANE TREND OBSERVED
- STABLE, OR DECREASING TREND OBSERVED
- DOES NOT MEET CRITERIA FOR TREND ANALYSIS*

- PLANT 2
- PLANT 3
- PLANT 6

- POTENTIAL AREA OF APC LOWER 1,4-DIOXANE IMPACT
- 1,4-DIOXANE IN LOWER AQUIFER ABOVE 7.2 MICROGRAMS PER LITER



RACER TRUST
PLANTS 2, 3 & 6
LANSING, MICHIGAN

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

