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Subject:

Annual Progress Report - December 2019 through December 2020
RACER Trust Saginaw Malleable Industrial Land and
Green Point Landfill, and Peninsula Property
Saginaw, Michigan

ENVIRONMENT

Date:

December 22, 2020

Dear Ms. Armbruster:

Contact:

Scott Clearwater

This annual progress report presents a summary of the work activities conducted during the period of December 2019 through December 2020 for the Revitalizing Auto Communities Environmental Response (RACER) Trust Saginaw Malleable Industrial Land (SMI) Green Point Landfill (GPL), and Peninsula properties located in Saginaw, Michigan (the Site, **Figure 1**). This progress report also provides a summary of the work activities anticipated at the Site for the next 12-month period.

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Key Correspondence

The key correspondence with the Michigan Department of Environment, Great Lakes and Energy (EGLE) previously the Michigan Department of Environmental Quality (MDEQ), Environmental Protection Agency (EPA), or City of Saginaw from Arcadis and/or GHD on behalf of RACER Trust during the reporting period are as follows:

- The 2019 Annual Report was submitted on December 16, 2019.
- The draft Operation and Maintenance (O&M) Plan was submitted on March 16, 2020.
- The draft Well Abandonment Plan was submitted on March 16, 2020. Revisions were awaiting per- and polyfluoroalkyl substances (PFAS) analysis and a final version was submitted on November 16, 2020.
- The Permanent Marker Plan was submitted for review and received approval from EGLE on May 28, 2020

- Key monitoring wells at GPL (MW-117WT, MW-117S1, MW-118WT, and MW-118S1) received well modification approval per modification request July 21, 2020 and discussion July 27, 2020.
- Additional PFAS investigation sampling requested by EGLE on May 26, 2020. The proposed PFAS sample plan and well list was included in the July 31, 2020 approved O&M Plan and sampling occurred during the annual monitoring event.
- The O&M Plan was approved July 31, 2020 based on electronic review. A hard copy was submitted for EGLE's files on August 14, 2020.

Conference Call/Meetings

- Work correspondence for routine work to be performed.
- June 2, 2020 call with EGLE, RACER, and Arcadis to discuss O&M Plan updates.

Site Activities

Site Inspection

- A Site inspection was conducted on June 16 and 17, 2020 to evaluate recent flooding and to complete preliminary cover inspections, see **Attachment 1**.

SMI Annual Operation, Maintenance, and Monitoring

- The annual O&M and groundwater monitoring event took place from August 10 through August 18, 2020 in accordance with the Remedial Action Plan approved with conditions (RAP), previous annual report recommendations, and 2020 O&M Plan.
- A total of 41 SMI monitoring wells were gauged on August 10, 2020 with an electronic water level indicator graduated at 0.01-foot increments, to measure static groundwater elevations, which are provided in **Table 1**. Two monitoring wells were not gauged on August 10, 2020; QPTW-13R was gauged on August 11, 2020 and MW-114WT was gauged on August 13, 2020. Additionally, two staff gauge measurements were also collected on August 10, 2020. Average annual groundwater elevations are listed in **Table 1**. Groundwater elevations rose approximately 1-foot following plant demolition (2010) and storm sewer bulkheading and elevations were stable between 2012 to 2018. The average groundwater elevation in 2020 was 584.62, indicating the average groundwater elevation has gradually increased another foot since 2018 (2-feet since 2011).

9/20/11	9/11/12	9/23/13	9/17/14	9/28/15	9/20/16	8/28/17	9/24/18	8/19/19	8/10/20
582.36	583.33	582.46	583.53	582.99	582.90	583.92	583.60	584.14	584.62

- Groundwater generally flows east-southeast towards the Saginaw River (**Figure 2**).
- Groundwater samples were collected from 15 monitoring wells (MW-107WT, MW-107S1, MW-108WT, MW-108S2, MW-110WTR, MW-111WT, MW-114WT, MW-114S2, MW-149WT, MW-185WT, MW-186WT, MW-131WT, MW-134WT, B-3R, and QPTW-13R) located in the river berm area in the SMI Property. A well construction and screen interval summary table, sampling parameters, and field parameters at the time of sampling for the SMI monitoring wells are included in **Attachment 2**. Groundwater concentrations were compared to the Site-specific Groundwater-Surface Water Interface (GSI) criteria, which have been identified as the minimum EGLE Rule 57 criterion for each constituent¹. The results from the sampling are summarized in **Table 2** (inorganics) and **Table 3** (organics) and as follows.
 - o Aroclor 1248 was detected in only one (MW-111WT) of the five locations (MW-110WTR, MW-111WT, MW-114WT, MW-185WT, and MW-186WT) that were analyzed for polychlorinated biphenyls (PCBs) in 2020. The remaining analyzed Aroclors were not detected. Total fraction Aroclor 1248 was detected at 0.068 J (estimated) micrograms per liter (µg/L), which exceeded the Site-specific GSI criterion of 0.000026 µg/L². Dissolved fraction Aroclor 1248 was not detected. These results are less than historic results and less than the concentration detected in 2019 (0.22 µg/L).
 - o Total and dissolved arsenic were detected in one (MW-149WT) of the two locations (MW-107WT and MW-149WT) at a concentration of 40 µg/L and 9.1 µg/L respectively. MW-107WT and MW-149WT are designated as perimeter GSI monitoring wells. The concentrations are below the Site-specific GSI criterion of 680*³ µg/L and 10 µg/L respectively, which is the GSI mixing zone concentration established for venting groundwater under the RAP and based on the 5 Year Mixing Zone Review renewal approved on August 5, 2016.
 - o Manganese was detected in MW-107WT, MW-108WT, MW-110WTR, MW-111WT, MW-114WT, MW-149WT, MW-185WT, and MW-186WT. However, concentrations are below the Site-specific GSI criterion of 4,700 µg/L.
 - o EGLE has previously evaluated a mixing zone application submitted by General Motors Corporation and established that there is no reasonable potential for ammonia to cause an exceedance of water quality standards. Concentrations of un-ionized ammonia were calculated using the measured groundwater temperatures and pH immediately prior to collecting each groundwater sample. The calculated un-ionized ammonia concentrations were less than the Site-specific GSI criterion of 53 µg/L for warm water bodies for all locations except for MW-108S2 at a concentration of 59 µg/L. The historical concentrations of un-ionized ammonia in MW-108S2 have been variable and current concentrations are lower than those observed in 2015 and 2017.

¹ Criteria are the March 2018 Rule 57 criteria. Hardness-dependent Rule 57 criteria are based on a hardness of 270 milligrams per liter for the Saginaw River, as analyzed in the October 2016 monitoring event. pH-dependent Rule 57 criteria are based on a default pH of 7. Un-ionized ammonia concentrations were calculated using field-measured pH and groundwater temperature, where available.

² This criterion defaults to the target method detection limit of 0.2 µg/L.

³ * Venting groundwater discharge concentration was recommended by MDEQ in a letter dated November 26, 2008 followed by a Mixing Zone Determination Request and based on a five-year renewal approved by MDEQ on August 5, 2016.

- o Total phosphorus was detected in the groundwater samples collected from monitoring wells MW-110WTR, MW-111WT, MW-114WT, and MW-186WT at concentrations less than the Site-specific GSI criterion of 1,000 µg/L during the August 2020 monitoring event. At MW-149WT a reported concentration of 1,100 µg/L, which is slightly above the Site-specific GSI criterion, was reported; however, it is lower than historic levels, showing a historic downward trend and stability. This will continue to be monitored and evaluated.
 - o The sample collected from MW-108WT was analyzed for semi-volatile organic compounds (SVOCs). There were no SVOCs detected.
- During the annual O&M monitoring event in August 2020, PFAS sampling was performed on five monitoring wells located within SMI (**Figure 3**). The results from the sampling are summarized in **Table 4**.
 - o Perfluorooctanesulfonic acid (PFOS) was detected above EGLE GSI Criteria at monitoring wells B-3R and MW-108WT; and above the EGLE Drinking Water Maximum Contaminant Limit (MCL) at monitoring well MW-108WT.
- Analytical data packages for SMI August 2020 groundwater monitoring events are provided in **Attachment 3**. Groundwater sampling logs are provided in **Attachment 4**.
- Two Type III Landfills, River Berm Area, SMI Former Plant Slab Soil Cover, Green Point Landfill and Former Railyard Area were all inspected on August 10, 2020. Undesirable (woody) growth was noted on both Type III Landfills. One small animal burrow was identified on the north side of the north Type III Landfill. All other inspection items were observed as satisfactory. The inspection forms are included in **Attachment 5**. See the Record of Maintenance Form for response actions.

Green Point Landfill (GPL) Annual Operation, Maintenance, and Monitoring

- The annual O&M and groundwater monitoring event took place from August 10 through August 18, 2020.
- A total of 21 GPL monitoring wells were gauged on August 10, 2020 with an electronic water level indicator to measure static groundwater elevations to the nearest 0.01 foot (see **Table 1 and Figure 2**). The following monitoring wells were gauged on August 13, 2020: MW-117WT, MW-117S1, MW-118WT, and MW-118S1
- Well modifications were made to MW-117WT, MW-117S1, MW-118WT, and MW-118S1 on August 11, 2020 by Job Site Services (JSS) to make them accessible when standing water is present. Due to standing water in the areas, a boat was used to access the locations to extend the inner casings of each monitoring well approximately 3 to 4 feet and place new extended height outer protective covers over the existing outer protective covers.
- A total of 17 monitoring wells were planned to be sampled in the annual GPL groundwater monitoring program: MW-117WT, MW-117S1, MW-118WT, MW-118S1, MW-183WT, X-4AR, X-4CAUG, X-4D, X-9AR, X-9BR, X-9CAUG, X-9D, TW-242, TWW-1, MW-122WT, X-10AR2, and X-2A. MW-125WT was used as an alternative to MW-122WT, as it was inaccessible due to recent flooding. X-4AR purged dry during sample collection and a sample for dissolved cyanide analysis was not able to be collected. X-4AR has a history of purging dry and samples are often unable to be collected. Target to

sample well earlier in the monitoring event to allow time for well to recharge and sample on the last day or rely on next deeper well in the set (X-4CAUG).

- A well construction and screen interval summary table, sampling parameters, and field parameters at the time of sampling for the GPL monitoring wells are included in **Attachment 6**. The results from the sampling are summarized in **Table 5** (inorganics) and **Table 6** (organics) and as follows.
 - o Total arsenic was detected at concentrations below the Site-specific GSI criterion in samples collected from monitoring wells MW-117WT, MW-118S1, MW-118WT, MW-183WT, X-4CAUGR, X-4D, X-9AR, and X-9D adjacent to the Saginaw River. Dissolved arsenic was detected at concentrations below the Site-specific GSI criterion in the samples collected from monitoring wells MW-117WT, MW-118S1, MW-183WT X-4CAUGR, X-4D, and X-9BR.; and at concentrations above Site-specific GSI criterion in the samples collected from monitoring wells MW-118WT, X-9AR, and X-9D.
 - o Total and dissolved barium were detected at concentrations above Site-specific GSI criteria in samples collected from MW-117S1 and MW-117WT. Total and dissolved barium were detected at concentrations below Site-specific GSI criteria in samples collected from MW-118S1, MW-118WT, MW-183WT, X-4AR, X-4CAUGR, X-4D, X-9A, X-9BR, X-9CAUG, and X-9D.
 - o Total and dissolved manganese were detected at concentrations below Site-specific GSI criteria in samples collected from monitoring wells (MW-117S1, MW-117WT, MW-118S1, MW-118WT, MW-183WT, X-4AR, X-4CAUGR, X-4D, X-9AR, X-9BR, X-9CAUG, and X-9D) adjacent to the Saginaw River.
 - o Total and dissolved selenium were not detected in the monitoring wells sampled adjacent to the Saginaw River.
 - o Total cyanide was not detected in the monitoring wells. Dissolved cyanide was detected above Site-specific GSI criteria in monitoring well X-9D.
 - o EGLE previously evaluated a mixing zone application submitted by GM and Waste Management and established that there was no reasonable potential for ammonia to cause an exceedance of water quality standards. Concentrations of un-ionized ammonia were calculated using the measured groundwater temperatures and pH immediately prior to collecting each groundwater sample. The calculated un-ionized ammonia concentrations were greater than the Site-specific GSI criterion of 53 µg/L for warm water bodies for monitoring wells MW-117WT at a concentration of 97 µg/L, X-4D at a concentration of 82 µg/L, and X-9D at a concentration of 68 µg/L.
 - o Total dissolved solids (TDS) concentrations were similar to those seen in prior years. Monitoring wells X-4D and X-9D are perimeter wells used for evaluating GSI impacts. The established background screening level concentration for TDS in the RAP is 2,200,000 µg/L. Results from the sample from X-4D and X-9D are below the background screening level at 2,100,000 µg/L for both locations.
- Two monitoring wells located in the southwest portion of the GPL property (TWW-1 and TW-242) were sampled on August 29, 2020. These wells are included in the annual monitoring program due to the historical discharge of volatile organic compounds (VOCs) to the subsurface from the neighboring property to the west through a drainage pipe. 1,1-Dichloroethane, cis-1,2-dichloroethene, and vinyl

chloride were detected in TWW-1, and trichloroethene was detected in TW-242, all at concentrations less than the Site-specific GSI criteria. As mentioned in previous annual reports, a portion of a drainpipe was removed, and the remaining in-place ends were sealed to eliminate a migration pathway for VOCs from the adjacent property.

- During the annual O&M monitoring event in August 2020, PFAS sampling was performed at nine monitoring wells within GPL (**Figure 3**). Three monitoring wells (X-2A, X-10AR2, and TWW-1) had to be resampled based on lab error and one well was added (MW-125WT) based on MW-122WT being inaccessible. This resampling occurred on September 8, 2020. The field parameters from both events are included in **Attachment 6**. The analytical results are only available from the September 8, 2020 sampling for these four wells. The results from the sampling are summarized in **Table 4**.
 - o Perfluorooctanesulfonic acid (PFOS) was detected above EGLE GSI Criteria at monitoring well X-2A. Perfluorooctanoic acid (PFOA) was detected above EGLE Drinking Water MCL at monitoring wells TWW-1 and X-2A.
- Analytical data packages for GPL August 2020 groundwater monitoring events are provided in **Attachment 3**. Groundwater sampling logs are provided in **Attachment 4**.
- The GPL cap was inspected on August 10, 2020. The mid-slope drainage swale plastic outer liner was exposed in several areas of the surface water drainage system, signifying erosion, and washout; but was confirmed this is not affecting the multi-layer cap over waste that is beneath the mid-slope drainage swale. The issues noted required further maintenance to restore six inches of soil over the liner. The inspection forms are included in **Attachment 5**. See **Attachment 7**, Site Maintenance, for GPL construction cross section detail and response actions.

Peninsula Property Inspection

- The Peninsula Property was inspected on August 10, 2020. No notable observations were identified during the inspection. The inspection forms are included in **Attachment 5**.

Site Maintenance

- Maintenance was performed at the Site from October 12 through 14, 2020. Arcadis oversaw maintenance activities performed by JSS which included repairing areas on the GPL with exposed liner along several stretches of the mid-slope drainage swales. Additionally, JSS repaired edges with exposed liner within the surface water drainage system (**Attachment 7**).
- Topsoil from the Site was used to fill in the eroded and washed-out areas on top of the liner. The areas were then seeded and covered with straw erosion mats.
- The small animal burrow identified on the north side of the north Type III Landfill was filled in and the woody growth on the SMI terminated Type III Landfills was removed on August 14, 2020.

Well Modifications

- On August 11, 2020 JSS completed monitoring well modifications to MW-117WT, MW-117S1, MW-118WT, and MW-118S1. The risers were extended 3-4 feet and new outer casings were placed over the existing protective covers, see **Attachment 8**.

PCB and LNAPL Activities

- Completed inspections of 25.4 acre 1-ft clay cover over the concrete floor slab, including the 127.7 Manhole Area. See **Attachment 9** for a summary of the inspection.
- Completed quarterly gauging/inspections of the re-installed Quench Pit wells and manholes in the Southwest Plant LNAPL Area (3/12/2020, 6/3/2020, 9/9/2020, and 12/3/2020). There was no measurable product identified in the Southwest Plant LNAPL Area manholes. Per the EGLE approved July 31, 2020 O&M Plan, LNAPL area gauging/inspections will be completed once in 2021. See **Attachment 9** for a summary of the quarterly gauging/inspections of the LNAPL areas.

Proposed Modifications to the EGLE approved July 31, 2020 O&M Plan or Activity for 2021

The following activities are currently planned to be completed between January and December 2021:

- Arcadis proposes to discontinue sampling and analysis for VOCs at GLP wells TWW-1 and TW-242 based on the continued decline of vinyl chloride concentrations and the fact that the drainage pipe from the neighboring property was sealed. Concentrations of vinyl chloride and other detected VOCs have not exceeded GSI criteria for at least the last three annual monitoring events.
- Based on the 2020 PFAS results, sampling of the same fourteen monitoring wells sampled in 2020 is recommended for 2021.
- Complete annual groundwater monitoring per the EGLE approved July 31, 2020 O&M Plan. Sampling is expected to take place during the third quarter of 2021.
- The 5 Year Mixing Zone Review, last updated in 2016, will be updated and submitted for renewal.
- Perform Site inspection to locate and evaluate condition(s) of inaccessible monitoring wells.
- Properly abandon monitoring wells no longer needed or damaged and as approved by EGLE.
- Well modifications to extend well casings higher and brush clearing to address issues where wells have been inaccessible due to standing water and/or vegetation, to include: MW-122WT, MW-122S1, MW-122S2, MW-124WT, MW-124S1, and TWW-2.
- Install the proposed permanent markers in coordination with MDNR park development progress.
- Survey location coordinates of permanent markers along with survey of top of casing elevation for certain key monitoring wells and staff gauges such as MW-117WT, MW-117S1, MW-118 WT, MW-118S1, RG-1, and SG-1 that need elevations to be re-surveyed.
- Respond to other information requests from EGLE, as necessary.
- Complete on-going inspections/monitoring associated with the LNAPL areas.

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- Conduct inspection of the clay cover over the slab, including the I27.7 Manhole Area, and complete repairs and maintenance, as necessary.
- Coordinate with MDNR and the Saginaw County Parks regarding park development.

Please contact me at 810-225-1921 or David Favero with RACER if you have any questions regarding the enclosed report or its attachments.

Sincerely,

Arcadis of Michigan, LLC



Scott Clearwater
Certified Project Manager

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Enclosures:

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- 2 SMI Inorganics Analytical Data Summary Table
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- 4 PFAS Groundwater Analytical Summary Table
- 5 GPL Inorganics Analytical Data Summary Table
- 6 GPL Organics Analytical Data Summary Table

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- 1 Site Location Map
- 2 Groundwater Elevation Contour Map Shallow Aquifer – August 10, 2020
- 3 PFAS Sampling Results

Attachments

- 1 Site Inspection Photo Log
- 2 SMI Well Construction Logs, Sampling Parameters, and Field Parameters
- 3 Laboratory Analytical Reports
- 4 Field Sampling Logs
- 5 SMI and Green Point Landfill Site Inspection Forms
- 6 GPL Well Construction Logs, Sampling Parameters, and Field Parameters
- 7 Site Maintenance Memo
- 8 Well Modification Memo
- 9 2020 PCB Cover Inspections and Quarterly LNAPL Gauging/Inspections

TABLES



Table 1
Summary of Water Elevation Table
August 10, 2020
RACER Trust, Saginaw, Michigan

Location	Well Type	Reference Elevation (feet AMSL)	8/10/20 Depth to Water (feet)	Groundwater Elevation (feet AMSL)	Site Area (GPL or SMI)
Sampled Monitoring Wells (Green Point Landfill)					
MW-117WT	Stick Up	585.56	1.50	584.06	GPL
MW-117S1	Stick Up	586.32	2.42	583.90	GPL
MW-118WT	Stick Up	585.40	1.35	584.05	GPL
MW-118S1	Stick Up	585.72	1.94	583.78	GPL
MW-125WT	Stick Up	586.98	2.64	584.34	GPL
MW-183WT	Stick Up	588.77	6.07	582.70	GPL
X-2A	Stick Up	593.12	4.69	588.43	GPL
X-4AR	Stick Up	586.82	2.21	584.61	GPL
X-4CAUGR	Stick Up	586.36	2.95	583.41	GPL
X-4D	Stick Up	586.32	0.77	585.55	GPL
X-9AR	Stick Up	586.95	3.14	583.81	GPL
X-9BR	Stick Up	586.85	4.35	582.50	GPL
X-9CAUG	Stick Up	586.62	4.09	582.53	GPL
X-9D	Stick Up	587.47	2.74	584.73	GPL
X-10AR2	Stick UP	594.67	7.49	587.18	GPL
TW-242	Stick Up	589.58	6.75	582.83	GPL
TWW-1	Stick Up	587.31	3.44	583.87	GPL
Sampled Monitoring Wells (Saginaw Malleable Industrial Land)					
B-3R	Stick Up	609.51	8.30	601.21	SMI
MW-107WT	Stick Up	590.65	8.40	582.25	SMI
MW-107S1	Stick Up	590.74	8.65	582.09	SMI
MW-108WT	Stick Up	590.53	7.95	582.58	SMI
MW-108S2	Stick Up	590.26	8.31	581.95	SMI
MW-110WTR	Stick Up	591.52	9.50	582.02	SMI
MW-111WT	Stick Up	590.95	8.18	582.77	SMI
MW-114WT	Stick Up	591.12	6.55	584.57	SMI
MW-114S2	Stick Up	591.20	7.55	583.65	SMI
MW-131WT	Stick Up	592.56	4.94	587.62	SMI
MW-134WT	Stick Up	594.02	6.40	587.62	SMI
MW-149WT	Stick Up	592.27	9.56	582.71	SMI
MW-185WT	Stick Up	588.67	6.15	582.52	SMI
MW-186WT	Stick Up	590.34	6.96	583.38	SMI
QPTW-13R	Flushmount	594.04	4.65	589.39	SMI
Gauging Only Monitoring Wells					
B-3BAUG	Stick Up	596.54	11.92	584.62	SMI
B-5BAUG	Unknown	594.17	NM	NA	SMI
B-5CAUG	Unknown	594.23	NM	NA	SMI
B-5R	Stick Up	594.54	NM	NA	SMI
MW-103S1	Stick Up	595.75	10.73	585.02	SMI
MW-103S2	Stick Up	596.34	12.72	583.62	SMI
MW-103WT	Stick Up	596.21	12.06	584.15	SMI
MW-105S1	Stick Up	593.67	9.65	584.02	SMI
MW-105S2	Stick Up	593.27	9.26	584.01	SMI
MW-105WT	Stick Up	593.35	7.43	585.92	SMI
MW-108S1	Stick Up	590.24	7.73	582.51	SMI
MW-108S3	Stick Up	589.98	5.48	584.50	SMI
MW-108S4	Stick Up	590.11	5.67	584.44	SMI
MW-111S1	Stick Up	591.14	8.74	582.40	SMI
MW-111S2	Stick Up	591.05	8.88	582.17	SMI
MW-111S3	Stick Up	591.35	6.91	584.44	SMI
MW-111S4	Stick Up	591.66	7.08	584.58	SMI
MW-114S1	Stick Up	591.13	7.30	583.83	SMI
MW-114S3	Stick Up	591.02	6.41	584.61	SMI
MW-114S4	Stick Up	591.14	NM	NA	SMI

Table 1
Summary of Water Elevation Table
August 10, 2020
RACER Trust, Saginaw, Michigan

Location	Well Type	Reference Elevation (feet AMSL)	8/10/20 Depth to Water (feet)	Groundwater Elevation (feet AMSL)	Site Area (GPL or SMI)
MW-122WT	Stick Up	584.97	Inaccessible	NA	GPL
MW-122S1	Stick Up	584.97	Inaccessible	NA	GPL
MW-122S2	Stick Up	585.13	Inaccessible	NA	GPL
MW-123WT	Stick Up	584.53	Inaccessible	NA	GPL
MW-123S1	Stick Up	584.58	Inaccessible	NA	GPL
MW-124WT	Stick Up	586.41	Inaccessible	NA	GPL
MW-124S1	Stick Up	585.94	Inaccessible	NA	GPL
MW-128S1	Stick Up	594.99	10.58	584.41	GPL
MW-128WT	Stick Up	594.96	10.32	584.64	GPL
MW-131S1	Stick Up	592.75	8.41	584.34	SMI
MW-131S2	Stick Up	592.39	8.10	584.29	SMI
MW-134S1	Stick Up	593.31	9.14	584.17	SMI
MW-134S2	Stick Up	593.14	9.00	584.14	SMI
MW-138WT	Stick Up	602.39	6.02	596.37	SMI
MW-140WT	Stick Up	595.90	9.39	586.51	SMI
MW-140S1	Stick Up	595.33	11.49	583.84	SMI
MW-140S2	Stick Up	595.80	11.99	583.81	SMI
MW-143WT	Stick Up	596.52	20.20	576.32	SMI
MW-2A	Stick Up	586.37	Inaccessible	NA	GPL
MW-2B	Stick Up	586.40	Inaccessible	NA	GPL
MW-2CAUG	Stick Up	585.15	Inaccessible	NA	GPL
QP-1R	Flushmount	594.59	4.83	589.76	SMI
QPTW-10R	Flushmount	594.20	4.78	589.42	SMI
RG1	Mark on bridge	NA	20.99	NA	SMI
SG1 (Near shore)	Staff Gauge	585.30	2.91	582.39	SMI
SG1 (Offshore)	Staff Gauge	NA	2.89	NA	SMI
TW-241	Stick Up	589.03	5.25	583.78	GPL
X-16A	Stick Up	587.44	5.67	581.77	GPL
X-16B	Stick Up	587.20	4.39	582.81	GPL
X-1A	Stick Up	597.72	11.89	585.83	GPL
X-1B	Stick Up	597.69	12.30	585.39	GPL
X-1CR2	Stick Up	598.41	11.81	586.60	GPL

Notes:

- Elevations are shown in feet above mean sea level (AMSL) relative to the NGVD datum of 1929.
- Depth to water measurements were taken from the top of well casing.
- Monitoring wells in the MW-128 and X-1 well clusters were extended during landfill capping activities. Reference elevations shown above are from August 2000 when the wells were resurveyed.
- QP-1 was replaced by QP-1R, QPTW-10 was replaced by QPTW-10R, and QPTW-13 was replaced by QPTW-13R reference elevations updated based on Spicer Group survey dated 7/6/17 and 9/5/17.
- The Reference Elevations for MW-117WT, MW-117S1, MW-118WT, and MW-118S1 are estimated values calculated based on total depth value differences from 2020 and 2016, these are being used until a survey of the wells can be completed.
- The following monitoring wells were not included in the gauging event, and were gauged at a later date: QPTW-13R (8/11/2020) and MW-117WT, MW-117S1, MW-118WT, MW-118S1, and MW-114WT (8/13/2020).

GPL Green Point Landfill
NA Not available
NM Not measured
SMI Saginaw Malleable Industrial Land
TOC Top of Casing

Table 2
Analytical Data Summary Table - SMI Inorganics
RACER Trust
Saginaw, MI

Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Manganese	Arsenic (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Phosphorus
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	4,700	10	53	53	1,000
MW-107S1	12.5 - 17.5	06/06/08	--	--	--	1,200 J	--	--
MW-107S1	12.5 - 17.5	09/30/10	--	--	--	1,200	20	--
MW-107S1	12.5 - 17.5	09/21/11	--	--	--	1,400	4.9	--
MW-107S1	12.5 - 17.5	09/17/12	--	--	--	1,400	6.1	--
MW-107S1	12.5 - 17.5	09/26/13	--	--	--	1,400 B	8.2 B	--
MW-107S1	12.5 - 17.5	09/24/14	--	--	--	1,700 B	9.7 B	--
MW-107S1	12.5 - 17.5	10/01/15	--	--	--	1,400	4.8	--
MW-107S1	12.5 - 17.5	09/29/16	--	--	--	1,500	4.1	--
MW-107S1	12.5 - 17.5	08/30/17	--	--	--	1,800	12	--
MW-107S1	12.5 - 17.5	09/26/18	--	--	--	1,300	4.1	--
MW-107S1	12.5 - 17.5	08/21/19	--	--	--	1,400	8.6	--
MW-107S1	12.5 - 17.5	08/11/20	--	--	--	1,400	13	--
MW-107WT	4 - 9	07/12/95	2.30	446	--	--	--	--
MW-107WT	4 - 9	06/07/96	5.00 U	38.3 J	--	--	--	--
MW-107WT	4 - 9	04/03/08	0.950 J	379	--	300	--	30 J
MW-107WT	4 - 9	09/18/12	1.1 J	170	--	62 J	--	100 U
MW-107WT	4 - 9	09/26/13	--	--	--	880 B	2.3 B	100
MW-107WT	4 - 9	09/24/14	4.2	1,500	--	1,300 B	2.9 B	100 U
MW-107WT	4 - 9	10/01/15	11	--	--	1,200	6.2	100 U
MW-107WT	4 - 9	09/29/16	6.5	2,000 ^	--	1,400	3.2	100 U
MW-107WT	4 - 9	08/30/17	2	1500	--	590 B	4.4 B	100 U
MW-107WT	4 - 9	09/26/18	7.3 J	870	--	290	0.91	100 U
MW-107WT	4 - 9	08/21/19	15 U	340	--	150 J	0.68 J	100 U
MW-107WT	4 - 9	08/11/20	2.0 U [2.0 U]	200 [240]	5.0 U [5.0 U]	200 U [200 U]	1.0 U [1.0 U]	100 U [100 U]
MW-108S2	22 - 27	06/06/08	--	--	--	3,500 J	--	--
MW-108S2	22 - 27	09/29/10	--	--	--	4,600	38	--
MW-108S2	22 - 27	09/21/11	--	--	--	4,900	39	--
MW-108S2	22 - 27	09/17/12	--	--	--	6,200	35	--
MW-108S2	22 - 27	09/26/13	--	--	--	5,300 B	36 B	--
MW-108S2	22 - 27	09/24/14	--	--	--	4,600 B	--	--
MW-108S2	22 - 27	10/01/15	--	--	--	7,700	72	--
MW-108S2	22 - 27	09/29/16	--	--	--	5,400	18	--
MW-108S2	22 - 27	08/30/17	--	--	--	8,800	110	--
MW-108S2	22 - 27	09/27/18	--	--	--	4,900	19	--
MW-108S2	22 - 27	08/21/19	--	--	--	5,100	51	--
MW-108S2	22 - 27	08/11/20	--	--	--	6,200	59	--

Table 2
Analytical Data Summary Table - SMI Inorganics
RACER Trust
Saginaw, MI

Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Manganese	Arsenic (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Phosphorus
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	4,700	10	53	53	1,000
MW-108WT	2.5 - 7.5	07/13/95	8.30 J	4,800	--	--	--	--
MW-108WT	2.5 - 7.5	06/08/96	5.00 U	933	--	--	--	--
MW-108WT	2.5 - 7.5	05/21/00	10.0 U	1,230	--	--	--	--
MW-108WT	2.5 - 7.5	09/29/16	--	2,000 ^	--	60 J	0.065 J	100 U
MW-108WT	2.5 - 7.5	08/31/17	--	1,300	--	200 U	--	100 U
MW-108WT	2.5 - 7.5	09/27/18	--	430	--	97 J	0.049 J	100 U
MW-108WT	2.5 - 7.5	08/21/19	--	1,900	--	130 J	0.44 J	100 U
MW-108WT	2.5 - 7.5	08/13/20	--	2,000	--	1,100	3.6	100 U
MW-110WT	UNKNOWN	06/12/96	7.30	460	--	--	--	--
MW-110WTR	3 - 8	04/02/08	--	2,680	--	90 J	--	200
MW-110WTR	3 - 8	09/24/14	--	4,000	--	100 J,B	--	120
MW-110WTR	3 - 8	10/01/15	--	4,000	--	200 U	0.41 U	200
MW-110WTR	3 - 8	09/29/16	--	3,500 ^	--	130 JB	0.1 JB	270
MW-110WTR	3 - 8	08/31/17	--	2,900	--	200 U	0.27 U	370
MW-110WTR	3 - 8	09/27/18	--	3,200	--	100 J	0.061 J	180
MW-110WTR	3 - 8	08/21/19	--	2,000	--	200 U	0.85 U	470
MW-110WTR	3 - 8	08/12/20	--	2,000	--	200 U	0.45 U	250
MW-111WT	5.5 - 10.5	07/14/95	24.0 J	3,740	--	--	--	--
MW-111WT	5.5 - 10.5	06/12/96	30.7	4,440	--	--	--	--
MW-111WT	5.5 - 10.5	06/30/99	--	2,100	--	2,700	--	1,000
MW-111WT	5.5 - 10.5	09/02/99	--	--	--	3,100	--	--
MW-111WT	5.5 - 10.5	05/19/00	11.4	2,560	--	--	--	--
MW-111WT	5.5 - 10.5	06/02/04	--	1,090	--	--	--	--
MW-111WT	5.5 - 10.5	08/26/05	--	1,680 [1,520]	--	--	--	--
MW-111WT	5.5 - 10.5	04/02/08	--	1,080 [1,140]	--	500 [500]	--	400 [400]
MW-111WT	5.5 - 10.5	09/18/12	--	3,600	--	1,600	2.7	87 J
MW-111WT	5.5 - 10.5	09/26/13	--	1,600	--	1,400 B	2.2 B	370
MW-111WT	5.5 - 10.5	09/23/14	--	780	--	1,700	--	610
MW-111WT	5.5 - 10.5	10/01/15	--	1,600	--	1,400	3.7	970
MW-111WT	5.5 - 10.5	09/29/16	--	1,700	--	2,900	3.7	480
MW-111WT	5.5 - 10.5	08/31/17	--	1,000	--	1,100 B	7 B	390
MW-111WT	5.5 - 10.5	09/27/18	--	2,300	--	5,000	14	970
MW-111WT	5.5 - 10.5	08/22/19	--	1,500	--	1,900	7.9	1,000
MW-111WT	5.5 - 10.5	08/12/20	--	1,400	--	1,800	12	970

Table 2
Analytical Data Summary Table - SMI Inorganics
RACER Trust
Saginaw, MI

Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Manganese	Arsenic (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Phosphorus
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	4,700	10	53	53	1,000
MW-114S2	22.5 - 27.5	06/06/08	--	--	--	2,500 J	--	--
MW-114S2	22.5 - 27.5	09/29/10	--	--	--	2,300 [2,200]	160 [160]	--
MW-114S2	22.5 - 27.5	09/22/11	--	--	--	3,000 [3,000]	14 [14]	--
MW-114S2	22.5 - 27.5	09/18/12	--	--	--	2,900 [2,800]	13 [13]	--
MW-114S2	22.5 - 27.5	09/25/13	--	--	--	3,800 B [3,800 B]	23 B [23 B]	--
MW-114S2	22.5 - 27.5	09/23/14	--	--	--	5,000^ [5,500^]	7.9 ^ [8.6 ^]	--
MW-114S2	22.5 - 27.5	10/02/15	--	--	--	2,200 [2,800]	11 [14]	--
MW-114S2	22.5 - 27.5	09/29/16	--	--	--	2,700	7.2	--
MW-114S2	22.5 - 27.5	09/01/17	--	--	--	2,300 [2,100 B]	14 [13 B]	--
MW-114S2	22.5 - 27.5	09/28/18	--	--	--	2,500 [2,000]	2.8 [2.2]	--
MW-114S2	22.5 - 27.5	08/22/19	--	--	--	2,600 F1 [2,400]	16 F1 [15]	330 [330]
MW-114S2	22.5 - 27.5	08/13/20	--	--	--	2,200	2	--
MW-114WT	3.5 - 8.5	06/08/96	5.00 U	2,260	--	--	--	--
MW-114WT	3.5 - 8.5	05/22/00	10.0 U	503	--	--	--	--
MW-114WT	3.5 - 8.5	09/26/13	--	1,100	--	66 J,B	0.23 J,B	100 U
MW-114WT	3.5 - 8.5	09/23/14	5.3	1,400	--	200 U	0.22 U	100 U
MW-114WT	3.5 - 8.5	10/02/15	--	1,000	--	200 U [820]	0.34 U [1.4]	100 U, F1 [100 U]
MW-114WT	3.5 - 8.5	09/29/16	--	1,100	--	200 U	0.42 U	100 U
MW-114WT	3.5 - 8.5	08/31/17	--	850	--	200 U	0.99 U	160
MW-114WT	3.5 - 8.5	09/28/18	--	1,100	--	200 U	0.31 U	150
MW-114WT	3.5 - 8.5	08/22/19	--	950	--	150 J	0.69 J	240
MW-114WT	3.5 - 8.5	08/13/20	--	740	--	360	34	280
MW-149WT	7 - 17	05/21/00	10.7	868	--	--	--	--
MW-149WT	7 - 17	06/02/04	223 [227]	4,440 [4,560]	--	--	--	--
MW-149WT	7 - 17	04/03/08	93.6 [92.3]	1,570	--	800	--	300
MW-149WT	7 - 17	09/30/10	126 [122]	--	--	3,600	6.7	2,200 [1,800]
MW-149WT	7 - 17	09/28/11	190 [180]	--	--	4,700	6.9	1,600 [1,600]
MW-149WT	7 - 17	09/18/12	160 [160]	--	--	5,000	6.8	2,000 [1,900]
MW-149WT	7 - 17	09/25/13	140 B [140 B]	--	--	4,600 B	6.2 B	2,000 [2,100]
MW-149WT	7 - 17	09/24/14	75 B [69 B]	--	--	3,200 B	--	2,000 [1,300]
MW-149WT	7 - 17	10/01/15	60	--	--	3,000	4.7	1,100
MW-149WT	7 - 17	09/29/16	50 [52]	--	--	1,200	1	620 [700]
MW-149WT	7 - 17	08/30/17	48[48]	--	--	1,100 B	4.4 B	970 [850]
MW-149WT	7 - 17	09/26/18	66 [60]	--	--	920 [880]	0.66 [0.63]	910 [880]
MW-149WT	7 - 17	08/21/19	51 [50]	--	--	960 [1,600]	2.3 [3.8]	650 [1,100]
MW-149WT	7 - 17	08/11/20	40	900	9.1	1,800	5.1	1,100

Table 2
Analytical Data Summary Table - SMI Inorganics
RACER Trust
Saginaw, MI

Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Manganese	Arsenic (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Phosphorus
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	4,700	10	53	53	1,000
MW-185WT	3 - 8	11/28/07	--	291	--	300 U [300 U]	--	100 U [100 U]
MW-185WT	3 - 8	09/18/12	--	700	--	380	4.3	100 U
MW-185WT	3 - 8	09/25/13	--	400	--	400 B	--	100 U
MW-185WT	3 - 8	09/24/14	--	320	--	160 J,B	4 J,B	100 U
MW-185WT	3 - 8	10/01/15	--	330	--	190 J	4.1 J	100 U
MW-185WT	3 - 8	09/30/16	--	150	--	97 J	0.54 J	100 U
MW-185WT	3 - 8	08/31/17	--	140	--	96 J,B	3.4 J,B	100 U
MW-185WT	3 - 8	09/27/18	--	1100	--	150 J	0.93 J	100 U
MW-185WT	3 - 8	08/22/19	--	650	--	120 J	1.7 J	100 U
MW-185WT	3 - 8	08/14/20	--	320	--	100 J	1.7 J	100 U
MW-186WT	8 - 18	09/30/10	--	252	--	1,500	29	300
MW-186WT	8 - 18	09/23/11	--	450	--	2,100	57	360
MW-186WT	8 - 18	09/18/12	--	400	--	2,100	15	250
MW-186WT	8 - 18	09/25/13	--	1,100	--	2,000 B	4.3 B	290
MW-186WT	8 - 18	09/24/14	--	2,100	--	2,000 B	2.3 B	170
MW-186WT	8 - 18	10/02/15	--	1,400	--	1,600	9.7	290
MW-186WT	8 - 18	09/30/16	--	1,800	--	1,500	3.4	260
MW-186WT	8 - 18	08/31/17	--	700	--	1,300 B	12 B	290
MW-186WT	8 - 18	09/27/18	--	690	--	1,600	9.7	400
MW-186WT	8 - 18	08/22/19	--	920	--	1,500 [1,400]	12 [11]	440 [120]
MW-186WT	8 - 18	08/12/20	--	410	--	1,300	22	440

Notes:

All results are in micrograms per liter (ug/L).

Criteria presented are the applicable site-specific criteria. Drinking water is not a complete pathway; therefore drinking water criteria are not presented.

Applicable site-specific criteria are the minimum Rule 57 criteria, excluding drinking water.

Hardness-dependent Rule 57 criteria are based on a hardness of 270 milligrams per liter for the Saginaw River, as analyzed in the October 2016 sampling event.

pH-dependent Rule 57 criteria are based on a default pH of 7.

Un-ionized ammonia is calculated based on the pH and temperature of the groundwater sample, using the following equations. When available, the field-measured pH was used.

Un-ionized ammonia (ug/L) = Total Ammonia (ug/L) × Fraction un-ionized ammonia

Fraction un-ionized ammonia = $1/[10^{(pK_a - pH)} + 1]$

pKa = $0.0901821 + 2729.92/T$

T (in Kelvin) = T(°C) + 273.15

Bolded cells represent constituent concentrations with detections.

Duplicate results are presented in brackets.

Gray shaded cells represent constituent concentrations that exceed site-specific Groundwater/Surface Water Interface (GSI) Criteria.

MW-183WT, X-4CAUGR, X-9AR, X-9BR, X-9CAUG represent a groundwater surface water interface (GSI) perimeter monitoring well from Green Point Landfill.

MW-107WT, MW-107S1, MW-108S2, MW-110WTR, MW-111WT, MW-114S2, MW-114WT, MW-149WT, MW-185WT, and MW-186WT represent a GSI perimeter monitoring well from SMI.

* Venting groundwater discharge concentrations was recommended by MDEQ in a letter dated November 26, 2008 followed by a Mixing Zone Determination Request and based on a five year renewal approved by the MDEQ on August 5, 2016.

Data Qualifiers:

-- or NA = Not analyzed for this constituent.

B = Inorganics: the detected analyte is an estimated value between the instrument detection limit (IDL) and the reporting limit (RL).

B = Organics: the compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

BJ = The detected analyte is an estimated concentration between the IDL and the RL.

F1= MS and/or MSD Recovery is outside acceptance limits

J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

UJ = The constituent was not detected above the reported sample quantitation limit.

However, the reported limit is approximate and may or may not represent the actual result.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: instrument related QC exceeds the control limits.

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



			2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3&4-Methylphenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol
Sample ID:	Sample Depth (feet):	Date Collected:	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			290	NSL	5	11	380	19	NSL	NSL	NSL	18	19	NSL	NSL	56	NSL	0.2	NSL	NSL
MW-107S1	12.5 - 17.5	07/12/95	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-107S1	12.5 - 17.5	06/07/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-107WT	4 - 9	07/12/95	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-107WT	4 - 9	06/07/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-107WT	4 - 9	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108S2	22 - 27	07/13/95	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-108S2	22 - 27	06/08/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-108WT	2.5 - 7.5	07/13/95	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-108WT	2.5 - 7.5	06/08/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-108WT	2.5 - 7.5	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	09/29/16	0.95 U	4.8 U	3.8 U	1.9 U	1.9 U	4.8 U	4.8 U	4.8 U	0.95 U	0.95 U	0.19 U	0.95 U	1.9 U	1.9 U	--	3.8 U	1.9 U	4.8 U
MW-108WT	2.5 - 7.5	10/13/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/31/17	0.95 U	4.8 U	3.8 U	--	1.9 U	4.8 U	4.8 U	4.8 U	0.95 U	0.95 U	0.19 U	0.95 U	1.9 U	1.9 U	--	3.8 U	1.9 U	--
MW-108WT	2.5 - 7.5	09/27/18	--	4.8 U	4.8 U	1.9 U	1.9 U	9.5 U	4.8 U	4.8 U	0.95 U	0.95 U	0.19 U	0.95 U	1.9 U	1.9 U	1.9 U	4.8 U	1.9 U	4.8 U
MW-108WT	2.5 - 7.5	08/21/19	0.95 U	4.8 U	4.8 U	1.9 U	1.9 U	9.5 U	4.8 U	4.8 U	0.95 U	0.95 U	0.19 U	0.95 U	1.9 U	1.9 U	--	4.8 U	1.9 U	4.8 U
MW-108WT	2.5 - 7.5	08/13/20	0.96 U [0.95 U]	4.8 U [4.8 U]	4.8 U [4.8 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	9.6 U [9.5 U]	4.8 U [4.8 U]	4.8 U [4.8 U]	0.96 U [0.95 U]	0.96 U [0.95 U]	0.19 U [0.19 U]	0.96 U [0.95 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	4.8 U [4.8 U]	1.9 U [1.9 U]	4.8 U [4.8 U]
MW-110WT	UNKNOWN	06/12/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-110WT	UNKNOWN	03/06/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WT	UNKNOWN	12/10/97	12	50 U	5.0 U	5.0 U	5.0 U	20 UJ	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-110WT	UNKNOWN	05/22/00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	06/02/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/24/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	04/02/08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	10/01/15	0.95 U	4.8 U	3.8 U	--	1.9 U	4.8 U	4.8 U	--	0.95 U	0.95 U	0.19 U	0.95 U	1.9 U	1.9 U	1.9 U	3.8 U	1.9 U	4.8 U
MW-110WTR	10 - 15	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/21/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	07/14/95	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-111WT	5.5 - 10.5	06/12/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-111WT	5.5 - 10.5	03/07/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/30/99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	05/19/00	5.0 U	5.0 U	5.0 U	10 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-111WT	5.5 - 10.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/02/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/26/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	04/02/08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	10/01/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	2,2'-oxybis(1-Chloropropane) (bis(2-chloroisopropyl) ether)	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3&4-Methylphenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			290	NSL	5	11	380	19	NSL	NSL	NSL	18	19	NSL	NSL	56	NSL	0.2	NSL	NSL
MW-114S2	22.5 - 27.5	07/17/95	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-114S2	22.5 - 27.5	06/07/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-114WT	3.5 - 8.5	06/08/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-114WT	3.5 - 8.5	03/06/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	12/11/97	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-114WT	3.5 - 8.5	05/22/00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/24/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	10/02/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/28/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/13/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-149WT	7 - 17	06/12/96	5.0 U	50 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	--	20 U	20 U	20 U
MW-149WT	7 - 17	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/25/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	11/28/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/25/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	10/01/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/14/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/30/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/23/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/25/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	10/02/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



			4-Bromophenyl phenyl ether	4-Chloro-3-Methylphenol	4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Acetophenone	Anthracene	Atrazine	Benzaldehyde	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	1,1'-Biphenyl
Sample ID:	Sample Depth (feet):	Date Collected:	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			NSL	7.4	72	NSL	NSL	200	38	NA	NA	2,400	7.3	NSL	NA	NA	NA	NA	NSL	13
MW-107S1	12.5 - 17.5	07/12/95	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-107S1	12.5 - 17.5	06/07/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-107WT	4 - 9	07/12/95	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-107WT	4 - 9	06/07/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-107WT	4 - 9	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108S2	22 - 27	07/13/95	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-108S2	22 - 27	06/08/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-108WT	2.5 - 7.5	07/13/95	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-108WT	2.5 - 7.5	06/08/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-108WT	2.5 - 7.5	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	09/29/16	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	4.8 U	0.19 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.95 U
MW-108WT	2.5 - 7.5	10/13/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/31/17	--	1.9 U	1.9 U	--	1.9 U	4.8 U	0.19 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.95 U
MW-108WT	2.5 - 7.5	09/27/18	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	0.19 U	0.19 U	0.95 U	0.19 U	1.9 U	1.9 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	--
MW-108WT	2.5 - 7.5	08/21/19	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	9.5 U	0.19 U	0.19 U	0.95 U	0.19 U	1.9 U	1.9 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.95 U
MW-108WT	2.5 - 7.5	08/13/20	1.9 U [1.9 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	9.6 U [9.5 U]	0.19 U [0.19 U]	0.19 U [0.19 U]	0.96 U [0.95 U]	0.19 U [0.19 U]	1.9 U [1.9 U]	1.9 U [1.9 U]	0.19 U [0.19 U]	0.19 U [0.19 U]	0.19 U [0.19 U]	0.19 U [0.19 U]	0.19 U [0.19 U]	0.96 U [0.95 U]
MW-110WT	UNKNOWN	06/12/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-110WT	UNKNOWN	03/06/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WT	UNKNOWN	12/10/97	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-110WT	UNKNOWN	05/22/00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	06/02/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/24/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	04/02/08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	10/01/15	1.9 U	1.9 U	1.9 U, F1	1.9 U	1.9 U	4.8 U	0.19 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.95 U
MW-110WTR	10 - 15	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/21/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	07/14/95	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-111WT	5.5 - 10.5	06/12/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-111WT	5.5 - 10.5	03/07/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/30/99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	05/19/00	5.0 U	5.0 U	10 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-111WT	5.5 - 10.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/02/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/26/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	04/02/08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	10/01/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	4-Bromophenyl phenyl ether	4-Chloro-3-Methylphenol	4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Acetophenone	Anthracene	Atrazine	Benzaldehyde	Benzo(a)anthracene	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene	Benzo(k)fluoranthene	1,1'-Biphenyl
		Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			NSL	7.4	72	NSL	NSL	200	38	NA	NA	2,400	7.3	NSL	NA	NA	NA	NA	NSL	13
MW-114S2	22.5 - 27.5	07/17/95	5.0 U	5.0 U	20 U	5.0 U	20 U	20 UJ	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-114S2	22.5 - 27.5	06/07/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-114WT	3.5 - 8.5	06/08/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 UJ	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-114WT	3.5 - 8.5	03/06/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	12/11/97	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-114WT	3.5 - 8.5	05/22/00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/24/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	10/02/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/28/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/13/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-149WT	7 - 17	06/12/96	5.0 U	5.0 U	20 U	5.0 U	20 U	20 U	5.0 U	5.0 U	--	5.0 U	--	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	--
MW-149WT	7 - 17	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/25/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	11/28/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/25/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	10/01/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/14/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/30/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/23/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/25/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	10/02/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Units:	bis(2-Chloroethoxy)methane	bis(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate	Butylbenzylphthalate	Caprolactam	Carbazole	Chrysene	Dibenzo(a,h)anthracene	Dibenzofuran	Diethylphthalate	Dimethylphthalate	Di-n-Butylphthalate	Di-n-Octylphthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene
				µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria				NSL	15	18	67	NSL	4	NA	NA	4	110	NSL	9.7	300	1.6	12	0.0003	0.053	450
MW-107S1	12.5 - 17.5	07/12/95		5.0 U	5.0 U	9.0	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-107S1	12.5 - 17.5	06/07/96		5.0 U	5.0 U	11 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-107WT	4 - 9	07/12/95		5.0 U	5.0 U	0.70 J	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-107WT	4 - 9	06/07/96		5.0 U	5.0 U	7.7 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-107WT	4 - 9	03/10/97		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108S2	22 - 27	07/13/95		5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-108S2	22 - 27	06/08/96		5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-108WT	2.5 - 7.5	07/13/95		5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-108WT	2.5 - 7.5	06/08/96		5.0 U	5.0 U	5.0 UJ	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-108WT	2.5 - 7.5	03/10/97		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	09/29/16		0.95 U	0.95 U	1.9 U	0.95 U	4.8 U	0.95 U	0.19 U	0.19 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	0.19 U	0.19 U	0.19 U	0.95 U	4.8 U
MW-108WT	2.5 - 7.5	10/13/16		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/31/17		0.95 U	0.95 U	1.9 U	0.95 U	4.8 U	0.95 U	0.19 U	0.19 U	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U	0.19 U	0.19 U	0.19 U	0.95 U	4.8 U
MW-108WT	2.5 - 7.5	09/27/18		0.95 U	0.95 U	4.8 U	1.9 U	4.8 U	0.95 U	0.19 U	0.19 U	0.95 U	4.8 U	1.9 U	4.8 U	1.9 U	0.19 U	0.19 U	0.19 U	0.95 U	9.5 U
MW-108WT	2.5 - 7.5	08/21/19		0.95 U	0.95 U	4.8 U	1.9 U	4.8 U	0.95 U	0.19 U	0.19 U	0.95 U	4.8 U	1.9 U	4.8 U	1.9 U	0.19 U	0.19 U	0.19 U	0.95 U	9.5 U
MW-108WT	2.5 - 7.5	08/13/20		0.96 U [0.95 U]	0.96 U [0.95 U]	4.8 U [4.8 U]	1.9 U [1.9 U]	4.8 U [4.8 U]	0.96 U [0.95 U]	0.19 U [0.19 U]	0.19 U [0.19 U]	0.96 U [0.95 U]	4.8 U [4.8 U]	1.9 U [1.9 U]	4.8 U [4.8 U]	1.9 U [1.9 U]	0.19 U [0.19 U]	0.19 U * [0.19 U *]	0.19 U [0.19 U]	0.96 U [0.95 U]	9.6 U [9.5 U]
MW-110WT	UNKNOWN	06/12/96		5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-110WT	UNKNOWN	03/06/97		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WT	UNKNOWN	12/10/97		5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-110WT	UNKNOWN	05/22/00		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	06/02/04		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/24/05		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	04/02/08		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	09/24/14		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	10/01/15		0.95 U	0.95 U	1.9 U	0.95 U	0.38 J	0.95 U	0.19 U	0.19 U	--	0.95 U	0.95 U	0.95 U	0.95 U	0.19 U	0.19 U	0.19 U	0.95 U	4.8 U
MW-110WTR	10 - 15	09/29/16		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/31/17		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	09/27/18		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/21/19		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/12/20		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	07/14/95		5.0 U	5.0 U	54	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-111WT	5.5 - 10.5	06/12/96		5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-111WT	5.5 - 10.5	03/07/97		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/30/99		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	05/19/00		5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-111WT	5.5 - 10.5	04/05/01		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/02/04		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/26/05		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	04/02/08		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/18/12		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/26/13		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	09/23/14		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5-10.5	10/01/15		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	09/29/16		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/31/17		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	09/27/18		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/22/19		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/12/20		--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	bis(2-Chloroethoxy)methane	bis(2-Chloroethy)l ether	bis(2-Ethylhexyl)phthalate	Butylbenzylphthalate	Caprolactam	Carbazole	Chrysene	Dibenzo(a,h)anthracene	Dibenzofuran	Diethylphthalate	Dimethylphthalate	Di-n-Butylphthalate	Di-n-Octylphthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			NSL	15	18	67	NSL	4	NA	NA	4	110	NSL	9.7	300	1.6	12	0.0003	0.053	450
MW-114S2	22.5 - 27.5	07/17/95	5.0 U	5.0 U	0.63 J	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-114S2	22.5 - 27.5	06/07/96	5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-114WT	3.5 - 8.5	06/08/96	5.0 U	5.0 U	5.0 UJ	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-114WT	3.5 - 8.5	03/06/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	12/11/97	5.0 U	5.0 U	5.0 U	5.0 U	--	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-114WT	3.5 - 8.5	05/22/00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/24/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	10/02/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	09/28/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/13/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-149WT	7 - 17	06/12/96	5.0 U	5.0 U	5.0 U	5.0 U	--	10 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
MW-149WT	7 - 17	03/10/97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/25/05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	11/28/07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/25/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	10/01/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/14/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/30/10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/23/11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/18/12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/25/13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/24/14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	10/02/15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/30/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-186WT	8-18	08/12/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



			Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitroso-di-n-propylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248
Sample ID:	Sample Depth (feet):	Date Collected:	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			6.7	NA	1,300	11	180	NSL	NSL	2.8	1.7	450	15	0.000026	0.000026	0.000026	0.000026	0.000026
MW-107S1	12.5 - 17.5	07/12/95	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-107S1	12.5 - 17.5	06/07/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-107WT	4 - 9	07/12/95	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-107WT	4 - 9	06/07/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-107WT	4 - 9	03/10/97	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-108S2	22 - 27	07/13/95	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 UJ	5.0 U	5.0 U	5.0 UJ	R	R	R	R	R
MW-108S2	22 - 27	06/08/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-108WT	2.5 - 7.5	07/13/95	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	R	R	R	R	R
MW-108WT	2.5 - 7.5	06/08/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-108WT	2.5 - 7.5	03/10/97	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-108WT	2.5 - 7.5	09/29/16	0.95 U	0.19 U	0.95 U	0.19 U	0.95 U	--	--	4.8 U	0.19 U	0.95 U	0.19 U	--	--	--	--	--
MW-108WT	2.5 - 7.5	10/13/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/31/17	0.95 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.95 U	4.8 U	0.19 U	0.95 U	0.19 U	--	--	--	--	--
MW-108WT	2.5 - 7.5	09/27/18	0.95 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.95 U	9.5 U	0.19 U	0.95 U	0.19 U	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/21/19	0.95 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.95 U	9.5 U	0.19 U	0.95 U	0.19 U	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/13/20	0.96 U [0.95 U]	0.19 U [0.19 U]	0.96 U [0.95 U]	0.19 U [0.19 U]	0.96 U [0.95 U]	0.96 U [0.95 U]	0.96 U [0.95 U]	9.6 U [9.5 U]	0.19 U [0.19 U]	0.96 U [0.95 U]	0.19 U [0.19 U]	--	--	--	--	--
MW-110WT	UNKNOWN	06/12/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-110WT	UNKNOWN	03/06/97	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.23
MW-110WT	UNKNOWN	12/10/97	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-110WT	UNKNOWN	05/22/00	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U
MW-110WTR	10 - 15	06/02/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WTR	10 - 15	08/24/05	--	--	--	--	--	--	--	--	--	--	--	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]
MW-110WTR	10 - 15	04/02/08	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-110WTR	10 - 15	09/24/14	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	10/01/15	0.95 U	0.19 U	0.95 U	0.19 U	0.95 U	0.95 U	0.95 U	4.8 U	--	0.19 U	0.19 U	--	--	--	--	--
MW-110WTR	10 - 15	09/29/16	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	08/31/17	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	09/27/18	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	08/21/19	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	08/12/20	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-111WT	5.5 - 10.5	07/14/95	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	0.21 U	0.21 U	0.42 U	0.21 U	0.41
MW-111WT	5.5 - 10.5	06/12/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-111WT	5.5 - 10.5	03/07/97	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.28
MW-111WT	5.5 - 10.5	06/30/99	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.11
MW-111WT	5.5 - 10.5	05/19/00	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	5.0 U	5.0 U	5.0 U	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U
MW-111WT	5.5 - 10.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U
MW-111WT	5.5 - 10.5	06/02/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	08/26/05	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-111WT	5.5 - 10.5	04/02/08	--	--	--	--	--	--	--	--	--	--	--	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]
MW-111WT	5.5-10.5	09/18/12	--	--	--	--	--	--	--	--	--	--	--	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
MW-111WT	5.5-10.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.45
MW-111WT	5.5-10.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-111WT	5.5-10.5	10/01/15	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-111WT	5.5 - 10.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	0.19 U	0.19 U	0.19 U	0.19 U	0.21
MW-111WT	5.5 - 10.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	0.95 U	0.95 U	0.95 U	0.95 U	0.95 U
MW-111WT	5.5 - 10.5	09/27/18	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.82
MW-111WT	5.5 - 10.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	0.098 U	0.098 U	0.098 U	0.098 U	0.22
MW-111WT	5.5 - 10.5	08/12/20	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.068 J

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	N-Nitroso-di-n-propylamine	N-Nitrosodiphenylamine	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			6.7	NA	1,300	11	180	NSL	NSL	2.8	1.7	450	15	0.000026	0.000026	0.000026	0.000026	0.000026
MW-114S2	22.5 - 27.5	07/17/95	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.21 U	0.21 U	0.41 U	0.21 U	0.21 U
MW-114S2	22.5 - 27.5	06/07/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-114WT	3.5 - 8.5	06/08/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-114WT	3.5 - 8.5	03/06/97	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-114WT	3.5 - 8.5	12/11/97	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	20 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 UJ	0.4 U	0.2 U	0.2 UJ
MW-114WT	3.5 - 8.5	05/22/00	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U
MW-114WT	3.5 - 8.5	04/05/01	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.40 U	0.20 U	0.20 U
MW-114WT	3.5 - 8.5	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	08/24/05	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-114WT	3.5 - 8.5	09/26/13	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	09/23/14	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	10/02/15	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	09/28/18	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	08/22/19	--	--	--	--	--	--	--	--	--	--	--	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U
MW-114WT	3.5 - 8.5	08/13/20	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-149WT	7 - 17	06/12/96	2.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	25 U	5.0 U	5.0 U	5.0 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-149WT	7 - 17	03/10/97	--	--	--	--	--	--	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U
MW-185WT	3 - 8	06/03/04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/25/05	--	--	--	--	--	--	--	--	--	--	--	0.20 U	0.20 U	0.20 U	0.20 U	0.20 U
MW-185WT	3 - 8	11/28/07	--	--	--	--	--	--	--	--	--	--	--	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]	0.20 U [0.20 U]	0.17 J [0.20 U]
MW-185WT	3 - 8	09/18/12	--	--	--	--	--	--	--	--	--	--	--	0.096 U	0.096 U	0.096 U	0.096 U	0.096 U
MW-185WT	3 - 8	09/25/13	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	09/24/14	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	10/01/15	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	09/30/16	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	08/31/17	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	09/27/18	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	08/22/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-185WT	3 - 8	08/14/20	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-186WT	8-18	09/30/10	--	--	--	--	--	--	--	--	--	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
MW-186WT	8-18	09/23/11	--	--	--	--	--	--	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-186WT	8-18	09/18/12	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	09/25/13	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	09/24/14	--	--	--	--	--	--	--	--	--	--	--	0.10 U [0.097 U]	0.10 U [0.097 U]	0.10 U [0.097 U]	0.10 U [0.097 U]	0.10 U [0.097 U]
MW-186WT	8-18	10/02/15	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	09/30/16	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	08/31/17	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	09/27/18	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	08/22/19	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]
MW-186WT	8-18	08/12/20	--	--	--	--	--	--	--	--	--	--	--	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.097 U]

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



			Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs	Aroclor 1016 (Dissolved)	Aroclor 1221 (Dissolved)	Aroclor 1232 (Dissolved)	Aroclor 1242 (Dissolved)	Aroclor 1248 (Dissolved)	Aroclor 1254 (Dissolved)	Aroclor 1260 (Dissolved)	Aroclor 1262 (Dissolved)	Aroclor 1268 (Dissolved)
Sample ID:	Sample Depth (feet):	Date Collected:	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026
MW-107S1	12.5 - 17.5	07/12/95	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-107S1	12.5 - 17.5	06/07/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-107WT	4 - 9	07/12/95	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-107WT	4 - 9	06/07/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-107WT	4 - 9	03/10/97	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-108S2	22 - 27	07/13/95	R	R	--	--	R	R	R	R	R	R	R	R	--	--
MW-108S2	22 - 27	06/08/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-108WT	2.5 - 7.5	07/13/95	R	R	--	--	R	R	R	R	R	R	R	R	--	--
MW-108WT	2.5 - 7.5	06/08/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-108WT	2.5 - 7.5	03/10/97	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-108WT	2.5 - 7.5	09/29/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	10/13/16	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/31/17	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	09/27/18	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/21/19	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-108WT	2.5 - 7.5	08/13/20	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-110WT	UNKNOWN	06/12/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-110WT	UNKNOWN	03/06/97	0.2 U	0.2 U	--	--	0.23	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-110WT	UNKNOWN	12/10/97	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-110WT	UNKNOWN	05/22/00	0.20 U	0.20 U	--	--	0.40 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-110WTR	10 - 15	06/02/04	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-110WTR	10 - 15	08/24/05	0.20 U [0.20 U]	0.20 U [0.20 U]	--	--	0.20 U [0.20 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	--	--
MW-110WTR	10 - 15	04/02/08	0.20 U	0.20 U	--	--	0.20 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-110WTR	10 - 15	09/24/14	0.095 U	0.095 U	--	--	0.095 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	0.098 U	--	--
MW-110WTR	10 - 15	10/01/15	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-110WTR	10 - 15	09/29/16	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-110WTR	10 - 15	08/31/17	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-110WTR	10 - 15	09/27/18	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	08/21/19	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-110WTR	10 - 15	08/12/20	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-111WT	5.5 - 10.5	07/14/95	0.21 U	0.21 U	--	--	0.41	0.21 U	0.21 U	0.42 U	0.21 U	0.21 U	0.21 U	0.21 U	--	--
MW-111WT	5.5 - 10.5	06/12/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-111WT	5.5 - 10.5	03/07/97	0.2 U	0.2 U	--	--	0.28	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-111WT	5.5 - 10.5	06/30/99	0.10 U	0.10 U	0.10 U	0.10 U	0.11	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
MW-111WT	5.5 - 10.5	05/19/00	0.20 U	0.20 U	--	--	0.40 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-111WT	5.5 - 10.5	04/05/01	0.20 U	0.20 U	--	--	0.40 U	--	--	--	--	--	--	--	--	--
MW-111WT	5.5 - 10.5	06/02/04	--	--	--	--	--	0.2 U [0.2 U]	0.2 U [0.2 U]	0.4 U [0.4 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	0.2 U [0.2 U]	--	--
MW-111WT	5.5 - 10.5	08/26/05	0.20 U	0.20 U	--	--	0.20 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-111WT	5.5 - 10.5	04/02/08	0.20 U [0.20 U]	0.20 U [0.20 U]	--	--	0.20 U [0.20 U]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-111WT	5.5-10.5	09/18/12	0.098 U	0.098 U	--	--	0.098 U	0.096 U	0.096 U	0.096 U	0.096 U	0.082 J	0.096 U	0.096 U	--	--
MW-111WT	5.5-10.5	09/26/13	0.095 U	0.095 U	--	--	0.45	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-111WT	5.5-10.5	09/23/14	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-111WT	5.5-10.5	10/01/15	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-111WT	5.5 - 10.5	09/29/16	0.19 U	0.19 U	--	--	0.21	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-111WT	5.5 - 10.5	08/31/17	0.95 U	0.95 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.067 J p	0.095 U	0.095 U	--	--
MW-111WT	5.5 - 10.5	09/27/18	0.095 U	0.095 U	0.095 U	0.095 U	0.82	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-111WT	5.5 - 10.5	08/22/19	0.098 U	0.098 U	--	--	0.22	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	0.097 U	--	--
MW-111WT	5.5 - 10.5	08/12/20	0.095 U	0.095 U	0.095 U	0.095 U	0.068 J	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U

Table 3
Analytical Data Summary Table - SMI Organics
RACER Trust
Saginaw, MI



			Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	Total PCBs	Aroclor 1016 (Dissolved)	Aroclor 1221 (Dissolved)	Aroclor 1232 (Dissolved)	Aroclor 1242 (Dissolved)	Aroclor 1248 (Dissolved)	Aroclor 1254 (Dissolved)	Aroclor 1260 (Dissolved)	Aroclor 1262 (Dissolved)	Aroclor 1268 (Dissolved)
Sample ID:	Sample Depth (feet):	Date Collected:	Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026	0.000026
MW-114S2	22.5 - 27.5	07/17/95	0.21 U	0.21 U	--	--	0.41 U	0.2 U	0.2 U	0.2 U	0.41 U	0.2 U	0.2 U	0.2 U	--	--
MW-114S2	22.5 - 27.5	06/07/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-114WT	3.5 - 8.5	06/08/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-114WT	3.5 - 8.5	03/06/97	0.2 U	0.41	--	--	0.41	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-114WT	3.5 - 8.5	12/11/97	0.2 UJ	0.2 U	--	--	0.4 U	0.2 U	0.2 UJ	0.4 U	0.2 U	0.2 UJ	0.2 UJ	0.2 U	--	--
MW-114WT	3.5 - 8.5	05/22/00	0.20 U	0.20 U	--	--	0.40 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-114WT	3.5 - 8.5	04/05/01	0.20 U	0.20 U	--	--	0.40 U	--	--	--	--	--	--	--	--	--
MW-114WT	3.5 - 8.5	06/03/04	--	--	--	--	--	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-114WT	3.5 - 8.5	08/24/05	0.20 U	0.20 U	--	--	0.20 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-114WT	3.5 - 8.5	09/26/13	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-114WT	3.5 - 8.5	09/23/14	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-114WT	3.5 - 8.5	10/02/15	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-114WT	3.5 - 8.5	09/29/16	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-114WT	3.5 - 8.5	08/31/17	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-114WT	3.5 - 8.5	09/28/18	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-114WT	3.5 - 8.5	08/22/19	0.098 U	0.098 U	--	--	0.098 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-114WT	3.5 - 8.5	08/13/20	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-149WT	7 - 17	06/12/96	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-149WT	7 - 17	03/10/97	0.2 U	0.2 U	--	--	0.4 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-185WT	3 - 8	06/03/04	--	--	--	--	--	0.2 U	0.2 U	0.2 U	0.4 U	0.2 U	0.2 U	0.2 U	--	--
MW-185WT	3 - 8	08/25/05	0.20 U	0.20 U	--	--	0.20 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	--	--
MW-185WT	3 - 8	11/28/07	0.20 U [0.20 U]	0.20 U [0.20 U]	--	--	0.17 J [0.20 U]	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.06 J	--
MW-185WT	3 - 8	09/18/12	0.096 U	0.096 U	--	--	0.096 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.041 J*	--
MW-185WT	3 - 8	09/25/13	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--
MW-185WT	3 - 8	09/24/14	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--
MW-185WT	3 - 8	10/01/15	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--
MW-185WT	3 - 8	09/30/16	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--
MW-185WT	3 - 8	08/31/17	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--
MW-185WT	3 - 8	09/27/18	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-185WT	3 - 8	08/22/19	--	--	--	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-185WT	3 - 8	08/14/20	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-186WT	8-18	09/30/10	0.10 U	0.10 U	--	--	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U	--	--
MW-186WT	8-18	09/23/11	0.095 U	0.095 U	--	--	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	09/18/12	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--	0.095 U [0.095 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	09/25/13	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--	0.095 U [0.095 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	09/24/14	0.10 U [0.097 U]	0.10 U [0.097 U]	--	--	0.10 U [0.097 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	10/02/15	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--
MW-186WT	8-18	09/30/16	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--	0.095 U [0.095 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	08/31/17	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--	0.095 U [0.095 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	09/27/18	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
MW-186WT	8-18	08/22/19	0.095 U [0.095 U]	0.095 U [0.095 U]	--	--	0.095 U [0.095 U]	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U	--	--
MW-186WT	8-18	08/12/20	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.097 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]	0.095 U [0.095 U]

Notes:

All results are in micrograms per liter (ug/L).

Criteria presented are the applicable site-specific criteria. Drinking water is not a complete pathway; therefore drinking water criteria are not presented.

Applicable site-specific criteria are the minimum Rule 57 criteria, excluding drinking water.

Hardness-dependent Rule 57 criteria are based on a hardness of 270 milligrams per liter for the Saginaw River, as analyzed in the October 2016 sampling event.

pH-dependent Rule 57 criteria are based on a default pH of 7.

Un-ionized ammonia is calculated based on the pH and temperature of the groundwater sample, using the following equations. When available, the field-measured pH was used.

Un-ionized ammonia (ug/L) = Total Ammonia (ug/L) × Fraction un-ionized ammonia

Fraction un-ionized ammonia = $1/[10^{(pK_a - pH)} + 1]$

$pK_a = 0.0901821 + 2729.92/T$

$T \text{ (in Kelvin)} = T(^{\circ}\text{C}) + 273.15$

Bolded cells represent constituent concentrations with detections.

Duplicate results are presented in brackets.

Gray shaded cells represent constituent concentrations that exceed site-specific Groundwater/Surface Water Interface (GSI) Criteria.

MW-183WT, X-4CAUGR, X-9AR, X-9BR, X-9CAUG represent a groundwater surface water interface (GSI) perimeter monitoring well from Green Point Landfill.

MW-107WT, MW-107S1, MW-108S2, MW-110WTR, MW-111WT, MW-114S2, MW-114WT, MW-149WT, MW-185WT, and MW-186WT represent a GSI perimeter monitoring well from SMI.

* Venting groundwater discharge concentrations was recommended by MDEQ in a letter dated November 26, 2008 followed by a Mixing Zone Determination Request and based on a five year renewal approved by the MDEQ on August 5, 2016.

Data Qualifiers:

-- or NA = Not analyzed for this constituent.

J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.

R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

UJ = The constituent was not detected above the reported sample quantitation limit.

However, the reported limit is approximate and may or may not represent the actual result.

* = LCS (lab control sample) or LCSD (lab control sample duplicate) is outside acceptance limits.

Table 4
PFAS Groundwater Analytical Summary Table
RACER Trust, Saginaw, Michigan

Analyte	EGLE Drinking Water MCL	Groundwater Surface Water Interface Criteria	Well ID Sample Date Units	B-3R 12/18/2018	B-3R 8/11/2020	MW-108WT 12/18/2018	MW-108WT 8/13/2020	MW-117WT 8/13/2020	MW-117S1 8/13/2020	MW-118WT 8/14/2020	MW-118S1 12/18/2018	MW-125WT 9/8/2020
Perfluorobutanoic acid (PFBA)	--	--	ng/L	2.3 J	11.3	3.02 J	8.8	296	3.7 U	18.2	9.71	20.5
Perfluoropentanoic acid (PFPeA)	--	--	ng/L	1.68 J	13.4	1.77 J	2.1 J	43.9	1.9 U	4.8	4.37	2.4 J
Perfluorohexanoic acid (PFHxA)	400,000	--	ng/L	1.26 J	1.9 U	2.0 U	2.4 J	77.8	1.9 U	7.6	1.77 J	2.9 J
Perfluoroheptanoic acid (PFHpA)	--	--	ng/L	2.0 U	2.1 J	2.0 U	1.2 J	9.7	1.9 U	3.1 J	1.93 J	1.5 J
Perfluorooctanoic acid (PFOA)	8	12,000	ng/L	5.58	2.7 J	3.66 J	4.4	3.6 J	1.9 U	2.4 J	1.95 J	4.3
Perfluorononanoic acid (PFNA)	6	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorodecanoic acid (PFDA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluoroundecanoic acid (PFUnA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorododecanoic acid (PFDoA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorotridecanoic Acid (PFTrIA)	--	--	ng/L	2.0 U	1.9 U ^a	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorotetradecanoic acid (PFTeA)	--	--	ng/L	2.0 U	1.9 U ^a	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorobutanesulfonic acid (PFBS)	420	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 J	1.9 U	1.9 U	2.5 J	2.0 U	3.0 J
Perfluoropentanesulfonic acid (PFPeS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.2 J
Perfluorohexanesulfonic acid (PFHxS)	51	--	ng/L	1.13 J	1.9 U	1.92 J	5.8	1.9 U	1.9 U	1.9 U	2.0 U	3.0 J
Perfluoroheptanesulfonic Acid (PFHpS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorooctanesulfonic acid (PFOS)	16	12	ng/L	15.6	14.4	2.63 J	17.1	1.9 U	1.9 U	1.9 U	4.0 U	1.7 U
Perfluorononanesulfonic acid (PFNS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
Perfluorodecanesulfonic acid (PFDS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	1.9 U	1.9 U	1.9 U	2.0 U	1.7 U
4:2 Fluorotelemer Sulfonate (4:2 FTS)	--	--	ng/L	4.0 U	3.7 U	4.0 U	3.7 U	3.7 U	3.7 U	3.7 U	4.0 U	3.4 U
6:2 Fluorotelemer Sulfonate (6:2 FTS)	--	--	ng/L	4.0 U	3.7 U	4.0 U	3.7 U	3.7 U	3.7 U	3.7 U	4.0 U	3.4 U
8:2 Fluorotelemer Sulfonate (8:2 FTS)	--	--	ng/L	4.0 U	3.7 U	4.0 U	3.7 U	3.7 U	3.7 U	3.7 U	4.0 U	3.4 U
2-(N-Methyl-perfluorooctane sulfonamido) acetic acid (MeFOSAA)	--	--	ng/L	8.0 U	7.4 U	8.0 U	7.4 U	7.4 U	7.4 U	7.4 U	8.0 U	6.9 U
2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid (EtFOSAA)	--	--	ng/L	8.0 U	7.4 U	8.0 U	7.4 U	7.4 U	7.4 U	7.4 U	8.0 U	6.9 U
Perfluorooctane Sulfonamide (FOSA)	--	--	ng/L	2.0 U	1.9 U ^a	2.0 U	9.3 U	1.9 U	1.9 U	9.3 U	2.0 U	1.7 U
HFPO-DA (GenX)	370	--	ng/L	--	9.3 U	--	9.3 U	9.3 U	9.3 U	9.3 U	--	8.6 U
ADONA	--	--	ng/L	--	3.7 U	--	3.7 U	3.7 U	3.7 U	3.7 U	--	3.4 U
9CI-PF3ONS (F-53B Major)	--	--	ng/L	--	3.7 U	--	3.7 U	3.7 U	3.7 U	3.7 U	--	3.4 U
11CI-PF3OUdS (F-53B Minor)	--	--	ng/L	--	3.7 U	--	3.7 U	3.7 U	3.7 U	3.7 U	--	3.4 U
Total PFAS	--	--	ng/L	27.55	43.9	13	43.7	431	0	38.6	19.73	38.8

Notes:

All values are in nanograms per liter (ng/L).

Bold result denotes detection.

Shaded result denotes detection is above the EGLE Groundwater Surface Water Criteria.

Red result denotes detection is above EGLE Drinking Water Maximum Contaminant Limit (MCL).

For Total PFAS all detections were summed.

-- = not applicable

a = Associated ID Standard outside control limits. Confirmed by batch QC, re-extraction and/or reanalysis.

U = not detected

J = estimated value between the limit of quantitation and the method detection limit.

[] = duplicate sample detections

EGLE = Environment Great Lakes and Energy

Table 4
PFAS Groundwater Analytical Summary Table
RACER Trust, Saginaw, Michigan

Analyte	EGLE Drinking Water MCL	Groundwater Surface Water Interface Criteria	Well ID Sample Date Units	MW-131WT 12/18/2018	MW-131WT 8/11/2020	MW-134WT 12/18/2018	MW-134WT 8/11/2020	MW-183WT 12/19/2018	MW-183WT 8/18/2020	MW97-105WT 12/18/2018	TW98-111WT 12/18/2018	QPTW-13R 12/18/2018
Perfluorobutanoic acid (PFBA)	--	--	ng/L	4.14 J	11.1	5.64 J	5.9 J	11.4	15.2	65.7	39.9^a	17
Perfluoropentanoic acid (PFPeA)	--	--	ng/L	2.24 J	1.9 U	3.54 J	2.7 J	2.0 U	2.4 J	20.8	2.0 U	16.4
Perfluorohexanoic acid (PFHxA)	400,000	--	ng/L	1.14 J	0.99 J	1.66 J	1.9 J	2.0 U	2.5 J	33.5	2.1 J	2.91 J
Perfluoroheptanoic acid (PFHpA)	--	--	ng/L	1.2 J	1.9 U	1.28 J	2.2 J	2.0 U	2.5 J	17.5	2.0 U	2.0 U
Perfluorooctanoic acid (PFOA)	8	12,000	ng/L	2.38 J	3.6 J	3.0 J	2.0 J	2.07 J	4.6	22.1	6.36	8.38
Perfluorononanoic acid (PFNA)	6	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.1 J	2.0 U	2.0 U	2.0 U
Perfluorodecanoic acid (PFDA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Perfluoroundecanoic acid (PFUnA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Perfluorododecanoic acid (PFDoA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Perfluorotridecanoic Acid (PFTriA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	4.0 U	2.0 U
Perfluorotetradecanoic acid (PFTeA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	4.0 U	2.0 U
Perfluorobutanesulfonic acid (PFBS)	420	--	ng/L	1.72 J	3.0 J	1.99 J	1.9 U	1.66 J	2.2 J	9.29	2.0 U	3.54 J
Perfluoropentanesulfonic acid (PFPeS)	--	--	ng/L	2.0 U	1.1 J	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Perfluorohexanesulfonic acid (PFHxS)	51	--	ng/L	4.21	4.9	2.0 U	1.9 U	1.5 J	2.0 J	4.12	4.76	1.92 J
Perfluoroheptanesulfonic Acid (PFHpS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Perfluorooctanesulfonic acid (PFOS)	16	12	ng/L	4.88 J	7.9	4.0 U	1.9 U	4.0 U	3.5 J	9.7	18	8.47
Perfluorononanesulfonic acid (PFNS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
Perfluorodecanesulfonic acid (PFDS)	--	--	ng/L	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	1.9 U	2.0 U	2.0 U	2.0 U
4:2 Fluorotelemer Sulfonate (4:2 FTS)	--	--	ng/L	4.0 U	3.7 U	4.0 U	3.7 U	4.0 U	3.7 U	4.0 U	4.0 U	4.0 U
6:2 Fluorotelemer Sulfonate (6:2 FTS)	--	--	ng/L	4.0 U	3.7 U	4.0 U	3.7 U	4.0 U	3.7 U	4.0 U	4.0 U ^a	4.0 U
8:2 Fluorotelemer Sulfonate (8:2 FTS)	--	--	ng/L	4.0 U	3.7 U	4.0 U	3.7 U	4.0 U	3.7 U	4.0 U	4.0 U	4.0 U ^c
2-(N-Methyl-perfluorooctane sulfonamido) acetic acid (MeFOSAA)	--	--	ng/L	8.0 U	7.4 U	8.0 U	7.4 U	8.0 U	7.4 U	8.0 U	8.0 U	8.0 U
2-(N-Ethyl-perfluorooctane sulfonamido) acetic acid (EtFOSAA)	--	--	ng/L	8.0 U	7.4 U	8.0 U	7.4 U	8.0 U	7.4 U	8.0 U	8.0 U	8.0 U
Perfluorooctane Sulfonamide (FOSA)	--	--	ng/L	2.0 U	1.9 U	2.0 U	9.3 U	2.0 U	1.9 U	2.0 U ^a	2.0 U ^a	2.0 U ^a
HFPO-DA (GenX)	370	--	ng/L	--	9.3 U	--	9.3 U	--	9.3 U	--	--	--
ADONA	--	--	ng/L	--	3.7 U	--	3.7 U	--	3.7 U	--	--	--
9CI-PF3ONS (F-53B Major)	--	--	ng/L	--	3.7 U	--	3.7 U	--	3.7 U	--	--	--
11CI-PF3OUdS (F-53B Minor)	--	--	ng/L	--	3.7 U	--	3.7 U	--	3.7 U	--	--	--
Total PFAS	--	--	ng/L	21.91	32.59	17.11	14.7	16.63	36	182.71	71.12	58.62

Notes:

All values are in nanograms per liter (ng/L).

Bold result denotes detection.

Shaded result denotes detection is above the EGLE Groundwater Surface Water Criteria.

Red result denotes detection is above EGLE Drinking Water Maximum Contaminant Limit (MCL).

For Total PFAS all detections were summed.

-- = not applicable

a = Associated ID Standard outside control limits. Confirmed by batch QC, re-extraction and/or re

U = not detected

J = estimated value between the limit of quantitation and the method detection limit.

[] = duplicate sample detections

EGLE = Environment Great Lakes and Energy

Table 4
PFAS Groundwater Analytical Summary Table
RACER Trust, Saginaw, Michigan

Analyte	EGLE Drinking Water MCL	Groundwater Surface Water Interface Criteria	Well ID Sample Date Units	QPTW-13R 8/11/2020	TWW-1 9/8/2020	X-2A 12/18/2018	X-2A 9/8/2020	X-9AR 12/19/2018	X-9AR 8/17/2020	X-10AR2 12/18/2018	X-10AR2 9/8/2020
Perfluorobutanoic acid (PFBA)	--	--	ng/L	16.6 [17.7]	29.7 J	34.1 ^a [26.3 ^a]	20.4 ^a	5.98 J	14.4	4.0 U	2.9 J [2.9 J]
Perfluoropentanoic acid (PFPeA)	--	--	ng/L	38.4 [37.3]	8.0	18.1 [14.4]	1.7 U	2.0 U	4.4	2.0 U	1.7 U [1.7 U]
Perfluorohexanoic acid (PFHxA)	400,000	--	ng/L	2.7 J [2.8 J]	8.9	6.46 [5.32]	4.4	2.0 U	2.7 J	2.0 U	1.7 U [0.97 J]
Perfluoroheptanoic acid (PFHpA)	--	--	ng/L	9.3 U [1.9 J]	5.9	4.93 [5.15]	3.1 J	2.0 U	2.5 J	2.0 U	1.7 U [1.7 U]
Perfluorooctanoic acid (PFOA)	8	12,000	ng/L	4.7 J [5.1]	11.0	50.6 [46.5]	29.9	2.0 U	2.5 J	2.13 J	5.8 [5.6]
Perfluorononanoic acid (PFNA)	6	--	ng/L	9.3 U [1.5 J]	1.8 U	2.0 U [2.0 U]	1.9 J	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorodecanoic acid (PFDA)	--	--	ng/L	9.3 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluoroundecanoic acid (PFUnA)	--	--	ng/L	9.3 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorododecanoic acid (PFDoA)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorotridecanoic Acid (PFTriA)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorotetradecanoic acid (PFTeA)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorobutanesulfonic acid (PFBS)	420	--	ng/L	1.9 U [1.9 U]	1.9 J	2.0 U [4.91]	3.4	2.0 U	1.6 J	2.0 U	1.1 J [1.0 J]
Perfluoropentanesulfonic acid (PFPeS)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorohexanesulfonic acid (PFHxS)	51	--	ng/L	3.7 [3.4 J]	1.8 U	7.73 [5.89]	4.7	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluoroheptanesulfonic Acid (PFHpS)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorooctanesulfonic acid (PFOS)	16	12	ng/L	11.0 [10.6]	1.8 U	16.5 [14.6]	14.5	4.0 U	1.9 U	4.0 U	1.7 U [1.7 U]
Perfluorononanesulfonic acid (PFNS)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
Perfluorodecanesulfonic acid (PFDS)	--	--	ng/L	1.9 U [1.9 U]	1.8 U	2.0 U [2.0 U]	1.7 U	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
4:2 Fluorotelemer Sulfonate (4:2 FTS)	--	--	ng/L	3.7 U [3.7 U]	3.6 U	4.0 U [4.0 U]	3.4 U	4.0 U	3.7 U	4.0 U	3.4 U [3.4 U]
6:2 Fluorotelemer Sulfonate (6:2 FTS)	--	--	ng/L	3.7 U [3.7 U]	3.6 U	4.0 U [4.0 U]	3.4 U	4.0 U	3.7 U	4.0 U	3.4 U [3.4 U]
8:2 Fluorotelemer Sulfonate (8:2 FTS)	--	--	ng/L	3.7 U [3.7 U]	3.6 U	4.0 U [4.0 U]	3.4 U	4.0 U	3.7 U	4.0 U	3.4 U [3.4 U]
2-(N-Methyl-perfluorooctane sulfonamido) acetic acid (MeFOSAA)	--	--	ng/L	37 U [37 U]	7.1 U	8.0 U [8.0 U]	6.9 U	8.0 U	7.4 U	8.0 U	6.9 U [6.9 U]
2-(N-Ethyl-perfluorooctane sulfonamido acetic acid (EtFOSAA)	--	--	ng/L	37 U [37 U]	7.1 U	8.0 U [8.0 U]	6.9 U	8.0 U	7.4 U	8.0 U	6.9 U [6.9 U]
Perfluorooctane Sulfonamide (FOSA)	--	--	ng/L	9.3 U ^a [9.3 U ^a]	1.8 U	2.0 U ^a [2.0 U ^a]	1.7 U ^a	2.0 U	1.9 U	2.0 U	1.7 U [1.7 U]
HFPO-DA (GenX)	370	--	ng/L	9.3 U [9.3 U]	8.9 U	--	8.6 U	--	9.3 U	--	8.6 U [8.6 U]
ADONA	--	--	ng/L	3.7 U [3.7 U]	3.6 U	--	3.4 U	--	3.7 U	--	3.4 U [3.4 U]
9Cl-PF3ONS (F-53B Major)	--	--	ng/L	3.7 U [3.7 U]	3.6 U	--	3.4 U	--	3.7 U	--	3.4 U [3.4 U]
11Cl-PF3OUdS (F-53B Minor)	--	--	ng/L	3.7 U [3.7 U]	3.6 U	--	3.4 U	--	3.7 U	--	3.4 U [3.4 U]
Total PFAS	--	--	ng/L	77.1 [80.3]	65.4	138.42 [123.07]	82.3	5.98	28.1	2.13	9.8 [10.47]

Notes:

All values are in nanograms per liter (ng/L).

Bold result denotes detection.

Shaded result denotes detection is above the EGLE Groundwater Surface Water Criteria.

Red result denotes detection is above EGLE Drinking Water Maximum Contaminant Limit (MCL).

For Total PFAS all detections were summed.

-- = not applicable

a = Associated ID Standard outside control limits. Confirmed by batch QC, re-extraction and/or re

U = not detected

J = estimated value between the limit of quantitation and the method detection limit.

[] = duplicate sample detections

EGLE = Environment Great Lakes and Energy

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Barium	Cyanide (total)	Iron	Manganese	Selenium	Sodium	Arsenic (Dissolved)	Barium (Dissolved)	Cyanide (Dissolved)	Iron (Dissolved)	Manganese (Dissolved)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	1,300	5.2	NSL	4,700	5	NSL	10	1,300	5.2	NSL	4,700
MW-117S1	24.2 - 29.2	06/20/95	--	--	5.00 U	--	--	--	--	1.2	1,410	--	5,780	347
MW-117S1	24.2 - 29.2	07/14/95	--	--	--	--	--	--	--	--	--	--	--	--
MW-117S1	24.2 - 29.2	06/11/96	--	--	--	--	--	--	--	--	1,670	--	8,260	330
MW-117S1	24.2 - 29.2	05/19/00	--	--	--	--	--	--	--	10 U	1,720	5 U	8,730	341
MW-117S1	24.2 - 29.2	06/19/01	--	--	--	--	--	--	--	10 U	1,740	5 U	9,120	340
MW-117S1	24.2 - 29.2	06/26/02	--	--	--	--	--	--	--	10 U	1,740	5 U	8,650	326
MW-117S1	24.2 - 29.2	06/19/03	--	--	--	--	--	--	--	10 U	1,800	5 U	9,160	354
MW-117S1	24.2 - 29.2	05/27/04	--	--	--	--	--	--	--	10 U	1,780	5 U	10,100	326 J
MW-117S1	24.2 - 29.2	06/23/05	--	--	--	--	--	--	--	2.7	1,530 J	10 U	8,150	289 J
MW-117S1	24.2 - 29.2	12/13/06	--	--	--	--	--	--	--	5 U	2,010	10 U	8,980	329
MW-117S1	24.2 - 29.2	12/07/07	--	--	--	--	--	--	--	5 U	1,890	10 U	9,480	332
MW-117S1	24.2 - 29.2	03/14/08	--	--	--	--	--	--	--	3.9 J	1,810	10 U	7,350	312
MW-117S1	24.2 - 29.2	10/01/10	--	--	--	--	--	--	--	5 U	1,800 J	100 U	8,980	307 J
MW-117S1	24.2 - 29.2	09/27/11	--	--	--	--	--	--	--	1.6	2,000	--	9,500	330
MW-117S1	24.2 - 29.2	09/13/12	--	--	--	--	--	--	--	1.6 J	1,800 B	10 U	8,600	300
MW-117S1	24.2 - 29.2	09/24/13	--	--	--	--	--	--	--	4.3 B	2,000	10 U	3,900	510
MW-117S1	24.2 - 29.2	09/22/14	--	--	--	--	--	--	--	4.6 B	2,100 B	10 U	12,000 B	290
MW-117S1	24.2 - 29.2	09/30/15	--	--	10 U	--	--	--	--	2.3	1,700	10 U	8,700	270
MW-117S1	24.2 - 29.2	09/27/16	--	--	10 U	--	--	--	--	1.9 J	1,500 B	10 U	9,000 B	270 B
MW-117S1	24.2 - 29.2	11/13/17	--	--	10 U	--	--	--	--	2.0	1,700	10 U	8,700	260
MW-117S1	24.2 - 29.2	08/21/19	--	--	10 U	--	--	--	--	10 U	1,700	10 U	8,700	270
MW-117S1	24.2 - 29.2	08/13/20	10 U	1,500	10 U	8,600 B	290	15 U	110,000	10 U	1,500	10 U	7,900 B	290
MW-117WT	3 - 13	06/20/95	--	--	5.00 U	--	--	--	--	1.3	2,210	--	100,000	5,130
MW-117WT	3 - 13	07/14/95	--	--	--	--	--	--	--	--	--	--	--	--
MW-117WT	3 - 13	06/11/96	--	--	--	--	--	--	--	--	2,520	--	124,000	5,190
MW-117WT	3 - 13	05/19/00	--	--	--	--	--	--	--	10 U	3,580	5 U	149,000	5,510
MW-117WT	3 - 13	06/18/01	--	--	--	--	--	--	--	10 U	3,170	5 U	137,000	4,900
MW-117WT	3 - 13	06/26/02	--	--	--	--	--	--	--	2.2 B	2,970	5 U	128,000	4,850
MW-117WT	3 - 13	06/19/03	--	--	--	--	--	--	--	10 U	3,250	5 U	139,000	5,480
MW-117WT	3 - 13	12/09/04	--	--	--	--	--	--	--	4.1 [4.6 J]	3,110 J [2,880 J]	10 U [10 U]	143,000 J [125,000 J]	5,150 J [3,970 J]
MW-117WT	3 - 13	06/23/05	--	--	--	--	--	--	--	4.5	2,360 J	10 U	122,000	3,810 J
MW-117WT	3 - 13	12/13/06	--	--	--	--	--	--	--	5 U	2,710	10 U	105,000	4,000
MW-117WT	3 - 13	12/07/07	--	--	--	--	--	--	--	5 U	2,880	10 U	124,000	4,460
MW-117WT	3 - 13	03/14/08	--	--	--	--	--	--	--	5 U	2,670	10 U	112,000	4,160
MW-117WT	3 - 13	10/01/10	--	--	--	--	--	--	--	5 U	2,910 J	10 U	119,000	4,360 J
MW-117WT	3 - 13	09/27/11	--	--	--	--	--	--	--	2.5	3,300	--	130,000	4,700
MW-117WT	3 - 13	09/13/12	--	--	--	--	--	--	--	3.7	3,000 B	10 U	110,000	4,100
MW-117WT	3 - 13	09/24/13	--	--	--	--	--	--	--	4.8 B	3,100	10 U	130,000	7,000
MW-117WT	3 - 13	09/23/14	--	--	--	--	--	--	--	1.4 J,B	2,800 B	10 U	110,000 B	3,700
MW-117WT	3 - 13	09/30/15	--	--	10 U	--	--	--	--	3.0	2,100	10 U	83,000	2,900
MW-117WT	3 - 13	09/27/16	--	--	10 U	--	--	--	--	1.6 J	1,600 B	10 U	96,000 B	3,400 B
MW-117WT	3 - 13	08/13/20	6.5 J	2,000	10 U	96,000 B	3,700	15 U	460,000	4.1 J	2,100	10 U	97,000 B	3,800
MW-118S1	23.5 - 28.5	06/20/95	--	--	5.00 U	--	--	--	--	1.8	482	--	2,500	347
MW-118S1	23.5 - 28.5	07/14/95	--	--	--	--	--	--	--	--	--	--	--	--
MW-118S1	23.5 - 28.5	06/11/96	--	--	--	4,970	372	--	--	--	532	--	5,390	383
MW-118S1	23.5 - 28.5	05/17/00	--	--	--	--	--	--	--	10 U [10 U]	593 [612]	5 U [5 U]	6,090 [6,150]	420 [415]
MW-118S1	23.5 - 28.5	06/19/01	--	--	--	--	--	--	--	10 U	645	5 U	7,070	428
MW-118S1	23.5 - 28.5	06/27/02	--	--	--	--	--	--	--	10 U	622	5 U	6,070	408
MW-118S1	23.5 - 28.5	06/19/03	--	--	--	--	--	--	--	10 U	713	5 U	7,570	476
MW-118S1	23.5 - 28.5	12/09/04	--	--	--	--	--	--	--	2.3 J	718 J	10 U	7,420 J	405 J
MW-118S1	23.5 - 28.5	06/23/05	--	--	--	--	--	--	--	1.9 B	676 JE	10 U	6,630	370 J
MW-118S1	23.5 - 28.5	12/14/06	--	--	--	--	--	--	--	5 U	727	10 U	5,930	401
MW-118S1	23.5 - 28.5	12/07/07	--	--	--	--	--	--	--	5 U	753	10 U	6,940	425
MW-118S1	23.5 - 28.5	04/01/08	--	--	--	--	--	--	--	5 U	763	10 U	6,340	413
MW-118S1	23.5 - 28.5	10/01/10	--	--	--	--	--	--	--	5 U	759 J	10 U	6,570	395 J
MW-118S1	23.5 - 28.5	09/27/11	--	--	--	--	--	--	--	0.58	810	10 U	6,700	410
MW-118S1	23.5 - 28.5	09/13/12	--	--	--	--	--	--	--	0.74	710 B	11	5,900	400
MW-118S1	23.5 - 28.5	09/24/13	--	--	--	--	--	--	--	18 B	970 B	10 U	3,900 B	470 B
MW-118S1	23.5 - 28.5	09/22/14	--	--	--	--	--	--	--	0.86 J	730 B	10 U	50 U	350
MW-118S1	23.5 - 28.5	09/30/15	--	--	10 U	--	--	--	--	1.6 J	890	10 U	7,700	340
MW-118S1	23.5 - 28.5	09/27/16	--	--	10 U	--	--	--	--	1.9 J	850 B	10 U	8,700 B	360 B
MW-118S1	23.5 - 28.5	11/13/17	--	--	10 U F1	--	--	--	--	1.4 J	750	10 U	8,500	460
MW-118S1	23.5 - 28.5	08/14/20	7.8 J	29 J	10 U	3,900	770	15 U	13,000 B	8.2 J	28 J	10 U	2,700	800

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Barium	Cyanide (total)	Iron	Manganese	Selenium	Sodium	Arsenic (Dissolved)	Barium (Dissolved)	Cyanide (Dissolved)	Iron (Dissolved)	Manganese (Dissolved)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	1,300	5.2	NSL	4,700	5	NSL	10	1,300	5.2	NSL	4,700
MW-118WT	1.6 - 11.6	06/20/95	--	--	5.00 U	--	--	--	--	1	1,970	--	71,500	5,460
MW-118WT	1.6 - 11.6	07/14/95	--	--	--	--	--	--	--	--	--	--	--	--
MW-118WT	1.6 - 11.6	06/11/96	--	--	--	81,900	4,990	--	--	--	2,420	--	93,100	5,390
MW-118WT	1.6 - 11.6	05/17/00	--	--	--	--	--	--	--	10 U	7,970	5 U	261,000	8,930
MW-118WT	1.6 - 11.6	06/19/01	--	--	--	--	--	--	--	5.1 B [7.4 B]	10,700 [11,200]	5 U [5 U]	330,000 [344,000]	7,740 [8,070]
MW-118WT	1.6 - 11.6	06/27/02	--	--	--	--	--	--	--	3.9 B [7.9 B]	8,650 [9,200]	5 U [5 U]	259,000 [277,000]	6,250 [6,360]
MW-118WT	1.6 - 11.6	06/19/03	--	--	--	--	--	--	--	10 U [10 U]	5,620 [5,420]	5 U [5 U]	173,000 [166,000]	4,110 [4,000]
MW-118WT	1.6 - 11.6	05/27/04	--	--	--	--	--	--	--	3.2	4,350	5 U	135,000	3,080 J
MW-118WT	1.6 - 11.6	06/23/05	--	--	--	--	--	--	--	3.4	2,210 J	10 U	92,400	1,560 J
MW-118WT	1.6 - 11.6	12/14/06	--	--	--	--	--	--	--	5 U	1,400	10 U	39,200	1,050
MW-118WT	1.6 - 11.6	12/07/07	--	--	--	--	--	--	--	5 U	1,120	10 U	35,400	881
MW-118WT	1.6 - 11.6	04/01/08	--	--	--	--	--	--	--	5 U	1,040	10 U	30,500	800
MW-118WT	1.6 - 11.6	09/30/10	--	--	--	--	--	--	--	5 U	571 J	10 U	16,900	448 J
MW-118WT	1.6 - 11.6	09/27/11	--	--	--	--	--	--	--	1.1	600	--	16,000	470
MW-118WT	1.6 - 11.6	09/13/12	--	--	--	--	--	--	--	0.80 J	390	--	11,000	340
MW-118WT	1.6 - 11.6	09/24/13	--	--	--	--	--	--	--	0.72 J,B	390 B	10 U	8,700 B	330 B
MW-118WT	1.6 - 11.6	09/22/14	--	--	--	--	--	--	--	0.37 J,B	360 B	10 U	8,600 B	300
MW-118WT	1.6 - 11.6	09/30/15	--	--	10 U	--	--	--	--	0.85 J	300	10 U	7,100	270
MW-118WT	1.6 - 11.6	09/27/16	--	--	10 U	--	--	--	--	1.0 J	300 B	10 U	8,500 B	300 B
MW-118WT	1.6 - 11.6	11/13/17	--	--	10 U	--	--	--	--	2.0 U	370	5.8 J	15,000	570
MW-118WT	1.6 - 11.6	08/14/20	15	250	10 U	26,000	970	15 U	48,000 B	15	250	10 U	26,000	1,000
MW-183WT	6 - 16	01/09/08	5.00 U [5.00 U]	44.1 J [44.3 J]	--	1,200 J [669 J]	514 [429 J]	5.00 U [5.00 U]	97,200 [99,800]	5 U [5 U]	45.6 J [44.2 J]	10 U [10 U]	714 J [1,280 J]	440 [565 J]
MW-183WT	6 - 16	03/12/08	5.00 U	52.6 J	--	659	611	5.00 U	99,000	3.3 J	51.4 J	10 U	298	608
MW-183WT	6 - 16	09/28/10	5.0 U [6.90]	38.2 BJ [37.7 BJ]	--	3,850 [3,630]	252 [248]	5.0 U [5.0 U]	--	5.0 U [5.0 U]	36.8 BJ [37 BJ]	10 U	3.06 [3.02]	243 [238]
MW-183WT	6 - 16	09/28/11	1.90 [2.0]	36.0 [38.0]	--	2,600 [2,600]	240 [260]	5.0 U [5.0 U]	--	2.0	39	--	2,600	250
MW-183WT	6 - 16	09/14/12	1.0 [0.73 J]	79 B [85 B]	--	2,200 [2,100]	400 B [440 B]	5.0 U [5.0 U]	--	1.4 J	78 B	10 U	2,100	400 B
MW-183WT	6 - 16	09/24/13	3.9 B [3.3 B]	85 B [83 B]	--	4,500 B [3,800 B]	500 B [490 B]	5.0 U [5.0 U]	--	3.2 B	82 B	10 U	3,400 B	490 B
MW-183WT	6 - 16	09/23/14	1.8 J,B [1.9 J,B]	43 B [45 B]	--	2,300 B [2,600 B]	460 [540]	0.32 J,B [0.27 J,B]	--	1.9 J,B [1.9 J,B]	460 B [470 B]	10 U	2,700 B [2,600 B]	550 [560]
MW-183WT	6 - 16	10/01/15	1.5 J [1.3 J]	46 [45]	--	2,500 [2,400]	350 [330]	0.69 J,B [0.55 J,B]	--	1.7 J	44	10 U	2,600	350
MW-183WT	6 - 16	09/28/16	6.0	41 B	10 U	5,000 B	1,100 B	0.82 J	49,000	4.1	40 B	10 U	5,300 B	1,100 B
MW-183WT	6 - 16	08/29/17	5.8 [4.6]	50 F1 [41]	10 U F1 F2	4,200 [3,600]	1,700 [1,300]	5.0 U [5.0 U]	38,000 [35,000]	4.8	45	10 U F1 F2	3,800	1,500
MW-183WT	6 - 16	09/26/18	6.4 J [8.2 J]	35 J [44 J]	10 U	3,900 F1 [4,900]	1,200 F1 [1,500]	15 U [15 U]	21,000 [27,000]	6.5 J	41 J	10 U [10 U]	4,000	1,300
MW-183WT	6 - 16	08/21/19	10 [9.4 J]	52 J [52 J]	10 U	6,600 [6,800]	1,500 [1,500]	15 U ^ [15 U ^]	30,000 [29,000]	8.1 J	51 J	10 U [10 U]	5,900	1,400
MW-183WT	6 - 16	08/18/20	4.6 J [4.5 J]	48 J [53 J]	10 U [10 U]	5,400 [5,700]	1,600 [1,800]	15 U [15 U]	14,000 [15,000]	7.0 J,F2 [5.3 J]	53 J,F1,F2 [52 J]	10 U [10 U]	5,800 F1,F2 [5,600]	1,800 F1,F2 [1,800]
TWW-1	1.5 - 6.5	01/25/97	--	--	--	--	--	--	--	5 U	200 UL	10 U	110	2,110
TWW-1	1.5 - 6.5	05/21/00	10.0 U	146	--	100 U	1,580	5.00 U	839,000	10 U	145	--	127 U	1,610
TWW-1	1.5 - 6.5	05/29/08	--	--	--	--	--	--	--	--	--	--	--	--
X-10BR	26.3 - 31.3	07/24/95	--	--	5.00 U	--	--	--	--	32	387	--	22,600	457
X-10BR	26.3 - 31.3	12/15/06	--	--	--	--	--	--	--	27.6	598	10 U	30,500	691
X-10BR	26.3 - 31.3	12/04/07	--	--	--	--	--	--	--	29.5	570	10 U	32,700	696
X-10BR	26.3 - 31.3	03/12/08	--	--	--	--	--	--	--	33	597	10 U	31,800	716
X-10BR	26.3 - 31.3	09/29/10	--	--	--	--	--	--	--	28.5	581 J	10 U	31,700	751
X-10BR	26.3 - 31.3	09/22/11	--	--	--	--	--	--	--	30	630	10 U	35,000	750
X-10BR	26.3 - 31.3	09/14/12	--	--	--	--	--	--	--	27	570	10 U	30,000	730 B^
X-10BR	26.3 - 31.3	09/24/13	--	--	--	--	--	--	--	28 B	630	10 U	33,000	750
X-4AR	3.3 - 8.3	07/24/95	12.7	431	5.00 U	72,400	1,500	5.00 U	20,700	1.2	200 U	--	1,080	248
X-4AR	3.3 - 8.3	06/09/96	5.00 U	200 U	5.00 U	399	41.9	5.00 U	21,900	5 U	200 U	5 U	289	44.4
X-4AR	3.3 - 8.3	05/21/00	10.0 U	73.3 B	--	193 U	15.0 U	5.00 U	20,700	10 U	73.9 B	--	100 U	15 U
X-4AR	3.3 - 8.3	08/18/20	10 U	25 J	10 U	100 U	3.0 J	15 U	28,000	10 U	36 J	--	100 U	180
X-4CAUG	18 - 23	07/24/95	--	--	5.00 U	--	--	--	--	1 UJ	200 U	--	1,970	447
X-4CAUG	18 - 23	06/08/96	--	--	--	--	--	--	--	5 U	200 U	5 UJ	1,980	464
X-4CAUGR	14 - 19	01/09/08	5.00 U	114	--	4,600	397	5.00 U	73,900	5 U	123	10 U	4,940	427
X-4CAUGR	14 - 19	03/12/08	5.00 U	129	--	5,060	495	5.00 U	55,400	5 U	137	10 U	5,020	535
X-4CAUGR	14 - 19	09/28/10	5.00 U	132 J	--	4,930	559	5.00 U	54,000	5 U	129 J	10 U	5,180	571
X-4CAUGR	14 - 19	09/26/11	0.740	140	--	5,400	620	5.00 U	44,000	0.45	130	10 U	5,000	590
X-4CAUGR	14 - 19	09/14/12	0.42 J	120 B	--	4,500	560 B^	5.00 U	53,000	0.40 J	120 B	10 U	4,400	570 B^
X-4CAUGR	14 - 19	09/24/13	1.9 B	89	--	6,700	730	5.00 U	22,000 B	6.9 B	89 B	10 U	6,300 B	760 B
X-4CAUGR	14 - 19	09/23/14	2.3 B	130 B	--	9,100 B	610	0.36 J,B	59,000 B	2.2 B	140 B	10 U	9,000 B	610
X-4CAUGR	14 - 19	09/30/15	2.0	120	10 U	6,500	430	0.56 J	64,000 B	2.1	140	10 U	7,800	500
X-4CAUGR	14 - 19	09/28/16	1.3 J	100 B	10 U	4,900 B	380 B	0.92 J	78,000	1.1 J	96 B	10 U	4,700 B	370 B
X-4CAUGR	14 - 19	08/29/17	0.84 J	110	10 U	4,800	420	--	9,200	0.84 J	110	10 U	4,700	450
X-4CAUGR	14 - 19	09/26/18	10 U	67 J	10 U	3,500	300	15 U	10,000	10 U	64 J	10 U	2,800	300
X-4CAUGR	14 - 19	08/22/19	2.0 U	57	10 U	2,400	270	5.0 U	12,000	2.0 U	59	10 U	2,700	280
X-4CAUGR	14 - 19	08/17/20	7.2 J	54 J	10 U	2,700	300	15 U	13,000	4.3 J	54 J	10 U	2,700	300

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Barium	Cyanide (total)	Iron	Manganese	Selenium	Sodium	Arsenic (Dissolved)	Barium (Dissolved)	Cyanide (Dissolved)	Iron (Dissolved)	Manganese (Dissolved)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	1,300	5.2	NSL	4,700	5	NSL	10	1,300	5.2	NSL	4,700
X-4D	40 - 45	01/09/08	5.00 U	125	--	2,250	327	5.00 U	733,000	5 U	124	10 U	2,080	318
X-4D	40 - 45	04/01/08	--	--	--	--	--	--	--	5 U [5 U]	112 [111]	10 U [10 U]	1,930 [1,780]	263 [258]
X-4D	40 - 45	04/03/08	5.00 U	110	--	1,640	263	5.00 U	701,000	--	--	--	--	--
X-4D	40 - 45	06/05/08	--	--	--	--	--	--	--	--	--	--	--	--
X-4D	40 - 45	09/28/10	5.0 U	99.7 B,J	--	1,030	265	5.00 U	699,000	5 U	98.9 B,J	10 U	979	275
X-4D	40 - 45	09/26/11	1.10	100	--	1,400	190	5.00 U	720,000	0.94	99	10 U	1,300	180
X-4D	40 - 45	09/14/12	1.1	86 B	--	980	180 B	5.00 U	690,000	0.89 J	87 B	10 U	1,000	190 B^
X-4D	40 - 45	09/24/13	0.91 J,B	92	--	1,300	160	5.00 U	690,000	0.79 J,B	89 B	10 U	1,200	160 B
X-4D	40 - 45	09/23/14	0.49 J,B	58 B	--	290 J,B	340	0.42 J,B	260,000 B	0.53 J,B	82 B	10 U	35 J,B	180
X-4D	40 - 45	09/30/15	1.2 J	87	10 U	1,000	160	2.0 J,B	660,000	1.1 J	82	10 U	740	180
X-4D	40 - 45	09/28/16	0.85 J	93 B	10 U	1,200 B	200 B	5.0 U	660,000	0.97 J	91 B	10 U	1,100 B	200 B
X-4D	40 - 45	08/29/17	2.0 U	83	10 U	50 U	190	5.0 U	1,600,000	2.0 U	84	10 U	50 U	180
X-4D	40 - 45	09/26/18	10 U	83 J	10 U	330	310	15 U	560,000	10 U	83 J	10 U	1,300	210
X-4D	40 - 45	08/22/19	2.0 U	28	10 U	1,000	240	5.0 U	85,000	2.0 U	61	10 U	1,000	220
X-4D	40 - 45	08/17/20	6.3 J	81 J	10 U	1,200	210	15 U	630,000	5.8 J	84 J	10 U	1,100	220
X-9AR	3 - 13	07/24/95	1.60	200 U	5.00 U	11,100	770	5.00 U	340,000	2.1	200 U	--	9,170	674
X-9AR	3 - 13	06/09/96	5.00 U	200 U	5.00 U	2,900	348	5.00 U	57,200	5 U	200 U	5 UJ	3,190	382
X-9AR	3 - 13	12/15/06	5.00 U	94.0 J	--	1,090	157	5.00 U	55,000	5 U	91.2 J	10 U	965	153
X-9AR	3 - 13	01/10/08	5.00 U	108	--	5,510	318	5.00 U	58,600	5 U	110	10 U	5,620	325
X-9AR	3 - 13	03/11/08	5.00 U	51.8 J	--	100 U	6.80 J	8.20	34,300	5 U	51.2 J	10 U	134	3.1 J
X-9AR	3 - 13	06/05/08	--	--	--	--	--	4.60 B [5.00 U]	--	--	--	--	--	--
X-9AR	3 - 13	09/29/10	5.00 U	113 J	--	6,320	380	5.00 U	55,600	5 U	116 J	10 U	6,580	388
X-9AR	3 - 13	09/23/11	0.40	200	--	6,600	770	5.00 U	95,000	2 U	200	10 U	6,600	750
X-9AR	3 - 13	09/12/12	0.43 J	190	--	5,400	790 B^	5.00 U	120,000	2 U	190	10 U	5,500	780 B^
X-9AR	3 - 13	09/25/13	6	220 B	--	10,000 B	840 B	5.00 U	120,000 B	5.5	220 B	10 U	8,900 B	670 B
X-9AR	3 - 13	09/22/14	1.2 J	160 B	--	8,800	570	5.00 U	60,000 B	1.3 J	170 B	10 U	9,100	590
X-9AR	3 - 13	10/01/15	0.63 J	91	10 U	5,000	310	0.55 J,B	39,000 B	2.0 U	87	10 U	4,700	300
X-9AR	3 - 13	09/28/16	0.50 *J	100	10 U	5,600	360	0.62 J	39,000	0.61 *J	97	10 U	5,500	360
X-9AR	3 - 13	08/29/17	2.4	56	10 U	2,900	1,300	5.0 U	11,000	2.4	--	10 U	2,300	1,400
X-9AR	3 - 13	09/26/18	10 U	58 J	10 U	2,100	3,600	15 U	10,000	10 U	55 J	10 U	1,900	4,000
X-9AR	3 - 13	08/21/19	4.4 J	64 J	10 U	3,300	3,600	15 U ^	11,000	4.3 J	65 J	10 U	3,100	3,600
X-9AR	3 - 13	08/17/20	23	57 J	10 U	6,400	3,100	15 U	9,600	24	57 J	10 U	5,600	3,000
X-9BR	26 - 31	07/24/95	--	--	5.00 U	--	--	--	--	1 UJ	200 U	--	3,360	763
X-9BR	26 - 31	06/08/96	--	--	--	--	--	--	--	5 U	200 U	5 UJ	2,490	813
X-9BR	26 - 31	12/15/06	5.00 U [5.00 U]	143 [148]	--	3,070 [3,120]	777 [801]	5.00 U [5.00 U]	102,000 [102,000]	5 U	153	10 U	4,450	717
X-9BR	26 - 31	01/08/08	5.00 U	155	--	4,160	833	5.00 U	122,000	5 U	103	10 U	2,790	541
X-9BR	26 - 31	03/11/08	5.00 U	147	--	2,590	903	5.00 U	81,200	5 U	136	10 U	2,560	828
X-9BR	26 - 31	09/28/10	5.00 U	175 J	--	3,970	893	5.00 U	151,000	5 U	164 J	10 U	4,060	848
X-9BR	26 - 31	09/23/11	0.650	180	--	3,700	960	5.00 U	140,000	0.63	180	10 U	3,700	960
X-9BR	26 - 31	09/12/12	0.940 J	170	--	5,100	900 B^	5.00 U	190,000	0.91 J	160	10 U	5,300	850 B^
X-9BR	26 - 31	09/25/13	6.2	130 B	--	9,200 B	620 B	5.00 U	210,000 B	6.6	140 B	10 U	9,000 B	740 B
X-9BR	26 - 31	09/22/14	2.0	170 B	--	10,000	610	0.25 J	230,000 B	1.9 J	160 B	10 U	10,000	630
X-9BR	26 - 31	10/01/15	1.6 J	160	10 U	8,700	560	0.74 J,B	210,000 B	1.7 J	170	10 U	8,700	560
X-9BR	26 - 31	09/28/16	1.7 *J	150	10 U	7,500	550	0.72 J	230,000	1.8 *J	150	10 U	7,900	530
X-9BR	26 - 31	08/29/17	2.1	170	10 U	8,700	520	5.0 U	250,000	2.1	170	10 U	8,600	520
X-9BR	26 - 31	09/26/18	10 U	63 J	10 U	5,000	220	15 U	49,000	10 U	59 J	10 U	4,100	180
X-9BR	26 - 31	08/21/19	10 U	150 J	--	9,400	540	15 U ^	200,000	10 U	150 J	10 U	9,900	520
X-9BR	26 - 31	08/18/20	10 U	50 J	10 U	5,000	590	15 U	100,000	4.7 J	56 J	10 U	7,200	680
X-9CAUG	20 - 25	07/24/95	--	--	5.00 U	--	--	--	--	1 UJ	200 U	--	7,500	628
X-9CAUG	20 - 25	06/08/96	--	--	--	--	--	--	--	5 U	200 U	5 UJ	8,900	615
X-9CAUG	20 - 25	12/15/06	5.00 U	176	--	6,920	632	5.00 U	59,400	5 U	173	10 U	6,730	630
X-9CAUG	20 - 25	01/08/08	5.00 U	381	--	2,980	616	5.00 U	72,800	5 U	360	10 U	2,810	586
X-9CAUG	20 - 25	03/11/08	5.00 U	167	--	6,410	679	5.00 U	59,900	5 U	174	10 U	6,730	699
X-9CAUG	20 - 25	09/28/10	5.00 U	193 J	--	5,420	760	5.00 U	100,000	5 U	194 J	10 U	5,790	801
X-9CAUG	20 - 25	09/23/11	1.50	110	--	6,000	350	5.00 U	54,000	1.7	120	10 U	6,000	350
X-9CAUG	20 - 25	09/12/12	1.9 J	110 B	--	4,700	340	0.68 J	47,000	0.12 J	100 B	10 U	5,200	340
X-9CAUG	20 - 25	09/25/13	1.8 J	89 B	--	4,500 B	290 B	5.00 U	47,000 B	1.8 J	87 B	10 U	4,400 B	300 B
X-9CAUG	20 - 25	09/22/14	1.1 J,B	84 B	--	5,700 B	330	0.40 J,B	38,000 B	1.1 J,B	860 B	10 U	5,700 B	350
X-9CAUG	20 - 25	09/30/15	1.3 J	210	--	9,800	640	0.32 J	88,000 B	1.1 J,B	190	10 U	10,000	550
X-9CAUG	20 - 25	09/28/16	0.97 *J	260	10 U	8,400	740	0.89 J	120,000	1.0 *J	250	10 U	9,900	690
X-9CAUG	20 - 25	08/29/17	2.0 U	220	10 U	12,000	530	5.0 U	42,000	2.0 U	230	10 U	12,000	570
X-9CAUG	20 - 25	09/25/18	10 U	120 J	10 U	7,500	500	15 U	24,000	10 U	120 J	10 U	7,500	500
X-9CAUG	20 - 25	08/21/19	10 U	130 J	10 U	7,700	470	15 U ^	16,000	10 U	130 J	10 U	7,600	440
X-9CAUG	20 - 25	08/18/20	10 U	73 J	10 U	8,900	480	15 U	16,000	10 U	69 J	10 U	8,000	440

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Arsenic	Barium	Cyanide (total)	Iron	Manganese	Selenium	Sodium	Arsenic (Dissolved)	Barium (Dissolved)	Cyanide (Dissolved)	Iron (Dissolved)	Manganese (Dissolved)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			680*	1,300	5.2	NSL	4,700	5	NSL	10	1,300	5.2	NSL	4,700
X-9D	42.5 - 47.5	01/08/08	5.00 U	94.2 J	--	3,640	186	5.00 U	717,000	5 U	87.8 J	10 U	3,370	173
X-9D	42.5 - 47.5	03/11/08	5.00 U	80.7 J	--	3,150	149	5.00 U	635,000	5 U	86.6 J	10 U	3,570	155
X-9D	42.5 - 47.5	06/05/08	--	--	--	--	--	--	--	--	--	--	--	--
X-9D	42.5 - 47.5	09/28/10	5.00 U	93.0 BJ	--	2,930	132	5.00 U	685,000	5 U	90.3 BJ	10 U	2,670	125
X-9D	42.5 - 47.5	09/23/11	0.640	100	--	3,100	130	5.00 U	690,000	0.63	95	10 U	2,900	120
X-9D	42.5 - 47.5	09/12/12	0.67 J	84 B	--	2,500	110	5.00 U	650,000	0.83 J	88 B	10 U	2,700	120
X-9D	42.5 - 47.5	09/25/13	21	140 B	--	3,100 B	360 B	5.00 U	690,000 B	22	140 B	10 U	2,900 B	390 B
X-9D	42.5 - 47.5	09/22/14	15	110 B	--	3,000	170	0.58 J	680,000 B	16	110 B	10 U	2,800	170
X-9D	42.5 - 47.5	09/30/15	9.5	100	10 U	2,800	140	0.49 J	630,000 B	7.3	85	10 U	1,900	180
X-9D	42.5 - 47.5	09/28/16	3.8	94	10 U	1,500	130	0.52 J	630,000 B	5.0	91	10 U	2,200	120
X-9D	42.5 - 47.5	08/29/17	1.2 J	54	10 U	50 U	75	5.0 U	330,000	0.76 J	74	10 U	50 U	130
X-9D	42.5 - 47.5	09/25/18	5.4 J	120 J	10 U	2,900	360	15 U	630,000	10 U	120 J	10 U	2,900	370
X-9D	42.5 - 47.5	08/20/19	5.7 J	110 J	10 U H	3,300	200	15 U	620,000	10 U	110 J	10 U	2,800	200
X-9D	42.5 - 47.5	08/17/20	38	200	10 U	22,000	3,400	15 U	490,000	22	160 J	6.6 J	13,000	2,200

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Selenium (Dissolved)	Sodium (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Chloride	Nitrate (as N)	Nitrite (as N)	Sulfate	Total Dissolved Solids (TDS)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			5	NSL	53	53	NSL	NA	NSL	NSL	NSL
MW-117S1	24.2 - 29.2	06/20/95	5 UJ	101,000	--	--	--	--	--	--	--
MW-117S1	24.2 - 29.2	07/14/95	--	--	1,000 UJ	--	230,000	--	--	--	990,000
MW-117S1	24.2 - 29.2	06/11/96	--	108,000	--	--	--	--	--	--	--
MW-117S1	24.2 - 29.2	05/19/00	5 U	120,000	5,100	--	284,000 J	1,000 UG	1,000 UG	2,000 UG	840,000
MW-117S1	24.2 - 29.2	06/19/01	5 U	121,000	11,000	--	269,000	500 U	R	260 B	920,000
MW-117S1	24.2 - 29.2	06/26/02	5 U	114,000	7,100	--	270,000	500 U	500 U	140 B	970,000
MW-117S1	24.2 - 29.2	06/19/03	5 U	118,000	7,400	--	264,000	500 U	140 BJ	1,000 UJ	1,000,000
MW-117S1	24.2 - 29.2	05/27/04	5 U	115,000	7,300	--	275,000	500 U	160 B	440 B	1,000,000
MW-117S1	24.2 - 29.2	06/23/05	5.4	118,000	8,400 J	--	270,000	100 U	100 U	1,000 U	970,000 J
MW-117S1	24.2 - 29.2	12/13/06	5 U	118,000	8,200	--	267,000	100 U	100 U	1,000 U	960,000
MW-117S1	24.2 - 29.2	12/07/07	5 U	129,000	22,000	--	268,000	100 U	100 U	1,000 U	950,000
MW-117S1	24.2 - 29.2	03/14/08	5 U	113,000	1,200	--	274,000	100 UJ	100 UJ	1,000 U	940,000
MW-117S1	24.2 - 29.2	10/01/10	5 U	119,000	6,500	210	319,000	100 U	100 U	1,000 U	940,000
MW-117S1	24.2 - 29.2	09/27/11	5 U	120,000	8,400	19	270,000	100 U	100 U	1,000 U	970,000
MW-117S1	24.2 - 29.2	09/13/12	5 U	110,000	7,800	13	270,000	100 U	100 U	1,000 U	930,000
MW-117S1	24.2 - 29.2	09/24/13	5 U	120,000	7,000 B	11 B	250,000	100 U	100 U	450 J	880,000
MW-117S1	24.2 - 29.2	09/22/14	0.29 J, B	120,000 B	7,800	4.8	260,000	100 U , H	100 U, H	1,000 U	880,000
MW-117S1	24.2 - 29.2	09/30/15	0.52 J, B	110,000 B	6,500	7.6	240,000	500 U	500 U	5,000 U	930,000
MW-117S1	24.2 - 29.2	09/27/16	0.57 J	120,000	10,000 B	10 B	250,000	50 U	50 U	1,000 U	870,000
MW-117S1	24.2 - 29.2	11/13/17	5.0 U	110,000	8,500	1.2	240,000	50 U	50 U	1,000 U	950,000
MW-117S1	24.2 - 29.2	08/21/19	15 U ^	110,000	4,500	12	110,000	50 U	50 U	23,000	530,000
MW-117S1	24.2 - 29.2	08/13/20	15 U	110,000	8,200	43	220,000	1,300	100 U	1,000 U	860,000
MW-117WT	3 - 13	06/20/95	5 UJ	463,000	--	--	--	--	--	--	--
MW-117WT	3 - 13	07/14/95	--	--	30,000 J	--	4,600,000	--	--	--	11,000,000
MW-117WT	3 - 13	06/11/96	--	499,000	--	--	--	--	--	--	--
MW-117WT	3 - 13	05/19/00	5 U	590,000	46,000	--	4,930,000 J	12,500 UG	12,500 UG	25,000 UG	11,000,000
MW-117WT	3 - 13	06/18/01	5 U	559,000	63,000	--	5,380,000	500 U	R	230 B	13,000,000
MW-117WT	3 - 13	06/26/02	5 U	539,000	63,000	--	5,540,000	1,000 U	25,000 U	320 B	11,000,000 J [12,000,000]
MW-117WT	3 - 13	06/19/03	5 U	628,000	63,000	--	4,680,000	1,000 U	25,000 U	340 BJG	13,000,000
MW-117WT	3 - 13	12/09/04	14 J [14.3 J]	--	65,000 [69,000]	--	4,650,000 J [4,420,000 J]	100 U [100 U]	1,000 UG [1,000 UG]	240 B [1,000 U]	7,800,000 J [7,900,000 J]
MW-117WT	3 - 13	06/23/05	16.1	564,000	59,000 J	--	3,970,000	100 U	2,000 U	230 B	9,600,000 J
MW-117WT	3 - 13	12/13/06	5 U	531,000	75,000	--	3,680,000	750	3,600	270 J	7,800,000
MW-117WT	3 - 13	12/07/07	5 U	620,000	68,000	--	3,690,000	100 U	100 U	800 J	7,600,000
MW-117WT	3 - 13	03/14/08	5 U	545,000	68,000	--	3,220,000	200 UJ	200 UJ	2,000 U	5,900,000
MW-117WT	3 - 13	10/01/10	5 U	604,000	64,000	5,100	5,210,000	100 U	5,000 U, G	1,000 U	7,900,000
MW-117WT	3 - 13	09/27/11	5 U	560,000	71,000	68	4,300,000	100 U	2,500 U	380	9,800,000
MW-117WT	3 - 13	09/13/12	0.78 J	560,000 B	78,000	40	4,600,000	100 U	5,000 U	350 J	9,900,000
MW-117WT	3 - 13	09/24/13	5 U	570,000	86,000 B	46 B	4,500,000 B	100 U	1,000 U	710 J	7,300,000
MW-117WT	3 - 13	09/23/14	0.59 J, B	520,000 B	3,000^	1.2 ^	3,700,000	1,000 U, H	1,000 U, H	10,000 U	6,300,000
MW-117WT	3 - 13	09/30/15	1.0 J B	450,000 B	60,000	49	3,500,000	2,500 U	2,500 U	2,500 U	5,700,000
MW-117WT	3 - 13	09/27/16	1.5 J	470,000	81,000 B	120 B	3,500 ,000	50 U	50 U	250 J	4,800,000
MW-117WT	3 - 13	08/13/20	15 U	490,000	66,000	97	3,200,000	630	500 U	5,100	4,600,000
MW-118S1	23.5 - 28.5	06/20/95	5 UJ	97,300	--	--	--	--	--	--	--
MW-118S1	23.5 - 28.5	07/14/95	--	--	4,800 J	--	260,000	--	--	--	8,000,000
MW-118S1	23.5 - 28.5	06/11/96	--	112,000	--	--	--	80 U	70 U	5,000 U	--
MW-118S1	23.5 - 28.5	05/17/00	5 U [5 U]	121,000 [122,000]	5,900 [6,200]	--	284,000 [281,000]	2,000 UG [2,000 UG]	2,000 UG [2,000 UG]	4,000 UG [4,000 UG]	930,000 [940,000]
MW-118S1	23.5 - 28.5	06/19/01	5 U	117,000	8,400	--	272,000	500 U	R	150 B	910,000
MW-118S1	23.5 - 28.5	06/27/02	5 U	112,000	7,300	--	286,000	500 U	500 U	1,600	1,200,000 [1,200,000]
MW-118S1	23.5 - 28.5	06/19/03	5 U	118,000	6,200	--	264,000	500 U	500 U	1,000 UJ	1,000,000
MW-118S1	23.5 - 28.5	12/09/04	5.9 J	--	5,900	--	270,000 J	100 U	100 U	1,000 U	980,000 J
MW-118S1	23.5 - 28.5	06/23/05	3.5	112,000	7,300 J	--	296,000	100 U	100 U	1,000 U	520,000 J
MW-118S1	23.5 - 28.5	12/14/06	5 U	115,000	8,000	--	290,000	100 U	160	1,000 U	1,000,000
MW-118S1	23.5 - 28.5	12/07/07	5 U	131,000	8,500	--	275,000	100 U	100 U	1,000 U	900,000
MW-118S1	23.5 - 28.5	04/01/08	5 U	115,000	8,100	--	310,000	100 U	100 U	4,700	960,000
MW-118S1	23.5 - 28.5	10/01/10	5 U	129,000	6,700	--	362,000	100 U	100 U	1,000 U	970,000
MW-118S1	23.5 - 28.5	09/27/11	5 U	130,000	7,900	27	290,000	100 U	100 U	1,000 U	1,000,000
MW-118S1	23.5 - 28.5	09/13/12	5 U	130,000	7,200	14	290,000	100 U	100 U	1,000 U	960,000
MW-118S1	23.5 - 28.5	09/24/13	0.47 J	150,000 B	6,900 B	3.7 B	300,000 B	100 U	100 U	320 J	920,000
MW-118S1	23.5 - 28.5	09/22/14	5 U	130,000 B	7,500	3.8	320,000	100 U	100 U	1,000 U	980,000
MW-118S1	23.5 - 28.5	09/30/15	0.58 J B	120,000 B	5,900	8	310,000	500 U	500 U	5,000 U	1,000,000
MW-118S1	23.5 - 28.5	09/27/16	1.0 J	130,000	9,900 B	13 B	290,000	50 U	50 U	1,000 U	930,000
MW-118S1	23.5 - 28.5	11/13/17	5.0 U	100,000	7,600	1.2	260,000	31 J	31 J	1,000 U	920,000
MW-118S1	23.5 - 28.5	08/14/20	15 U	15,000 B	200 U	1.1 U	17,000	100 U	100 U	420 J	200,000

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Selenium (Dissolved)	Sodium (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Chloride	Nitrate (as N)	Nitrite (as N)	Sulfate	Total Dissolved Solids (TDS)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			5	NSL	53	53	NSL	NA	NSL	NSL	NSL
MW-118WT	1.6 - 11.6	06/20/95	5 UJ	175,000	--	--	--	--	--	--	--
MW-118WT	1.6 - 11.6	07/14/95	--	--	10,000 J	--	3,700,000	--	--	--	1,400,000
MW-118WT	1.6 - 11.6	06/11/96	--	229,000	--	--	--	80 U	70 U	5,000 U	--
MW-118WT	1.6 - 11.6	05/17/00	5 U	647,000	26,000	--	16,100,000	50,000 UG	50,000 UG	100,000 UG	37,000,000
MW-118WT	1.6 - 11.6	06/19/01	5 U [5 U]	955,000 [976,000]	92,000 [76,000]	--	21,800,000 [18,800,000]	50,000 U [500 U]	R [R]	100,000 U [630 B]	34,000,000 [36,000,000]
MW-118WT	1.6 - 11.6	06/27/02	5 U [5 U]	925,000 [970,000]	82,000 [88,000]	--	16,900,000 [16,500,000]	2,500 U [2,500 U]	2,500 U [2,500 U]	590 B [560 B]	42,000,000 [41,000,000]
MW-118WT	1.6 - 11.6	06/19/03	5 U [5 U]	764,000 [735,000]	66,000 [65,000]	--	9,740,000 [9,470,000]	2,000 U [2,000 U]	50,000 U [50,000 U]	700 BJG [1,200 BJG]	23,000,000 [24,000,000]
MW-118WT	1.6 - 11.6	05/27/04	5 U	662,000	66,000	--	7,580,000	1,000 U	25,000 U	2,000 U	15,000,000
MW-118WT	1.6 - 11.6	06/23/05	16.3	541,000	47,000 J	--	4,670,000	100 U	2,000 U	5,000	12,000,000 J
MW-118WT	1.6 - 11.6	12/14/06	5 U	408,000	42,000	--	2,370,000	100 U	1,900	25,300	6,800,000
MW-118WT	1.6 - 11.6	12/07/07	5 U	406,000	42,000	--	1,760,000	100 U	100 U	17,600	4,600,000
MW-118WT	1.6 - 11.6	04/01/08	5 U	334,000	38,000	--	1,800,000	100 U	100 U	23,500	4,600,000
MW-118WT	1.6 - 11.6	09/30/10	5 U	216,000	34,000	170	932,000	100 U	1,000 U, G	10,000	2,000,000
MW-118WT	1.6 - 11.6	09/27/11	5 U	200,000	38,000	33	730,000	100 U	100 U	5,200	2,300,000
MW-118WT	1.6 - 11.6	09/13/12	5 U	140,000	35,000	61	410,000	100 U	100 U	2,300	1,300,000
MW-118WT	1.6 - 11.6	09/24/13	5 U	120,000 B	35,000 B	23 B	280,000 B	100 U	100 U	18,000	1,000,000
MW-118WT	1.6 - 11.6	09/22/14	0.27 J,B	86,000 B	29,000	35	260,000	100 U, H	100 U, H	19,000	990,000
MW-118WT	1.6 - 11.6	09/30/15	1.6 J,B	70,000 B	24,000	74	230,000	500 U	500 U	9,300	980,000
MW-118WT	1.6 - 11.6	09/27/16	1.0 J	82,000	37,000 B	100 B	240,000	50 U	50 U	6,100	900,000
MW-118WT	1.6 - 11.6	11/13/17	5.0 U	82,000	24,000	5.6	270,000	50 U	50 U	1,000 U	1,000,000
MW-118WT	1.6 - 11.6	08/14/20	15 U	100,000 B	14,000	40	120,000 F1	1,200 F1	100 U,F1,F2	520 J,F1	720,000
MW-183WT	6 - 16	01/09/08	5 U [5 U]	102,000 [98,000]	400 [300]	--	147,000 [148,000]	100 U [100 U]	100 U [100 U]	1,000 [700 J]	440,000 [470,000]
MW-183WT	6 - 16	03/12/08	5 U	100,000	300	--	147,000	100 U	100 U	2,600 U	520,000
MW-183WT	6 - 16	09/28/10	5.0 U [5.0 U]	87.4 [85.6]	800 J [800 J]	5.3 J [5.3 J]	76,600 [77,400]	100 U [100 U]	100 U [100 U]	1,000 U [1,000 U]	360,000 [370,000]
MW-183WT	6 - 16	09/28/11	5.0 U	94,000	530 [550]	7 [7.3]	63,000 [63,000]	100 U [100 U]	100 U [100 U]	11,000 [11,000]	410,000 [430,000]
MW-183WT	6 - 16	09/14/12	0.78 J	93,000	920 [1,100]	3.3 [3.9]	36,000 [46,000]	100 U [100 U]	100 U [100 U]	200,000 [200,000]	600,000 [600,000]
MW-183WT	6 - 16	09/24/13	5.0 U	100,000 B	1,100 B [800 B]	1.3 B [0.93 B]	36,000 B [36,000 B]	100 U, H [100 U, H]	100 U, H [100 U, H]	89,000 [88,000]	570,000 [570,000]
MW-183WT	6 - 16	09/23/14	0.27 J,B [5.0 U]	47,000 B [47,000 B]	200 U [140 J]	--	29,000 [23,000]	100 U, H [100 U, H]	100 U, H [100 U, H]	3,200 [2,900 J]	410,000 [400,000]
MW-183WT	6 - 16	10/01/15	0.72 J,B	52,000	750 [840]	3.4 [3.9]	32,000 F1 [33,000]	100 U [100 U]	100 U [100 U]	1,000 U [1,000 U]	410,000 [410,000]
MW-183WT	6 - 16	09/28/16	1.5 J	50,000	940 J,B	4.9 J,B	28,000	50 U, F1	50 U, F1	970 J	400,000
MW-183WT	6 - 16	08/29/17	5.0 U	37,000	350 [490]	1.2 [1.7]	21,000 [21,000]	50 U [50 U]	50 U [50 U]	3,100 [3,200]	390,000 [390,000]
MW-183WT	6 - 16	09/26/18	15 U	27,000	120 J [98 J]	0.16 J [0.13 J]	21,000 [21,000]	100 UH [100 U H]	100 UH [100 U H]	3,100 [3,100]	380,000 [380,000]
MW-183WT	6 - 16	08/21/19	15 U ^	30,000	190 J [200]	0.67 J [0.71]	20,000 [20,000]	50 U [50 U]	50 U [50 U]	980 J [1,100]	430,000 [420,000]
MW-183WT	6 - 16	08/18/20	15 U,F2 [15 U]	15,000 F1,F2 [15,000]	200 U [200 U]	0.71 U [0.71 U]	17,000 [17,000]	100 U [100 U]	100 U [100 U]	1,000 U [1,000 U]	380,000 [400,000]
TWW-1	1.5 - 6.5	01/25/97	5 U	858,000	--	--	--	--	--	--	--
TWW-1	1.5 - 6.5	05/21/00	5 U	845,000	--	--	--	--	--	340,000	--
TWW-1	1.5 - 6.5	05/29/08	--	--	200	--	--	--	--	--	1,600,000
X-10BR	26.3 - 31.3	07/24/95	5 U	149,000	--	--	--	--	--	--	--
X-10BR	26.3 - 31.3	12/15/06	5 U	192,000	6,000	--	505,000	100 U	300	1,000 U	1,600,000
X-10BR	26.3 - 31.3	12/04/07	5 U	198,000	4,500	--	497,000	100 U	100 U	1,000 U	1,400,000
X-10BR	26.3 - 31.3	03/12/08	5 U	186,000	4,000	--	502,000	100 U	100 U	1,000 U	1,400,000
X-10BR	26.3 - 31.3	09/29/10	5 U	187,000	4,800	6	595,000	100 U	100 U	1,000 U	1,400,000
X-10BR	26.3 - 31.3	09/22/11	5 U	190,000	6,000	11	540,000	500 U	100 U	360	1,500,000
X-10BR	26.3 - 31.3	09/14/12	5 U	200,000	7,900	8.1	620,000	100 U	100 U	590 J	1,500,000
X-10BR	26.3 - 31.3	09/24/13	5 U	200,000	9,100 B	5.9 B	540,000 B	100 U	500 U	120 J	1,500,000
X-4AR	3.3 - 8.3	07/24/95	5 U	18,100	--	--	--	--	--	--	--
X-4AR	3.3 - 8.3	06/09/96	5 U	22,900	--	--	--	--	--	--	--
X-4AR	3.3 - 8.3	05/21/00	5 U	20,900	--	--	--	--	--	--	--
X-4AR	3.3 - 8.3	08/18/20	15 U	27,000	200 U	21 U	17,000	1,500	100 U	1,100	310,000
X-4CAUG	18 - 23	07/24/95	5 U	65,400	--	--	--	--	--	--	--
X-4CAUG	18 - 23	06/08/96	5 U	79,100	--	--	--	--	--	--	--
X-4CAUGR	14 - 19	01/09/08	5 U	79,600	1,500	--	160,000	100 U	100 U	1,000 U	550,000
X-4CAUGR	14 - 19	03/12/08	5 U	58,000	2,000	--	108,000	100 U	100 U	1,000 U	580,000
X-4CAUGR	14 - 19	09/28/10	5 U	52,300	1,900 J	5.4 J	123,000	100 U	100 U	210 B	570,000
X-4CAUGR	14 - 19	09/26/11	5 U	41,000	1,800	5.3	99,000	100 U	100 U	1,000 U	570,000
X-4CAUGR	14 - 19	09/14/12	5 U	54,000	1,900	3.5	140,000	100 U	100 U	1,000 U	630,000
X-4CAUGR	14 - 19	09/24/13	5 U	26,000 B	2,900 B	1.1 B	37,000 B	100 U	100 U	190	540,000
X-4CAUGR	14 - 19	09/23/14	5 U	60,000 B	1,600	--	129,000	100 U	100 U	1,000 U	630,000
X-4CAUGR	14 - 19	09/30/15	0.35 J	75,000 B	--	--	170,000	100 U H	100 U H	1,000 U	700,000
X-4CAUGR	14 - 19	09/28/16	5.0 U	74,000	1,100 B	1.8 B	81,000	50 U	50 U	18,000	570,000
X-4CAUGR	14 - 19	08/29/17	5.0 U	10,000	990	11	6,500	50 U	50 U	1,000 U	490,000
X-4CAUGR	14 - 19	09/26/18	15 U	12,000	420	0.65	23,000	100 U H	100 U H	1,000 U	370,000
X-4CAUGR	14 - 19	08/22/19	5.0 U	13,000	390	1.4	23,000	50 U	50 U	1,400	350,000
X-4CAUGR	14 - 19	08/17/20	15 U	13,000	340	0.92	18,000	31 J	100 U	1,000 U	280,000

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Selenium (Dissolved)	Sodium (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Chloride	Nitrate (as N)	Nitrite (as N)	Sulfate	Total Dissolved Solids (TDS)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			5	NSL	53	53	NSL	NA	NSL	NSL	NSL
X-4D	40 - 45	01/09/08	5 U	718,000	6,900	--	1,400,000	100 U	2,000 U	94,400	2,300,000
X-4D	40 - 45	04/01/08	5 U [5 U]	726,000 [708,000]	8,800 [8,100]	--	1,460,000 [1,460,000]	100 U [100 U]	100 U [100 U]	118,000 [118,000]	2,500,000 [2,600,000 J]
X-4D	40 - 45	04/03/08	--	--	--	--	--	--	--	--	--
X-4D	40 - 45	06/05/08	--	--	6,200 [7,320]	--	--	--	--	--	3,300,000 [2,820,000]
X-4D	40 - 45	09/28/10	5 U	708,000	6,800 J	42 J	1,470,000	130	1,000 U, G	122,000	2,500,000
X-4D	40 - 45	09/26/11	5 U	700,000	9,700	120	1,400,000	100 U	2,000 U	150,000	2,800,000
X-4D	40 - 45	09/14/12	5 U	690,000	8,300	28	1,500,000	500 U	100 U	190,000	2,400,000
X-4D	40 - 45	09/24/13	5 U	680,000 B	8,800 B	5.3 B	1,500,000 B	100 U	1,000 U	160,000	2,400,000
X-4D	40 - 45	09/23/14	0.31 J,B	550,000 B	200 U	--	760,000	1800	100 U	88,000	830,000
X-4D	40 - 45	09/30/15	1.8 J,B	620,000	3,600	13	1,500,000	2,500 U	2,500 U	160,000	2,700,000
X-4D	40 - 45	09/28/16	5.0 U	630,000	6,200 B	38 B	1,300,000	50 U	50 U	160,000	2,600,000
X-4D	40 - 45	08/29/17	5.0 U	1,600,000	6,800	55	1,300,000	360	360	180,000	2,300,000
X-4D	40 - 45	09/26/18	15 U	590,000	8,800	17	1,300,000	500 UH	500 UH	190,000	2,400,000
X-4D	40 - 45	08/22/19	5.0 U	420,000	7,000	30	890,000	50 U	50 U	160,000	1,800,000
X-4D	40 - 45	08/17/20	15 U	650,000	7,600	82	1,300,000	500 U	500 U	190,000	2,100,000
X-9AR	3 - 13	07/24/95	5 U	37,600	--	--	--	--	--	--	--
X-9AR	3 - 13	06/09/96	5 U	57,000	--	--	--	--	--	--	--
X-9AR	3 - 13	12/15/06	5 U	54,500	200 U	--	29,700	100 U	100 U	29,200	790,000
X-9AR	3 - 13	01/10/08	5 U	60,500	300	--	58,000	100 U	100 U	400 J	770,000
X-9AR	3 - 13	03/11/08	9.8	33,600	200 U	--	10,700	100 U	100 U	35,500	600,000
X-9AR	3 - 13	06/05/08	5 U [5 U]	--	--	--	--	--	--	--	--
X-9AR	3 - 13	09/29/10	5 U	56,400	600	3.5	52,100	100 U	100 U	310 B	700,000
X-9AR	3 - 13	09/23/11	5 U	91,000	4,300	11	180,000	100 U	100 U	1,000 U	750,000
X-9AR	3 - 13	09/12/12	5 U	120,000	5,000	9.6	180,000	100 U	100 U	1,000 U	820,000
X-9AR	3 - 13	09/25/13	5 U	110,000 B	6,200 B	11 B	160,000	100 U	100 U	790 J	800,000
X-9AR	3 - 13	09/22/14	0.25 J	63,000 B	3,700^	--	100,000	100 U	100 U	1,000 U	630,000
X-9AR	3 - 13	10/01/15	0.50 J,B	37,000 B	720	1.2	17,000	100 U	100 U	130 U	640,000
X-9AR	3 - 13	09/28/16	0.67 J	38,000	560 B	0.65 B	15,000	50 U	50 U	1,000 U	630,000
X-9AR	3 - 13	08/29/17	5.0 U	11,000	540	4.4	17,000	50 U	50 U	1,000 U	460,000
X-9AR	3 - 13	09/26/18	15 U	11,000	160 J	0.11 J	14,000	100 U H	100 U H	4,100	430,000
X-9AR	3 - 13	08/21/19	15 U ^	11,000	94 J	0.43 J	15,000	50 U	50 U	13,000	550,000
X-9AR	3 - 13	08/17/20	15 U	9,700	110 J	0.51 J	13,000	100 U	100 U	1,000 U	360,000
X-9BR	26 - 31	07/24/95	5 U	64,000	--	--	--	--	--	--	--
X-9BR	26 - 31	06/08/96	5 U	48,800	--	--	--	--	--	--	--
X-9BR	26 - 31	12/15/06	5.7 U	125,000	5,900	--	191,000	100	180	1,000 U	830,000
X-9BR	26 - 31	01/08/08	5 U	81,500	5,200	--	200,000	100 U	100 U	1,000 U	810,000
X-9BR	26 - 31	03/11/08	5 U	84,500	5,000	--	181,000	100 U	100 U	1,000 U	760,000
X-9BR	26 - 31	09/28/10	5 U	145,000	2,900 J	9.4 J	269,000	100 U	100 U	1,000 U	880,000
X-9BR	26 - 31	09/23/11	5 U	140,000	6,700	18	250,000	100 U	100 U	1,000 U	900,000
X-9BR	26 - 31	09/12/12	5 U	190,000	7,300	9	280,000	100 U	100 U	1,000 U	980,000
X-9BR	26 - 31	09/25/13	5 U	210,000 B	9,400 B	18 B	240,000	100 U	100 U	2,100	870,000
X-9BR	26 - 31	09/22/14	0.39 J	220,000 B	9,900	--	260,000	100 U	100 U	1,000 U	1,000,000
X-9BR	26 - 31	10/01/15	0.76 J,B	210,000 B	12,000	21	270,000	100 U	100 U	1,000 U	990,000
X-9BR	26 - 31	09/28/16	0.70 J	240,000	6,800 B	29 B	280,000	50 U	50 U	1,000 U	990,000
X-9BR	26 - 31	08/29/17	5.0 U	250,000	12,000	45	290,000	50 U	50 U	1,000 U	990,000
X-9BR	26 - 31	09/26/18	15 U	40,000	2,400	3.1	62,000	100 U H	100 U H	8,800	290,000
X-9BR	26 - 31	08/21/19	15 U ^	210,000	9,000	42	110,000	590	590	23,000	930,000
X-9BR	26 - 31	08/18/20	15 U	200,000	5,900	31	190,000	100 U	100 U	870 J	680,000
X-9CAUG	20 - 25	07/24/95	5 U	47,200	--	--	--	--	--	--	--
X-9CAUG	20 - 25	06/08/96	5 U	47,000	--	--	--	--	--	--	--
X-9CAUG	20 - 25	12/15/06	5 U	58,200	2,900	--	130,000	100 U	110	1,000 U	690,000
X-9CAUG	20 - 25	01/08/08	5 U	68,600	3,200	--	145,000	200	100 U	300 J	700,000
X-9CAUG	20 - 25	03/11/08	5 U	62,000	3,300	--	130,000	100 U	100 U	1,000 U	680,000
X-9CAUG	20 - 25	09/28/10	5 U	101,000	4,400 J	9.2 J	200,000	34 B	100 U	260 B	750,000
X-9CAUG	20 - 25	09/23/11	5 U	55,000	550	1.4	41,000	100 U	100 U	310	690,000
X-9CAUG	20 - 25	09/12/12	5 U	48,000	690	1.3	34,000	100 U	100 U	1,000 U	680,000
X-9CAUG	20 - 25	09/25/13	5 U	47,000 B	430 B	0.43 B	24,000	100 U	100 U	340 J	640,000
X-9CAUG	20 - 25	09/22/14	0.42 J,B	38,000 B	120 J	--	16,000	100 U , H	100 U , H	1,100	640,000
X-9CAUG	20 - 25	09/30/15	0.43 J	73,000 B	7,800	23	180,000	100 U , H	100 U , H	1,000 U	790,000
X-9CAUG	20 - 25	09/28/16	0.57 J	110,000	4,400 B	5.3 B	190,000	50 U	50 U	1,000 U	830,000
X-9CAUG	20 - 25	08/29/17	5.0 U	42,000	3,400	23	39,000	50 U	50 U	1,000 U	570,000
X-9CAUG	20 - 25	09/25/18	15 U	24,000	2,500	13	26,000	100 U H	100 U H	1,000 U	490,000
X-9CAUG	20 - 25	08/21/19	15 U ^	15,000	1,900	5.7	240,000	50 U	50 U	1,100	550,000
X-9CAUG	20 - 25	08/18/20	15 U	14,000	1,400	3.8	12,000	500 U	100 U	380 J	470,000

Table 5
Analytical Data Summary Table - GPL Inorganics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Selenium (Dissolved)	Sodium (Dissolved)	Ammonia Nitrogen	Estimated Un-ionized Ammonia	Chloride	Nitrate (as N)	Nitrite (as N)	Sulfate	Total Dissolved Solids (TDS)
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			5	NSL	53	53	NSL	NA	NSL	NSL	NSL
X-9D	42.5 - 47.5	01/08/08	5 U	634,000	8,500	--	1,370,000	100 U	100 U	194,000	2,400,000
X-9D	42.5 - 47.5	03/11/08	5 U	678,000	9,700	--	1,340,000	100 U	100 UJ	185,000	2,500,000
X-9D	42.5 - 47.5	06/05/08	--	--	5,900	--	--	--	--	--	2,900,000
X-9D	42.5 - 47.5	09/28/10	5 U	679,000	7,400 J	34 J	1,520,000	100 U	1,000 U, G	220,000	2,400,000
X-9D	42.5 - 47.5	09/23/11	5 U	650,000	8,600	50	1,400,000	100 U	1,000 U	220,000	2,700,000
X-9D	42.5 - 47.5	09/12/12	5 U	680,000	7,700	27	1,400,000	100 U	1,000 U	200,000	2,600,000
X-9D	42.5 - 47.5	09/25/13	5 U	690,000 B	7,400 B	21 B	1,300,000	100 U	100 U	240,000	2,400,000
X-9D	42.5 - 47.5	09/22/14	0.50 J	640,000 B	7,500	--	1,400,000	100 U	500 U, H	220,000	2,600,000
X-9D	42.5 - 47.5	09/30/15	0.66 J	640,000 B	7,500 F1	30 F1	1,500,000	500 U, H	500 U, H	230,000 F1	2,800,000
X-9D	42.5 - 47.5	09/28/16	0.70 J	630,000 B	6,700 B	23 B	1,300,000	50 U*	50 U*	240,000	2,300,000
X-9D	42.5 - 47.5	08/29/17	5.0 U	1,500,000	3,200	10	1,100,000	1,700	--	230,000	2,300,000
X-9D	42.5 - 47.5	09/25/18	15 U	630,000	4,800	22	1,300,000	500 U H	500 U H	250,000	2,100,000
X-9D	42.5 - 47.5	08/20/19	15 U ^	650,000	7,000	52.3	1,200,000	50 U	50 U	250,000	2,600,000
X-9D	42.5 - 47.5	08/17/20	15 U	560,000	4,900	68	1,100,000	500 U	500 U	170,000	2,100,000

Notes:

All results are in micrograms per liter (ug/L).

Criteria presented are the applicable site-specific criteria. Drinking water is not a complete pathway; therefore drinking water criteria are not presented.

Applicable site-specific criteria are the minimum Rule 57 criteria, excluding drinking water.

Hardness-dependent Rule 57 criteria are based on a hardness of 270 milligrams per liter for the Saginaw River, as analyzed in the October 2016 sampling event.

pH-dependent Rule 57 criteria are based on a default pH of 7.

Un-ionized ammonia is calculated based on the pH and temperature of the groundwater sample, using the following equations. When available, the field-measured pH was used.

Un-ionized ammonia ($\mu\text{g/L}$) = Total Ammonia ($\mu\text{g/L}$) $\times$ Fraction un-ionized ammonia

Fraction un-ionized ammonia = $1/[10^{(\text{pKa}-\text{pH})} + 1]$

$\text{pKa} = 0.0901821 + 2729.92/T$

T (in Kelvin) = $T(^{\circ}\text{C}) + 273.15$

Bolded cells represent constituent concentrations with detections.

Duplicate results are presented in brackets.

Gray shaded cells represent constituent concentrations that exceed site-specific Groundwater/Surface Water Interface (GSI) Criteria.

MW-183WT, X-4CAUGR, X-9AR, X-9BR, X-9CAUG represent a groundwater surface water interface (GSI) perimeter monitoring well from Green Point Landfill.

MW-107WT, MW-107S1, MW-108S2, MW-110WTR, MW-111WT, MW-114S2, MW-114WT, MW-149WT, MW-185WT, and MW-186WT represent a GSI perimeter monitoring well from SMI.

* Venting groundwater discharge concentrations was recommended by MDEQ in a letter dated November 26, 2008 followed by a Mixing Zone Determination Request and based on a five year renewal approved by the MDEQ on August 5, 2016.

Data Qualifiers:

ND = Not detected. The value in parentheses represents the associated detection limit.

-- or NA = Not analyzed for this constituent.

B = Inorganics: the detected analyte is an estimated value between the instrument detection limit (IDL) and the reporting limit (RL).

B = Organics: the compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

BJ = The detected analyte is an estimated concentration between the IDL and the RL.

D = Concentration is based on a diluted sample analysis.

F1 = MS and/or MSD Recovery is outside acceptance limits

H = Sample was prepped or analyzed beyond the specified hold time.

J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.

L = A negative instrument reading had an absolute value greater than the reporting limit.

M = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

UJ = The constituent was not detected above the reported sample quantitation limit.

However, the reported limit is approximate and may or may not represent the actual result.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: instrument related QC exceeds the control limits.

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	1,1,1-Trichloroethane	1,1,2,2-Tetrachloroethane	1,1,2-trichloro-1,2,2-trifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2-Trichlorobenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			89	78	32	330	740	130	99	4.9	5.7	13	360	230
MW-117S1	24.2 - 29.2	06/20/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	05/19/00	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/19/01	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/26/02	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/19/03	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	05/27/04	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/23/05	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	12/13/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S2	35 - 40	06/20/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
MW-117S2	35 - 40	12/13/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	06/20/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	05/19/00	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117WT	3 - 13	06/18/01	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117WT	3 - 13	06/26/02	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	06/19/03	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117WT	3 - 13	12/09/04	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	--	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-117WT	3 - 13	06/23/05	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-117WT	3 - 13	12/13/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/20/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	05/17/00	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	--	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-118S1	23.5 - 28.5	06/19/01	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/27/02	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/19/03	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	12/09/04	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/23/05	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118S2	38.5 - 43.5	06/20/95	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-118S2	38.5 - 43.5	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118WT	1.6 - 11.6	06/20/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
MW-118WT	1.6 - 11.6	05/17/00	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-118WT	1.6 - 11.6	06/19/01	4.0 U [4.0 U]	4.0 U [4.0 U]	--	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	--	--	--	--	4.0 U [4.0 U]	4.0 U [4.0 U]
MW-118WT	1.6 - 11.6	06/27/02	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	4.0 U [2.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]
MW-118WT	1.6 - 11.6	06/19/03	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	--	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-118WT	1.6 - 11.6	05/27/04	1.7 U	1.7 U	--	1.7 U	1.7 U	1.7 U	--	--	--	--	1.7 U	1.7 U
MW-118WT	1.6 - 11.6	06/23/05	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	--	1.0 U	1.0 U
MW-118WT	1.6 - 11.6	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TWW-1	1.5 - 6.5	01/25/97	330 U	330 U	--	330 U	330 U	330 U	--	--	--	--	330 U	330 U
TWW-1	1.5 - 6.5	08/08/98	200 U	200 U	--	200 U	200 U	200 U	--	--	--	200 U	200 U	200 U
TWW-1	1.5 - 6.5	05/18/99	250 UD [250 UD]	250 UD [250 UD]	--	250 UD [250 UD]	250 UD [250 UD]	250 UD [250 UD]	--	--	--	--	250 UD [250 UD]	250 UD [250 UD]
TWW-1	1.5 - 6.5	05/21/00	250 U	250 U	--	250 U	250 U	250 U	--	--	--	--	250 U	250 U
TWW-1	1.5 - 6.5	09/29/10	71 U	71 U	71 U	71 U	71 U	71 U	360 U	71 U	71 U	71 U	71 U	71 U
TWW-1	1.5 - 6.5	09/21/11	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	150 U [150 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]
TWW-1	1.5 - 6.5	09/14/12	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	1.7 J [1.6 J]	4.0 U [4.0 U]	4.0 U [4.0 U]	8.0 U [8.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]
TWW-1	1.5 - 6.5	09/24/13	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	36 U [40 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]
TWW-1	1.5 - 6.5	09/23/14	25 U [25 U]	25 U [25 U]	--	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	50 U [50 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]
TWW-1	1.5 - 6.5	10/01/15	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.5 J [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	10 U [10 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]
TWW-1	1.5 - 6.5	09/27/16	10 U [7.7 U]	10 U [7.7 U]	--	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	17 [7.7 U]	20 U [15 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]
TWW-1	1.5 - 6.5	08/30/17	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.4 J [1.4 J]	1.7 U [1.7 U]	1.1 J [1.7 U]	3.3 U [3.3 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]
TWW-1	1.5 - 6.5	09/25/18	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.3 [1.2]	1.0 U [1.0 U]	1.0 U [1.0 U]	2.0 U [2.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
TWW-1	1.5 - 6.5	08/22/19	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	0.63 J [0.72 J]	1.0 U [1.0 U]	1.0 U [1.0 U]	2.0 U [2.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
TWW-1	1.5 - 6.5	08/12/20	1.0 U	1.0 U	1.0 U	1.0 U	1.3	1.0 U *	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TW-242	2 - 7	09/25/18	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TW-242	2 - 7	08/22/19	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TW-242	2 - 7	08/12/20	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U F1	1.0 U F1 *	1.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	1,1,1-Trichloroethane	1,1,1,2,2-Tetrachloroethane	1,1,2-trichloro-1,2,2-trifluoroethane	1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene	1,2,4-Trichlorobenzene	1,2-Dibromo-3-chloropropane	1,2-Dibromoethane	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			89	78	32	330	740	130	99	4.9	5.7	13	360	230
X-10BR	26.3 - 31.3	07/24/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-10BR	26.3 - 31.3	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-4A	6.2 - 9.2	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-4AR	3.3 - 8.3	07/24/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-4AR	3.3 - 8.3	06/09/96	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-4CAUG	18 - 23	07/24/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-4CAUG	18 - 23	06/08/96	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-4D	40 - 45	01/09/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-4D	40 - 45	04/02/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-9AR	3 - 13	07/24/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-9AR	3 - 13	06/09/96	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-9AR	3 - 13	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-9BR	26 - 31	07/24/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-9BR	26 - 31	06/08/96	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-9BR	26 - 31	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-9CAUG	20 - 25	07/24/95	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-9CAUG	20 - 25	06/08/96	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	--	--	--	1.0 U	1.0 U	1.0 U
X-9CAUG	20 - 25	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-9D	42.5 - 47.5	01/08/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
X-9D	42.5 - 47.5	03/11/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride
		Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			28	17	2,200	630,000	NA	1,700	200	180	890	4.2	34,000	38
MW-117S1	24.2 - 29.2	06/20/95	1.0 U	1.0 U	50 U	R	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 J	1.0 U
MW-117S1	24.2 - 29.2	05/19/00	--	--	10 U	10 U	10 U	10 U	0.60 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/19/01	--	--	10 U	10 U	5.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/26/02	1.0 U	1.0 U	10 U	10 U	10 U	10 UJ	0.75 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/19/03	--	--	2.0 U	2.0 U	2.0 U	2.0 U	0.58 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	05/27/04	--	--	2.0 UJ	2.0 U	2.0 U	2.0 UJ	0.71 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/23/05	--	--	25 U	50 U	50 U	25 U	0.66 J	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
MW-117S1	24.2 - 29.2	12/13/06	1.0 U	1.0 U	25 UJ	50 UJ	50 U	25 UJ	0.65 J	1.0 U	1.0 U	1.0 U	5.0 U	1.0 UJ
MW-117S2	35 - 40	06/20/95	1.0 U	1.0 U	50 U	R	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	0.80 J	1.0 U
MW-117S2	35 - 40	12/13/06	1.0 U	1.0 U	25 UJ	50 UJ	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 UJ
MW-117WT	3 - 13	06/20/95	1.0 U	1.0 U	50 U	R	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
MW-117WT	3 - 13	05/19/00	--	--	10 U	10 U	10 U	10 U	0.13 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	06/18/01	--	--	10 U	10 U	5.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	06/26/02	1.0 U	1.0 U	10 U	10 U	10 U	10 UJ	0.16 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	06/19/03	--	--	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	12/09/04	--	--	25 UJ [25 U]	50 UJ [50 UJ]	50 U [50 U]	25 U [25 U]	0.23 J [0.25 J]	1.0 U [1.0 U]	1.0 U [1.0 UJ]	1.0 UJ [1.0 U]	5.0 UJ [5.0 U]	1.0 UJ [1.0 U]
MW-117WT	3 - 13	06/23/05	--	--	25 U	50 U	50 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
MW-117WT	3 - 13	12/13/06	1.0 U	1.0 U	25 UJ	50 UJ	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 UJ
MW-118S1	23.5 - 28.5	06/20/95	1.0 U	1.0 U	50 U	R	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.3	1.0 U
MW-118S1	23.5 - 28.5	05/17/00	--	--	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	0.47 J [0.46 J]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-118S1	23.5 - 28.5	06/19/01	--	--	10 U	10 U	5.0 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/27/02	1.0 U	1.0 U	10 UJ	10 U	10 U	10 U	0.37 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/19/03	--	--	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	12/09/04	--	--	25 U	50 UJ	50 U	25 U	0.53 J	1.0 U	1.0 UJ	1.0 U	5.0 U	1.0 U
MW-118S1	23.5 - 28.5	06/23/05	--	--	25 U	50 U	50 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
MW-118S1	23.5 - 28.5	12/14/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
MW-118S2	38.5 - 43.5	06/20/95	1.0 U [1.0 U]	1.0 U [1.0 U]	50 U [50 U]	R [R]	50 U [50 U]	3.0 J [50 U]	0.60 J [1.0 U]	0.70 J [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	6.0 J [2.0]	1.0 U [1.0 U]
MW-118S2	38.5 - 43.5	12/14/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
MW-118WT	1.6 - 11.6	06/20/95	1.0 U	1.0 U	50 U	R	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
MW-118WT	1.6 - 11.6	05/17/00	--	--	10 U	10 U	28	10 U	0.54 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-118WT	1.6 - 11.6	06/19/01	--	--	40 U [40 U]	40 U [40 U]	180 [180]	40 U [40 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]
MW-118WT	1.6 - 11.6	06/27/02	2.0 U [1.0 U]	2.0 U [1.0 U]	20 UJ [10 UJ]	20 UJ [10 U]	4.9 J [5.2 J]	20 UJ [10 U]	0.34 J [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]
MW-118WT	1.6 - 11.6	06/19/03	--	--	2.0 U [2.0 U]	2.0 U [2.0 U]	0.75 J [0.60 J]	2.0 U [2.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-118WT	1.6 - 11.6	05/27/04	--	--	3.3 U	3.3 UJ	3.3 UJ	3.3 UJ	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U
MW-118WT	1.6 - 11.6	06/23/05	--	--	25 U	50 U	50 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
MW-118WT	1.6 - 11.6	12/14/06	1.0 U	1.0 U	2.1 J	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
TWW-1	1.5 - 6.5	01/25/97	--	--	17,000 U	17,000 U	17,000 U	33,000 U	1,700 U	330 U	330 U	330 U	17,000 U	330 U
TWW-1	1.5 - 6.5	08/08/98	200 U	200 U	2,000 U	2,000 U	2,000 U	2,000 U	1,000 U	200 U	200 U	200 U	1,000 U	200 U
TWW-1	1.5 - 6.5	05/18/99	--	--	1,300 UD [1,300 UD]	1,300 UD [1,300 UD]	1,300 UD [1,300 UD]	1,300 UJD [1,300 UJD]	250 UD [250 UD]	250 UD [250 UD]	250 UD [250 UD]	250 UJD [250 UD]	250 UD [250 UD]	250 UD [250 UD]
TWW-1	1.5 - 6.5	05/21/00	--	--	2,500 U	2,500 U	2,500 U	2,500 U	250 U	250 U	250 U	250 U	250 U	250 U
TWW-1	1.5 - 6.5	09/29/10	71 U	71 U	1,800 U	3,600 U	3,600 U	1,800 U	71 U	71 U	71 U	71 U	360 U	71 U
TWW-1	1.5 - 6.5	09/21/11	77 U [77 U]	77 U [77 U]	770 U [770 U]	770 U [770 U]	770 U [770 U]	770 U [770 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]
TWW-1	1.5 - 6.5	09/14/12	4.0 U [4.0 U]	4.0 U [4.0 U]	40 U [40 U]	40 U [40 U]	40 U [40 U]	40 U [40 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]
TWW-1	1.5 - 6.5	09/24/13	18 U [20 U]	18 U [20 U]	180 U [200 U]	180 U [200 U]	180 U [200 U]	26 J [24 J]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]
TWW-1	1.5 - 6.5	09/23/14	25 U [25 U]	25 U [25 U]	250 U [250 U]	250 U [250 U]	250 U [250 U]	250 U [250 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]
TWW-1	1.5 - 6.5	10/01/15	5.0 U [5.0 U]	5.0 U [5.0 U]	50 U [50 U]	50 U [50 U]	50 U [50 U]	6.5 J,B [50 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]
TWW-1	1.5 - 6.5	09/27/16	2.7 J [7.7 U]	3.3 J [7.7 U]	100 U [77 U]	100 U [77 U]	100 U [77 U]	100 U [77 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]
TWW-1	1.5 - 6.5	08/30/17	1.7 U [1.7 U]	1.7 U [1.7 U]	17 U [17 U]	17 U [17 U]	17 U [17 U]	17 U [17 U]	1.7 U [1.7 U]	--	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]
TWW-1	1.5 - 6.5	09/25/18	1.0 U [1.0 U]	1.0 U [1.0 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
TWW-1	1.5 - 6.5	08/22/19	1.0 U [1.0 U]	1.0 U [1.0 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	10 U [10 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]
TWW-1	1.5 - 6.5	08/12/20	1.0 U	1.0 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TW-242	2 - 7	09/25/18	1.0 U	1.0 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TW-242	2 - 7	08/22/19	1.0 U	1.0 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TW-242	2 - 7	08/12/20	1.0 U	1.0 U	10 U	10 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	1,3-Dichlorobenzene	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone	Benzene	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			28	17	2,200	630,000	NA	1,700	200	180	890	4.2	34,000	38
X-10BR	26.3 - 31.3	07/24/95	1.0 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-10BR	26.3 - 31.3	12/15/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
X-4A	6.2 - 9.2	12/14/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
X-4AR	3.3 - 8.3	07/24/95	1.0 U	1.0 U	50 UJ	50 U	50 U	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-4AR	3.3 - 8.3	06/09/96	1.0 U	1.0 U	50 U	50 U	50 U	100 U	5.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-4CAUG	18 - 23	07/24/95	1.0 U	1.0 U	50 UJ	50 U	50 U	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-4CAUG	18 - 23	06/08/96	1.0 U	1.0 U	50 U	50 U	50 U	100 U	5.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-4D	40 - 45	01/09/08	1.0 U	1.0 U	25 U	50 U	50 U	25 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	1.0 U
X-4D	40 - 45	04/02/08	1.0 U	1.0 U	25 U	50 U	50 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	0.45 J	1.0 U
X-9AR	3 - 13	07/24/95	1.0 U	1.0 U	50 UJ	50 U	50 U	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-9AR	3 - 13	06/09/96	1.0 U	1.0 U	50 U	50 U	50 U	100 U	5.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-9AR	3 - 13	12/15/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
X-9BR	26 - 31	07/24/95	1.0 U	1.0 U	50 UJ	50 U	50 U	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-9BR	26 - 31	06/08/96	1.0 U	1.0 U	50 U	50 U	50 U	100 U	5.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-9BR	26 - 31	12/15/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
X-9CAUG	20 - 25	07/24/95	1.0 U	1.0 U	50 UJ	50 U	50 U	50 UJ	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-9CAUG	20 - 25	06/08/96	1.0 U	1.0 U	50 U	50 U	50 U	100 U	5.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U
X-9CAUG	20 - 25	12/15/06	1.0 U	1.0 U	25 U	50 U	50 U	25 UJ	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	1.0 U
X-9D	42.5 - 47.5	01/08/08	1.0 U	1.0 U	25 U	50 U	50 U	25 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	1.0 U
X-9D	42.5 - 47.5	03/11/08	1.0 U	1.0 U	25 U	50 UJ	50 UJ	25 U	1.0 U	1.0 U	1.0 U	1.0 UJ	5.0 U	1.0 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropyl benzene	Methyl acetate
		Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			25	1,100	630	7,300	620	9	NA	150	90,000	18	28	NSL
MW-117S1	24.2 - 29.2	06/20/95	1.0 U	1.0 U	1.5	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S1	24.2 - 29.2	05/19/00	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S1	24.2 - 29.2	06/19/01	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S1	24.2 - 29.2	06/26/02	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
MW-117S1	24.2 - 29.2	06/19/03	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S1	24.2 - 29.2	05/27/04	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S1	24.2 - 29.2	06/23/05	1.0 U	1.0 U	1.0 U	1.0 U	0.31 J	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S1	24.2 - 29.2	12/13/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
MW-117S2	35 - 40	06/20/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117S2	35 - 40	12/13/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
MW-117WT	3 - 13	06/20/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117WT	3 - 13	05/19/00	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117WT	3 - 13	06/18/01	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117WT	3 - 13	06/26/02	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
MW-117WT	3 - 13	06/19/03	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117WT	3 - 13	12/09/04	1.0 U [1.0 U]	0.28 J [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 UJ [1.0 UJ]	--	1.0 UJ [1.0 U]	--	--
MW-117WT	3 - 13	06/23/05	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-117WT	3 - 13	12/13/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
MW-118S1	23.5 - 28.5	06/20/95	1.0 U	1.0 U	1.1	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-118S1	23.5 - 28.5	05/17/00	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	0.50 U [0.50 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	--	1.0 U [1.0 U]	--	--
MW-118S1	23.5 - 28.5	06/19/01	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-118S1	23.5 - 28.5	06/27/02	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
MW-118S1	23.5 - 28.5	06/19/03	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-118S1	23.5 - 28.5	12/09/04	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 UJ	--	1.0 U	--	--
MW-118S1	23.5 - 28.5	06/23/05	1.0 U	1.0 U	1.0 U	1.0 U	0.25 J	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-118S1	23.5 - 28.5	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
MW-118S2	38.5 - 43.5	06/20/95	1.0 U [1.0 U]	1.0 U [1.0 U]	3.7 [1.2]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	--	1.0 U [1.0 U]	--	--
MW-118S2	38.5 - 43.5	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
MW-118WT	1.6 - 11.6	06/20/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-118WT	1.6 - 11.6	05/17/00	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	--	1.0 U	--	0.10 J	--	--
MW-118WT	1.6 - 11.6	06/19/01	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	2.0 U [2.0 U]	4.0 U [4.0 U]	--	4.0 U [4.0 U]	--	4.0 U [4.0 U]	--	--
MW-118WT	1.6 - 11.6	06/27/02	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	1.0 U [0.50 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	20 U [10 U]
MW-118WT	1.6 - 11.6	06/19/03	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	--	1.0 U [1.0 U]	--	--
MW-118WT	1.6 - 11.6	05/27/04	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	--	1.7 U	--	1.7 U	--	--
MW-118WT	1.6 - 11.6	06/23/05	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
MW-118WT	1.6 - 11.6	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	0.62 J	10 U
TWW-1	1.5 - 6.5	01/25/97	330 U	330 U	330 U	330 U	9,600	330 U	--	330 U	--	330 U	--	--
TWW-1	1.5 - 6.5	08/08/98	200 U	200 U	200 U	200 U	--	200 U	--	200 U	--	200 U	--	--
TWW-1	1.5 - 6.5	05/18/99	250 UD [250 UD]	250 UJD [250 UD]	250 UD [250 UD]	250 UJD [250 UD]	--	250 UD [250 UD]	--	250 UD [250 UD]	--	250 UD [250 UD]	--	--
TWW-1	1.5 - 6.5	05/21/00	250 U	250 U	250 U	250 U	8,800	250 U	--	250 U	--	250 U	--	--
TWW-1	1.5 - 6.5	09/29/10	71 U	71 U	71 U	71 U	230	71 U	71 U	71 U	71 U	71 U	360 U	710 U
TWW-1	1.5 - 6.5	09/21/11	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	1,800 [1,800]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	770 U [770 U]
TWW-1	1.5 - 6.5	09/14/12	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	190 [200]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]
TWW-1	1.5 - 6.5	09/24/13	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	45 [41]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	180 U [200 U]
TWW-1	1.5 - 6.5	09/23/14	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	20 J [21 J]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	250 U [250 U]
TWW-1	1.5 - 6.5	10/01/15	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	1.7 J [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	50 U [50 U]
TWW-1	1.5 - 6.5	09/27/16	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	2.9 J [3.0 J]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	100 U [77 U]
TWW-1	1.5 - 6.5	08/30/17	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	2.8 [2.7]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	17 U [17 U]
TWW-1	1.5 - 6.5	09/25/18	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	0.56 J [0.59 J]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	10 U [10 U]
TWW-1	1.5 - 6.5	08/22/19	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	0.58 J [0.66 J]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	10 U [10 U]
TWW-1	1.5 - 6.5	08/12/20	1.0 U	1.0 U	1.0 U	1.0 U	1.4	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
TW-242	2 - 7	09/25/18	1.0 U	1.0 U	1.0 U	1.0 U	0.24 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
TW-242	2 - 7	08/22/19	1.0 U	1.0 U	1.0 U	1.0 U	0.42 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
TW-242	2 - 7	08/12/20	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U F1 *	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Cyclohexane	Dibromochloromethane	Dichlorodifluoromethane	Ethylbenzene	Isopropyl benzene	Methyl acetate
Units:			µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			25	1,100	630	7,300	620	9	NA	150	90,000	18	28	NSL
X-10BR	26.3 - 31.3	07/24/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-10BR	26.3 - 31.3	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
X-4A	6.2 - 9.2	12/14/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
X-4AR	3.3 - 8.3	07/24/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-4AR	3.3 - 8.3	06/09/96	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-4CAUG	18 - 23	07/24/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-4CAUG	18 - 23	06/08/96	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-4D	40 - 45	01/09/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	10 U
X-4D	40 - 45	04/02/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	10 U
X-9AR	3 - 13	07/24/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-9AR	3 - 13	06/09/96	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-9AR	3 - 13	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
X-9BR	26 - 31	07/24/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-9BR	26 - 31	06/08/96	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-9BR	26 - 31	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
X-9CAUG	20 - 25	07/24/95	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-9CAUG	20 - 25	06/08/96	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	--	1.0 U	--	--
X-9CAUG	20 - 25	12/15/06	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	5.0 U	10 U
X-9D	42.5 - 47.5	01/08/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	10 U
X-9D	42.5 - 47.5	03/11/08	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	10 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Methyl cyclohexane	Methyl tert-butyl ether	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride	Total Xylenes
		Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			NA	7,100	1,500	80	60	270	1,500	9	200	NSL	13	49
MW-117S1	24.2 - 29.2	06/20/95	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
MW-117S1	24.2 - 29.2	05/19/00	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	--	0.14 J	1.0 U
MW-117S1	24.2 - 29.2	06/19/01	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/26/02	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.21 J	1.0 U
MW-117S1	24.2 - 29.2	06/19/03	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	05/27/04	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	--	1.0 U	1.0 U
MW-117S1	24.2 - 29.2	06/23/05	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.7	--	1.0 U	2.0 U
MW-117S1	24.2 - 29.2	12/13/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
MW-117S2	35 - 40	06/20/95	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
MW-117S2	35 - 40	12/13/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
MW-117WT	3 - 13	06/20/95	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
MW-117WT	3 - 13	05/19/00	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	--	1.0 U	1.0 U
MW-117WT	3 - 13	06/18/01	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	--	1.0 U	1.0 U
MW-117WT	3 - 13	06/26/02	1.0 U	0.38 J	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
MW-117WT	3 - 13	06/19/03	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
MW-117WT	3 - 13	12/09/04	--	--	5.0 U [5.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	2.0 U [2.0 U]
MW-117WT	3 - 13	06/23/05	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	--	1.0 U	2.0 U
MW-117WT	3 - 13	12/13/06	1.0 U	0.20 J	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
MW-118S1	23.5 - 28.5	06/20/95	--	--	1.0 U	1.0 U	1.0 U	0.90 J	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
MW-118S1	23.5 - 28.5	05/17/00	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	0.50 U [0.50 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	0.33 J [0.33 J]	1.0 U [1.0 U]
MW-118S1	23.5 - 28.5	06/19/01	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	--	0.27 J	1.0 U
MW-118S1	23.5 - 28.5	06/27/02	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	1.0 U	0.27 J	1.0 U
MW-118S1	23.5 - 28.5	06/19/03	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U
MW-118S1	23.5 - 28.5	12/09/04	--	--	5.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	--	0.26 J	2.0 U
MW-118S1	23.5 - 28.5	06/23/05	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.1	--	1.0 U	2.0 U
MW-118S1	23.5 - 28.5	12/14/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.23 J	2.0 U
MW-118S2	38.5 - 43.5	06/20/95	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	0.70 J [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	3.0 U [3.0 U]
MW-118S2	38.5 - 43.5	12/14/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
MW-118WT	1.6 - 11.6	06/20/95	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
MW-118WT	1.6 - 11.6	05/17/00	--	--	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	1.0 U	1.0 U	--	1.0 U	0.47 J
MW-118WT	1.6 - 11.6	06/19/01	--	--	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	2.0 U [2.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	--	4.0 U [4.0 U]	4.0 U [4.0 U]
MW-118WT	1.6 - 11.6	06/27/02	2.0 U [1.0 U]	0.49 J [5.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	1.0 U [0.50 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]	2.0 U [1.0 U]
MW-118WT	1.6 - 11.6	06/19/03	--	--	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	--	1.0 U [1.0 U]	1.0 U [1.0 U]
MW-118WT	1.6 - 11.6	05/27/04	--	--	1.7 UJ	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	1.7 U	--	1.7 U	1.7 U
MW-118WT	1.6 - 11.6	06/23/05	--	--	5.0 U	1.0 U	1.0 U	0.20 J	1.0 U	1.0 U	0.57 J	--	1.0 U	2.0 U
MW-118WT	1.6 - 11.6	12/14/06	1.0 U	0.31 J	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.58 J
TWW-1	1.5 - 6.5	01/25/97	--	--	1,700 U	330 U	330 U	330 U	330 U	330 U	630	--	2,000	1,000 U
TWW-1	1.5 - 6.5	08/08/98	--	--	1,000 U	200 U	200 U	200 U	--	200 U	200 U	--	1,700	600 U
TWW-1	1.5 - 6.5	05/18/99	--	--	1,300 UJD [1,300 UJD]	250 UD [250 UD]	250 UD [250 UD]	250 UD [250 UD]	--	250 UD [250 UD]	250 UD [250 UD]	--	330 D [390 D]	500 U [500 U]
TWW-1	1.5 - 6.5	05/21/00	--	--	250 U	250 U	250 U	250 U	40 J	250 U	250 U	--	2,300	250 U
TWW-1	1.5 - 6.5	09/29/10	71 U	360 U	360 U	71 U	71 U	71 U	71 U	71 U	71 U	71 U	1,700	140 U
TWW-1	1.5 - 6.5	09/21/11	77 U [77 U]	380 U [380 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	77 U [77 U]	19 [18]	77 U [77 U]	77 U [77 U]	77 U [77 U]	500 [540]	150 U [150 U]
TWW-1	1.5 - 6.5	09/14/12	4.0 U [4.0 U]	20 U [20 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	4.0 U [4.0 U]	2.2 J [1.3 J]	4.0 U [4.0 U]	0.89 J [4.0 U]	4.0 U [4.0 U]	40 [48]	8.0 U [8.0 U]
TWW-1	1.5 - 6.5	09/24/13	18 U [20 U]	18 U [20 U]	18 B [17 J,B]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	18 U [20 U]	390 [400]	36 U [40 U]
TWW-1	1.5 - 6.5	09/23/14	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	25 U [25 U]	470 [450]	50 U [50 U]
TWW-1	1.5 - 6.5	10/01/15	5.0 U [5.0 U]	5.0 U [5.0 U]	4.7 J,B [3.1 J,B]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	5.0 U [5.0 U]	97 [90]	10 U [10 U]
TWW-1	1.5 - 6.5	09/27/16	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	10 U [7.7 U]	140 [130]	20 U [15 U]
TWW-1	1.5 - 6.5	08/30/17	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 UJ [1.7 UJ]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	1.7 U [1.7 U]	43 [45]	3.3 U [3.3 U]
TWW-1	1.5 - 6.5	09/25/18	1.0 U [1.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	10 [10]	2.0 U [2.0 U]
TWW-1	1.5 - 6.5	08/22/19	1.0 U [1.0 U]	1.0 U [1.0 U]	5.0 U [5.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.0 U [1.0 U]	1.4 [1.3]	2.0 U [2.0 U]
TWW-1	1.5 - 6.5	08/12/20	1.0 U *	1.0 U	5.0 U *	1.0 U	1.0 U	1.0 U	1.0 U *	1.0 U	1.0 U	1.0 U	1.6	2.0 U
TW-242	2 - 7	09/25/18	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.42 J	1.0 U	1.0 U	2.0 U
TW-242	2 - 7	08/22/19	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
TW-242	2 - 7	08/12/20	1.0 U *	1.0 U	5.0 U F1 *	1.0 U	1.0 U	1.0 U	1.0 U F1 *	1.0 U	0.42 J	1.0 U	1.0 U	2.0 U

Table 6
Analytical Data Summary Table - GPL Organics
RACER Trust
Saginaw, MI



Sample ID:	Sample Depth (feet):	Date Collected:	Methyl cyclohexane	Methyl tert-butyl ether	Methylene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene	Trichlorofluoromethane	Vinyl Chloride	Total Xylenes
		Units:	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
Site-Specific Groundwater Surface Water Interface Criteria			NA	7,100	1,500	80	60	270	1,500	9	200	NSL	13	49
X-10BR	26.3 - 31.3	07/24/95	--	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	--	1.0 U	3.0 U
X-10BR	26.3 - 31.3	12/15/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-4A	6.2 - 9.2	12/14/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-4AR	3.3 - 8.3	07/24/95	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-4AR	3.3 - 8.3	06/09/96	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-4CAUG	18 - 23	07/24/95	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-4CAUG	18 - 23	06/08/96	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-4D	40 - 45	01/09/08	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-4D	40 - 45	04/02/08	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-9AR	3 - 13	07/24/95	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-9AR	3 - 13	06/09/96	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-9AR	3 - 13	12/15/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-9BR	26 - 31	07/24/95	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-9BR	26 - 31	06/08/96	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-9BR	26 - 31	12/15/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-9CAUG	20 - 25	07/24/95	--	--	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-9CAUG	20 - 25	06/08/96	--	--	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	3.0 U
X-9CAUG	20 - 25	12/15/06	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-9D	42.5 - 47.5	01/08/08	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U
X-9D	42.5 - 47.5	03/11/08	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	2.0 U

Notes:

All results are in micrograms per liter (ug/L).

Criteria presented are the applicable site-specific criteria. Drinking water is not a complete pathway; therefore drinking water criteria are not presented.

Applicable site-specific criteria are the minimum Rule 57 criteria, excluding drinking water.

Hardness-dependent Rule 57 criteria are based on a hardness of 270 milligrams per liter for the Saginaw River, as analyzed in the October 2016 sampling event.

pH-dependent Rule 57 criteria are based on a default pH of 7.

Un-ionized ammonia is calculated based on the pH and temperature of the groundwater sample, using the following equations. When available, the field-measured pH was used.

Un-ionized ammonia ($\mu\text{g/L}$) = Total Ammonia ($\mu\text{g/L}$) $\times$ Fraction un-ionized ammonia

Fraction un-ionized ammonia = $1/[10^{(\text{pKa}-\text{pH})} + 1]$

$\text{pKa} = 0.0901821 + 2729.92/T$

T (in Kelvin) = $T(^{\circ}\text{C}) + 273.15$

Bolded cells represent constituent concentrations with detections.

Duplicate results are presented in brackets.

Gray shaded cells represent constituent concentrations that exceed site-specific Groundwater/Surface Water Interface (GSI) Criteria.

MW-183WT, X-4CAUGR, X-9AR, X-9BR, X-9CAUG represent a groundwater surface water interface (GSI) perimeter monitoring well from Green Point Landfill.

MW-107WT, MW-107S1, MW-108S2, MW-110WTR, MW-111WT, MW-114S2, MW-114WT, MW-149WT, MW-185WT, and MW-186WT represent a GSI perimeter monitoring well from SMI.

* Venting groundwater discharge concentrations was recommended by MDEQ in a letter dated November 26, 2008 followed by a Mixing Zone Determination Request and based on a five year renewal approved by the MDEQ on August 5, 2016.

Data Qualifiers:

ND = Not detected. The value in parentheses represents the associated detection limit.

-- or NA = Not analyzed for this constituent.

B = Inorganics: the detected analyte is an estimated value between the instrument detection limit (IDL) and the reporting limit (RL).

B = Organics: the compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.

BJ = The detected analyte is an estimated concentration between the IDL and the RL.

D = Concentration is based on a diluted sample analysis.

F1= MS and/or MSD Recovery is outside acceptance limits

H = Sample was prepped or analyzed beyond the specified hold time.

J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.

L = A negative instrument reading had an absolute value greater than the reporting limit.

M = Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

R = Indicates that the previously reported detection limit or sample result has been rejected due to a major deficiency in the data generation procedure. The data shall not be used for any qualitative or quantitative purposes.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

UJ = The constituent was not detected above the reported sample quantitation limit.

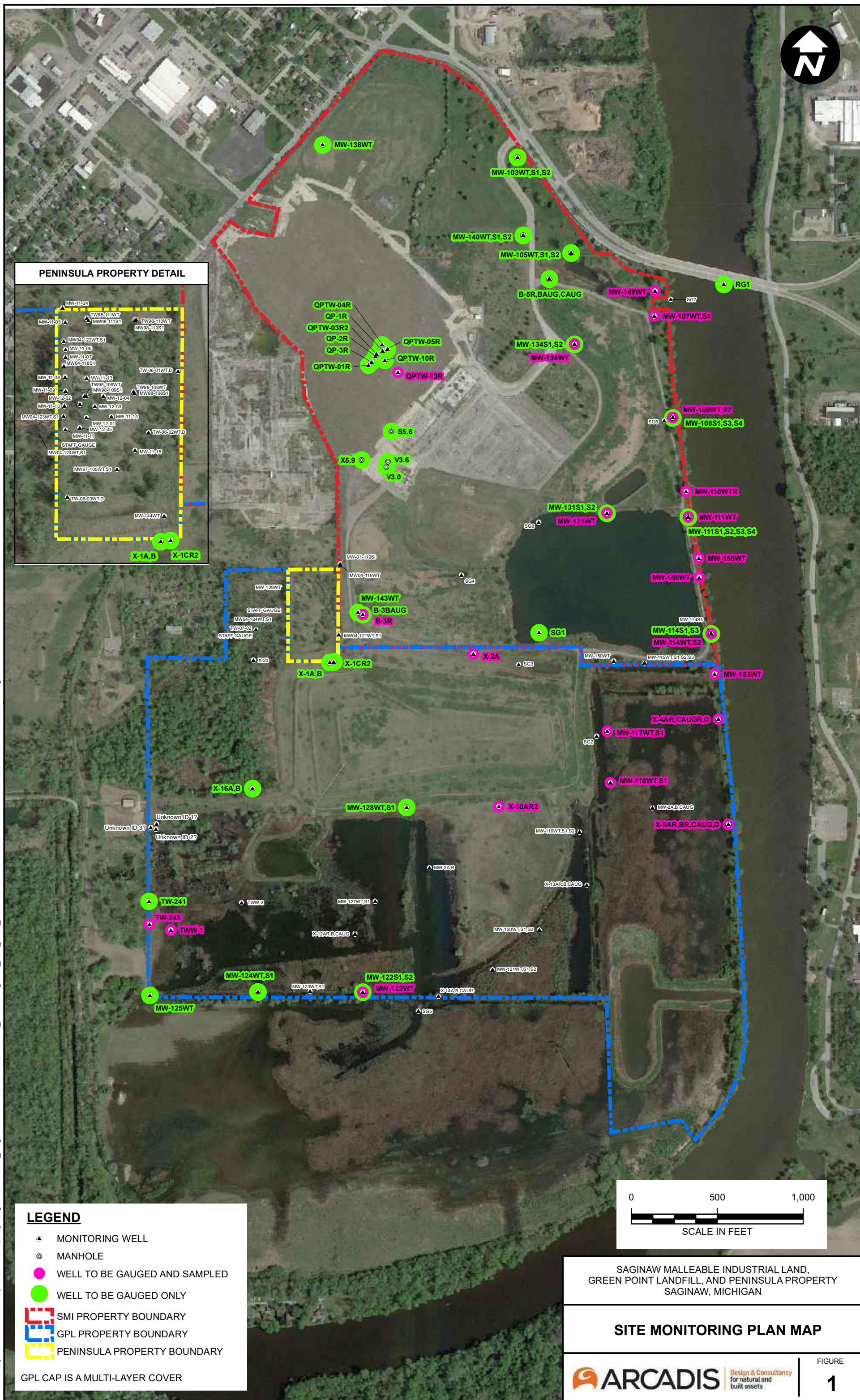
However, the reported limit is approximate and may or may not represent the actual result.

^ = ICV, CCV, ICB, CCB, ISA, ISB, CRI, CRA, DLCK, or MRL standard: instrument related QC exceeds the control limits.

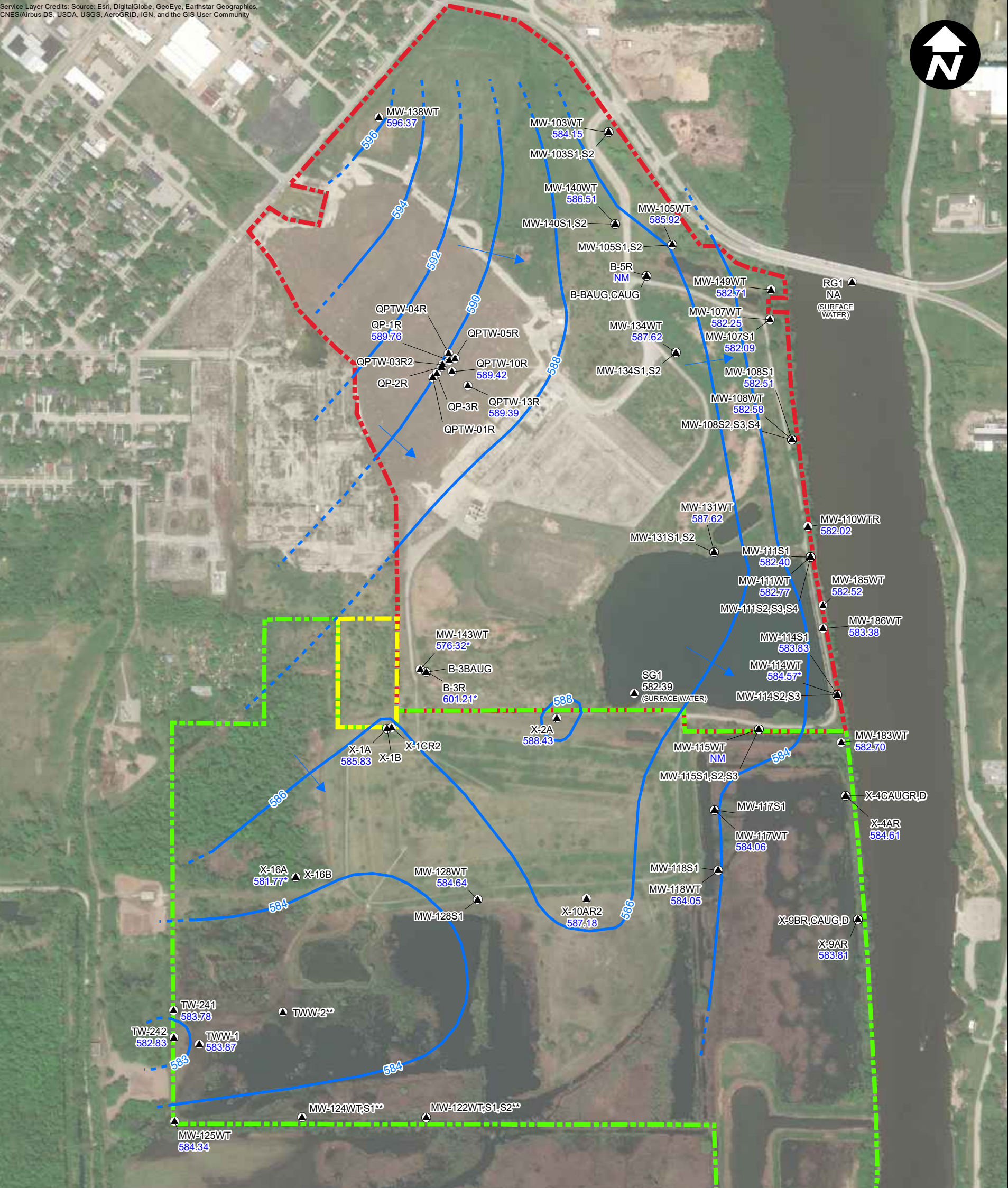
* = LCS (lab control sample) or LCSD (lab control sample duplicate) is outside acceptance limits.

FIGURES





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



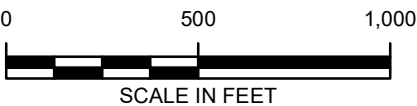
LEGEND

- MONITORING WELL
- GROUNDWATER ELEVATION CONTOUR (DASHED WHERE INFERRED)
- APPARENT GROUNDWATER FLOW DIRECTION
- SAGINAW MALLEABLE INDUSTRIAL (SMI) PROPERTY BOUNDARY
- GREEN POINT LANDFILL (GPL) PROPERTY BOUNDARY
- PENINSULA PROPERTY BOUNDARY

GPL CAP IS A MULTI-LAYER COVER

NOTES:

- DEPTH TO WATER ELEVATIONS WERE COLLECTED ON AUGUST 10, 2020, AND MEASURED FROM TOP OF WELL CASING.
 - THE FOLLOWING MONITORING WELLS WERE NOT INCLUDED IN THE GAUGING EVENT, AND WERE GAUGED AT A LATER DATE: QPTW-13R (8/11/2020) AND MW-117WT, MW-118WT, AND MW-114WT (8/13/2020).
 - ALL GROUNDWATER ELEVATIONS AND MEASUREMENTS ARE IN FEET ABOVE MEAN SEA LEVEL (AMSL).
 - VERTICAL DATUM REFERENCED TO NGVD OF 1929, HORIZONTAL DATUM REFERENCED TO MICHIGAN SPC-NAD 1983.
 - GPL CAP IS A MULTI-LAYER COVER.
- NM NOT MEASURED
- NA NOT AVAILABLE
- * ANOMALOUS GROUNDWATER ELEVATIONS NOT USED FOR CONTOURING.
- ** INACCESSIBLE DUE TO FLOODING



SAGINAW MALLEABLE INDUSTRIAL LAND,
GREEN POINT LANDFILL, AND PENINSULA PROPERTY
SAGINAW, MICHIGAN

GROUNDWATER ELEVATION CONTOUR
MAP SHALLOW AQUIFER - AUGUST 10, 2020



FIGURE

2

LEGEND

▲

MONITORING WELL

●

MANHOLE

●

WELL TO BE GAUGED AND SAMPLED

●

WELL TO BE GAUGED ONLY

SMI PROPERTY BOUNDARY

GPL PROPERTY BOUNDARY

PENINSULA PROPERTY BOUNDARY

MW-125WT

Sample Date 9/8/2020

PFOA 4.3

PFOS 1.7 U

SAMPLE LOCATION

SAMPLING DATE

PFOA ANALYTICAL RESULT

PFOS ANALYTICAL RESULT

NOTES:

ALL VALUES ARE IN NANOGRAMS PER LITER (ng/L).

BOLD RESULT DENOTES DETECTION.

SHADED RESULT DENOTES DETECTION IS ABOVE THE EGLE GROUNDWATER SURFACE WATER CRITERIA.

RED RESULT DENOTES DETECTION IS ABOVE EGLE DRINKING WATER MAXIMUM CONTAMINANT LIMIT (MCL).

J = ESTIMATED VALUE BETWEEN THE LIMIT OF QUANTITATION AND THE METHOD DETECTION LIMIT.

U = NOT DETECTED.

[] = DUPLICATE SAMPLE DETECTIONS

EGLE = ENVIRONMENT GREAT LAKES AND ENERGY

PFOA = PERFLUOROCTANOIC ACID

PFOS = PERFLUOROCTANESULFONIC ACID

05001,000

SCALE IN FEET

SAGINAW MALLEABLE INDUSTRIAL LAND,
GREEN POINT LANDFILL, AND PENINSULA PROPERTY
SAGINAW, MICHIGAN

PFAS SAMPLING RESULTS

ARCADIS

Design & Consultancy
for natural and
built assets

FIGURE
3

ATTACHMENT 1

Site Inspection Photo Log



Attachment 1 - June 2020 Preliminary Inspection



Photo 1: Green Point Landfill, southwest corner of landfill showing mid-slope drainage swale with exposed surface cover liner.

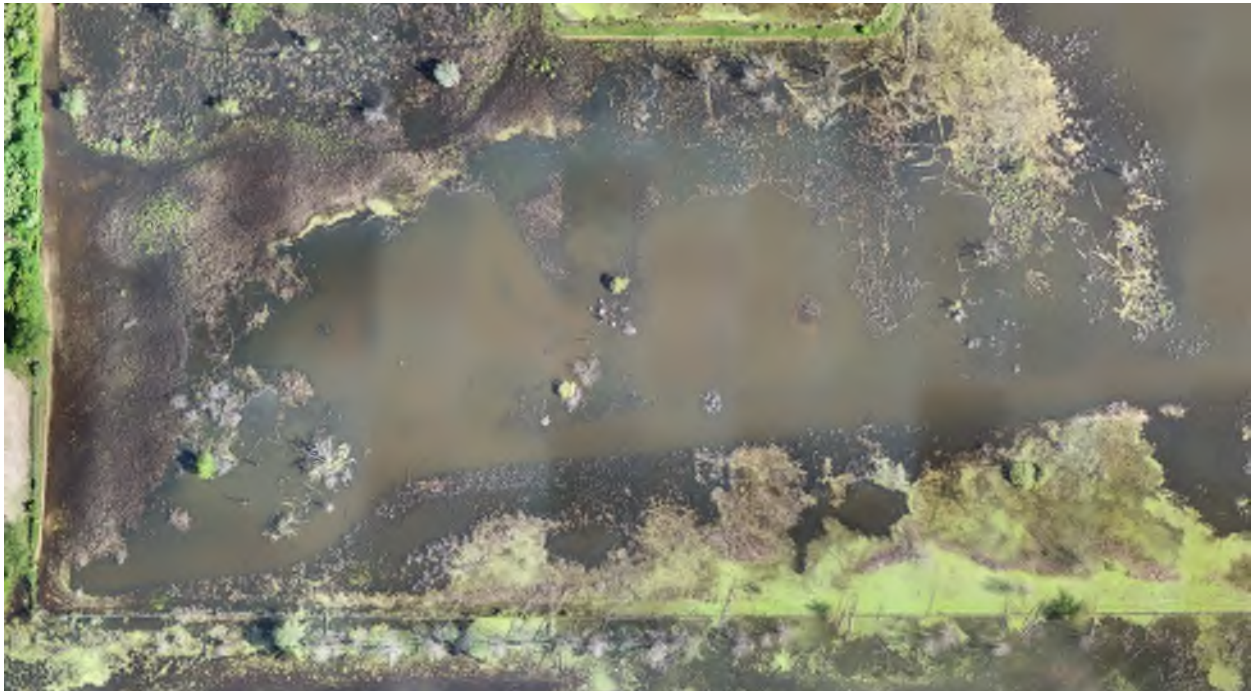


Photo 2: Drum Remediation Area showing high water levels.



Photo 3: Eastern Property Extension of GPL along east edge of Green Point Landfill showing high water areas including MW-117's and MW-118's, and X-2A fully or mostly underwater.

ATTACHMENT 2

SMI Well Construction Logs, Sampling Parameters, and Field Parameters



Attachment 2
Monitoring Well Sampling Plan and Construction Summary
2020 Annual Report
RACER Trust
Saginaw Malleable Industrial Land
Saginaw, Michigan



Well ID	Screen Interval (ft bgs) ¹	Screened Unit/Zone	Well Construction	Date Installed	TIC ² Elevation (ft AMSL) ³
B-3R	16-26	Upper Sand	2" PVC	5/22/1995	609.51
MW-107WT	4-9	Water Table	2" PVC	12/23/1994	590.65
MW-107S1	12.5-17.5	Upper Sand	2" PVC	12/23/1994	590.74
MW-108WT	2.5-7.5	Water Table	2" PVC	12/21/1994	590.53
MW-108S2	22-27	Upper Sand	2" PVC	12/21/1994	590.26
MW-110WTR	3-8	Water Table	2" PVC	11/9/2001	591.52
MW-111WT	5.5-10.5	Water Table	2" PVC	1/6/1995	590.95
MW-114WT	3.5-8.5	Water Table	2" PVC	1/10/1995	591.12
MW-114S2	22.5-27.5	Upper Sand	2" PVC	1/10/1995	591.20
MW-131WT	2-12	Water Table	2" PVC	1/13/1995	592.56
MW-134WT	4-9	Water Table	2" PVC	1/9/1995	594.02
MW-149WT	7-17	Water Table	2" PVC	9/21/1995	592.27
MW-185WT	3-8	Water Table	2" PVC	11/8/2001	588.67
MW-186WT	8-18	Water Table	2" PVC	NA	590.34
QPTW-13R	4-14	Water Table	2" PVC	8/16/2017	594.04

Notes:

¹ Depths are in feet below ground surface (ft bgs)

² TIC = top of inner casing

³ Elevations are in feet above mean sea level (ft AMSL)

" PVC = inch polyvinyl chloride

NA = not available

Constituent & Preservative - Container Description													
Well ID	Proposed Monitoring Plan (2020)	Ultra Low Flow Location ¹	Ammonia Nitrogen H ₂ SO ₄ - 500mL Poly	Phosphorus H ₂ SO ₄ - 500mL Poly	Total Arsenic HNO ₃ - 500mL Poly	Dissolved Arsenic unpreserved - 500mL Poly	Total Manganese HNO ₃ - 500mL Poly	SVOCs unpreserved - 2x1L Amber	Total PCBs unpreserved - 2x1L Amber	Dissolved PCBs unpreserved - 2x1L Amber	PFAS unpreserved - 2x250mL HDPE	screen interval	
MW-107WT	Ammonia nitrogen, phosphorus, arsenic (total and dissolved), and total manganese		X	X	X	X	X					4-9	Duplicate for ammonia nitrogen, phosphorus, total and dissolved arsenic, and total manganese MS/MSD for phosphorus, total and dissolved arsenic, and total manganese
MW-108WT	SVOCs, ammonia nitrogen, phosphorus, total manganese, and PFAS		X	X		X	X			X		2.5-7.5	Duplicate for SVOCs MS/MSD for SVOCs Equipment Blank for PFAS
MW-110WTR	PCBs (total and dissolved), ammonia nitrogen, phosphorus, and total manganese	X	X	X		X		X	X			3-8	
MW-111WT	PCBs (total and dissolved), ammonia nitrogen, phosphorus, and total manganese	X	X	X		X		X	X			5.5-10.5	
MW-114WT	PCBs (total and dissolved), ammonia nitrogen, phosphorus, and total manganese	X	X	X		X		X	X			3.5-8.56	
MW-149WT	Ammonia nitrogen, phosphorus, and arsenic (total and dissolved)		X	X	X	X						7-17	
MW-185WT	PCBs (total and dissolved), ammonia nitrogen, phosphorus, and total manganese	X	X	X		X		X	X			3-8	
MW-186WT	PCBs (total and dissolved), ammonia nitrogen, phosphorus, and total manganese	X	X	X		X		X	X			8-18	Duplicate for total and dissolved PCBs MS/MSD for total and dissolved PCBs
MW-107S1	Ammonia nitrogen		X									12.5-17.5	
MW-108S2	Ammonia nitrogen		X									22-27	
MW-114S2	Ammonia nitrogen		X									22.5-27.5	
MW-131WT	PFAS									X		2-12	
MW-134WT	PFAS									X		4-9	
B-3R	PFAS									X		16-26	
QPTW-13R	PFAS									X		4-14	Duplicate for PFAS Equipment Blank for PFAS

Notes:

¹Ultra Low Flow (ULF) sampling refers to the use of a purge and sampling rate of approximately 50 milliliters per minute, implemented to minimize sample turbidity.

HDPE = high-density polyethylene

HNO₃ = nitric acid

H₂SO₄ = sulfuric acid

L = liter

mL = milliliter

MS/MSD = matrix spike/matrix spike duplicate

PCB = polychlorinated biphenols

PFAS = per- and polyfluoroalkyl substances

SVOC = semi volatile organic compound

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
B-3R	08/11/20	0.94	0.27	-236	7.99	16.3	4.55
MW-107S1	09/30/10	1.258	0.4	-104.2	7.54	22.9	0.35
MW-107S1	09/21/11	1.26	0.90	-111.7	7.11	14.93	0.6
MW-107S1	09/17/12	1.109	.2	-83.0	7.19	15.3	1.02
MW-107S1	09/25/13	3.474	0.79	180.3	7.41	12.70	0.1
MW-107S1	09/24/14	1.149	3.03	-76.8	7.40	12.68	2.3
MW-107S1	10/01/15	1.52	0.19	74.33	7.13	14.24	8.2
MW-107S1	09/29/16	0.547	0.49	9.54	7.03	14.29	1.8
MW-107S1	08/30/17	1.237	0.52	-91.8	7.34	17.00	1.55
MW-107S1	09/26/18	1.11	0.26	-90.1	7.09	14.2	0.02
MW-107S1	08/21/19	1.37	0.10	-82.4	7.34	15.5	0.02
MW-107S1	08/11/20	1.36	0.12	-131.2	7.46	17.5	0.02
MW-107WT	DRY 2010 and 2011	NA	NA	NA	NA	NA	NA
MW-107WT ¹	09/18/12	NA	NA	NA	NA	NA	11.0
MW-107WT ¹	09/26/13	NA	NA	NA	NA	NA	93.2
MW-107WT ¹	09/24/14	0.861	0.64	-88.8	6.94	14.26	1.3
MW-107WT	10/01/15	1.239	5.06	-110.08	7.18	18.11	1.9
MW-107WT	09/29/16	0.401	0.62	35.2	6.90	15.59	1.05
MW-107WT	08/30/17	0.928	8.9	78	7.23	21.6	1.26
MW-107WT	09/26/18	0.87	0.91	-29.3	6.96	18.1	0.71
MW-107WT	08/21/19	0.91	0.57	70.4	7.05	20.4	0.02
MW-107WT	08/11/20	0.88	1.01	48.4	7.11	20.3	0.02
MW-108S2	09/28/10	1.142	0.12	-116.6	7.52	13.87	0.4
MW-108S2	09/21/11	0.808	0.63	-96.9	7.51	13.87	3.8
MW-108S2	09/17/12	0.901	0.28	-238.8	7.38	13.23	0.83
MW-108S2	09/26/13	2.641	0.37	160.1	7.49	12.37	0.8
MW-108S2	09/24/14	Missing field notes					
MW-108S2	10/01/15	1.062	0.14	103.92	7.59	13.47	8.9
MW-108S2	09/29/16	0.395	0.52	7.28	7.10	15	1.43
MW-108S2	08/30/17	0.644	0.36	-124.3	7.61	16.5	1.92
MW-108S2	09/26/18	0.63	1.45	-83.7	7.25	12.1	0.02
MW-108S2	08/21/19	0.95	0.27	-138.8	7.44	18.9	0.02
MW-108S2	08/11/20	0.89	0.24	-87.1	7.48	17	7.34

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-108WT	DRY 2010 through 2014	NA	NA	NA	NA	NA	NA
MW-108WT	09/29/16	0.310	0.51	4.45	6.55	16.59	0.87
MW-108WT	08/30/17	Purged dry, sampled on 8/31/17					
MW-108WT	09/27/18	0.62	0.52	158.4	6.30	14.10	0.80
MW-108WT	08/21/19	0.74	0.32	58.1	6.86	22.3	0.02
MW-108WT	08/13/20	0.70	0.21	-44.1	6.86	21.9	1.75
MW-110WTR	DRY 2010 through 2013	NA	NA	NA	NA	NA	NA
MW-110WTR	09/24/14	Missing field notes					
MW-110WTR	10/01/15	2.198	0.62	-117.47	6.91	14.07	7.71
MW-110WTR	09/29/16	0.683	0.52	-29.39	6.47	14.6	0.86
MW-110WTR	08/31/17	1.133	0.51	-100.1	6.67	16	1.9
MW-110WTR	09/27/18	1.28	0.93	-51.7	6.32	16.0	0.94
MW-110WTR	08/21/19	0.98	0.31	-87.9	7.07	18.8	0.02
MW-110WTR	08/12/20	0.94	0.59	-55	6.85	16.9	0.02
MW-111WT	DRY 2010 and 2011	NA	NA	NA	NA	NA	NA
MW-111WT ¹	09/18/12	NA	NA	NA	NA	NA	5.36
MW-111WT ¹	09/26/13	NA	NA	NA	NA	NA	6.62
MW-111WT	09/23/14	Missing field notes					
MW-111WT	10/01/15	1.206	0.21	109.71	7.05	13.09	6.34
MW-111WT	09/29/16	0.403	0.5	-32.78	6.66	15.43	1.02
MW-111WT	08/31/17	0.762	0.47	-66.9	7.25	18.8	1.85
MW-111WT	09/27/18	0.84	0.21	-43.7	6.91	17.7	0.02
MW-111WT	08/22/19	0.83	0.07	-164.8	7.11	17.3	8.46
MW-111WT	08/12/20	0.78	0.21	-155.7	7.17	21.7	0.02
MW-114S2	09/29/10	0.69	0.10	-118.5	8.40	16.43	1.0
MW-114S2	09/22/11	0.929	1.83	-109.6	7.20	16.3	1.1
MW-114S2	09/18/12	0.809	7.67	-21.1	7.25	14.25	3.47
MW-114S2	09/25/13	2.810	0.63	-206.2	7.37	14.15	0.2
MW-114S2	09/23/14	0.637	0.07	-113.4	6.73	15.96	1.3
MW-114S2	10/01/15	0.650	0.36	127.66	7.29	14.04	5.5
MW-114S2	09/29/16	0.257	0.45	-42.57	6.96	16.01	1.02

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-114S2	09/01/17	0.7833	0.56	-119.2	7.33	16.1	1.95
MW-114S2	09/28/18	0.487	0.55	-19.6	6.62	14.6	4.33
MW-114S2	08/22/19	0.555	0.53	35.4	7.28	17.6	3.28
MW-114S2	08/13/20	0.71	0.36	-28.2	6.45	17.1	3.83
MW-114WT	DRY 2010, 2011 and 2012	NA	NA	NA	NA	NA	NA
MW-114WT ¹	09/25/13	NA	NA	NA	NA	NA	12.3
MW-114WT	09/23/14	0.705	0.19	-88.1	6.43	20.25	0.98
MW-114WT	10/01/15	1.026	1.16	112.83	6.67	16.22	8.68
MW-114WT	09/29/16	0.277	0.66	-21.73	6.77	18.51	1.39
MW-114WT	08/31/17	0.527	0.41	-146.1	7.11	19.7	1.96
MW-114WT	09/28/18	0.59	0.71	26.3	6.72	16.1	0.02
MW-114WT	08/22/19	0.58	0.18	-126.6	6.99	22.5	9.63
MW-114WT	08/13/20	0.51	0.04	-153.7	7.21	25.4	0.72
MW-131WT	08/11/20	0.75	0.12	-122.4	7.21	19.5	0.53
MW-134WT	08/11/20	1.19	10	-129.5	7	17.3	0.93
MW-149WT	09/30/10	1.395	0.53	-133.4	6.91	12.79	1.6
MW-149WT	09/28/11	1.441	0.43	-136.6	6.77	13.79	1.7
MW-149WT	09/18/12	1.161	_ ²	-75.0	6.73	14.03	0.72
MW-149WT	09/25/13	4.722	0.28	-150.7	6.70	14.93	1.25
MW-149WT	09/24/14	Missing field notes					
MW-149WT	10/01/15	1.234	0.21	87.25	6.82	13.16	5.58
MW-149WT	09/29/16	0.455	0.56	48.33	6.50	14.93	1.89
MW-149WT	08/30/17	1.014	0.34	-82.8	7.13	16.1	1.92
MW-149WT	09/26/18	1.05	0.56	-71.2	6.42	15.0	0.02
MW-149WT	08/21/19	1.07	0.27	-113.4	6.86	17.4	0.21
MW-149WT	08/11/20	0.86	0.16	-127.9	7.03	14.6	0.02
MW-185WT	DRY 2010 and 2011	NA	NA	NA	NA	NA	NA
MW-185WT ¹	09/18/12	NA	NA	NA	NA	NA	27.7
MW-185WT ¹	09/25/13	NA	NA	NA	NA	NA	19.7
MW-185WT	09/24/14	0.48	0.29	-125.7	7.75	22.01	1.65
MW-185WT	10/01/15	0.597	0.67	-150.33	7.91	14.87	5.67

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-185WT	09/29/16	0.213	0.37	74.88	7.18	19.12	1.05
MW-185WT	08/31/17	0.417	0.7	-6.6	7.94	20.9	1.89
MW-185WT	09/27/18	0.420	0.46	69.2	7.24	18.6	0.02
MW-185WT	08/22/19	0.417	0.95	80.5	7.55	20.6	0.02
MW-185WT	08/14/20	0.429	0.31	203.4	7.62	20.4	1.48
MW-186WT	09/29/10	0.53	0.39	-130.1	7.88	14.52	0.6
MW-186WT	09/28/11	0.94	1.68	-136	8.04	14.18	0.5
MW-186WT	09/18/12	0.748	4.43	-222.8	7.43	15.07	0.60
MW-186WT	09/25/13	2.239	0.48	-104.2	6.86	16.15	0.5
MW-186WT	09/24/14	0.853	0.24	-124.9	6.50	18.99	1.5
MW-186WT	10/01/15	0.597	0.67	-150.33	7.91	14.87	5.7
MW-186WT	09/29/16	0.295	0.46	99.39	6.90	15.47	2.43
MW-186WT	08/31/17	0.529	0.35	-120.1	7.36	20.6	1.97
MW-186WT	09/27/18	0.477	0.28	-143.6	7.29	16.8	9.05
MW-186WT	08/22/19	0.583	0.87	89.5	7.26	21.3	4.90
MW-186WT	08/12/20	0.435	0.16	173.5	7.62	20.5	3.53
QPTW-13R	08/11/20	1.040	0.13	-88.3	6.89	18.7	4.23

Notes:

°C = Celsius

mg/L = milligrams per liter

mV = millivolts

NTUs = Nephelometric Turbidity Units

SU = Standard Units.

mS/cm = milliSiemens per centimeter.

NA = not applicable/not available.

1. Monitoring well purged dry upon sampling. Well was allowed to recharge and then a sample was collected. Only turbidity was measured prior to sampling.
2. No reading due to faulty dissolved oxygen sensor.

ATTACHMENT 3

Laboratory Analytical Reports



The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Arcadis

Racer Saginaw; 77 W Center St, Saginaw, MI

30042836.05001

SGS Job Number: FA77965

Sampling Dates: 08/11/20 - 08/13/20

Report to:

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Total number of pages in report: 39



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.



Norm Farmer
Technical Director

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Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

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Sample Summary

Arcadis

Job No: FA77965

Racer Saginaw; 77 W Center St, Saginaw, MI
Project No: 30042836.05001

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA77965-1	08/11/20	11:30	DRSE 08/19/20	AQ	Ground Water	MW-131WT_081120
FA77965-2	08/11/20	12:30	DRSE 08/19/20	AQ	Ground Water	MW-134WT_081120
FA77965-3	08/11/20	14:40	DRSE 08/19/20	AQ	Ground Water	QPTW-13R_081120
FA77965-4	08/11/20	15:50	DRSE 08/19/20	AQ	Ground Water	B-3R_081120
FA77965-5	08/13/20	15:15	DRSE 08/19/20	AQ	Ground Water	MW-108WT_081320
FA77965-6	08/13/20	14:10	DRSE 08/19/20	AQ	Equipment Blank	EB-02_081320
FA77965-7	08/11/20	14:50	DRSE 08/19/20	AQ	Equipment Blank	EB-01_081120
FA77965-8	08/11/20	00:00	DRSE 08/19/20	AQ	Ground Water	DUP-02_081120

Summary of Hits

Job Number: FA77965
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/11/20 thru 08/13/20

Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

FA77965-1 MW-131WT_081120

Perfluorobutanoic acid	11.1	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	0.99 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	3.6 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	3.0 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanesulfonic acid	1.1 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	4.9	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	7.9	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77965-2 MW-134WT_081120

Perfluorobutanoic acid	5.9 J	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	2.7 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	1.9 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	2.2 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	2.0 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77965-3 QPTW-13R_081120

Perfluorobutanoic acid	16.6	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	38.4	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	2.7 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid ^a	4.7 J	19	9.3	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	3.7	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	11.0	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77965-4 B-3R_081120

Perfluorobutanoic acid	11.3	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	13.4	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	2.1 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	2.7 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	14.4	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77965-5 MW-108WT_081320

Perfluorobutanoic acid	8.8	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	2.1 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	2.4 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	1.2 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	4.4	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	1.9 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	5.8	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	17.1	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA77965
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/11/20 thru 08/13/20

Lab Sample ID	Client Sample ID	Result/ Analyte	LOQ	LOD	Units	Method

FA77965-6 **EB-02_081320**

No hits reported in this sample.

FA77965-7 **EB-01_081120**

No hits reported in this sample.

FA77965-8 **DUP-02_081120**

Perfluorobutanoic acid	17.7	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	37.3	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	2.8 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	1.9 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	5.1	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid	1.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	3.4 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	10.6	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

(a) Dilution required due to matrix interference (ID recovery standard failure).

Sample Results

Report of Analysis

Report of Analysis

Page 1 of 2

Client Sample ID:	MW-131WT_081120		
Lab Sample ID:	FA77965-1	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25832.D	1	08/25/20 14:42	NG	08/24/20 09:00	OP81708	S3Q391
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	11.1	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	0.99	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	3.6	3.7	1.9	0.93	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	3.0	3.7	1.9	0.93	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.1	3.7	1.9	0.93	ng/l	J
355-46-4	Perfluorohexanesulfonic acid	4.9	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	7.9	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected	LOD = Limit of Detection	J = Indicates an estimated value
LOQ = Limit of Quantitation	DL = Detection Limit	B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-131WT_081120		
Lab Sample ID:	FA77965-1	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	77%		50-150%
	13C5-PFPeA	88%		50-150%
	13C5-PFHxA	85%		50-150%
	13C4-PFHpA	88%		50-150%
	13C8-PFOA	92%		50-150%
	13C9-PFNA	97%		50-150%
	13C6-PFDA	94%		50-150%
	13C7-PFUnDA	93%		50-150%
	13C2-PFDoDA	93%		50-150%
	13C2-PFTeDA	89%		50-150%
	13C3-PFBS	88%		50-150%
	13C3-PFHxS	89%		50-150%
	13C8-PFOS	89%		50-150%
	13C8-FOSA	68%		50-150%
	d3-MeFOSAA	98%		50-150%
	13C2-4:2FTS	80%		50-150%
	13C2-6:2FTS	87%		50-150%
	13C2-8:2FTS	91%		50-150%
	13C3-HFPO-DA	98%		50-150%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-134WT_081120		
Lab Sample ID:	FA77965-2	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25836.D	1	08/25/20 15:43	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25892.D	5	08/26/20 14:38	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	5.9	7.4	3.7	1.9	ng/l	J
2706-90-3	Perfluoropentanoic acid	2.7	3.7	1.9	1.4	ng/l	J
307-24-4	Perfluorohexanoic acid	1.9	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	2.2	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	2.0	3.7	1.9	0.93	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	9.3 U ^b	19	9.3	4.6	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-134WT_081120		
Lab Sample ID:	FA77965-2	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	74%	108%	50-150%
	13C5-PFPeA	91%	115%	50-150%
	13C5-PFHxA	84%	112%	50-150%
	13C4-PFHpA	88%	113%	50-150%
	13C8-PFOA	94%	118%	50-150%
	13C9-PFNA	98%	121%	50-150%
	13C6-PFDA	100%	120%	50-150%
	13C7-PFUnDA	97%	114%	50-150%
	13C2-PFDoDA	96%	110%	50-150%
	13C2-PFTeDA	76%	84%	50-150%
	13C3-PFBS	92%	113%	50-150%
	13C3-PFHxS	92%	113%	50-150%
	13C8-PFOS	100%	114%	50-150%
	13C8-FOSA	36% ^c	73%	50-150%
	d3-MeFOSAA	104%	119%	50-150%
	13C2-4:2FTS	82%	107%	50-150%
	13C2-6:2FTS	90%	109%	50-150%
	13C2-8:2FTS	101%	117%	50-150%
	13C3-HFPO-DA	95%	124%	50-150%

(a) Dilution required due to matrix interference (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	QPTW-13R_081120				
Lab Sample ID:	FA77965-3			Date Sampled:	08/11/20
Matrix:	AQ - Ground Water			Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD			Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25837.D	1	08/25/20 15:59	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25893.D	5	08/26/20 14:53	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	16.6	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	38.4	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	2.7	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	9.3 U ^b	19	9.3	4.6	ng/l	
335-67-1	Perfluorooctanoic acid	4.7 ^b	19	9.3	4.6	ng/l	J
375-95-1	Perfluorononanoic acid	9.3 U ^b	19	9.3	4.6	ng/l	
335-76-2	Perfluorodecanoic acid	9.3 U ^b	19	9.3	4.6	ng/l	
2058-94-8	Perfluoroundecanoic acid	9.3 U ^b	19	9.3	4.6	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	3.7	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	11.0	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA ^c	9.3 U ^b	19	9.3	4.6	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	37 U ^b	93	37	19	ng/l	
2991-50-6	EtFOSAA	37 U ^b	93	37	19	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	QPTW-13R_081120		
Lab Sample ID:	FA77965-3	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	54%	85%	50-150%
	13C5-PFPeA	68%	90%	50-150%
	13C5-PFHxA	53%	84%	50-150%
	13C4-PFHpA	48% ^d	82%	50-150%
	13C8-PFOA	49% ^d	83%	50-150%
	13C9-PFNA	49% ^d	81%	50-150%
	13C6-PFDA	49% ^d	81%	50-150%
	13C7-PFUnDA	49% ^d	80%	50-150%
	13C2-PFDoDA	56%	80%	50-150%
	13C2-PFTeDA	69%	91%	50-150%
	13C3-PFBS	73%	93%	50-150%
	13C3-PFHxS	66%	91%	50-150%
	13C8-PFOS	65%	84%	50-150%
	13C8-FOSA	11% ^d	31% ^d	50-150%
	d3-MeFOSAA	40% ^d	95%	50-150%
	13C2-4:2FTS	55%	84%	50-150%
	13C2-6:2FTS	55%	85%	50-150%
	13C2-8:2FTS	63%	94%	50-150%
	13C3-HFPO-DA	71%	97%	50-150%

- (a) Dilution required due to matrix interference (ID recovery standard failure).
 (b) Result is from Run# 2
 (c) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
 (d) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	B-3R_081120		
Lab Sample ID:	FA77965-4	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25838.D	1	08/25/20 16:14	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	2Q53346.D	1	08/31/20 13:36	NG	08/28/20 12:00	OP81784	S2Q794

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	290 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	11.3	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	13.4	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	2.1	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	2.7	3.7	1.9	0.93	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid ^b	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid ^b	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	14.4	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA ^c	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	B-3R_081120		
Lab Sample ID:	FA77965-4	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	57%	47%	50-150%
	13C5-PFPeA	71%	48%	50-150%
	13C5-PFHxA	65%	47%	50-150%
	13C4-PFHpA	65%	47%	50-150%
	13C8-PFOA	74%	49%	50-150%
	13C9-PFNA	76%	56%	50-150%
	13C6-PFDA	75%	53%	50-150%
	13C7-PFUnDA	70%	54%	50-150%
	13C2-PFDoDA	61%	58%	50-150%
	13C2-PFTeDA	41% ^d	57%	50-150%
	13C3-PFBS	74%	54%	50-150%
	13C3-PFHxS	76%	54%	50-150%
	13C8-PFOS	73%	53%	50-150%
	13C8-FOSA	30% ^d	29%	50-150%
	d3-MeFOSAA	98%	75%	50-150%
	13C2-4:2FTS	65%	51%	50-150%
	13C2-6:2FTS	77%	58%	50-150%
	13C2-8:2FTS	81%	61%	50-150%
	13C3-HFPO-DA	83%	54%	50-150%

(a) Confirmation run.

(b) Associated ID Standard outside control limits. Confirmed ND by re-extraction and reanalysis.

(c) Associated ID Standard outside control limits due to matrix interference. Confirmed by re-extraction and reanalysis.

(d) Outside control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-108WT_081320		
Lab Sample ID:	FA77965-5	Date Sampled:	08/13/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25841.D	1	08/25/20 17:00	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25895.D	5	08/26/20 15:24	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	8.8	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	2.1	3.7	1.9	1.4	ng/l	J
307-24-4	Perfluorohexanoic acid	2.4	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.2	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	4.4	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9	3.7	1.9	0.93	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	5.8	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	17.1	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	9.3 U ^b	19	9.3	4.6	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-108WT_081320		
Lab Sample ID:	FA77965-5	Date Sampled:	08/13/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	69%	97%	50-150%
	13C5-PFPeA	85%	108%	50-150%
	13C5-PFHxA	80%	103%	50-150%
	13C4-PFHpA	83%	102%	50-150%
	13C8-PFOA	89%	109%	50-150%
	13C9-PFNA	93%	110%	50-150%
	13C6-PFDA	91%	105%	50-150%
	13C7-PFUnDA	86%	102%	50-150%
	13C2-PFDoDA	87%	103%	50-150%
	13C2-PFTeDA	85%	99%	50-150%
	13C3-PFBS	85%	108%	50-150%
	13C3-PFHxS	88%	106%	50-150%
	13C8-PFOS	87%	100%	50-150%
	13C8-FOSA	45% ^c	91%	50-150%
	d3-MeFOSAA	90%	106%	50-150%
	13C2-4:2FTS	78%	95%	50-150%
	13C2-6:2FTS	86%	99%	50-150%
	13C2-8:2FTS	89%	98%	50-150%
	13C3-HFPO-DA	93%	113%	50-150%

(a) Dilution required due to matrix interference (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Client Sample ID:	EB-02_081320		
Lab Sample ID:	FA77965-6	Date Sampled:	08/13/20
Matrix:	AQ - Equipment Blank	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25842.D	1	08/25/20 17:15	NG	08/24/20 09:00	OP81708	S3Q391
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	EB-02_081320		
Lab Sample ID:	FA77965-6	Date Sampled:	08/13/20
Matrix:	AQ - Equipment Blank	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	103%		50-150%
	13C5-PFPeA	103%		50-150%
	13C5-PFHxA	102%		50-150%
	13C4-PFHpA	99%		50-150%
	13C8-PFOA	100%		50-150%
	13C9-PFNA	93%		50-150%
	13C6-PFDA	90%		50-150%
	13C7-PFUnDA	83%		50-150%
	13C2-PFDoDA	79%		50-150%
	13C2-PFTeDA	71%		50-150%
	13C3-PFBS	100%		50-150%
	13C3-PFHxS	94%		50-150%
	13C8-PFOS	82%		50-150%
	13C8-FOSA	103%		50-150%
	d3-MeFOSAA	111%		50-150%
	13C2-4:2FTS	97%		50-150%
	13C2-6:2FTS	89%		50-150%
	13C2-8:2FTS	85%		50-150%
	13C3-HFPO-DA	115%		50-150%

U = Not detected LOD = Limit of Detection
LOQ = Limit of Quantitation DL = Detection Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	EB-01_081120		
Lab Sample ID:	FA77965-7	Date Sampled:	08/11/20
Matrix:	AQ - Equipment Blank	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25843.D	1	08/25/20 17:31	NG	08/24/20 09:00	OP81708	S3Q391
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	EB-01_081120		
Lab Sample ID:	FA77965-7	Date Sampled:	08/11/20
Matrix:	AQ - Equipment Blank	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	118%		50-150%
	13C5-PFPeA	118%		50-150%
	13C5-PFHxA	117%		50-150%
	13C4-PFHpA	112%		50-150%
	13C8-PFOA	110%		50-150%
	13C9-PFNA	102%		50-150%
	13C6-PFDA	101%		50-150%
	13C7-PFUnDA	92%		50-150%
	13C2-PFDoDA	89%		50-150%
	13C2-PFTeDA	74%		50-150%
	13C3-PFBS	115%		50-150%
	13C3-PFHxS	104%		50-150%
	13C8-PFOS	88%		50-150%
	13C8-FOSA	118%		50-150%
	d3-MeFOSAA	127%		50-150%
	13C2-4:2FTS	110%		50-150%
	13C2-6:2FTS	99%		50-150%
	13C2-8:2FTS	94%		50-150%
	13C3-HFPO-DA	129%		50-150%

U = Not detected LOD = Limit of Detection
 LOQ = Limit of Quantitation DL = Detection Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	DUP-02_081120		
Lab Sample ID:	FA77965-8	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25844.D	1	08/25/20 17:46	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25896.D	5	08/26/20 15:39	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	17.7	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	37.3	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	2.8	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.9	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	5.1	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.5	3.7	1.9	0.93	ng/l	J
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYL SULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	3.4	3.7	1.9	0.93	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	10.6	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUORO OCTANESULFONAMIDES

754-91-6	PFOSA ^b	9.3 U ^c	19	9.3	4.6	ng/l	

PERFLUORO OCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	37 U ^c	93	37	19	ng/l	
2991-50-6	EtFOSAA	37 U ^c	93	37	19	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	DUP-02_081120		
Lab Sample ID:	FA77965-8	Date Sampled:	08/11/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	56%	91%	50-150%
	13C5-PFPeA	72%	99%	50-150%
	13C5-PFHxA	55%	88%	50-150%
	13C4-PFHpA	51%	88%	50-150%
	13C8-PFOA	50%	91%	50-150%
	13C9-PFNA	51%	90%	50-150%
	13C6-PFDA	51%	86%	50-150%
	13C7-PFUnDA	50%	86%	50-150%
	13C2-PFDoDA	56%	86%	50-150%
	13C2-PFTeDA	55%	81%	50-150%
	13C3-PFBS	76%	100%	50-150%
	13C3-PFHxS	68%	96%	50-150%
	13C8-PFOS	67%	95%	50-150%
	13C8-FOSA	10% ^d	33% ^d	50-150%
	d3-MeFOSAA	41% ^d	99%	50-150%
	13C2-4:2FTS	57%	87%	50-150%
	13C2-6:2FTS	56%	93%	50-150%
	13C2-8:2FTS	66%	101%	50-150%
	13C3-HFPO-DA	72%	103%	50-150%

- (a) Dilution required due to matrix interference (ID recovery standard failure).
 (b) Associated ID Standard outside control limits due to matrix interference. Confirmed by reanalysis.
 (c) Result is from Run# 2
 (d) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

FA77965

SGS - ORLANDO JOB # :

PAGE 1 OF 1

Client / Reporting Information				Project Information				Analytical Information				Matrix Codes							
Company Name: Arcadis				Project Name: Racco Saginaw GWS								DW - Drinking Water							
Address: 28550 Cabot Dr Suite 500				Street: 77 West Center St								GW - Ground Water							
City: Novi	State: MI	Zip: 48377	City: Saginaw	State: MI								WW - Water SW - Surface Water							
Project Contact: Amanda Robinson Email: amanda.robinson@arcadis-us.com				Project #: 30042836.05001								SO - Soil SL - Sludge							
Phone #: 810 434 8899				Fax #:								Oil - Oil LIQ - Other Liquid							
Sampler(s) Name(s) (Printed)				Cilent Purchase Order #								AIR - Air SOL - Other Solid							
Sampler 1:		Sampler 2:										LAB USE ONLY							
SGS Orlando Sample #		Field ID / Point of Collection		COLLECTION															
				CONTAINER INFORMATION															
		DATE		TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NaOH-ZnAc	DI WATER	MECH	PEAS XXXXXX X		
1 MW-131WT-081120		8/11/20		1130	DRR GW	2	X												
2 MW-134WT-081120		8/11/20		1230	DRR GW	2	X												
3 QPTW-13R-081120		8/11/20		1440	DRR GW	2	X												
4 B-3R-081120		8/11/20		1550	DRR GW	2	X												
5 MW-108WT-081320		8/13/20		1515	SE GW	2	X												
6 EB-02-081320		8/13/20		1410	SE GW	2	X												
7 EB-01-081120		8/11/20		1450	DRR GW	2	X												
8 DUP-02-081120		8/11/20		-	DRR GW	2	X												
Turnaround Time (Business days)				Data Deliverable Information								Comments / Remarks							
10 Day (Business) 7 Day _____ 5 Day _____ 3 Day RUSH _____ 2 Day RUSH _____ 1 Day RUSH _____ Other _____				Approved By / Date: _____ ☐ COMMERCIAL "A" (RESULTS ONLY) ☐ COMMERCIAL "B" (RESULTS PLUS QC) ☐ REDT1 (EPA LEVEL 3) ☐ FULLT1 (EPA LEVEL 4) ☐ EDD'S															
Rush T/A Data Available VIA Email or Lablink				Sample Custody must be documented below each time samples change possession, including courier delivery.															
Relinquished by Sampler/Affiliation		Date Time: 8/16/20 19:00		Received By/Affiliation 2 Fedex		Relinquished By/Affiliation 3 Fedex										Date Time: 8/19/20		Received By/Affiliation 4 [Signature] 1000	
Relinquished by Affiliation 5		Date Time:		Received By/Affiliation 6		Relinquished By/Affiliation 7										Date Time:		Received By/Affiliation 8	
Lab Use Only : Cooler Temperature (s) Celsius (corrected): 6.4												http://www.sgs.com/en/terms-and-condition							

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

<http://www.sgs.com/en/terms-and-conditions>

FA77965: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA77965

Client: ARCADIS

Project: RACER SAGINAW GWS

Date / Time Received: 8/19/2020 10:00:00 AM

Delivery Method: FEDEX

Airbill #s:

Therm ID: IR 1;

Therm CF: -0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.6);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Information

Y or N

1. Custody Seals Present	☒	☐
2. Custody Seals Intact	☒	☐
3. Temp criteria achieved	☒	☐
4. Cooler temp verification	<u>IR Gun</u>	
5. Cooler media	<u>Ice (Bag)</u>	

Trip Blank Information

Y or N N/A

1. Trip Blank present / cooler	☐	☐	☒
2. Trip Blank listed on COC	☐	☐	☒
	<u>W or S</u>	<u>N/A</u>	
3. Type Of TB Received	☐	☐	☒

Sample Information

Y or N N/A

1. Sample labels present on bottles	☒	☐	
2. Samples preserved properly	☒	☐	
3. Sufficient volume/containers recvd for analysis:	☒	☐	
4. Condition of sample	<u>Intact</u>		
5. Sample recvd within HT	☒	☐	
6. Dates/Times/IDs on COC match Sample Label	☒	☐	
7. VOCs have headspace	☐	☐	☒
8. Bottles received for unspecified tests	☐	☒	
9. Compositing instructions clear	☐	☐	☒
10. Voa Soil Kits/Jars received past 48hrs?	☐	☐	☒
11. % Solids Jar received?	☐	☐	☒
12. Residual Chlorine Present?	☐	☐	☒

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____

Number of 5035 Field Kits: _____

Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 _____ 230315 _____

pH 10-12 _____ 219813A _____

Other: (Specify) _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: BRYANG

Date: 8/19/2020 10:00:00 A

Reviewer: _____

Date: _____

FA77965: Chain of Custody

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QC Evaluation: DOD QSM5.x Limits

Page 1 of 2

Job Number: FA77965
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/11/20 thru 08/13/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

OP81708 EPA 537M QSM5.3 B-15

OP81708-BS	375-22-4	Perfluorobutanoic acid	BSP	REC	93	%	73-129
OP81708-BS	2706-90-3	Perfluoropentanoic acid	BSP	REC	92	%	72-129
OP81708-BS	307-24-4	Perfluorohexanoic acid	BSP	REC	92	%	72-129
OP81708-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	93	%	72-130
OP81708-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	92	%	71-133
OP81708-BS	375-95-1	Perfluorononanoic acid	BSP	REC	91	%	69-130
OP81708-BS	335-76-2	Perfluorodecanoic acid	BSP	REC	90	%	71-129
OP81708-BS	2058-94-8	Perfluoroundecanoic acid	BSP	REC	88	%	69-133
OP81708-BS	307-55-1	Perfluorododecanoic acid	BSP	REC	88	%	72-134
OP81708-BS	72629-94-8	Perfluorotridecanoic acid	BSP	REC	91	%	65-144
OP81708-BS	376-06-7	Perfluorotetradecanoic acid	BSP	REC	89	%	71-132
OP81708-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	92	%	73-130
OP81708-BS	2706-91-4	Perfluoropentanesulfonic acid	BSP	REC	93	%	71-127
OP81708-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	91	%	68-131
OP81708-BS	375-92-8	Perfluoroheptanesulfonic acid	BSP	REC	88	%	69-134
OP81708-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	89	%	65-140
OP81708-BS	68259-12-1	Perfluorononanesulfonic acid	BSP	REC	87	%	69-127
OP81708-BS	335-77-3	Perfluorodecanesulfonic acid	BSP	REC	81	%	53-142
OP81708-BS	754-91-6	PFOSA	BSP	REC	91	%	67-137
OP81708-BS	2355-31-9	MeFOSAA	BSP	REC	91	%	65-136
OP81708-BS	2991-50-6	EtFOSAA	BSP	REC	93	%	61-135
OP81708-BS	757124-72-4	4:2 Fluorotelomer sulfonate	BSP	REC	98	%	63-143
OP81708-BS	27619-97-2	6:2 Fluorotelomer sulfonate	BSP	REC	97	%	64-140
OP81708-BS	39108-34-4	8:2 Fluorotelomer sulfonate	BSP	REC	93	%	67-138
OP81708-MS	375-22-4	Perfluorobutanoic acid	MS	REC	92	%	73-129
OP81708-MS	2706-90-3	Perfluoropentanoic acid	MS	REC	92	%	72-129
OP81708-MS	307-24-4	Perfluorohexanoic acid	MS	REC	94	%	72-129
OP81708-MS	375-85-9	Perfluoroheptanoic acid	MS	REC	94	%	72-130
OP81708-MS	335-67-1	Perfluorooctanoic acid	MS	REC	91	%	71-133
OP81708-MS	375-95-1	Perfluorononanoic acid	MS	REC	92	%	69-130
OP81708-MS	335-76-2	Perfluorodecanoic acid	MS	REC	94	%	71-129
OP81708-MS	2058-94-8	Perfluoroundecanoic acid	MS	REC	93	%	69-133
OP81708-MS	307-55-1	Perfluorododecanoic acid	MS	REC	94	%	72-134
OP81708-MS	72629-94-8	Perfluorotridecanoic acid	MS	REC	103	%	65-144
OP81708-MS	376-06-7	Perfluorotetradecanoic acid	MS	REC	95	%	71-132
OP81708-MS	375-73-5	Perfluorobutanesulfonic acid	MS	REC	91	%	73-130
OP81708-MS	2706-91-4	Perfluoropentanesulfonic acid	MS	REC	93	%	71-127
OP81708-MS	355-46-4	Perfluorohexanesulfonic acid	MS	REC	90	%	68-131
OP81708-MS	375-92-8	Perfluoroheptanesulfonic acid	MS	REC	97	%	69-134
OP81708-MS	1763-23-1	Perfluorooctanesulfonic acid	MS	REC	92	%	65-140
OP81708-MS	68259-12-1	Perfluorononanesulfonic acid	MS	REC	97	%	69-127
OP81708-MS	335-77-3	Perfluorodecanesulfonic acid	MS	REC	90	%	53-142

* Sample used for QC is not from job FA77965

QC Evaluation: DOD QSM5.x Limits

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Job Number: FA77965
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/11/20 thru 08/13/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP81708-MS	754-91-6	PFOSA	MS	REC	92	%	67-137
OP81708-MS	2355-31-9	MeFOSAA	MS	REC	97	%	65-136
OP81708-MS	2991-50-6	EtFOSAA	MS	REC	99	%	61-135
OP81708-MS	757124-72-4	4:2 Fluorotelomer sulfonate	MS	REC	98	%	63-143
OP81708-MS	27619-97-2	6:2 Fluorotelomer sulfonate	MS	REC	97	%	64-140
OP81708-MS	39108-34-4	8:2 Fluorotelomer sulfonate	MS	REC	97	%	67-138
OP81708-DUP*	375-22-4	Perfluorobutanoic acid	DUP	RPD	1	%	30
OP81708-DUP*	2706-90-3	Perfluoropentanoic acid	DUP	RPD	29	%	30
OP81708-DUP*	307-24-4	Perfluorohexanoic acid	DUP	RPD	4	%	30
OP81708-DUP*	375-85-9	Perfluoroheptanoic acid	DUP	RPD	4	%	30
OP81708-DUP*	335-67-1	Perfluorooctanoic acid	DUP	RPD	2	%	30
OP81708-DUP*	375-95-1	Perfluorononanoic acid	DUP	RPD	0	%	30
OP81708-DUP*	335-76-2	Perfluorodecanoic acid	DUP	RPD	0	%	30
OP81708-DUP*	2058-94-8	Perfluoroundecanoic acid	DUP	RPD	0	%	30
OP81708-DUP*	307-55-1	Perfluorododecanoic acid	DUP	RPD	0	%	30
OP81708-DUP*	72629-94-8	Perfluorotridecanoic acid	DUP	RPD	0	%	30
OP81708-DUP*	376-06-7	Perfluorotetradecanoic acid	DUP	RPD	0	%	30
OP81708-DUP*	375-73-5	Perfluorobutanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP*	2706-91-4	Perfluoropentanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP*	355-46-4	Perfluorohexanesulfonic acid	DUP	RPD	10	%	30
OP81708-DUP*	375-92-8	Perfluoroheptanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP*	1763-23-1	Perfluorooctanesulfonic acid	DUP	RPD	8	%	30
OP81708-DUP*	68259-12-1	Perfluorononanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP*	335-77-3	Perfluorodecanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP*	754-91-6	PFOSA	DUP	RPD	0	%	30
OP81708-DUP*	2355-31-9	MeFOSAA	DUP	RPD	0	%	30
OP81708-DUP*	2991-50-6	EtFOSAA	DUP	RPD	0	%	30
OP81708-DUP*	757124-72-4	4:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30
OP81708-DUP*	27619-97-2	6:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30
OP81708-DUP*	39108-34-4	8:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30

* Sample used for QC is not from job FA77965

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Instrument Blank

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Job Number: FA77965
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q391-IBLK	3Q25826.D	1	08/25/20	NG	n/a	n/a	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits	
	13C4-PFBA	107%	50-150%
	13C5-PFPeA	106%	50-150%
	13C5-PFHxA	107%	50-150%
	13C4-PFHpA	109%	50-150%

Instrument Blank

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Job Number: FA77965

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q391-IBLK	3Q25826.D	1	08/25/20	NG	n/a	n/a	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	109% 50-150%
	13C9-PFNA	111% 50-150%
	13C6-PFDA	110% 50-150%
	13C7-PFUnDA	112% 50-150%
	13C2-PFDoDA	111% 50-150%
	13C2-PFTeDA	115% 50-150%
	13C3-PFBS	106% 50-150%
	13C3-PFHxS	106% 50-150%
	13C8-PFOS	110% 50-150%
	13C8-FOSA	115% 50-150%
	d3-MeFOSAA	112% 50-150%
	13C2-4:2FTS	102% 50-150%
	13C2-6:2FTS	100% 50-150%
	13C2-8:2FTS	104% 50-150%
	13C3-HFPO-DA	115% 50-150%

Instrument Blank

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Job Number: FA77965

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q392-IBLK	3Q25889.D	1	08/26/20	NG	n/a	n/a	S3Q392

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-2, FA77965-3, FA77965-5, FA77965-8

CAS No.	Compound	Result	RL	MDL	Units	Q
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	113% 50-150%
	13C5-PFPeA	111% 50-150%
	13C5-PFHxA	112% 50-150%
	13C4-PFHpA	113% 50-150%
	13C8-PFOA	115% 50-150%
	13C9-PFNA	115% 50-150%
	13C6-PFDA	118% 50-150%
	13C7-PFUnDA	115% 50-150%
	13C2-PFDoDA	115% 50-150%
	13C2-PFTeDA	123% 50-150%
	13C3-PFBS	111% 50-150%
	13C3-PFHxS	115% 50-150%
	13C8-PFOS	117% 50-150%
	13C8-FOSA	123% 50-150%
	d3-MeFOSAA	118% 50-150%
	13C2-4:2FTS	107% 50-150%
	13C2-6:2FTS	106% 50-150%
	13C2-8:2FTS	108% 50-150%
	13C3-HFPO-DA	118% 50-150%

Method Blank Summary

Page 1 of 2

Job Number: FA77965
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MB	3Q25830.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 50-150%
	13C5-PFPeA	99% 50-150%
	13C5-PFHxA	99% 50-150%
	13C4-PFHpA	99% 50-150%

Method Blank Summary

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Job Number: FA77965

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MB	3Q25830.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	100% 50-150%
	13C9-PFNA	97% 50-150%
	13C6-PFDA	92% 50-150%
	13C7-PFUnDA	85% 50-150%
	13C2-PFDoDA	83% 50-150%
	13C2-PFTeDA	74% 50-150%
	13C3-PFBS	98% 50-150%
	13C3-PFHxS	98% 50-150%
	13C8-PFOS	88% 50-150%
	13C8-FOSA	94% 50-150%
	d3-MeFOSAA	89% 50-150%
	13C2-4:2FTS	94% 50-150%
	13C2-6:2FTS	91% 50-150%
	13C2-8:2FTS	85% 50-150%
	13C3-HFPO-DA	116% 50-150%

Blank Spike Summary

Page 1 of 2

Job Number: FA77965
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-BS	3Q25829.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.0741	93	73-129
2706-90-3	Perfluoropentanoic acid	0.08	0.0732	92	72-129
307-24-4	Perfluorohexanoic acid	0.08	0.0736	92	72-129
375-85-9	Perfluoroheptanoic acid	0.08	0.0747	93	72-130
335-67-1	Perfluorooctanoic acid	0.08	0.0739	92	71-133
375-95-1	Perfluorononanoic acid	0.08	0.0731	91	69-130
335-76-2	Perfluorodecanoic acid	0.08	0.0723	90	71-129
2058-94-8	Perfluoroundecanoic acid	0.08	0.0707	88	69-133
307-55-1	Perfluorododecanoic acid	0.08	0.0701	88	72-134
72629-94-8	Perfluorotridecanoic acid	0.08	0.0731	91	65-144
376-06-7	Perfluorotetradecanoic acid	0.08	0.0711	89	71-132
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0737	92	73-130
2706-91-4	Perfluoropentanesulfonic acid	0.08	0.0740	93	71-127
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0731	91	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.08	0.0700	88	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0714	89	65-140
68259-12-1	Perfluorononanesulfonic acid	0.08	0.0692	87	69-127
335-77-3	Perfluorodecanesulfonic acid	0.08	0.0651	81	53-142
754-91-6	PFOSA	0.08	0.0725	91	67-137
2355-31-9	MeFOSAA	0.08	0.0730	91	65-136
2991-50-6	EtFOSAA	0.08	0.0743	93	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.08	0.0782	98	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.08	0.0779	97	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.08	0.0744	93	67-138
13252-13-6	HFPO-DA (GenX)	0.08	0.0659	82	60-140
919005-14-4	ADONA	0.08	0.0718	90	60-140
756426-58-19	Cl-PF3ONS (F-53B Major)	0.08	0.0640	80	60-140
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.08	0.0702	88	60-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	105%	50-150%
	13C5-PFPeA	103%	50-150%
	13C5-PFHxA	105%	50-150%
	13C4-PFHpA	103%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 2

Job Number: FA77965

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-BS	3Q25829.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	ID Standard Recoveries	BSP	Limits
	13C8-PFOA	103%	50-150%
	13C9-PFNA	98%	50-150%
	13C6-PFDA	92%	50-150%
	13C7-PFUnDA	87%	50-150%
	13C2-PFDoDA	84%	50-150%
	13C2-PFTeDA	77%	50-150%
	13C3-PFBS	104%	50-150%
	13C3-PFHxS	100%	50-150%
	13C8-PFOS	87%	50-150%
	13C8-FOSA	93%	50-150%
	d3-MeFOSAA	89%	50-150%
	13C2-4:2FTS	103%	50-150%
	13C2-6:2FTS	99%	50-150%
	13C2-8:2FTS	89%	50-150%
	13C3-HFPO-DA	122%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

Page 1 of 2

Job Number: FA77965
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MS	3Q25833.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77965-1	3Q25832.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	Compound	FA77965-1 ug/l	Spike Q	ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.0111		0.0741	0.0791	92	73-129
2706-90-3	Perfluoropentanoic acid	0.0037 U		0.0741	0.0683	92	72-129
307-24-4	Perfluorohexanoic acid	0.00099 J		0.0741	0.0706	94	72-129
375-85-9	Perfluoroheptanoic acid	0.0037 U		0.0741	0.0696	94	72-130
335-67-1	Perfluorooctanoic acid	0.0036 J		0.0741	0.0709	91	71-133
375-95-1	Perfluorononanoic acid	0.0037 U		0.0741	0.0683	92	69-130
335-76-2	Perfluorodecanoic acid	0.0037 U		0.0741	0.0695	94	71-129
2058-94-8	Perfluoroundecanoic acid	0.0037 U		0.0741	0.0691	93	69-133
307-55-1	Perfluorododecanoic acid	0.0037 U		0.0741	0.0697	94	72-134
72629-94-8	Perfluorotridecanoic acid	0.0037 U		0.0741	0.0763	103	65-144
376-06-7	Perfluorotetradecanoic acid	0.0037 U		0.0741	0.0702	95	71-132
375-73-5	Perfluorobutanesulfonic acid	0.0030 J		0.0741	0.0706	91	73-130
2706-91-4	Perfluoropentanesulfonic acid	0.0011 J		0.0741	0.0702	93	71-127
355-46-4	Perfluorohexanesulfonic acid	0.0049		0.0741	0.0718	90	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U		0.0741	0.0716	97	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.0079		0.0741	0.0764	92	65-140
68259-12-1	Perfluorononanesulfonic acid	0.0037 U		0.0741	0.0716	97	69-127
335-77-3	Perfluorodecanesulfonic acid	0.0037 U		0.0741	0.0666	90	53-142
754-91-6	PFOSA	0.0037 U		0.0741	0.0684	92	67-137
2355-31-9	MeFOSAA	0.019 U		0.0741	0.0715	97	65-136
2991-50-6	EtFOSAA	0.019 U		0.0741	0.0731	99	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.0074 U		0.0741	0.0729	98	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.0074 U		0.0741	0.0721	97	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.0074 U		0.0741	0.0718	97	67-138
13252-13-6	HFPO-DA (GenX)	0.019 U		0.0741	0.0620	84	60-140
919005-14-4	ADONA	0.0074 U		0.0741	0.0624	84	60-140
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U		0.0741	0.0643	87	60-140
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U		0.0741	0.0654	88	60-140

CAS No.	ID Standard Recoveries	MS	FA77965-1	Limits
	13C4-PFBA	81%	77%	50-150%
	13C5-PFPeA	93%	88%	50-150%
	13C5-PFHxA	90%	85%	50-150%
	13C4-PFHpA	93%	88%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

Page 2 of 2

Job Number: FA77965

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MS	3Q25833.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77965-1	3Q25832.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	ID Standard Recoveries	MS	FA77965-1	Limits
	13C8-PFOA	98%	92%	50-150%
	13C9-PFNA	103%	97%	50-150%
	13C6-PFDA	99%	94%	50-150%
	13C7-PFUnDA	97%	93%	50-150%
	13C2-PFDoDA	96%	93%	50-150%
	13C2-PFTeDA	88%	89%	50-150%
	13C3-PFBS	93%	88%	50-150%
	13C3-PFHxS	96%	89%	50-150%
	13C8-PFOS	95%	89%	50-150%
	13C8-FOSA	58%	68%	50-150%
	d3-MeFOSAA	100%	98%	50-150%
	13C2-4:2FTS	89%	80%	50-150%
	13C2-6:2FTS	97%	87%	50-150%
	13C2-8:2FTS	101%	91%	50-150%
	13C3-HFPO-DA	102%	98%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Page 1 of 2

Job Number: FA77965
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-DUP	3Q25835.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77966-6	3Q25834.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	Compound	FA77966-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0152		0.0154	1		30
2706-90-3	Perfluoropentanoic acid	0.0024	J	0.0018	J	29	30
307-24-4	Perfluorohexanoic acid	0.0025	J	0.0026	J	4	30
375-85-9	Perfluoroheptanoic acid	0.0025	J	0.0026	J	4	30
335-67-1	Perfluorooctanoic acid	0.0046		0.0047	2		30
375-95-1	Perfluorononanoic acid	0.0011	J	0.0011	J	0	30
335-76-2	Perfluorodecanoic acid	0.0037	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0037	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0037	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0037	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0037	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0022	J	0.0022	J	0	30
2706-91-4	Perfluoropentanesulfonic acid	0.0037	U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0020	J	0.0022	J	10	30
375-92-8	Perfluoroheptanesulfonic acid	0.0037	U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035	J	0.0038		8	30
68259-12-1	Perfluorononanesulfonic acid	0.0037	U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0037	U	ND		nc	30
754-91-6	PFOSA	0.0037	U	ND		nc	30
2355-31-9	MeFOSAA	0.019	U	ND		nc	30
2991-50-6	EtFOSAA	0.019	U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.0074	U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0074	U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.0074	U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.019	U	ND		nc	30
919005-14-4	ADONA	0.0074	U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074	U	ND		nc	30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	0.0074	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FA77966-6	Limits
	13C4-PFBA	82%	80%	50-150%
	13C5-PFPeA	98%	95%	50-150%
	13C5-PFHxA	96%	94%	50-150%
	13C4-PFHpA	99%	96%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Page 2 of 2

Job Number: FA77965

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-DUP	3Q25835.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77966-6	3Q25834.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77965-1, FA77965-2, FA77965-3, FA77965-4, FA77965-5, FA77965-6, FA77965-7, FA77965-8

CAS No.	ID Standard Recoveries	DUP	FA77966-6	Limits
	13C8-PFOA	104%	102%	50-150%
	13C9-PFNA	108%	104%	50-150%
	13C6-PFDA	106%	102%	50-150%
	13C7-PFUnDA	100%	98%	50-150%
	13C2-PFDoDA	95%	95%	50-150%
	13C2-PFTeDA	66%	89%	50-150%
	13C3-PFBS	98%	94%	50-150%
	13C3-PFHxS	98%	98%	50-150%
	13C8-PFOS	99%	96%	50-150%
	13C8-FOSA	88%	91%	50-150%
	d3-MeFOSAA	103%	103%	50-150%
	13C2-4:2FTS	89%	87%	50-150%
	13C2-6:2FTS	98%	95%	50-150%
	13C2-8:2FTS	100%	98%	50-150%
	13C3-HFPO-DA	106%	101%	50-150%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Arcadis

Racer Saginaw; 77 W Center St, Saginaw, MI

30042836.05001

SGS Job Number: FA77966

Sampling Dates: 08/13/20 - 08/18/20

Report to:

andrea.colby@sgs.com

Total number of pages in report: 35



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001)
DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177),
AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

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Sample Summary

Arcadis

Job No: FA77966

Racer Saginaw; 77 W Center St, Saginaw, MI
Project No: 30042836.05001

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA77966-1	08/13/20	11:35	ERC	08/19/20	AQ Ground Water	MW-117WT_081320
FA77966-2	08/13/20	11:27	ERC	08/19/20	AQ Ground Water	MW-117S1_081320
FA77966-3	08/14/20	10:50	ERC	08/19/20	AQ Ground Water	MW-118WT_081420
FA77966-4	08/17/20	08:50	ERC	08/19/20	AQ Equipment Blank	EB-03_081720
FA77966-5	08/17/20	09:35	ERC	08/19/20	AQ Ground Water	X-9AR_081720
FA77966-6	08/18/20	09:20	ERC	08/19/20	AQ Ground Water	MW-183WT_081820

Summary of Hits

Job Number: FA77966
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/13/20 thru 08/18/20

Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

FA77966-1 MW-117WT_081320

Perfluorobutanoic acid ^a	296	37	19	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	43.9	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	77.8	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	9.7	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	3.6 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77966-2 MW-117S1_081320

No hits reported in this sample.

FA77966-3 MW-118WT_081420

Perfluorobutanoic acid	18.2	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	4.8	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	7.6	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	3.1 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	2.4 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	2.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77966-4 EB-03_081720

No hits reported in this sample.

FA77966-5 X-9AR_081720

Perfluorobutanoic acid	14.4	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	4.4	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	2.7 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	2.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	2.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	1.6 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

FA77966-6 MW-183WT_081820

Perfluorobutanoic acid	15.2	7.4	3.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	2.4 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	2.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	2.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	4.6	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid	1.1 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	2.2 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	2.0 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	3.5 J	3.7	1.9	ng/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA77966
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/13/20 thru 08/18/20

Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Analyte						

(a) Dilution required due to matrix interference (ID recovery standard failure).



Orlando, FL

Section 3



Sample Results

Report of Analysis

Report of Analysis

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Client Sample ID:	MW-117WT_081320		
Lab Sample ID:	FA77966-1	Date Sampled:	08/13/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25845.D	1	08/25/20 18:01	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25897.D	5	08/26/20 15:55	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	296 ^b	37	19	9.3	ng/l	
2706-90-3	Perfluoropentanoic acid	43.9	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	77.8	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	9.7	3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	3.6	3.7	1.9	0.93	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-117WT_081320		
Lab Sample ID:	FA77966-1	Date Sampled:	08/13/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
13C4-PFBA	29% ^C	64%		50-150%
13C5-PFPeA	65%	94%		50-150%
13C5-PFHxA	61%	91%		50-150%
13C4-PFHpA	76%	99%		50-150%
13C8-PFOA	91%	111%		50-150%
13C9-PFNA	101%	117%		50-150%
13C6-PFDA	100%	112%		50-150%
13C7-PFUnDA	103%	106%		50-150%
13C2-PFDoDA	101%	108%		50-150%
13C2-PFTeDA	87%	104%		50-150%
13C3-PFBS	74%	97%		50-150%
13C3-PFHxS	85%	100%		50-150%
13C8-PFOS	97%	112%		50-150%
13C8-FOSA	51%	94%		50-150%
d3-MeFOSAA	108%	112%		50-150%
13C2-4:2FTS	59%	86%		50-150%
13C2-6:2FTS	85%	101%		50-150%
13C2-8:2FTS	97%	104%		50-150%
13C3-HFPO-DA	82%	109%		50-150%

(a) Dilution required due to matrix interference (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-117S1_081320		
Lab Sample ID:	FA77966-2	Date Sampled:	08/13/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25846.D	1	08/25/20 18:17	NG	08/24/20 09:00	OP81708	S3Q391
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-117S1_081320		
Lab Sample ID:	FA77966-2	Date Sampled:	08/13/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	65%		50-150%
	13C5-PFPeA	86%		50-150%
	13C5-PFHxA	83%		50-150%
	13C4-PFHpA	89%		50-150%
	13C8-PFOA	98%		50-150%
	13C9-PFNA	104%		50-150%
	13C6-PFDA	105%		50-150%
	13C7-PFUnDA	99%		50-150%
	13C2-PFDoDA	93%		50-150%
	13C2-PFTeDA	71%		50-150%
	13C3-PFBS	84%		50-150%
	13C3-PFHxS	91%		50-150%
	13C8-PFOS	99%		50-150%
	13C8-FOSA	84%		50-150%
	d3-MeFOSAA	108%		50-150%
	13C2-4:2FTS	79%		50-150%
	13C2-6:2FTS	90%		50-150%
	13C2-8:2FTS	100%		50-150%
	13C3-HFPO-DA	88%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-118WT_081420		
Lab Sample ID:	FA77966-3	Date Sampled:	08/14/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25847.D	1	08/25/20 18:32	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25898.D	5	08/26/20 16:10	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	18.2	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	4.8	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	7.6	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	3.1	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	2.4	3.7	1.9	0.93	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	2.5	3.7	1.9	0.93	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCTANESULFONAMIDES

754-91-6	PFOSA	9.3 U ^b	19	9.3	4.6	ng/l	

PERFLUOROOCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	MW-118WT_081420		
Lab Sample ID:	FA77966-3	Date Sampled:	08/14/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	66%	94%	50-150%
	13C5-PFPeA	84%	105%	50-150%
	13C5-PFHxA	82%	101%	50-150%
	13C4-PFHpA	86%	103%	50-150%
	13C8-PFOA	93%	111%	50-150%
	13C9-PFNA	98%	112%	50-150%
	13C6-PFDA	96%	113%	50-150%
	13C7-PFUnDA	99%	108%	50-150%
	13C2-PFDoDA	98%	105%	50-150%
	13C2-PFTeDA	96%	99%	50-150%
	13C3-PFBS	84%	106%	50-150%
	13C3-PFHxS	88%	113%	50-150%
	13C8-PFOS	97%	113%	50-150%
	13C8-FOSA	36% ^c	74%	50-150%
	d3-MeFOSAA	103%	116%	50-150%
	13C2-4:2FTS	78%	99%	50-150%
	13C2-6:2FTS	89%	101%	50-150%
	13C2-8:2FTS	94%	106%	50-150%
	13C3-HFPO-DA	86%	110%	50-150%

(a) Dilution required due to matrix interference (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	EB-03_081720		
Lab Sample ID:	FA77966-4	Date Sampled:	08/17/20
Matrix:	AQ - Equipment Blank	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25848.D	1	08/25/20 18:47	NG	08/24/20 09:00	OP81708	S3Q391
Run #2 ^a	3Q25899.D	5	08/26/20 16:25	NG	08/24/20 09:00	OP81708	S3Q392

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	270 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	9.3 U ^b	19	9.3	4.6	ng/l	
335-67-1	Perfluorooctanoic acid	9.3 U ^b	19	9.3	4.6	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	9.3 U ^b	19	9.3	4.6	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCTANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	19 U ^b	37	19	9.3	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	EB-03_081720		
Lab Sample ID:	FA77966-4	Date Sampled:	08/17/20
Matrix:	AQ - Equipment Blank	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	102%	107%	50-150%
	13C5-PFPeA	103%	107%	50-150%
	13C5-PFHxA	66%	109%	50-150%
	13C4-PFHpA	32% ^c	105%	50-150%
	13C8-PFOA	15% ^c	104%	50-150%
	13C9-PFNA	92%	100%	50-150%
	13C6-PFDA	91%	104%	50-150%
	13C7-PFUnDA	83%	103%	50-150%
	13C2-PFDoDA	78%	104%	50-150%
	13C2-PFTeDA	65%	83%	50-150%
	13C3-PFBS	100%	108%	50-150%
	13C3-PFHxS	23% ^c	102%	50-150%
	13C8-PFOS	86%	97%	50-150%
	13C8-FOSA	105%	107%	50-150%
	d3-MeFOSAA	117%	110%	50-150%
	13C2-4:2FTS	96%	104%	50-150%
	13C2-6:2FTS	16% ^c	95%	50-150%
	13C2-8:2FTS	85%	104%	50-150%
	13C3-HFPO-DA	56%	126%	50-150%

(a) Dilution required due to matrix interference (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	X-9AR_081720				
Lab Sample ID:	FA77966-5			Date Sampled:	08/17/20
Matrix:	AQ - Ground Water			Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD			Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25849.D	1	08/25/20 19:03	NG	08/24/20 09:00	OP81708	S3Q391
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	14.4	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	4.4	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	2.7	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	2.5	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	2.5	3.7	1.9	0.93	ng/l	J
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.6	3.7	1.9	0.93	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected	LOD = Limit of Detection	J = Indicates an estimated value
LOQ = Limit of Quantitation	DL = Detection Limit	B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	X-9AR_081720			Date Sampled:	08/17/20
Lab Sample ID:	FA77966-5			Date Received:	08/19/20
Matrix:	AQ - Ground Water			Percent Solids:	n/a
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD				
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	71%		50-150%
	13C5-PFPeA	92%		50-150%
	13C5-PFHxA	90%		50-150%
	13C4-PFHpA	95%		50-150%
	13C8-PFOA	105%		50-150%
	13C9-PFNA	111%		50-150%
	13C6-PFDA	112%		50-150%
	13C7-PFUnDA	107%		50-150%
	13C2-PFDoDA	97%		50-150%
	13C2-PFTeDA	75%		50-150%
	13C3-PFBS	91%		50-150%
	13C3-PFHxS	98%		50-150%
	13C8-PFOS	106%		50-150%
	13C8-FOSA	88%		50-150%
	d3-MeFOSAA	112%		50-150%
	13C2-4:2FTS	85%		50-150%
	13C2-6:2FTS	97%		50-150%
	13C2-8:2FTS	104%		50-150%
	13C3-HFPO-DA	93%		50-150%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	MW-183WT_081820		
Lab Sample ID:	FA77966-6	Date Sampled:	08/18/20
Matrix:	AQ - Ground Water	Date Received:	08/19/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q25834.D	1	08/25/20 15:13	NG	08/24/20 09:00	OP81708	S3Q391
Run #2							

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	15.2	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	2.4	3.7	1.9	1.4	ng/l	J
307-24-4	Perfluorohexanoic acid	2.5	3.7	1.9	0.93	ng/l	J
375-85-9	Perfluoroheptanoic acid	2.5	3.7	1.9	0.93	ng/l	J
335-67-1	Perfluorooctanoic acid	4.6	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.1	3.7	1.9	0.93	ng/l	J
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	2.2	3.7	1.9	0.93	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	2.0	3.7	1.9	0.93	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	3.5	3.7	1.9	1.4	ng/l	J
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected	LOD = Limit of Detection	J = Indicates an estimated value
LOQ = Limit of Quantitation	DL = Detection Limit	B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-183WT_081820		Date Sampled: 08/18/20
Lab Sample ID: FA77966-6		Date Received: 08/19/20
Matrix: AQ - Ground Water		Percent Solids: n/a
Method: EPA 537M QSM5.3 B-15 EPA 537 MOD		
Project: Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	80%		50-150%
	13C5-PFPeA	95%		50-150%
	13C5-PFHxA	94%		50-150%
	13C4-PFHpA	96%		50-150%
	13C8-PFOA	102%		50-150%
	13C9-PFNA	104%		50-150%
	13C6-PFDA	102%		50-150%
	13C7-PFUnDA	98%		50-150%
	13C2-PFDoDA	95%		50-150%
	13C2-PFTeDA	89%		50-150%
	13C3-PFBS	94%		50-150%
	13C3-PFHxS	98%		50-150%
	13C8-PFOS	96%		50-150%
	13C8-FOSA	91%		50-150%
	d3-MeFOSAA	103%		50-150%
	13C2-4:2FTS	87%		50-150%
	13C2-6:2FTS	95%		50-150%
	13C2-8:2FTS	98%		50-150%
	13C3-HFPO-DA	101%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

Chain of Custody

4405 Vineland Road, Suite C-15 Orlando, FL 32811
TEL. 407-425-6700 FAX: 407-425-0707

SGS - ORLANDO JOB # :

PAGE 1 OF 1

SGS - ORLANDO Quote #

SKIFF #	

Client / Reporting Information				Project Information				Analytical Information										Matrix Codes																			
Company Name: Arcadis				Project Name: Racer Saginaw Glen													DW - Drinking Water																				
Address: 28550 Labot Dr. Suite 500				Street: 77 West Center St.													GW - Ground Water																				
City: Novi		State: MI		Zip: 48377		City: Saginaw		State: MI									VW - Water SW - Surface Water																				
Project Contact: Amanda Robinson Amanda.Robinson@Arcadis.com				Email: Amanda.Robinson@Arcadis.com				Project #: 30042836.11000										SO - Soil																			
Phone #: 810-434-8899				Fax #:																SL - Sludge																	
Sampler(s) Name(s) (Printed)								Client Purchase Order #														OI - Oil															
Sampler 1:				Sampler 2:																		LIQ - Other Liquid															
																						AIR - Air															
																						SOL - Other Solid															
SGS Orlando Sample #		Field ID / Point of Collection		DATE		TIME		SAMPLED BY:		MATRIX		TOTAL # OF BOTTLES		OTHER		NONE		HCl		NaOH		HNO3		H2SO4		NaOH-ZnAc		DI WATER		MEDH		PFA				LAB USE ONLY	
1	X-2A	081120	8/11/20	1634	SE	GW	2		X																												
2	X10-AR	081220	8/12/20	0948	SE	GW	2		X																												
3	TWN-1	081220	8/12/20	1330	SE	GW	2		X																												
1	MW-117WT	081320	8/13/20	1135	DRR	GW	2		X																												
2	MV-11751	081320	8/13/20	1127	SE	GW	2		X																												
3	MW-118WT	081420	8/14/20	1050	DRR	GW	2		X																												
	MW-11851	081420	8/14/20	1055	SE	GW	2		X																												
4	EB-03	081720	8/17/20	8:50	BC	WW	2		X																												
5	X-9AR	081720	8/17/20	9:35	BC	GW	2		X																												
6	MW-183WT	081820	8/18/20	9:20	SE	GW	2		X																												
Turnaround Time (Business days)				Data Deliverable Information																Comments / Remarks																	
10 Day (Business)				Approved By / Date:				☐ COMMERCIAL "A" (RESULTS ONLY) ☐ COMMERCIAL "B" (RESULTS PLUS QC) ☐ REDT1 (EPA LEVEL 3) ☐ FULLT1 (EPA LEVEL 4) ☐ EDD'S																													
7 Day _____																																					
5 Day _____																																					
3 Day RUSH _____																																					
2 Day RUSH _____																																					
1 Day RUSH _____																																					
Other _____																																					
Rush T/A Data Available VIA Email or Lablink				Sample Custody must be documented below each time samples change possession, including courier delivery.																																	
Relinquished by Sampler/Affiliation				Date Time:				Received By/Affiliation				Date Time:				Relinquished By/Affiliation				Date Time:																	

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

<http://www.sgs.com/en/terms-and-conditions>

FA77966: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA77966

Client: ARCADIS

Project: RACER SAGINAW GWS

Date / Time Received: 8/19/2020 10:00:00 AM

Delivery Method: FEDEX

Airbill #s:

Therm ID: IR 1;

Therm CF: -0.2;

of Coolers: N/A

Cooler Temps (Raw Measured) °C: Cooler 1: (1.6);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Information

Y or N

1. Custody Seals Present	☒	☐
2. Custody Seals Intact	☒	☐
3. Temp criteria achieved	☐	☐
4. Cooler temp verification	N/A	
5. Cooler media	N/A	

Trip Blank Information

Y or N N/A

1. Trip Blank present / cooler	☐	☐	☒
2. Trip Blank listed on COC	☐	☐	☒
	<u>W or S</u>		<u>N/A</u>
3. Type Of TB Received	☐	☐	☒

Sample Information

Y or N N/A

1. Sample labels present on bottles	☒	☐	
2. Samples preserved properly	☒	☐	
3. Sufficient volume/containers recvd for analysis:	☒	☐	
4. Condition of sample	Intact		
5. Sample recvd within HT	☒	☐	
6. Dates/Times/IDs on COC match Sample Label	☒	☐	
7. VOCs have headspace	☐	☐	☒
8. Bottles received for unspecified tests	☐	☒	
9. Compositing instructions clear	☐	☐	☒
10. Voa Soil Kits/Jars received past 48hrs?	☐	☐	☒
11. % Solids Jar received?	☐	☐	☒
12. Residual Chlorine Present?	☐	☐	☒

Misc. Information

Number of Encores: 25-Gram _____	5-Gram _____	Number of 5035 Field Kits: _____	Number of Lab Filtered Metals: _____
Test Strip Lot #s: pH 0-3 _____	230315 _____	pH 10-12 _____	219813A _____
Residual Chlorine Test Strip Lot #: _____			

Comments MISSING SAMPLES X-2A_081120, X10-AR2_081220, TWW-1_081220, MW-118S1_081420

SM001
Rev. Date 05/24/17

Technician: BRYANG

Date: 8/19/2020 10:00:00 A

Reviewer:

Date:

FA77966: Chain of Custody

Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Page 1 of 2

Job Number: FA77966
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/13/20 thru 08/18/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

OP81708 EPA 537M QSM5.3 B-15

OP81708-BS	375-22-4	Perfluorobutanoic acid	BSP	REC	93	%	73-129
OP81708-BS	2706-90-3	Perfluoropentanoic acid	BSP	REC	92	%	72-129
OP81708-BS	307-24-4	Perfluorohexanoic acid	BSP	REC	92	%	72-129
OP81708-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	93	%	72-130
OP81708-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	92	%	71-133
OP81708-BS	375-95-1	Perfluorononanoic acid	BSP	REC	91	%	69-130
OP81708-BS	335-76-2	Perfluorodecanoic acid	BSP	REC	90	%	71-129
OP81708-BS	2058-94-8	Perfluoroundecanoic acid	BSP	REC	88	%	69-133
OP81708-BS	307-55-1	Perfluorododecanoic acid	BSP	REC	88	%	72-134
OP81708-BS	72629-94-8	Perfluorotridecanoic acid	BSP	REC	91	%	65-144
OP81708-BS	376-06-7	Perfluorotetradecanoic acid	BSP	REC	89	%	71-132
OP81708-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	92	%	73-130
OP81708-BS	2706-91-4	Perfluoropentanesulfonic acid	BSP	REC	93	%	71-127
OP81708-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	91	%	68-131
OP81708-BS	375-92-8	Perfluoroheptanesulfonic acid	BSP	REC	88	%	69-134
OP81708-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	89	%	65-140
OP81708-BS	68259-12-1	Perfluorononanesulfonic acid	BSP	REC	87	%	69-127
OP81708-BS	335-77-3	Perfluorodecanesulfonic acid	BSP	REC	81	%	53-142
OP81708-BS	754-91-6	PFOSA	BSP	REC	91	%	67-137
OP81708-BS	2355-31-9	MeFOSAA	BSP	REC	91	%	65-136
OP81708-BS	2991-50-6	EtFOSAA	BSP	REC	93	%	61-135
OP81708-BS	757124-72-4	4:2 Fluorotelomer sulfonate	BSP	REC	98	%	63-143
OP81708-BS	27619-97-2	6:2 Fluorotelomer sulfonate	BSP	REC	97	%	64-140
OP81708-BS	39108-34-4	8:2 Fluorotelomer sulfonate	BSP	REC	93	%	67-138
OP81708-MS*	375-22-4	Perfluorobutanoic acid	MS	REC	92	%	73-129
OP81708-MS*	2706-90-3	Perfluoropentanoic acid	MS	REC	92	%	72-129
OP81708-MS*	307-24-4	Perfluorohexanoic acid	MS	REC	94	%	72-129
OP81708-MS*	375-85-9	Perfluoroheptanoic acid	MS	REC	94	%	72-130
OP81708-MS*	335-67-1	Perfluorooctanoic acid	MS	REC	91	%	71-133
OP81708-MS*	375-95-1	Perfluorononanoic acid	MS	REC	92	%	69-130
OP81708-MS*	335-76-2	Perfluorodecanoic acid	MS	REC	94	%	71-129
OP81708-MS*	2058-94-8	Perfluoroundecanoic acid	MS	REC	93	%	69-133
OP81708-MS*	307-55-1	Perfluorododecanoic acid	MS	REC	94	%	72-134
OP81708-MS*	72629-94-8	Perfluorotridecanoic acid	MS	REC	103	%	65-144
OP81708-MS*	376-06-7	Perfluorotetradecanoic acid	MS	REC	95	%	71-132
OP81708-MS*	375-73-5	Perfluorobutanesulfonic acid	MS	REC	91	%	73-130
OP81708-MS*	2706-91-4	Perfluoropentanesulfonic acid	MS	REC	93	%	71-127
OP81708-MS*	355-46-4	Perfluorohexanesulfonic acid	MS	REC	90	%	68-131
OP81708-MS*	375-92-8	Perfluoroheptanesulfonic acid	MS	REC	97	%	69-134
OP81708-MS*	1763-23-1	Perfluorooctanesulfonic acid	MS	REC	92	%	65-140
OP81708-MS*	68259-12-1	Perfluorononanesulfonic acid	MS	REC	97	%	69-127
OP81708-MS*	335-77-3	Perfluorodecanesulfonic acid	MS	REC	90	%	53-142

* Sample used for QC is not from job FA77966

QC Evaluation: DOD QSM5.x Limits

Page 2 of 2

Job Number: FA77966
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 08/13/20 thru 08/18/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP81708-MS*	754-91-6	PFOSA	MS	REC	92	%	67-137
OP81708-MS*	2355-31-9	MeFOSAA	MS	REC	97	%	65-136
OP81708-MS*	2991-50-6	EtFOSAA	MS	REC	99	%	61-135
OP81708-MS*	757124-72-4	4:2 Fluorotelomer sulfonate	MS	REC	98	%	63-143
OP81708-MS*	27619-97-2	6:2 Fluorotelomer sulfonate	MS	REC	97	%	64-140
OP81708-MS*	39108-34-4	8:2 Fluorotelomer sulfonate	MS	REC	97	%	67-138
OP81708-DUP	375-22-4	Perfluorobutanoic acid	DUP	RPD	1	%	30
OP81708-DUP	2706-90-3	Perfluoropentanoic acid	DUP	RPD	29	%	30
OP81708-DUP	307-24-4	Perfluorohexanoic acid	DUP	RPD	4	%	30
OP81708-DUP	375-85-9	Perfluoroheptanoic acid	DUP	RPD	4	%	30
OP81708-DUP	335-67-1	Perfluorooctanoic acid	DUP	RPD	2	%	30
OP81708-DUP	375-95-1	Perfluorononanoic acid	DUP	RPD	0	%	30
OP81708-DUP	335-76-2	Perfluorodecanoic acid	DUP	RPD	0	%	30
OP81708-DUP	2058-94-8	Perfluoroundecanoic acid	DUP	RPD	0	%	30
OP81708-DUP	307-55-1	Perfluorododecanoic acid	DUP	RPD	0	%	30
OP81708-DUP	72629-94-8	Perfluorotridecanoic acid	DUP	RPD	0	%	30
OP81708-DUP	376-06-7	Perfluorotetradecanoic acid	DUP	RPD	0	%	30
OP81708-DUP	375-73-5	Perfluorobutanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP	2706-91-4	Perfluoropentanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP	355-46-4	Perfluorohexanesulfonic acid	DUP	RPD	10	%	30
OP81708-DUP	375-92-8	Perfluoroheptanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP	1763-23-1	Perfluorooctanesulfonic acid	DUP	RPD	8	%	30
OP81708-DUP	68259-12-1	Perfluorononanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP	335-77-3	Perfluorodecanesulfonic acid	DUP	RPD	0	%	30
OP81708-DUP	754-91-6	PFOSA	DUP	RPD	0	%	30
OP81708-DUP	2355-31-9	MeFOSAA	DUP	RPD	0	%	30
OP81708-DUP	2991-50-6	EtFOSAA	DUP	RPD	0	%	30
OP81708-DUP	757124-72-4	4:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30
OP81708-DUP	27619-97-2	6:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30
OP81708-DUP	39108-34-4	8:2 Fluorotelomer sulfonate	DUP	RPD	0	%	30

* Sample used for QC is not from job FA77966

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

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Job Number: FA77966
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q391-IBLK	3Q25826.D	1	08/25/20	NG	n/a	n/a	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits	
	13C4-PFBA	107%	50-150%
	13C5-PFPeA	106%	50-150%
	13C5-PFHxA	107%	50-150%
	13C4-PFHpA	109%	50-150%

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Job Number: FA77966

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q391-IBLK	3Q25826.D	1	08/25/20	NG	n/a	n/a	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	109% 50-150%
	13C9-PFNA	111% 50-150%
	13C6-PFDA	110% 50-150%
	13C7-PFUnDA	112% 50-150%
	13C2-PFDoDA	111% 50-150%
	13C2-PFTeDA	115% 50-150%
	13C3-PFBS	106% 50-150%
	13C3-PFHxS	106% 50-150%
	13C8-PFOS	110% 50-150%
	13C8-FOSA	115% 50-150%
	d3-MeFOSAA	112% 50-150%
	13C2-4:2FTS	102% 50-150%
	13C2-6:2FTS	100% 50-150%
	13C2-8:2FTS	104% 50-150%
	13C3-HFPO-DA	115% 50-150%

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Job Number: FA77966

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q392-IBLK	3Q25889.D	1	08/26/20	NG	n/a	n/a	S3Q392

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-3, FA77966-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	113% 50-150%
	13C5-PFPeA	111% 50-150%
	13C5-PFHxA	112% 50-150%
	13C4-PFHpA	113% 50-150%
	13C8-PFOA	115% 50-150%
	13C9-PFNA	115% 50-150%
	13C6-PFDA	118% 50-150%
	13C7-PFUnDA	115% 50-150%
	13C2-PFDoDA	115% 50-150%
	13C2-PFTeDA	123% 50-150%
	13C3-PFBS	111% 50-150%
	13C3-PFHxS	115% 50-150%
	13C8-PFOS	117% 50-150%
	13C8-FOSA	123% 50-150%
	d3-MeFOSAA	118% 50-150%
	13C2-4:2FTS	107% 50-150%
	13C2-6:2FTS	106% 50-150%
	13C2-8:2FTS	108% 50-150%
	13C3-HFPO-DA	118% 50-150%

Method Blank Summary

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Job Number: FA77966
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MB	3Q25830.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	99% 50-150%
	13C5-PFPeA	99% 50-150%
	13C5-PFHxA	99% 50-150%
	13C4-PFHpA	99% 50-150%

Method Blank Summary

Job Number: FA77966
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MB	3Q25830.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples: Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	ID	Standard Recoveries	Limits
	13C8-PFOA	100%	50-150%
	13C9-PFNA	97%	50-150%
	13C6-PFDA	92%	50-150%
	13C7-PFUnDA	85%	50-150%
	13C2-PFDoDA	83%	50-150%
	13C2-PFTeDA	74%	50-150%
	13C3-PFBS	98%	50-150%
	13C3-PFHxS	98%	50-150%
	13C8-PFOS	88%	50-150%
	13C8-FOSA	94%	50-150%
	d3-MeFOSAA	89%	50-150%
	13C2-4:2FTS	94%	50-150%
	13C2-6:2FTS	91%	50-150%
	13C2-8:2FTS	85%	50-150%
	13C3-HFPO-DA	116%	50-150%

Blank Spike Summary

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Job Number: FA77966
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-BS	3Q25829.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.0741	93	73-129
2706-90-3	Perfluoropentanoic acid	0.08	0.0732	92	72-129
307-24-4	Perfluorohexanoic acid	0.08	0.0736	92	72-129
375-85-9	Perfluoroheptanoic acid	0.08	0.0747	93	72-130
335-67-1	Perfluorooctanoic acid	0.08	0.0739	92	71-133
375-95-1	Perfluorononanoic acid	0.08	0.0731	91	69-130
335-76-2	Perfluorodecanoic acid	0.08	0.0723	90	71-129
2058-94-8	Perfluoroundecanoic acid	0.08	0.0707	88	69-133
307-55-1	Perfluorododecanoic acid	0.08	0.0701	88	72-134
72629-94-8	Perfluorotridecanoic acid	0.08	0.0731	91	65-144
376-06-7	Perfluorotetradecanoic acid	0.08	0.0711	89	71-132
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0737	92	73-130
2706-91-4	Perfluoropentanesulfonic acid	0.08	0.0740	93	71-127
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0731	91	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.08	0.0700	88	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0714	89	65-140
68259-12-1	Perfluorononanesulfonic acid	0.08	0.0692	87	69-127
335-77-3	Perfluorodecanesulfonic acid	0.08	0.0651	81	53-142
754-91-6	PFOSA	0.08	0.0725	91	67-137
2355-31-9	MeFOSAA	0.08	0.0730	91	65-136
2991-50-6	EtFOSAA	0.08	0.0743	93	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.08	0.0782	98	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.08	0.0779	97	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.08	0.0744	93	67-138
13252-13-6	HFPO-DA (GenX)	0.08	0.0659	82	60-140
919005-14-4	ADONA	0.08	0.0718	90	60-140
756426-58-19	Cl-PF3ONS (F-53B Major)	0.08	0.0640	80	60-140
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.08	0.0702	88	60-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	105%	50-150%
	13C5-PFPeA	103%	50-150%
	13C5-PFHxA	105%	50-150%
	13C4-PFHpA	103%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA77966

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-BS	3Q25829.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	ID Standard Recoveries	BSP	Limits
	13C8-PFOA	103%	50-150%
	13C9-PFNA	98%	50-150%
	13C6-PFDA	92%	50-150%
	13C7-PFUnDA	87%	50-150%
	13C2-PFDoDA	84%	50-150%
	13C2-PFTeDA	77%	50-150%
	13C3-PFBS	104%	50-150%
	13C3-PFHxS	100%	50-150%
	13C8-PFOS	87%	50-150%
	13C8-FOSA	93%	50-150%
	d3-MeFOSAA	89%	50-150%
	13C2-4:2FTS	103%	50-150%
	13C2-6:2FTS	99%	50-150%
	13C2-8:2FTS	89%	50-150%
	13C3-HFPO-DA	122%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

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Job Number: FA77966
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MS	3Q25833.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77965-1	3Q25832.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	Compound	FA77965-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
375-22-4	Perfluorobutanoic acid	0.0111		0.0741	0.0791	92	73-129
2706-90-3	Perfluoropentanoic acid	0.0037 U		0.0741	0.0683	92	72-129
307-24-4	Perfluorohexanoic acid	0.00099 J		0.0741	0.0706	94	72-129
375-85-9	Perfluoroheptanoic acid	0.0037 U		0.0741	0.0696	94	72-130
335-67-1	Perfluorooctanoic acid	0.0036 J		0.0741	0.0709	91	71-133
375-95-1	Perfluorononanoic acid	0.0037 U		0.0741	0.0683	92	69-130
335-76-2	Perfluorodecanoic acid	0.0037 U		0.0741	0.0695	94	71-129
2058-94-8	Perfluoroundecanoic acid	0.0037 U		0.0741	0.0691	93	69-133
307-55-1	Perfluorododecanoic acid	0.0037 U		0.0741	0.0697	94	72-134
72629-94-8	Perfluorotridecanoic acid	0.0037 U		0.0741	0.0763	103	65-144
376-06-7	Perfluorotetradecanoic acid	0.0037 U		0.0741	0.0702	95	71-132
375-73-5	Perfluorobutanesulfonic acid	0.0030 J		0.0741	0.0706	91	73-130
2706-91-4	Perfluoropentanesulfonic acid	0.0011 J		0.0741	0.0702	93	71-127
355-46-4	Perfluorohexanesulfonic acid	0.0049		0.0741	0.0718	90	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.0037 U		0.0741	0.0716	97	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.0079		0.0741	0.0764	92	65-140
68259-12-1	Perfluorononanesulfonic acid	0.0037 U		0.0741	0.0716	97	69-127
335-77-3	Perfluorodecanesulfonic acid	0.0037 U		0.0741	0.0666	90	53-142
754-91-6	PFOSA	0.0037 U		0.0741	0.0684	92	67-137
2355-31-9	MeFOSAA	0.019 U		0.0741	0.0715	97	65-136
2991-50-6	EtFOSAA	0.019 U		0.0741	0.0731	99	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.0074 U		0.0741	0.0729	98	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.0074 U		0.0741	0.0721	97	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.0074 U		0.0741	0.0718	97	67-138
13252-13-6	HFPO-DA (GenX)	0.019 U		0.0741	0.0620	84	60-140
919005-14-4	ADONA	0.0074 U		0.0741	0.0624	84	60-140
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074 U		0.0741	0.0643	87	60-140
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074 U		0.0741	0.0654	88	60-140

CAS No.	ID Standard Recoveries	MS	FA77965-1	Limits
	13C4-PFBA	81%	77%	50-150%
	13C5-PFPeA	93%	88%	50-150%
	13C5-PFHxA	90%	85%	50-150%
	13C4-PFHpA	93%	88%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

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Job Number: FA77966

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-MS	3Q25833.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77965-1	3Q25832.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	ID Standard Recoveries	MS	FA77965-1	Limits
	13C8-PFOA	98%	92%	50-150%
	13C9-PFNA	103%	97%	50-150%
	13C6-PFDA	99%	94%	50-150%
	13C7-PFUnDA	97%	93%	50-150%
	13C2-PFDoDA	96%	93%	50-150%
	13C2-PFTeDA	88%	89%	50-150%
	13C3-PFBS	93%	88%	50-150%
	13C3-PFHxS	96%	89%	50-150%
	13C8-PFOS	95%	89%	50-150%
	13C8-FOSA	58%	68%	50-150%
	d3-MeFOSAA	100%	98%	50-150%
	13C2-4:2FTS	89%	80%	50-150%
	13C2-6:2FTS	97%	87%	50-150%
	13C2-8:2FTS	101%	91%	50-150%
	13C3-HFPO-DA	102%	98%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Page 1 of 2

Job Number: FA77966
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-DUP	3Q25835.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77966-6	3Q25834.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	Compound	FA77966-6 ug/l	DUP Q	ug/l	Q	RPD	Limits
375-22-4	Perfluorobutanoic acid	0.0152		0.0154	1		30
2706-90-3	Perfluoropentanoic acid	0.0024	J	0.0018	J	29	30
307-24-4	Perfluorohexanoic acid	0.0025	J	0.0026	J	4	30
375-85-9	Perfluoroheptanoic acid	0.0025	J	0.0026	J	4	30
335-67-1	Perfluorooctanoic acid	0.0046		0.0047	2		30
375-95-1	Perfluorononanoic acid	0.0011	J	0.0011	J	0	30
335-76-2	Perfluorodecanoic acid	0.0037	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0037	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0037	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0037	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0037	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0022	J	0.0022	J	0	30
2706-91-4	Perfluoropentanesulfonic acid	0.0037	U	ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	0.0020	J	0.0022	J	10	30
375-92-8	Perfluoroheptanesulfonic acid	0.0037	U	ND		nc	30
1763-23-1	Perfluorooctanesulfonic acid	0.0035	J	0.0038		8	30
68259-12-1	Perfluorononanesulfonic acid	0.0037	U	ND		nc	30
335-77-3	Perfluorodecanesulfonic acid	0.0037	U	ND		nc	30
754-91-6	PFOSA	0.0037	U	ND		nc	30
2355-31-9	MeFOSAA	0.019	U	ND		nc	30
2991-50-6	EtFOSAA	0.019	U	ND		nc	30
757124-72-44:2	Fluorotelomer sulfonate	0.0074	U	ND		nc	30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0074	U	ND		nc	30
39108-34-4	8:2 Fluorotelomer sulfonate	0.0074	U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.019	U	ND		nc	30
919005-14-4	ADONA	0.0074	U	ND		nc	30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0074	U	ND		nc	30
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0074	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FA77966-6	Limits
	13C4-PFBA	82%	80%	50-150%
	13C5-PFPeA	98%	95%	50-150%
	13C5-PFHxA	96%	94%	50-150%
	13C4-PFHpA	99%	96%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Page 2 of 2

Job Number: FA77966

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP81708-DUP	3Q25835.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391
FA77966-6	3Q25834.D	1	08/25/20	NG	08/24/20	OP81708	S3Q391

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA77966-1, FA77966-2, FA77966-3, FA77966-4, FA77966-5, FA77966-6

CAS No.	ID Standard Recoveries	DUP	FA77966-6	Limits
	13C8-PFOA	104%	102%	50-150%
	13C9-PFNA	108%	104%	50-150%
	13C6-PFDA	106%	102%	50-150%
	13C7-PFUnDA	100%	98%	50-150%
	13C2-PFDoDA	95%	95%	50-150%
	13C2-PFTeDA	66%	89%	50-150%
	13C3-PFBS	98%	94%	50-150%
	13C3-PFHxS	98%	98%	50-150%
	13C8-PFOS	99%	96%	50-150%
	13C8-FOSA	88%	91%	50-150%
	d3-MeFOSAA	103%	103%	50-150%
	13C2-4:2FTS	89%	87%	50-150%
	13C2-6:2FTS	98%	95%	50-150%
	13C2-8:2FTS	100%	98%	50-150%
	13C3-HFPO-DA	106%	101%	50-150%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

Arcadis

Racer Saginaw; 77 W Center St, Saginaw, MI

30042836.37000

SGS Job Number: FA78601

Sampling Date: 09/08/20



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Total number of pages in report: 40



Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

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Sample Summary

Arcadis

Job No: FA78601

Racer Saginaw; 77 W Center St, Saginaw, MI
Project No: 30042836.37000

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
FA78601-1	09/08/20	10:05 BC	09/10/20	AQ	Equipment Blank	EB-01_090820
FA78601-2	09/08/20	11:05 BC	09/10/20	AQ	Ground Water	X-2A_090820
FA78601-2D	09/08/20	11:05 BC	09/10/20	AQ	Water Dup/MSD	X-2A_090820
FA78601-2S	09/08/20	11:05 BC	09/10/20	AQ	Water Matrix Spike	X-2A_090820
FA78601-3	09/08/20	13:00 BC	09/10/20	AQ	Ground Water	X-10AR2_090820
FA78601-4	09/08/20	15:10 BC	09/10/20	AQ	Ground Water	TWW-1_090820
FA78601-5	09/08/20	16:55 BC	09/10/20	AQ	Ground Water	MW-125WT_090820
FA78601-6	09/08/20	00:00 BC	09/10/20	AQ	Ground Water	DUP-01_090820

Summary of Hits

Job Number: FA78601
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 09/08/20

Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method

FA78601-1 EB-01_090820

No hits reported in this sample.

FA78601-2 X-2A_090820

Perfluorobutanoic acid ^a	20.4	6.9	3.4	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	4.4	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	3.1 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	29.9	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorononanoic acid	1.9 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	3.4	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	4.7	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanesulfonic acid	14.5	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15

FA78601-3 X-10AR2_090820

Perfluorobutanoic acid	2.9 J	6.9	3.4	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	5.8	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	1.1 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15

FA78601-4 TWW-1_090820

Perfluorobutanoic acid ^b	29.7 J	36	18	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	8.0	3.6	1.8	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	8.9	3.6	1.8	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	5.9	3.6	1.8	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	11.0	3.6	1.8	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	1.9 J	3.6	1.8	ng/l	EPA 537M QSM5.3 B-15

FA78601-5 MW-125WT_090820

Perfluorobutanoic acid	20.5	6.9	3.4	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanoic acid	2.4 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	2.9 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoroheptanoic acid	1.5 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorooctanoic acid	4.3	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid	3.0 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluoropentanesulfonic acid	1.2 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanesulfonic acid	3.0 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15

FA78601-6 DUP-01_090820

Perfluorobutanoic acid	2.9 J	6.9	3.4	ng/l	EPA 537M QSM5.3 B-15
Perfluorohexanoic acid	0.97 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15

Summary of Hits

Job Number: FA78601
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 09/08/20

Lab Sample ID	Client Sample ID	Result/ Qual	LOQ	LOD	Units	Method
Analyte						
Perfluorooctanoic acid		5.6	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15
Perfluorobutanesulfonic acid		1.0 J	3.4	1.7	ng/l	EPA 537M QSM5.3 B-15

- (a) Associated ID Standard outside control limits, Confirmed by batch QC.
(b) Dilution required due to matrix interference (ID recovery standard failure).



Orlando, FL

Section 3



Sample Results

Report of Analysis

Report of Analysis

Page 1 of 2

Client Sample ID:	EB-01_090820				
Lab Sample ID:	FA78601-1			Date Sampled:	09/08/20
Matrix:	AQ - Equipment Blank			Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD			Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3Q27367.D	1	09/26/20 10:07	NG	09/24/20 08:30	OP82161	S3Q412
Run #2 ^a	2Q54519.D	1	09/21/20 20:39	NAF	09/18/20 08:30	OP82079	S2Q810

	Initial Volume	Final Volume
Run #1	270 ml	1.0 ml
Run #2	290 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	3.7 U	7.4	3.7	1.9	ng/l	
2706-90-3	Perfluoropentanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
307-24-4	Perfluorohexanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-85-9	Perfluoroheptanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-67-1	Perfluorooctanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-95-1	Perfluorononanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-76-2	Perfluorodecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.9 U	3.7	1.9	0.93	ng/l	
307-55-1	Perfluorododecanoic acid	1.9 U	3.7	1.9	1.4	ng/l	
72629-94-8	Perfluorotridecanoic acid ^b	1.9 U	3.7	1.9	0.93	ng/l	
376-06-7	Perfluorotetradecanoic acid ^b	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.9 U	3.7	1.9	1.4	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	1.9 U	3.7	1.9	0.93	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.4 U	19	7.4	3.7	ng/l	
2991-50-6	EtFOSAA	7.4 U	19	7.4	3.7	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	EB-01_090820		
Lab Sample ID:	FA78601-1	Date Sampled:	09/08/20
Matrix:	AQ - Equipment Blank	Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.7 U	7.4	3.7	1.9	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	9.3 U	19	9.3	4.6	ng/l	
919005-14-4	ADONA	3.7 U	7.4	3.7	1.9	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.7 U	7.4	3.7	1.9	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.7 U	7.4	3.7	1.9	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	106%	90%	50-150%
	13C5-PFPeA	105%	90%	50-150%
	13C5-PFHxA	103%	87%	50-150%
	13C4-PFHpA	100%	79%	50-150%
	13C8-PFOA	99%	78%	50-150%
	13C9-PFNA	97%	76%	50-150%
	13C6-PFDA	87%	78%	50-150%
	13C7-PFUnDA	71%	71%	50-150%
	13C2-PFDoDA	64%	65%	50-150%
	13C2-PFTeDA	45% ^C	38%	50-150%
	13C3-PFBS	98%	87%	50-150%
	13C3-PFHxS	93%	78%	50-150%
	13C8-PFOS	80%	76%	50-150%
	13C8-FOSA	101%	78%	50-150%
	d3-MeFOSAA	77%	84%	50-150%
	13C2-4:2FTS	96%	78%	50-150%
	13C2-6:2FTS	92%	78%	50-150%
	13C2-8:2FTS	81%	71%	50-150%
	13C3-HFPO-DA	106%	88%	50-150%

(a) Confirmation run.

(b) Associated ID Standard outside DoD QSM 5.3 control limits due to matrix interference. Confirmed by re-extraction and reanalysis.

(c) Outside control limits due to matrix interference. Confirmed by re-extraction and reanalysis.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 2

Client Sample ID:	X-2A_090820				
Lab Sample ID:	FA78601-2			Date Sampled:	09/08/20
Matrix:	AQ - Ground Water			Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD			Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q5675.D	1	09/20/20 23:48	NAF	09/18/20 08:30	OP82079	S4Q79
Run #2							

	Initial Volume	Final Volume
Run #1	290 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid ^a	20.4	6.9	3.4	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
307-24-4	Perfluorohexanoic acid	4.4	3.4	1.7	0.86	ng/l	
375-85-9	Perfluoroheptanoic acid	3.1	3.4	1.7	0.86	ng/l	J
335-67-1	Perfluorooctanoic acid	29.9	3.4	1.7	0.86	ng/l	
375-95-1	Perfluorononanoic acid	1.9	3.4	1.7	0.86	ng/l	J
335-76-2	Perfluorodecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
307-55-1	Perfluorododecanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	3.4	3.4	1.7	0.86	ng/l	
2706-91-4	Perfluoropentanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
355-46-4	Perfluorohexanesulfonic acid	4.7	3.4	1.7	0.86	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	14.5	3.4	1.7	1.3	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA ^a	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	6.9 U	17	6.9	3.4	ng/l	
2991-50-6	EtFOSAA	6.9 U	17	6.9	3.4	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	X-2A_090820		
Lab Sample ID:	FA78601-2	Date Sampled:	09/08/20
Matrix:	AQ - Ground Water	Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	8.6 U	17	8.6	4.3	ng/l	
919005-14-4	ADONA	3.4 U	6.9	3.4	1.7	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.4 U	6.9	3.4	1.7	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.4 U	6.9	3.4	1.7	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	16% ^b		50-150%
	13C5-PFPeA	56%		50-150%
	13C5-PFHxA	53%		50-150%
	13C4-PFHpA	60%		50-150%
	13C8-PFOA	69%		50-150%
	13C9-PFNA	63%		50-150%
	13C6-PFDA	88%		50-150%
	13C7-PFUnDA	83%		50-150%
	13C2-PFDoDA	74%		50-150%
	13C2-PFTeDA	67%		50-150%
	13C3-PFBS	68%		50-150%
	13C3-PFHxS	77%		50-150%
	13C8-PFOS	79%		50-150%
	13C8-FOSA	27% ^b		50-150%
	d3-MeFOSAA	114%		50-150%
	13C2-4:2FTS	65%		50-150%
	13C2-6:2FTS	89%		50-150%
	13C2-8:2FTS	111%		50-150%
	13C3-HFPO-DA	77%		50-150%

(a) Associated ID Standard outside control limits, Confirmed by batch QC.

(b) Outside control limits.

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	X-10AR2_090820				
Lab Sample ID:	FA78601-3			Date Sampled:	09/08/20
Matrix:	AQ - Ground Water			Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD			Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q5678.D	1	09/21/20 00:34	NAF	09/18/20 08:30	OP82079	S4Q79
Run #2							

	Initial Volume	Final Volume
Run #1	290 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	2.9	6.9	3.4	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
307-24-4	Perfluorohexanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
375-85-9	Perfluoroheptanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-67-1	Perfluorooctanoic acid	5.8	3.4	1.7	0.86	ng/l	
375-95-1	Perfluorononanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-76-2	Perfluorodecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
307-55-1	Perfluorododecanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.1	3.4	1.7	0.86	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.7 U	3.4	1.7	1.3	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	6.9 U	17	6.9	3.4	ng/l	
2991-50-6	EtFOSAA	6.9 U	17	6.9	3.4	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

U = Not detected	LOD = Limit of Detection	J = Indicates an estimated value
LOQ = Limit of Quantitation	DL = Detection Limit	B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Client Sample ID:	X-10AR2_090820			Date Sampled:	09/08/20
Lab Sample ID:	FA78601-3			Date Received:	09/10/20
Matrix:	AQ - Ground Water			Percent Solids:	n/a
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD				
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	8.6 U	17	8.6	4.3	ng/l	
919005-14-4	ADONA	3.4 U	6.9	3.4	1.7	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.4 U	6.9	3.4	1.7	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.4 U	6.9	3.4	1.7	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	72%		50-150%
	13C5-PFPeA	82%		50-150%
	13C5-PFHxA	89%		50-150%
	13C4-PFHpA	98%		50-150%
	13C8-PFOA	103%		50-150%
	13C9-PFNA	99%		50-150%
	13C6-PFDA	95%		50-150%
	13C7-PFUnDA	88%		50-150%
	13C2-PFDoDA	80%		50-150%
	13C2-PFTeDA	72%		50-150%
	13C3-PFBS	87%		50-150%
	13C3-PFHxS	98%		50-150%
	13C8-PFOS	97%		50-150%
	13C8-FOSA	104%		50-150%
	d3-MeFOSAA	97%		50-150%
	13C2-4:2FTS	107%		50-150%
	13C2-6:2FTS	103%		50-150%
	13C2-8:2FTS	93%		50-150%
	13C3-HFPO-DA	71%		50-150%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Report of Analysis

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Client Sample ID:	TWW-1_090820				
Lab Sample ID:	FA78601-4			Date Sampled:	09/08/20
Matrix:	AQ - Ground Water			Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD			Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI				

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q5679.D	1	09/21/20 00:49	NAF	09/18/20 08:30	OP82079	S4Q79
Run #2 ^a	2Q54492.D	5	09/21/20 13:59	NAF	09/18/20 08:30	OP82079	S2Q810

	Initial Volume	Final Volume
Run #1	280 ml	1.0 ml
Run #2	280 ml	1.0 ml

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	29.7 ^b	36	18	8.9	ng/l	J
2706-90-3	Perfluoropentanoic acid	8.0	3.6	1.8	1.3	ng/l	
307-24-4	Perfluorohexanoic acid	8.9	3.6	1.8	0.89	ng/l	
375-85-9	Perfluoroheptanoic acid	5.9	3.6	1.8	0.89	ng/l	
335-67-1	Perfluorooctanoic acid	11.0	3.6	1.8	0.89	ng/l	
375-95-1	Perfluorononanoic acid	1.8 U	3.6	1.8	0.89	ng/l	
335-76-2	Perfluorodecanoic acid	1.8 U	3.6	1.8	0.89	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.8 U	3.6	1.8	0.89	ng/l	
307-55-1	Perfluorododecanoic acid	1.8 U	3.6	1.8	1.3	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.8 U	3.6	1.8	0.89	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.8 U	3.6	1.8	0.89	ng/l	

PERFLUOROALKYL SULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.9	3.6	1.8	0.89	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.8 U	3.6	1.8	0.89	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.8 U	3.6	1.8	0.89	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.8 U	3.6	1.8	0.89	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.8 U	3.6	1.8	1.3	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.8 U	3.6	1.8	0.89	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.8 U	3.6	1.8	0.89	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	1.8 U	3.6	1.8	0.89	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	7.1 U	18	7.1	3.6	ng/l	
2991-50-6	EtFOSAA	7.1 U	18	7.1	3.6	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.6 U	7.1	3.6	1.8	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.6 U	7.1	3.6	1.8	ng/l	

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

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Client Sample ID:	TWW-1_090820		
Lab Sample ID:	FA78601-4	Date Sampled:	09/08/20
Matrix:	AQ - Ground Water	Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.6 U	7.1	3.6	1.8	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	8.9 U	18	8.9	4.5	ng/l	
919005-14-4	ADONA	3.6 U	7.1	3.6	1.8	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.6 U	7.1	3.6	1.8	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.6 U	7.1	3.6	1.8	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
13C4-PFBA	47% ^C	88%		50-150%
13C5-PFPeA	59%	91%		50-150%
13C5-PFHxA	68%	89%		50-150%
13C4-PFHpA	77%	86%		50-150%
13C8-PFOA	86%	91%		50-150%
13C9-PFNA	86%	91%		50-150%
13C6-PFDA	90%	89%		50-150%
13C7-PFUnDA	84%	83%		50-150%
13C2-PFDoDA	78%	81%		50-150%
13C2-PFTeDA	66%	71%		50-150%
13C3-PFBS	66%	89%		50-150%
13C3-PFHxS	80%	89%		50-150%
13C8-PFOS	85%	84%		50-150%
13C8-FOSA	75%	88%		50-150%
d3-MeFOSAA	103%	94%		50-150%
13C2-4:2FTS	80%	83%		50-150%
13C2-6:2FTS	95%	86%		50-150%
13C2-8:2FTS	94%	82%		50-150%
13C3-HFPO-DA	58%	88%		50-150%

(a) Dilution required due to matrix interference (ID recovery standard failure).

(b) Result is from Run# 2

(c) Outside control limits.

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-125WT_090820		
Lab Sample ID:	FA78601-5	Date Sampled:	09/08/20
Matrix:	AQ - Ground Water	Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q5680.D	1	09/21/20 01:05	NAF	09/18/20 08:30	OP82079	S4Q79
Run #2							

	Initial Volume	Final Volume
Run #1	290 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYL CARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	20.5	6.9	3.4	1.7	ng/l	
2706-90-3	Perfluoropentanoic acid	2.4	3.4	1.7	1.3	ng/l	J
307-24-4	Perfluorohexanoic acid	2.9	3.4	1.7	0.86	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.5	3.4	1.7	0.86	ng/l	J
335-67-1	Perfluorooctanoic acid	4.3	3.4	1.7	0.86	ng/l	
375-95-1	Perfluorononanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-76-2	Perfluorodecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
307-55-1	Perfluorododecanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROALKYL SULFONATES

375-73-5	Perfluorobutanesulfonic acid	3.0	3.4	1.7	0.86	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.2	3.4	1.7	0.86	ng/l	J
355-46-4	Perfluorohexanesulfonic acid	3.0	3.4	1.7	0.86	ng/l	J
375-92-8	Perfluoroheptanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.7 U	3.4	1.7	1.3	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUORO OCTANESULFONAMIDES

754-91-6	PFOSA	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUORO OCTANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	6.9 U	17	6.9	3.4	ng/l	
2991-50-6	EtFOSAA	6.9 U	17	6.9	3.4	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

U = Not detected	LOD = Limit of Detection	J = Indicates an estimated value
LOQ = Limit of Quantitation	DL = Detection Limit	B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

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Client Sample ID:	MW-125WT_090820	Date Sampled:	09/08/20
Lab Sample ID:	FA78601-5	Date Received:	09/10/20
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD		
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	8.6 U	17	8.6	4.3	ng/l	
919005-14-4	ADONA	3.4 U	6.9	3.4	1.7	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.4 U	6.9	3.4	1.7	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.4 U	6.9	3.4	1.7	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	51%		50-150%
	13C5-PFPeA	58%		50-150%
	13C5-PFHxA	64%		50-150%
	13C4-PFHpA	73%		50-150%
	13C8-PFOA	80%		50-150%
	13C9-PFNA	81%		50-150%
	13C6-PFDA	83%		50-150%
	13C7-PFUnDA	81%		50-150%
	13C2-PFDoDA	74%		50-150%
	13C2-PFTeDA	62%		50-150%
	13C3-PFBS	61%		50-150%
	13C3-PFHxS	77%		50-150%
	13C8-PFOS	82%		50-150%
	13C8-FOSA	62%		50-150%
	d3-MeFOSAA	98%		50-150%
	13C2-4:2FTS	76%		50-150%
	13C2-6:2FTS	91%		50-150%
	13C2-8:2FTS	89%		50-150%
	13C3-HFPO-DA	54%		50-150%

U = Not detected LOD = Limit of Detection J = Indicates an estimated value
 LOQ = Limit of Quantitation DL = Detection Limit B = Indicates analyte found in associated method blank
 E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

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Client Sample ID:	DUP-01_090820		
Lab Sample ID:	FA78601-6	Date Sampled:	09/08/20
Matrix:	AQ - Ground Water	Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q5681.D	1	09/21/20 01:20	NAF	09/18/20 08:30	OP82079	S4Q79
Run #2							

	Initial Volume	Final Volume
Run #1	290 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q

PERFLUOROALKYLCARBOXYLIC ACIDS

375-22-4	Perfluorobutanoic acid	2.9	6.9	3.4	1.7	ng/l	J
2706-90-3	Perfluoropentanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
307-24-4	Perfluorohexanoic acid	0.97	3.4	1.7	0.86	ng/l	J
375-85-9	Perfluoroheptanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-67-1	Perfluorooctanoic acid	5.6	3.4	1.7	0.86	ng/l	
375-95-1	Perfluorononanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-76-2	Perfluorodecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
2058-94-8	Perfluoroundecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
307-55-1	Perfluorododecanoic acid	1.7 U	3.4	1.7	1.3	ng/l	
72629-94-8	Perfluorotridecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	
376-06-7	Perfluorotetradecanoic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROALKYLSULFONATES

375-73-5	Perfluorobutanesulfonic acid	1.0	3.4	1.7	0.86	ng/l	J
2706-91-4	Perfluoropentanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
355-46-4	Perfluorohexanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
375-92-8	Perfluoroheptanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
1763-23-1	Perfluorooctanesulfonic acid	1.7 U	3.4	1.7	1.3	ng/l	
68259-12-1	Perfluorononanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	
335-77-3	Perfluorodecanesulfonic acid	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROOCETANESULFONAMIDES

754-91-6	PFOSA	1.7 U	3.4	1.7	0.86	ng/l	

PERFLUOROOCETANESULFONAMIDOACETIC ACIDS

2355-31-9	MeFOSAA	6.9 U	17	6.9	3.4	ng/l	
2991-50-6	EtFOSAA	6.9 U	17	6.9	3.4	ng/l	

FLUOROTELOMER SULFONATES

757124-72-4	4:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	
27619-97-2	6:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

U = Not detected	LOD = Limit of Detection	J = Indicates an estimated value
LOQ = Limit of Quantitation	DL = Detection Limit	B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range		N = Indicates presumptive evidence of a compound

Report of Analysis

Page 2 of 2

Client Sample ID:	DUP-01_090820		
Lab Sample ID:	FA78601-6	Date Sampled:	09/08/20
Matrix:	AQ - Ground Water	Date Received:	09/10/20
Method:	EPA 537M QSM5.3 B-15 EPA 537 MOD	Percent Solids:	n/a
Project:	Racer Saginaw; 77 W Center St, Saginaw, MI		

CAS No.	Compound	Result	LOQ	LOD	DL	Units	Q
39108-34-4	8:2 Fluorotelomer sulfonate	3.4 U	6.9	3.4	1.7	ng/l	

NEXT GENERATION PFAS ANALYTES

13252-13-6	HFPO-DA (GenX)	8.6 U	17	8.6	4.3	ng/l	
919005-14-4	ADONA	3.4 U	6.9	3.4	1.7	ng/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	3.4 U	6.9	3.4	1.7	ng/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	3.4 U	6.9	3.4	1.7	ng/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C4-PFBA	66%		50-150%
	13C5-PFPeA	75%		50-150%
	13C5-PFHxA	80%		50-150%
	13C4-PFHpA	87%		50-150%
	13C8-PFOA	95%		50-150%
	13C9-PFNA	91%		50-150%
	13C6-PFDA	89%		50-150%
	13C7-PFUnDA	81%		50-150%
	13C2-PFDoDA	76%		50-150%
	13C2-PFTeDA	68%		50-150%
	13C3-PFBS	79%		50-150%
	13C3-PFHxS	88%		50-150%
	13C8-PFOS	87%		50-150%
	13C8-FOSA	95%		50-150%
	d3-MeFOSAA	89%		50-150%
	13C2-4:2FTS	99%		50-150%
	13C2-6:2FTS	94%		50-150%
	13C2-8:2FTS	85%		50-150%
	13C3-HFPO-DA	66%		50-150%

U = Not detected

LOD = Limit of Detection

J = Indicates an estimated value

LOQ = Limit of Quantitation

DL = Detection Limit

B = Indicates analyte found in associated method blank

E = Indicates value exceeds calibration range

N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- QC Evaluation: DOD QSM5.x Limits

[illegible]

ORLD-SMT-0001-03-FORM-COC (4).xls Rev 031318

<http://www.sgs.com/en/terms-and-conditions>

FA78601: Chain of Custody

Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA78601

Client: ARCADIS

Project: RACER

Date / Time Received: 9/10/2020 10:00:00 AM

Delivery Method: FEDEX

Airbill #s: 1002284341360003281100138666020307

Therm ID: IR 1;

Therm CF: -0.2;

of Coolers: 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.6);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Information

Y or N

1. Custody Seals Present	☒	☐
2. Custody Seals Intact	☒	☐
3. Temp criteria achieved	☒	☐
4. Cooler temp verification	<u>IR Gun</u>	
5. Cooler media	<u>Ice (Bag)</u>	

Trip Blank Information

Y or N N/A

1. Trip Blank present / cooler	☐	☐	☒
2. Trip Blank listed on COC	☐	☐	☒
	<u>W or S</u>	<u>N/A</u>	
3. Type Of TB Received	☐	☐	☒

Sample Information

Y or N N/A

1. Sample labels present on bottles	☒	☐	
2. Samples preserved properly	☒	☐	
3. Sufficient volume/containers recvd for analysis:	☒	☐	
4. Condition of sample	<u>Intact</u>		
5. Sample recvd within HT	☒	☐	
6. Dates/Times/IDs on COC match Sample Label	☒	☐	
7. VOCs have headspace	☐	☐	☒
8. Bottles received for unspecified tests	☐	☒	
9. Compositing instructions clear	☐	☐	☒
10. Voa Soil Kits/Jars received past 48hrs?	☐	☐	☒
11. % Solids Jar received?	☐	☐	☒
12. Residual Chlorine Present?	☐	☐	☒

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____
 Test Strip Lot #s: pH 0-3 _____ 230315 _____
 Residual Chlorine Test Strip Lot #: _____

Number of 5035 Field Kits: _____
 pH 10-12 _____ 219813A _____

Number of Lab Filtered Metals: _____
 Other: (Specify) _____

Comments

SM001
Rev. Date 05/24/17

Technician: KYRASA

Date: 9/10/2020 10:00:00 A

Reviewer: _____

Date: _____

FA78601: Chain of Custody

Page 2 of 2

QC Evaluation: DOD QSM5.x Limits

Page 1 of 3

Job Number: FA78601
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 09/08/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits

OP82079 EPA 537M QSM5.3 B-15

OP82079-BS	375-22-4	Perfluorobutanoic acid	BSP	REC	98	%	73-129
OP82079-BS	2706-90-3	Perfluoropentanoic acid	BSP	REC	95	%	72-129
OP82079-BS	307-24-4	Perfluorohexanoic acid	BSP	REC	97	%	72-129
OP82079-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	99	%	72-130
OP82079-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	101	%	71-133
OP82079-BS	375-95-1	Perfluorononanoic acid	BSP	REC	99	%	69-130
OP82079-BS	335-76-2	Perfluorodecanoic acid	BSP	REC	95	%	71-129
OP82079-BS	2058-94-8	Perfluoroundecanoic acid	BSP	REC	100	%	69-133
OP82079-BS	307-55-1	Perfluorododecanoic acid	BSP	REC	101	%	72-134
OP82079-BS	72629-94-8	Perfluorotridecanoic acid	BSP	REC	99	%	65-144
OP82079-BS	376-06-7	Perfluorotetradecanoic acid	BSP	REC	97	%	71-132
OP82079-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	92	%	73-130
OP82079-BS	2706-91-4	Perfluoropentanesulfonic acid	BSP	REC	94	%	71-127
OP82079-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	91	%	68-131
OP82079-BS	375-92-8	Perfluoroheptanesulfonic acid	BSP	REC	97	%	69-134
OP82079-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	92	%	65-140
OP82079-BS	68259-12-1	Perfluorononanesulfonic acid	BSP	REC	90	%	69-127
OP82079-BS	335-77-3	Perfluorodecanesulfonic acid	BSP	REC	91	%	53-142
OP82079-BS	754-91-6	PFOSA	BSP	REC	95	%	67-137
OP82079-BS	2355-31-9	MeFOSAA	BSP	REC	91	%	65-136
OP82079-BS	2991-50-6	EtFOSAA	BSP	REC	89	%	61-135
OP82079-BS	757124-72-4	4:2 Fluorotelomer sulfonate	BSP	REC	96	%	63-143
OP82079-BS	27619-97-2	6:2 Fluorotelomer sulfonate	BSP	REC	97	%	64-140
OP82079-BS	39108-34-4	8:2 Fluorotelomer sulfonate	BSP	REC	101	%	67-138
OP82079-MS2	375-22-4	Perfluorobutanoic acid	MS	REC	98	%	73-129
OP82079-MS2	2706-90-3	Perfluoropentanoic acid	MS	REC	112	%	72-129
OP82079-MS2	307-24-4	Perfluorohexanoic acid	MS	REC	88	%	72-129
OP82079-MS2	375-85-9	Perfluoroheptanoic acid	MS	REC	95	%	72-130
OP82079-MS2	335-67-1	Perfluorooctanoic acid	MS	REC	93	%	71-133
OP82079-MS2	375-95-1	Perfluorononanoic acid	MS	REC	89	%	69-130
OP82079-MS2	335-76-2	Perfluorodecanoic acid	MS	REC	87	%	71-129
OP82079-MS2	2058-94-8	Perfluoroundecanoic acid	MS	REC	96	%	69-133
OP82079-MS2	307-55-1	Perfluorododecanoic acid	MS	REC	96	%	72-134
OP82079-MS2	72629-94-8	Perfluorotridecanoic acid	MS	REC	104	%	65-144
OP82079-MS2	376-06-7	Perfluorotetradecanoic acid	MS	REC	92	%	71-132
OP82079-MS2	375-73-5	Perfluorobutanesulfonic acid	MS	REC	86	%	73-130
OP82079-MS2	2706-91-4	Perfluoropentanesulfonic acid	MS	REC	96	%	71-127
OP82079-MS2	355-46-4	Perfluorohexanesulfonic acid	MS	REC	83	%	68-131
OP82079-MS2	375-92-8	Perfluoroheptanesulfonic acid	MS	REC	94	%	69-134
OP82079-MS2	1763-23-1	Perfluorooctanesulfonic acid	MS	REC	86	%	65-140
OP82079-MS2	68259-12-1	Perfluorononanesulfonic acid	MS	REC	89	%	69-127
OP82079-MS2	335-77-3	Perfluorodecanesulfonic acid	MS	REC	92	%	53-142

* Sample used for QC is not from job FA78601

QC Evaluation: DOD QSM5.x Limits

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Job Number: FA78601
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 09/08/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP82079-MS2	754-91-6	PFOSA	MS	REC	96	%	67-137
OP82079-MS2	2355-31-9	MeFOSAA	MS	REC	84	%	65-136
OP82079-MS2	2991-50-6	EtFOSAA	MS	REC	99	%	61-135
OP82079-MS2	757124-72-4	4:2 Fluorotelomer sulfonate	MS	REC	94	%	63-143
OP82079-MS2	27619-97-2	6:2 Fluorotelomer sulfonate	MS	REC	96	%	64-140
OP82079-MS2	39108-34-4	8:2 Fluorotelomer sulfonate	MS	REC	95	%	67-138
OP82079-MSD2	375-22-4	Perfluorobutanoic acid	MSD	REC	109	%	73-129
OP82079-MSD2	375-22-4	Perfluorobutanoic acid	MSD	RPD	9	%	30
OP82079-MSD2	2706-90-3	Perfluoropentanoic acid	MSD	REC	123	%	72-129
OP82079-MSD2	2706-90-3	Perfluoropentanoic acid	MSD	RPD	9	%	30
OP82079-MSD2	307-24-4	Perfluorohexanoic acid	MSD	REC	99	%	72-129
OP82079-MSD2	307-24-4	Perfluorohexanoic acid	MSD	RPD	11	%	30
OP82079-MSD2	375-85-9	Perfluoroheptanoic acid	MSD	REC	104	%	72-130
OP82079-MSD2	375-85-9	Perfluoroheptanoic acid	MSD	RPD	8	%	30
OP82079-MSD2	335-67-1	Perfluorooctanoic acid	MSD	REC	105	%	71-133
OP82079-MSD2	335-67-1	Perfluorooctanoic acid	MSD	RPD	8	%	30
OP82079-MSD2	375-95-1	Perfluorononanoic acid	MSD	REC	100	%	69-130
OP82079-MSD2	375-95-1	Perfluorononanoic acid	MSD	RPD	12	%	30
OP82079-MSD2	335-76-2	Perfluorodecanoic acid	MSD	REC	95	%	71-129
OP82079-MSD2	335-76-2	Perfluorodecanoic acid	MSD	RPD	8	%	30
OP82079-MSD2	2058-94-8	Perfluoroundecanoic acid	MSD	REC	103	%	69-133
OP82079-MSD2	2058-94-8	Perfluoroundecanoic acid	MSD	RPD	7	%	30
OP82079-MSD2	307-55-1	Perfluorododecanoic acid	MSD	REC	105	%	72-134
OP82079-MSD2	307-55-1	Perfluorododecanoic acid	MSD	RPD	9	%	30
OP82079-MSD2	72629-94-8	Perfluorotridecanoic acid	MSD	REC	112	%	65-144
OP82079-MSD2	72629-94-8	Perfluorotridecanoic acid	MSD	RPD	8	%	30
OP82079-MSD2	376-06-7	Perfluorotetradecanoic acid	MSD	REC	99	%	71-132
OP82079-MSD2	376-06-7	Perfluorotetradecanoic acid	MSD	RPD	8	%	30
OP82079-MSD2	375-73-5	Perfluorobutanesulfonic acid	MSD	REC	93	%	73-130
OP82079-MSD2	375-73-5	Perfluorobutanesulfonic acid	MSD	RPD	7	%	30
OP82079-MSD2	2706-91-4	Perfluoropentanesulfonic acid	MSD	REC	108	%	71-127
OP82079-MSD2	2706-91-4	Perfluoropentanesulfonic acid	MSD	RPD	12	%	30
OP82079-MSD2	355-46-4	Perfluorohexanesulfonic acid	MSD	REC	95	%	68-131
OP82079-MSD2	355-46-4	Perfluorohexanesulfonic acid	MSD	RPD	12	%	30
OP82079-MSD2	375-92-8	Perfluoroheptanesulfonic acid	MSD	REC	104	%	69-134
OP82079-MSD2	375-92-8	Perfluoroheptanesulfonic acid	MSD	RPD	10	%	30
OP82079-MSD2	1763-23-1	Perfluorooctanesulfonic acid	MSD	REC	94	%	65-140
OP82079-MSD2	1763-23-1	Perfluorooctanesulfonic acid	MSD	RPD	7	%	30
OP82079-MSD2	68259-12-1	Perfluorononanesulfonic acid	MSD	REC	103	%	69-127
OP82079-MSD2	68259-12-1	Perfluorononanesulfonic acid	MSD	RPD	15	%	30
OP82079-MSD2	335-77-3	Perfluorodecanesulfonic acid	MSD	REC	95	%	53-142
OP82079-MSD2	335-77-3	Perfluorodecanesulfonic acid	MSD	RPD	3	%	30
OP82079-MSD2	754-91-6	PFOSA	MSD	REC	101	%	67-137
OP82079-MSD2	754-91-6	PFOSA	MSD	RPD	5	%	30
OP82079-MSD2	2355-31-9	MeFOSAA	MSD	REC	94	%	65-136

* Sample used for QC is not from job FA78601

QC Evaluation: DOD QSM5.x Limits

Page 3 of 3

Job Number: FA78601
Account: Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI
Collected: 09/08/20

QC Sample ID	CAS#	Analyte	Sample Type	Result Type	Result	Units	Limits
OP82079-MSD2	2355-31-9	MeFOSAA	MSD	RPD	11	%	30
OP82079-MSD2	2991-50-6	EtFOSAA	MSD	REC	104	%	61-135
OP82079-MSD2	2991-50-6	EtFOSAA	MSD	RPD	5	%	30
OP82079-MSD2	757124-72-4	4:2 Fluorotelomer sulfonate	MSD	REC	99	%	63-143
OP82079-MSD2	757124-72-4	4:2 Fluorotelomer sulfonate	MSD	RPD	6	%	30
OP82079-MSD2	27619-97-2	6:2 Fluorotelomer sulfonate	MSD	REC	102	%	64-140
OP82079-MSD2	27619-97-2	6:2 Fluorotelomer sulfonate	MSD	RPD	6	%	30
OP82079-MSD2	39108-34-4	8:2 Fluorotelomer sulfonate	MSD	REC	103	%	67-138
OP82079-MSD2	39108-34-4	8:2 Fluorotelomer sulfonate	MSD	RPD	8	%	30
OP82161	EPA 537M QSM5.3 B-15						
OP82161-BS	375-22-4	Perfluorobutanoic acid	BSP	REC	98	%	73-129
OP82161-BS	2706-90-3	Perfluoropentanoic acid	BSP	REC	99	%	72-129
OP82161-BS	307-24-4	Perfluorohexanoic acid	BSP	REC	99	%	72-129
OP82161-BS	375-85-9	Perfluoroheptanoic acid	BSP	REC	105	%	72-130
OP82161-BS	335-67-1	Perfluorooctanoic acid	BSP	REC	98	%	71-133
OP82161-BS	375-95-1	Perfluorononanoic acid	BSP	REC	100	%	69-130
OP82161-BS	335-76-2	Perfluorodecanoic acid	BSP	REC	96	%	71-129
OP82161-BS	2058-94-8	Perfluoroundecanoic acid	BSP	REC	100	%	69-133
OP82161-BS	307-55-1	Perfluorododecanoic acid	BSP	REC	100	%	72-134
OP82161-BS	72629-94-8	Perfluorotridecanoic acid	BSP	REC	120	%	65-144
OP82161-BS	376-06-7	Perfluorotetradecanoic acid	BSP	REC	99	%	71-132
OP82161-BS	375-73-5	Perfluorobutanesulfonic acid	BSP	REC	98	%	73-130
OP82161-BS	2706-91-4	Perfluoropentanesulfonic acid	BSP	REC	102	%	71-127
OP82161-BS	355-46-4	Perfluorohexanesulfonic acid	BSP	REC	94	%	68-131
OP82161-BS	375-92-8	Perfluoroheptanesulfonic acid	BSP	REC	102	%	69-134
OP82161-BS	1763-23-1	Perfluorooctanesulfonic acid	BSP	REC	97	%	65-140
OP82161-BS	68259-12-1	Perfluorononanesulfonic acid	BSP	REC	99	%	69-127
OP82161-BS	335-77-3	Perfluorodecanesulfonic acid	BSP	REC	89	%	53-142
OP82161-BS	754-91-6	PFOSA	BSP	REC	98	%	67-137
OP82161-BS	2355-31-9	MeFOSAA	BSP	REC	96	%	65-136
OP82161-BS	2991-50-6	EtFOSAA	BSP	REC	99	%	61-135
OP82161-BS	757124-72-4	4:2 Fluorotelomer sulfonate	BSP	REC	114	%	63-143
OP82161-BS	27619-97-2	6:2 Fluorotelomer sulfonate	BSP	REC	116	%	64-140
OP82161-BS	39108-34-4	8:2 Fluorotelomer sulfonate	BSP	REC	118	%	67-138

* Sample used for QC is not from job FA78601

MS Semi-volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Instrument Blank

Page 1 of 2

Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q79-IBLK	4Q5630.D	1	09/20/20	NAF	n/a	n/a	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0010	0.0040	0.0010	ug/l	J
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	105% 50-150%
	13C5-PFPeA	105% 50-150%
	13C5-PFHxA	106% 50-150%
	13C4-PFHpA	107% 50-150%

Instrument Blank

Page 2 of 2

Job Number: FA78601

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q79-IBLK	4Q5630.D	1	09/20/20	NAF	n/a	n/a	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	108% 50-150%
	13C9-PFNA	107% 50-150%
	13C6-PFDA	108% 50-150%
	13C7-PFUnDA	107% 50-150%
	13C2-PFDoDA	105% 50-150%
	13C2-PFTeDA	105% 50-150%
	13C3-PFBS	108% 50-150%
	13C3-PFHxS	109% 50-150%
	13C8-PFOS	109% 50-150%
	13C8-FOSA	113% 50-150%
	d3-MeFOSAA	112% 50-150%
	13C2-4:2FTS	98% 50-150%
	13C2-6:2FTS	101% 50-150%
	13C2-8:2FTS	101% 50-150%
	13C3-HFPO-DA	94% 50-150%

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Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q810-IBLK	2Q54485.D	1	09/21/20	NAF	n/a	n/a	S2Q810

The QC reported here applies to the following samples: Method: EPA 537M QSM5.3 B-15

FA78601-4

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C5-PFHxA	103% 50-150%
	13C4-PFHpA	103% 50-150%
	13C8-PFOA	103% 50-150%
	13C9-PFNA	102% 50-150%
	13C6-PFDA	102% 50-150%
	13C7-PFUnDA	101% 50-150%
	13C2-PFDoDA	101% 50-150%
	13C2-PFTeDA	100% 50-150%
	13C3-PFBS	101% 50-150%
	13C3-PFHxS	102% 50-150%
	13C8-PFOS	104% 50-150%
	d3-MeFOSAA	106% 50-150%
	13C3-HFPO-DA	117% 50-150%

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Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q412-IBLK	3Q27286.D	1	09/25/20	NG	n/a	n/a	S3Q412

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	116% 50-150%
	13C5-PFPeA	118% 50-150%
	13C5-PFHxA	115% 50-150%
	13C4-PFHpA	114% 50-150%

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Job Number: FA78601

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S3Q412-IBLK	3Q27286.D	1	09/25/20	NG	n/a	n/a	S3Q412

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-1

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	118% 50-150%
	13C9-PFNA	118% 50-150%
	13C6-PFDA	118% 50-150%
	13C7-PFUnDA	115% 50-150%
	13C2-PFDoDA	116% 50-150%
	13C2-PFTeDA	112% 50-150%
	13C3-PFBS	113% 50-150%
	13C3-PFHxS	114% 50-150%
	13C8-PFOS	112% 50-150%
	13C8-FOSA	122% 50-150%
	d3-MeFOSAA	122% 50-150%
	13C2-4:2FTS	107% 50-150%
	13C2-6:2FTS	107% 50-150%
	13C2-8:2FTS	108% 50-150%
	13C3-HFPO-DA	120% 50-150%

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Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82079-MB	4Q5663.D	1	09/20/20	NAF	09/18/20	OP82079	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0071	0.0018	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0036	0.0013	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0036	0.00089	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0036	0.00089	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0036	0.00089	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0036	0.00089	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0036	0.00089	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0036	0.00089	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0036	0.0013	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0036	0.00089	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0036	0.00089	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0036	0.00089	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0036	0.00089	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0036	0.00089	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0036	0.00089	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0036	0.0013	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0036	0.00089	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0036	0.00089	ug/l	
754-91-6	PFOSA	ND	0.0036	0.00089	ug/l	
2355-31-9	MeFOSAA	ND	0.018	0.0036	ug/l	
2991-50-6	EtFOSAA	ND	0.018	0.0036	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0071	0.0018	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0071	0.0018	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0071	0.0018	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.018	0.0045	ug/l	
919005-14-4	ADONA	ND	0.0071	0.0018	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0071	0.0018	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0071	0.0018	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	85% 50-150%
	13C5-PFPeA	87% 50-150%
	13C5-PFHxA	91% 50-150%
	13C4-PFHpA	93% 50-150%

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Job Number: FA78601

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82079-MB	4Q5663.D	1	09/20/20	NAF	09/18/20	OP82079	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	95% 50-150%
	13C9-PFNA	92% 50-150%
	13C6-PFDA	92% 50-150%
	13C7-PFUnDA	82% 50-150%
	13C2-PFDoDA	79% 50-150%
	13C2-PFTeDA	71% 50-150%
	13C3-PFBS	91% 50-150%
	13C3-PFHxS	94% 50-150%
	13C8-PFOS	91% 50-150%
	13C8-FOSA	101% 50-150%
	d3-MeFOSAA	90% 50-150%
	13C2-4:2FTS	87% 50-150%
	13C2-6:2FTS	90% 50-150%
	13C2-8:2FTS	87% 50-150%

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Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82161-MB	3Q27366.D	1	09/26/20	NG	09/24/20	OP82161	S3Q412

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-1

CAS No.	Compound	Result	RL	MDL	Units	Q
375-22-4	Perfluorobutanoic acid	ND	0.0080	0.0020	ug/l	
2706-90-3	Perfluoropentanoic acid	ND	0.0040	0.0015	ug/l	
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0015	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
2706-91-4	Perfluoropentanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
375-92-8	Perfluoroheptanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0015	ug/l	
68259-12-1	Perfluorononanesulfonic acid	ND	0.0040	0.0010	ug/l	
335-77-3	Perfluorodecanesulfonic acid	ND	0.0040	0.0010	ug/l	
754-91-6	PFOSA	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.020	0.0040	ug/l	
2991-50-6	EtFOSAA	ND	0.020	0.0040	ug/l	
757124-72-44:2	Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
27619-97-2	6:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
39108-34-4	8:2 Fluorotelomer sulfonate	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.020	0.0050	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-19	Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-91	Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries	Limits
	13C4-PFBA	100% 50-150%
	13C5-PFPeA	99% 50-150%
	13C5-PFHxA	99% 50-150%
	13C4-PFHpA	98% 50-150%

Method Blank Summary

Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82161-MB	3Q27366.D	1	09/26/20	NG	09/24/20	OP82161	S3Q412

The QC reported here applies to the following samples: Method: EPA 537M QSM5.3 B-15

FA78601-1

CAS No.	ID Standard Recoveries	Limits
	13C8-PFOA	103% 50-150%
	13C9-PFNA	99% 50-150%
	13C6-PFDA	98% 50-150%
	13C7-PFUnDA	90% 50-150%
	13C2-PFDoDA	82% 50-150%
	13C2-PFTeDA	56% 50-150%
	13C3-PFBS	95% 50-150%
	13C3-PFHxS	95% 50-150%
	13C8-PFOS	94% 50-150%
	13C8-FOSA	101% 50-150%
	d3-MeFOSAA	91% 50-150%
	13C2-4:2FTS	92% 50-150%
	13C2-6:2FTS	93% 50-150%
	13C2-8:2FTS	88% 50-150%

Blank Spike Summary

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Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82079-BS	4Q5662.D	1	09/20/20	NAF	09/18/20	OP82079	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.0714	0.0701	98	73-129
2706-90-3	Perfluoropentanoic acid	0.0714	0.0679	95	72-129
307-24-4	Perfluorohexanoic acid	0.0714	0.0696	97	72-129
375-85-9	Perfluoroheptanoic acid	0.0714	0.0705	99	72-130
335-67-1	Perfluorooctanoic acid	0.0714	0.0718	101	71-133
375-95-1	Perfluorononanoic acid	0.0714	0.0710	99	69-130
335-76-2	Perfluorodecanoic acid	0.0714	0.0682	95	71-129
2058-94-8	Perfluoroundecanoic acid	0.0714	0.0714	100	69-133
307-55-1	Perfluorododecanoic acid	0.0714	0.0718	101	72-134
72629-94-8	Perfluorotridecanoic acid	0.0714	0.0708	99	65-144
376-06-7	Perfluorotetradecanoic acid	0.0714	0.0691	97	71-132
375-73-5	Perfluorobutanesulfonic acid	0.0714	0.0657	92	73-130
2706-91-4	Perfluoropentanesulfonic acid	0.0714	0.0669	94	71-127
355-46-4	Perfluorohexanesulfonic acid	0.0714	0.0647	91	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.0714	0.0691	97	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.0714	0.0657	92	65-140
68259-12-1	Perfluorononanesulfonic acid	0.0714	0.0646	90	69-127
335-77-3	Perfluorodecanesulfonic acid	0.0714	0.0652	91	53-142
754-91-6	PFOSA	0.0714	0.0682	95	67-137
2355-31-9	MeFOSAA	0.0714	0.0651	91	65-136
2991-50-6	EtFOSAA	0.0714	0.0639	89	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.0714	0.0686	96	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.0714	0.0696	97	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.0714	0.0719	101	67-138
13252-13-6	HFPO-DA (GenX)	0.0714	0.0789	110	60-140
919005-14-4	ADONA	0.0714	0.0644	90	60-140
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0714	0.0637	89	60-140
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.0714	0.0646	90	60-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	79%	50-150%
	13C5-PFPeA	81%	50-150%
	13C5-PFHxA	84%	50-150%
	13C4-PFHpA	85%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA78601

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82079-BS	4Q5662.D	1	09/20/20	NAF	09/18/20	OP82079	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	ID Standard Recoveries	BSP	Limits
	13C8-PFOA	88%	50-150%
	13C9-PFNA	86%	50-150%
	13C6-PFDA	86%	50-150%
	13C7-PFUnDA	79%	50-150%
	13C2-PFDoDA	76%	50-150%
	13C2-PFTeDA	67%	50-150%
	13C3-PFBS	85%	50-150%
	13C3-PFHxS	86%	50-150%
	13C8-PFOS	87%	50-150%
	13C8-FOSA	92%	50-150%
	d3-MeFOSAA	87%	50-150%
	13C2-4:2FTS	86%	50-150%
	13C2-6:2FTS	86%	50-150%
	13C2-8:2FTS	85%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

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Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82161-BS	3Q27365.D	1	09/26/20	NG	09/24/20	OP82161	S3Q412

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
375-22-4	Perfluorobutanoic acid	0.08	0.0783	98	73-129
2706-90-3	Perfluoropentanoic acid	0.08	0.0793	99	72-129
307-24-4	Perfluorohexanoic acid	0.08	0.0790	99	72-129
375-85-9	Perfluoroheptanoic acid	0.08	0.0838	105	72-130
335-67-1	Perfluorooctanoic acid	0.08	0.0787	98	71-133
375-95-1	Perfluorononanoic acid	0.08	0.0799	100	69-130
335-76-2	Perfluorodecanoic acid	0.08	0.0768	96	71-129
2058-94-8	Perfluoroundecanoic acid	0.08	0.0803	100	69-133
307-55-1	Perfluorododecanoic acid	0.08	0.0800	100	72-134
72629-94-8	Perfluorotridecanoic acid	0.08	0.0959	120	65-144
376-06-7	Perfluorotetradecanoic acid	0.08	0.0795	99	71-132
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0782	98	73-130
2706-91-4	Perfluoropentanesulfonic acid	0.08	0.0817	102	71-127
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0752	94	68-131
375-92-8	Perfluoroheptanesulfonic acid	0.08	0.0817	102	69-134
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0775	97	65-140
68259-12-1	Perfluorononanesulfonic acid	0.08	0.0793	99	69-127
335-77-3	Perfluorodecanesulfonic acid	0.08	0.0715	89	53-142
754-91-6	PFOSA	0.08	0.0785	98	67-137
2355-31-9	MeFOSAA	0.08	0.0768	96	65-136
2991-50-6	EtFOSAA	0.08	0.0793	99	61-135
757124-72-44:2	Fluorotelomer sulfonate	0.08	0.0914	114	63-143
27619-97-2	6:2 Fluorotelomer sulfonate	0.08	0.0925	116	64-140
39108-34-4	8:2 Fluorotelomer sulfonate	0.08	0.0942	118	67-138
13252-13-6	HFPO-DA (GenX)	0.08	0.0762	95	60-140
919005-14-4	ADONA	0.08	0.0743	93	60-140
756426-58-19	Cl-PF3ONS (F-53B Major)	0.08	0.0731	91	60-140
763051-92-91	Cl-PF3OUdS (F-53B Minor)	0.08	0.0731	91	60-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	102%	50-150%
	13C5-PFPeA	100%	50-150%
	13C5-PFHxA	99%	50-150%
	13C4-PFHpA	98%	50-150%

* = Outside of Control Limits.

Blank Spike Summary

Page 2 of 2

Job Number: FA78601

Account: ARCMIN Arcadis

Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82161-BS	3Q27365.D	1	09/26/20	NG	09/24/20	OP82161	S3Q412

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-1

CAS No.	ID Standard Recoveries	BSP	Limits
	13C8-PFOA	100%	50-150%
	13C9-PFNA	99%	50-150%
	13C6-PFDA	98%	50-150%
	13C7-PFUnDA	96%	50-150%
	13C2-PFDoDA	92%	50-150%
	13C2-PFTeDA	62%	50-150%
	13C3-PFBS	96%	50-150%
	13C3-PFHxS	97%	50-150%
	13C8-PFOS	95%	50-150%
	13C8-FOSA	96%	50-150%
	d3-MeFOSAA	97%	50-150%
	13C2-4:2FTS	97%	50-150%
	13C2-6:2FTS	97%	50-150%
	13C2-8:2FTS	95%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 1 of 2

Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82079-MS2	4Q5676.D	1	09/21/20	NAF	09/18/20	OP82079	S4Q79
OP82079-MSD2	4Q5677.D	1	09/21/20	NAF	09/18/20	OP82079	S4Q79
FA78601-2	4Q5675.D	1	09/20/20	NAF	09/18/20	OP82079	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	Compound	FA78601-2 ug/l	Spike Q	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
375-22-4	Perfluorobutanoic acid	0.0204		0.069	98	0.069	0.0958	109	9	73-129/30
2706-90-3	Perfluoropentanoic acid	0.0034 U		0.069	112	0.069	0.0846	123	9	72-129/30
307-24-4	Perfluorohexanoic acid	0.0044		0.069	88	0.069	0.0727	99	11	72-129/30
375-85-9	Perfluoroheptanoic acid	0.0031 J		0.069	95	0.069	0.0748	104	8	72-130/30
335-67-1	Perfluorooctanoic acid	0.0299		0.069	93	0.069	0.102	105	8	71-133/30
375-95-1	Perfluorononanoic acid	0.0019 J		0.069	89	0.069	0.0708	100	12	69-130/30
335-76-2	Perfluorodecanoic acid	0.0034 U		0.069	87	0.069	0.0655	95	8	71-129/30
2058-94-8	Perfluoroundecanoic acid	0.0034 U		0.069	96	0.069	0.0712	103	7	69-133/30
307-55-1	Perfluorododecanoic acid	0.0034 U		0.069	96	0.069	0.0725	105	9	72-134/30
72629-94-8	Perfluorotridecanoic acid	0.0034 U		0.069	104	0.069	0.0770	112	8	65-144/30
376-06-7	Perfluorotetradecanoic acid	0.0034 U		0.069	92	0.069	0.0682	99	8	71-132/30
375-73-5	Perfluorobutanesulfonic acid	0.0034		0.069	86	0.069	0.0673	93	7	73-130/30
2706-91-4	Perfluoropentanesulfonic acid	0.0034 U		0.069	96	0.069	0.0742	108	12	71-127/30
355-46-4	Perfluorohexanesulfonic acid	0.0047		0.069	83	0.069	0.0701	95	12	68-131/30
375-92-8	Perfluoroheptanesulfonic acid	0.0034 U		0.069	94	0.069	0.0719	104	10	69-134/30
1763-23-1	Perfluorooctanesulfonic acid	0.0145		0.069	86	0.069	0.0791	94	7	65-140/30
68259-12-1	Perfluorononanesulfonic acid	0.0034 U		0.069	89	0.069	0.0713	103	15	69-127/30
335-77-3	Perfluorodecanesulfonic acid	0.0034 U		0.069	92	0.069	0.0658	95	3	53-142/30
754-91-6	PFOSA	0.0034 U		0.069	96	0.069	0.0699	101	5	67-137/30
2355-31-9	MeFOSAA	0.017 U		0.069	84	0.069	0.0647	94	11	65-136/30
2991-50-6	EtFOSAA	0.017 U		0.069	99	0.069	0.0714	104	5	61-135/30
757124-72-44:2	Fluorotelomer sulfonate	0.0069 U		0.069	94	0.069	0.0684	99	6	63-143/30
27619-97-2	6:2 Fluorotelomer sulfonate	0.0069 U		0.069	96	0.069	0.0703	102	6	64-140/30
39108-34-4	8:2 Fluorotelomer sulfonate	0.0069 U		0.069	95	0.069	0.0709	103	8	67-138/30
13252-13-6	HFPO-DA (GenX)	0.017 U		0.069	77	0.069	0.0540	78	1	60-140/30
919005-14-4	ADONA	0.0069 U		0.069	83	0.069	0.0613	89	7	60-140/30
756426-58-19	Cl-PF3ONS (F-53B Major)	0.0069 U		0.069	86	0.069	0.0650	94	9	60-140/30
763051-92-911	Cl-PF3OUdS (F-53B Minor)	0.0069 U		0.069	93	0.069	0.0758	110	16	60-140/30

CAS No.	ID Standard Recoveries	MS	MSD	FA78601-2	Limits
13C4-PFBA		16%* a	14%* a	16%* a	50-150%
13C5-PFPeA		51%	50%	56%	50-150%
13C5-PFHxA		49%* a	48%* a	53%	50-150%
13C4-PFHpA		56%	53%	60%	50-150%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Page 2 of 2

Job Number: FA78601
Account: ARCMIN Arcadis
Project: Racer Saginaw; 77 W Center St, Saginaw, MI

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP82079-MS2	4Q5676.D	1	09/21/20	NAF	09/18/20	OP82079	S4Q79
OP82079-MSD2	4Q5677.D	1	09/21/20	NAF	09/18/20	OP82079	S4Q79
FA78601-2	4Q5675.D	1	09/20/20	NAF	09/18/20	OP82079	S4Q79

The QC reported here applies to the following samples:

Method: EPA 537M QSM5.3 B-15

FA78601-2, FA78601-3, FA78601-4, FA78601-5, FA78601-6

CAS No.	ID Standard Recoveries	MS	MSD	FA78601-2	Limits
13C8-PFOA		63%	62%	69%	50-150%
13C9-PFNA		64%	57%	63%	50-150%
13C6-PFDA		77%	76%	88%	50-150%
13C7-PFUnDA		72%	71%	83%	50-150%
13C2-PFDoDA		69%	67%	74%	50-150%
13C2-PFTeDA		61%	66%	67%	50-150%
13C3-PFBS		62%	61%	68%	50-150%
13C3-PFHxS		71%	70%	77%	50-150%
13C8-PFOS		74%	69%	79%	50-150%
13C8-FOSA		24%* a	24%* a	27%* a	50-150%
d3-MeFOSAA		100%	99%	114%	50-150%
13C2-4:2FTS		63%	62%	65%	50-150%
13C2-6:2FTS		85%	84%	89%	50-150%
13C2-8:2FTS		103%	104%	111%	50-150%
13C3-HFPO-DA				77%	50-150%

(a) Outside control limits.

* = Outside of Control Limits.

ANALYTICAL REPORT

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

Laboratory Job ID: 240-134899-1
Client Project/Site: Racer Saginaw

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater

Roxanne Cisneros

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Qualifiers

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Job ID: 240-134899-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw

Report Number: 240-134899-1

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

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

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

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

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

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

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

RECEIPT

The samples were received on 8/13/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.4° C.

DISSOLVED METALS (ICPMS)

Samples MW-149WT_081120 (240-134899-1), MW-107WT_081120 (240-134899-3) and DUP-01_081120 (240-134899-4) were analyzed for dissolved metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 08/14/2020 and analyzed on 08/17/2020.

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

TOTAL RECOVERABLE METALS (ICPMS)

Samples MW-149WT_081120 (240-134899-1), MW-107WT_081120 (240-134899-3) and DUP-01_081120 (240-134899-4) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 08/14/2020 and analyzed on 08/17/2020.

Method 6020: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: MW-107WT_081120 (240-134899-3) and DUP-01_081120 (240-134899-4) The continuing calibration blanks and

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Job ID: 240-134899-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

method blanks may not support the lower PQL.

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

TOTAL PHOSPHORUS

Samples MW-149WT_081120 (240-134899-1), MW-107WT_081120 (240-134899-3) and DUP-01_081120 (240-134899-4) were analyzed for total phosphorus in accordance with SM 4500 P E. The samples were analyzed on 08/24/2020.

Sample MW-149WT_081120 (240-134899-1)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

AMMONIA

Samples MW-149WT_081120 (240-134899-1), MW-107SI_081120 (240-134899-2), MW-107WT_081120 (240-134899-3), DUP-01_081120 (240-134899-4) and MW-108S2_081120 (240-134899-5) were analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/25/2020.

Samples MW-107SI_081120 (240-134899-2)[2X] and MW-108S2_081120 (240-134899-5)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CAN
SM 4500 NH3 D	Ammonia	SM	TAL CAN
SM4500 P E-1999	Phosphorus	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
FILTRATION	Sample Filtration	None	TAL CAN

Protocol References:

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134899-1	MW-149WT_081120	Water	08/11/20 11:20	08/13/20 09:30	
240-134899-2	MW-107SI_081120	Water	08/11/20 12:45	08/13/20 09:30	
240-134899-3	MW-107WT_081120	Water	08/11/20 13:55	08/13/20 09:30	
240-134899-4	DUP-01_081120	Water	08/11/20 00:00	08/13/20 09:30	
240-134899-5	MW-108S2_081120	Water	08/11/20 16:35	08/13/20 09:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-149WT_081120

Lab Sample ID: 240-134899-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	40		2.0	0.75	ug/L	1		6020	Total
Manganese	900		5.0	2.1	ug/L	1		6020	Recoverable
Arsenic	9.1		5.0	0.75	ug/L	1		6020	Total
Ammonia (as N)	1.8		0.20	0.093	mg/L	1		SM 4500 NH3 D	Recoverable
Total Phosphorus as P	1.1		0.50	0.19	mg/L	5		SM4500 P E-1999	Dissolved
									Total/NA
									Total/NA

Client Sample ID: MW-107SI_081120

Lab Sample ID: 240-134899-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia (as N)	1.4		0.40	0.19	mg/L	2		SM 4500 NH3 D	Total/NA

Client Sample ID: MW-107WT_081120

Lab Sample ID: 240-134899-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	200		5.0	2.1	ug/L	1		6020	Total
									Recoverable

Client Sample ID: DUP-01_081120

Lab Sample ID: 240-134899-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	240		5.0	2.1	ug/L	1		6020	Total
									Recoverable

Client Sample ID: MW-108S2_081120

Lab Sample ID: 240-134899-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia (as N)	6.2		0.40	0.19	mg/L	2		SM 4500 NH3 D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-149WT_081120

Lab Sample ID: 240-134899-1

Date Collected: 08/11/20 11:20

Matrix: Water

Date Received: 08/13/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	40		2.0	0.75	ug/L		08/14/20 14:00	08/17/20 15:17	1
Manganese	900		5.0	2.1	ug/L		08/14/20 14:00	08/17/20 15:17	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	9.1		5.0	0.75	ug/L		08/14/20 14:00	08/17/20 15:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.8		0.20	0.093	mg/L			08/25/20 09:14	1
Total Phosphorus as P	1.1		0.50	0.19	mg/L			08/24/20 08:33	5

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-107SI_081120

Lab Sample ID: 240-134899-2

Date Collected: 08/11/20 12:45

Matrix: Water

Date Received: 08/13/20 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	1.4		0.40	0.19	mg/L			08/25/20 09:12	2

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-107WT_081120

Lab Sample ID: 240-134899-3

Date Collected: 08/11/20 13:55

Matrix: Water

Date Received: 08/13/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0	U	2.0	0.75	ug/L		08/14/20 14:00	08/17/20 14:55	1
Manganese	200		5.0	2.1	ug/L		08/14/20 14:00	08/17/20 14:55	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	0.75	ug/L		08/14/20 14:00	08/17/20 15:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/25/20 09:08	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/24/20 08:20	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: DUP-01_081120

Lab Sample ID: 240-134899-4

Date Collected: 08/11/20 00:00

Matrix: Water

Date Received: 08/13/20 09:30

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	2.0	U	2.0	0.75	ug/L		08/14/20 14:00	08/17/20 15:19	1
Manganese	240		5.0	2.1	ug/L		08/14/20 14:00	08/17/20 15:19	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	0.75	ug/L		08/14/20 14:00	08/17/20 15:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/25/20 08:52	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/24/20 08:37	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-108S2_081120

Lab Sample ID: 240-134899-5

Date Collected: 08/11/20 16:35

Matrix: Water

Date Received: 08/13/20 09:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	6.2		0.40	0.19	mg/L			08/25/20 08:50	2

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-447229/1-A

Matrix: Water

Analysis Batch: 447593

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 447229

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.0	U	5.0	2.1	ug/L		08/14/20 14:00	08/17/20 14:50	1
Arsenic	2.0	U	2.0	0.75	ug/L		08/14/20 14:00	08/17/20 14:50	1

Lab Sample ID: LCS 240-447229/3-A

Matrix: Water

Analysis Batch: 447593

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 447229

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	500	499		ug/L		100	80 - 120
Arsenic	1000	932		ug/L		93	80 - 120

Lab Sample ID: 240-134899-3 MS

Matrix: Water

Analysis Batch: 447593

Client Sample ID: MW-107WT_081120

Prep Type: Total Recoverable

Prep Batch: 447229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2.0	U	1000	968		ug/L		97	75 - 125
Manganese	200		500	732		ug/L		106	75 - 125

Lab Sample ID: 240-134899-3 MSD

Matrix: Water

Analysis Batch: 447593

Client Sample ID: MW-107WT_081120

Prep Type: Total Recoverable

Prep Batch: 447229

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	2.0	U	1000	903		ug/L		90	75 - 125	7	20
Manganese	200		500	684		ug/L		97	75 - 125	7	20

Lab Sample ID: 240-134899-3 MS

Matrix: Water

Analysis Batch: 447593

Client Sample ID: MW-107WT_081120

Prep Type: Dissolved

Prep Batch: 447229

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	5.0	U	1000	996		ug/L		100	75 - 125

Lab Sample ID: 240-134899-3 MSD

Matrix: Water

Analysis Batch: 447593

Client Sample ID: MW-107WT_081120

Prep Type: Dissolved

Prep Batch: 447229

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	5.0	U	1000	984		ug/L		98	75 - 125	1	20

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 240-448599/7

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/25/20 07:29	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: LCS 240-448599/8

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.59	2.41		mg/L		93	85 - 114

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-448349/3

Matrix: Water

Analysis Batch: 448349

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/24/20 07:05	1

Lab Sample ID: LCS 240-448349/4

Matrix: Water

Analysis Batch: 448349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	0.478	0.511		mg/L		107	77 - 120

Lab Sample ID: LCSD 240-448349/5

Matrix: Water

Analysis Batch: 448349

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	0.478	0.487		mg/L		102	77 - 120	5	20

Lab Sample ID: 240-134899-3 MS

Matrix: Water

Analysis Batch: 448349

Client Sample ID: MW-107WT_081120

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	0.10	U	0.500	0.489		mg/L		98	38 - 156

Lab Sample ID: 240-134899-3 MSD

Matrix: Water

Analysis Batch: 448349

Client Sample ID: MW-107WT_081120

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	0.10	U	0.500	0.495		mg/L		99	38 - 156	1	29

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Metals

Filtration Batch: 447228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134899-1	MW-149WT_081120	Dissolved	Water	FILTRATION	
240-134899-3	MW-107WT_081120	Dissolved	Water	FILTRATION	
240-134899-4	DUP-01_081120	Dissolved	Water	FILTRATION	
240-134899-3 MS	MW-107WT_081120	Dissolved	Water	FILTRATION	
240-134899-3 MSD	MW-107WT_081120	Dissolved	Water	FILTRATION	

Prep Batch: 447229

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134899-1	MW-149WT_081120	Dissolved	Water	3005A	447228
240-134899-1	MW-149WT_081120	Total Recoverable	Water	3005A	
240-134899-3	MW-107WT_081120	Dissolved	Water	3005A	447228
240-134899-3	MW-107WT_081120	Total Recoverable	Water	3005A	
240-134899-4	DUP-01_081120	Dissolved	Water	3005A	447228
240-134899-4	DUP-01_081120	Total Recoverable	Water	3005A	
MB 240-447229/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447229/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-134899-3 MS	MW-107WT_081120	Dissolved	Water	3005A	447228
240-134899-3 MS	MW-107WT_081120	Total Recoverable	Water	3005A	
240-134899-3 MSD	MW-107WT_081120	Dissolved	Water	3005A	447228
240-134899-3 MSD	MW-107WT_081120	Total Recoverable	Water	3005A	

Analysis Batch: 447593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134899-1	MW-149WT_081120	Dissolved	Water	6020	447229
240-134899-1	MW-149WT_081120	Total Recoverable	Water	6020	447229
240-134899-3	MW-107WT_081120	Dissolved	Water	6020	447229
240-134899-3	MW-107WT_081120	Total Recoverable	Water	6020	447229
240-134899-4	DUP-01_081120	Dissolved	Water	6020	447229
240-134899-4	DUP-01_081120	Total Recoverable	Water	6020	447229
MB 240-447229/1-A	Method Blank	Total Recoverable	Water	6020	447229
LCS 240-447229/3-A	Lab Control Sample	Total Recoverable	Water	6020	447229
240-134899-3 MS	MW-107WT_081120	Dissolved	Water	6020	447229
240-134899-3 MS	MW-107WT_081120	Total Recoverable	Water	6020	447229
240-134899-3 MSD	MW-107WT_081120	Dissolved	Water	6020	447229
240-134899-3 MSD	MW-107WT_081120	Total Recoverable	Water	6020	447229

General Chemistry

Analysis Batch: 448349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134899-1	MW-149WT_081120	Total/NA	Water	SM4500 P E-1999	
240-134899-3	MW-107WT_081120	Total/NA	Water	SM4500 P E-1999	
240-134899-4	DUP-01_081120	Total/NA	Water	SM4500 P E-1999	
MB 240-448349/3	Method Blank	Total/NA	Water	SM4500 P E-1999	
LCS 240-448349/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	
LCSD 240-448349/5	Lab Control Sample Dup	Total/NA	Water	SM4500 P E-1999	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

General Chemistry (Continued)

Analysis Batch: 448349 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134899-3 MS	MW-107WT_081120	Total/NA	Water	SM4500 P E-1999	
240-134899-3 MSD	MW-107WT_081120	Total/NA	Water	SM4500 P E-1999	

Analysis Batch: 448599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134899-1	MW-149WT_081120	Total/NA	Water	SM 4500 NH3 D	
240-134899-2	MW-107SI_081120	Total/NA	Water	SM 4500 NH3 D	
240-134899-3	MW-107WT_081120	Total/NA	Water	SM 4500 NH3 D	
240-134899-4	DUP-01_081120	Total/NA	Water	SM 4500 NH3 D	
240-134899-5	MW-108S2_081120	Total/NA	Water	SM 4500 NH3 D	
MB 240-448599/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 240-448599/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-149WT_081120

Lab Sample ID: 240-134899-1

Date Collected: 08/11/20 11:20

Matrix: Water

Date Received: 08/13/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			447228	08/14/20 11:30	MRL	TAL CAN
Dissolved	Prep	3005A			447229	08/14/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	447593	08/17/20 15:44	RKT	TAL CAN
Total Recoverable	Prep	3005A			447229	08/14/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	447593	08/17/20 15:17	RKT	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	448599	08/25/20 09:14	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-1999		5	448349	08/24/20 08:33	TPH	TAL CAN

Client Sample ID: MW-107SI_081120

Lab Sample ID: 240-134899-2

Date Collected: 08/11/20 12:45

Matrix: Water

Date Received: 08/13/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 NH3 D		2	448599	08/25/20 09:12	JR	TAL CAN

Client Sample ID: MW-107WT_081120

Lab Sample ID: 240-134899-3

Date Collected: 08/11/20 13:55

Matrix: Water

Date Received: 08/13/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			447228	08/14/20 11:30	MRL	TAL CAN
Dissolved	Prep	3005A			447229	08/14/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	447593	08/17/20 15:37	RKT	TAL CAN
Total Recoverable	Prep	3005A			447229	08/14/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	447593	08/17/20 14:55	RKT	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	448599	08/25/20 09:08	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-1999		1	448349	08/24/20 08:20	TPH	TAL CAN

Client Sample ID: DUP-01_081120

Lab Sample ID: 240-134899-4

Date Collected: 08/11/20 00:00

Matrix: Water

Date Received: 08/13/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	FILTRATION			447228	08/14/20 11:30	MRL	TAL CAN
Dissolved	Prep	3005A			447229	08/14/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6020		1	447593	08/17/20 15:46	RKT	TAL CAN
Total Recoverable	Prep	3005A			447229	08/14/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	447593	08/17/20 15:19	RKT	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	448599	08/25/20 08:52	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-1999		1	448349	08/24/20 08:37	TPH	TAL CAN

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Client Sample ID: MW-108S2_081120

Lab Sample ID: 240-134899-5

Date Collected: 08/11/20 16:35

Matrix: Water

Date Received: 08/13/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 NH3 D		2	448599	08/25/20 08:50	JR	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-134899-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

Eurofins TestAmerica, Canton
 4101 Shufel Street NW
 North Canton, OH 44720
 Phone: 330-497-9396 Fax: 330-497-0772

Client Information

Client Contact:
 Scott Clearwater

Company:
 ARCADIS U.S., Inc.

Address:
 28550 Cabot Drive Suite 500

City:
 Novi

State, Zip:
 MI, 48377

Phone:
 810-225-1921(Tel)

PO #:
 B0064434.2017.0010

WO #:

Email:
 scott.clearwater@arcadis.com

Project Name:
 RACER Saginaw

Project #:
 24006824

Site:
 SSO#:

Sampler:

Phone:

Lab PM:

DeiMonico, Michael

E-Mail:

Michael.DeiMonico@Eurofinset.com

Carrier Tracking No(s):

COC No:

240-74062-29858.2

Page:

Page 2 of 7

Job #:

Analysis Requested

Due Date Requested:

TAT Requested (days):

PO #:

B0064434.2017.0010

WO #:

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810-225-1921(Tel)

PO #:

B0064434.2017.0010

WO #:

Project #:

24006824

Eurofins TestAmerica Canton Sample Receipt Form/Narrative				Login # : <u>134899</u>	
Canton Facility					
Client <u>Arcodis</u>		Site Name _____		Cooler unpacked by: <u>Math Sample</u>	
Cooler Received on <u>8-13-20</u>		Opened on <u>8-13-20</u>			
FedEx: 1 st ☒ Grd Exp ☐ UPS ☐ FAS ☐ Clipper Client Drop Off ☐ TestAmerica Courier ☐ Other _____					
Receipt After-hours: Drop-off Date/Time _____			Storage Location _____		
TestAmerica Cooler # <u>11</u>		Foam Box ☐ Client Cooler ☐ Box ☐ Other _____			
Packing material used <u>Bubble Wrap</u>		Foam ☐ Plastic Bag ☐ None ☐ Other _____			
COOLANT: <u>Wet Ice</u>		Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐			
1. Cooler temperature upon receipt		☐ See Multiple Cooler Form			
IR GUN# IR-10 (CF +0.7 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
IR GUN #IR-11 (CF +0.9 °C)		Observed Cooler Temp. <u>2.5</u> °C		Corrected Cooler Temp. <u>3.4</u> °C	
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u>		☒ Yes ☐ No			
-Were the seals on the outside of the cooler(s) signed & dated?		☒ Yes ☐ No ☐ NA			
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		☒ Yes ☐ No			
-Were tamper/custody seals intact and uncompromised?		☒ Yes ☐ No ☐ NA			
3. Shippers' packing slip attached to the cooler(s)?		☒ Yes ☐ No			
4. Did custody papers accompany the sample(s)?		☒ Yes ☐ No			
5. Were the custody papers relinquished & signed in the appropriate place?		☒ Yes ☐ No			
6. Was/were the person(s) who collected the samples clearly identified on the COC?		☒ Yes ☐ No			
7. Did all bottles arrive in good condition (Unbroken)?		☒ Yes ☐ No			
8. Could all bottle labels be reconciled with the COC?		☒ Yes ☐ No			
9. Were correct bottle(s) used for the test(s) indicated?		☒ Yes ☐ No			
10. Sufficient quantity received to perform indicated analyses?		☒ Yes ☐ No			
11. Are these work share samples?		☒ Yes ☐ No			
If yes, Questions 12-16 have been checked at the originating laboratory.					
12. Were all preserved sample(s) at the correct pH upon receipt?		☒ Yes ☐ No ☐ NA pH Strip Lot# <u>HC911298</u>			
13. Were VOAs on the COC?		☒ Yes ☐ No			
14. Were air bubbles >6 mm in any VOA vials? Larger than this.		☒ Yes ☐ No ☒ NA			
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____		☒ Yes ☐ No			
16. Was a LL Hg or Me Hg trip blank present? _____		☒ Yes ☐ No			
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____					
Concerning _____					

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES 	Samples processed by: _____
18. SAMPLE CONDITION Sample(s) _____ were received after the recommended holding time had expired. Sample(s) _____ were received in a broken container. Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION Sample(s) _____ were further preserved in the laboratory. Time preserved: _____ Preservative(s) added/Lot number(s): _____ VOA Sample Preservation - Date/Time VOAs Frozen: _____	

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container		Preservative	
			pH	Temp	Added (mls)	Lot #
MW-149WT_081120	240-134899-B-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-149WT_081120	240-134899-C-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-149WT_081120	240-134899-D-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-107SI_081120	240-134899-A-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-D-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-E-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-F-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-G-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-H-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-I-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-J-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-K-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-L-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-107WT_081120	240-134899-M-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
DUP-01_081120	240-134899-B-4	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
DUP-01_081120	240-134899-C-4	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
DUP-01_081120	240-134899-D-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
DUP-01_081120	240-134899-E-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-108S2_081120	240-134899-A-5	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____

ANALYTICAL REPORT

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

Laboratory Job ID: 240-134973-1
Client Project/Site: Racer Saginaw GWS

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Metals

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

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Job ID: 240-134973-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw GWS

Report Number: 240-134973-1

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

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

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

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

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

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

RECEIPT

The samples were received on 8/14/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.2° C.

EXCEPT - extra containers were received and logged. for sample TWW-1_081220 (240-134973-2). Refer to cooler receipt form and COC in the report.

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples TW-242_081220 (240-134973-1) and TWW-1_081220 (240-134973-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 08/25/2020 and 08/26/2020.

The laboratory control sample (LCS) for 448590 recovered outside control limits for multiple analytes. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported. TW-242_081220 (240-134973-1), TWW-1_081220 (240-134973-2) and (LCS 240-448590/4)

The laboratory control sample (LCS) for 448777 recovered outside control limits for the following analytes: Methylene Chloride. This analyte was biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported. (LCS 240-448777/4).

No MS/MSD in batch 448777 due to an incorrect dilution: TWW-1_081220 (240-134973-2).

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Job ID: 240-134973-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

cis-1,2-Dichloroethene and Methylene Chloride failed the recovery criteria high for the MS of sample TW-242_081220MS (240-134973-1) in batch 240-448590.

Several analytes failed the recovery criteria high for the MSD of sample TW-242_081220MSD (240-134973-1) in batch 240-448590.

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

DISSOLVED METALS (ICP)

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/17/2020 and analyzed on 08/18/2020.

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

TOTAL RECOVERABLE METALS (ICP)

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/17/2020 and analyzed on 08/18/2020.

Iron was detected in method blank MB 240-447441/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

TOTAL DISSOLVED SOLIDS

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 08/17/2020.

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

ANIONS

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/14/2020.

Sample MW-117WT_081320 (240-134973-4)[5X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

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

ANIONS

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/14/2020.

Samples MW-117S1_081320 (240-134973-3)[10X], MW-117WT_081320 (240-134973-4)[25X] and MW-117WT_081320 (240-134973-4)[5X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

DISSOLVED CYANIDE

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for dissolved cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/26/2020.

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

TOTAL CYANIDE

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for total cyanide in accordance with

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Job ID: 240-134973-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/26/2020.

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

AMMONIA

Samples MW-117S1_081320 (240-134973-3) and MW-117WT_081320 (240-134973-4) were analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/25/2020.

Samples MW-117S1_081320 (240-134973-3)[2X] and MW-117WT_081320 (240-134973-4)[20X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
6010B	Metals (ICP)	SW846	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
9012A	Cyanide, Total and/or Amenable	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
SM 4500 NH3 D	Ammonia	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
5030B	Purge and Trap	SW846	TAL CAN
9012A	Cyanide, Total and/or Amenable, Distillation	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134973-1	TW-242_081220	Water	08/12/20 11:50	08/14/20 09:30	
240-134973-2	TWW-1_081220	Water	08/12/20 13:30	08/14/20 09:30	
240-134973-3	MW-117S1_081320	Water	08/13/20 11:27	08/14/20 09:30	
240-134973-4	MW-117WT_081320	Water	08/13/20 11:35	08/14/20 09:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: TW-242_081220

Lab Sample ID: 240-134973-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	0.42	J	1.0	0.36	ug/L	1		8260B	Total/NA

Client Sample ID: TWW-1_081220

Lab Sample ID: 240-134973-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.3		1.0	0.41	ug/L	1		8260B	Total/NA
Vinyl chloride	1.6		1.0	0.50	ug/L	1		8260B	Total/NA
cis-1,2-Dichloroethene	1.4		1.0	0.38	ug/L	1		8260B	Total/NA

Client Sample ID: MW-117S1_081320

Lab Sample ID: 240-134973-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	1500		200	1.3	ug/L	1		6010B	Total Recoverable
Iron	8600	B	100	26	ug/L	1		6010B	Total Recoverable
Manganese	290		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	110000		5000	560	ug/L	1		6010B	Total Recoverable
Barium	1500		200	1.3	ug/L	1		6010B	Dissolved
Iron	7900	B	100	26	ug/L	1		6010B	Dissolved
Manganese	290		15	2.1	ug/L	1		6010B	Dissolved
Sodium	110000		5000	560	ug/L	1		6010B	Dissolved
Chloride	220		10	2.8	mg/L	10		300.0	Total/NA
Nitrate as N	1.3		0.10	0.014	mg/L	1		300.0	Total/NA
Total Dissolved Solids	860		20	16	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	8.2		0.40	0.19	mg/L	2		SM 4500 NH3 D	Total/NA

Client Sample ID: MW-117WT_081320

Lab Sample ID: 240-134973-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.5	J	10	4.1	ug/L	1		6010B	Total Recoverable
Barium	2000		200	1.3	ug/L	1		6010B	Total Recoverable
Iron	96000	B	100	26	ug/L	1		6010B	Total Recoverable
Manganese	3700		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	460000		5000	560	ug/L	1		6010B	Total Recoverable
Arsenic	4.1	J	10	4.1	ug/L	1		6010B	Dissolved
Barium	2100		200	1.3	ug/L	1		6010B	Dissolved
Iron	97000	B	100	26	ug/L	1		6010B	Dissolved
Manganese	3800		15	2.1	ug/L	1		6010B	Dissolved
Sodium	490000		5000	560	ug/L	1		6010B	Dissolved
Chloride	3200		25	7.1	mg/L	25		300.0	Total/NA
Nitrate as N	0.63		0.50	0.070	mg/L	5		300.0	Total/NA
Sulfate	5.1		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	4600		50	39	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	66		4.0	1.9	mg/L	20		SM 4500 NH3 D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: TW-242_081220

Lab Sample ID: 240-134973-1

Date Collected: 08/12/20 11:50

Matrix: Water

Date Received: 08/14/20 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/25/20 10:47	1
Benzene	1.0	U	1.0	0.38	ug/L			08/25/20 10:47	1
Dichlorobromomethane	1.0	U	1.0	0.35	ug/L			08/25/20 10:47	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/25/20 10:47	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/25/20 10:47	1
2-Butanone (MEK)	10	U	10	2.4	ug/L			08/25/20 10:47	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			08/25/20 10:47	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/25/20 10:47	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			08/25/20 10:47	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/25/20 10:47	1
Chloroform	1.0	U	1.0	0.40	ug/L			08/25/20 10:47	1
Chloromethane	1.0	U	1.0	0.64	ug/L			08/25/20 10:47	1
1,1-Dichloroethane	1.0	U F1	1.0	0.41	ug/L			08/25/20 10:47	1
1,2-Dichloroethane	1.0	U	1.0	0.43	ug/L			08/25/20 10:47	1
1,1-Dichloroethene	1.0	U F1 *	1.0	0.46	ug/L			08/25/20 10:47	1
1,2-Dichloropropane	1.0	U	1.0	0.37	ug/L			08/25/20 10:47	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/25/20 10:47	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/25/20 10:47	1
Ethylbenzene	1.0	U	1.0	0.39	ug/L			08/25/20 10:47	1
2-Hexanone	10	U	10	2.1	ug/L			08/25/20 10:47	1
Methylene Chloride	5.0	U F1 *	5.0	1.3	ug/L			08/25/20 10:47	1
4-Methyl-2-pentanone (MIBK)	10	U	10	2.1	ug/L			08/25/20 10:47	1
Styrene	1.0	U	1.0	0.40	ug/L			08/25/20 10:47	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.56	ug/L			08/25/20 10:47	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 10:47	1
Toluene	1.0	U	1.0	0.35	ug/L			08/25/20 10:47	1
Trichloroethene	0.42	J	1.0	0.36	ug/L			08/25/20 10:47	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/25/20 10:47	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			08/25/20 10:47	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/25/20 10:47	1
1,1,2-Trichloroethane	1.0	U	1.0	0.39	ug/L			08/25/20 10:47	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			08/25/20 10:47	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			08/25/20 10:47	1
Ethylene Dibromide	1.0	U	1.0	0.37	ug/L			08/25/20 10:47	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/25/20 10:47	1
cis-1,2-Dichloroethene	1.0	U F1 *	1.0	0.38	ug/L			08/25/20 10:47	1
trans-1,2-Dichloroethene	1.0	U F1 *	1.0	0.43	ug/L			08/25/20 10:47	1
Isopropylbenzene	1.0	U	1.0	0.45	ug/L			08/25/20 10:47	1
Methyl acetate	10	U	10	1.7	ug/L			08/25/20 10:47	1
Methyl tert-butyl ether	1.0	U	1.0	0.44	ug/L			08/25/20 10:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/25/20 10:47	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.81	ug/L			08/25/20 10:47	1
1,2-Dichlorobenzene	1.0	U	1.0	0.43	ug/L			08/25/20 10:47	1
1,3-Dichlorobenzene	1.0	U	1.0	0.40	ug/L			08/25/20 10:47	1
1,4-Dichlorobenzene	1.0	U	1.0	0.37	ug/L			08/25/20 10:47	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/25/20 10:47	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			08/25/20 10:47	1
Methylcyclohexane	1.0	U *	1.0	0.33	ug/L			08/25/20 10:47	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: TW-242_081220

Lab Sample ID: 240-134973-1

Date Collected: 08/12/20 11:50

Matrix: Water

Date Received: 08/14/20 09:30

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		08/25/20 10:47	1
4-Bromofluorobenzene (Surr)	103		47 - 134		08/25/20 10:47	1
Toluene-d8 (Surr)	112		69 - 122		08/25/20 10:47	1
Dibromofluoromethane (Surr)	119		78 - 129		08/25/20 10:47	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: TWW-1_081220

Lab Sample ID: 240-134973-2

Date Collected: 08/12/20 13:30

Matrix: Water

Date Received: 08/14/20 09:30

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/25/20 11:09	1
Benzene	1.0	U	1.0	0.38	ug/L			08/25/20 11:09	1
Dichlorobromomethane	1.0	U	1.0	0.35	ug/L			08/25/20 11:09	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/25/20 11:09	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/25/20 11:09	1
2-Butanone (MEK)	10	U	10	2.4	ug/L			08/25/20 11:09	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			08/25/20 11:09	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/25/20 11:09	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			08/25/20 11:09	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/25/20 11:09	1
Chloroform	1.0	U	1.0	0.40	ug/L			08/25/20 11:09	1
Chloromethane	1.0	U	1.0	0.64	ug/L			08/25/20 11:09	1
1,1-Dichloroethane	1.3		1.0	0.41	ug/L			08/25/20 11:09	1
1,2-Dichloroethane	1.0	U	1.0	0.43	ug/L			08/25/20 11:09	1
1,1-Dichloroethene	1.0	U *	1.0	0.46	ug/L			08/25/20 11:09	1
1,2-Dichloropropane	1.0	U	1.0	0.37	ug/L			08/25/20 11:09	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/25/20 11:09	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/25/20 11:09	1
Ethylbenzene	1.0	U	1.0	0.39	ug/L			08/25/20 11:09	1
2-Hexanone	10	U	10	2.1	ug/L			08/25/20 11:09	1
Methylene Chloride	5.0	U *	5.0	1.3	ug/L			08/25/20 11:09	1
4-Methyl-2-pentanone (MIBK)	10	U	10	2.1	ug/L			08/25/20 11:09	1
Styrene	1.0	U	1.0	0.40	ug/L			08/25/20 11:09	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.56	ug/L			08/25/20 11:09	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 11:09	1
Toluene	1.0	U	1.0	0.35	ug/L			08/25/20 11:09	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/25/20 11:09	1
Vinyl chloride	1.6		1.0	0.50	ug/L			08/25/20 11:09	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			08/25/20 11:09	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/25/20 11:09	1
1,1,2-Trichloroethane	1.0	U	1.0	0.39	ug/L			08/25/20 11:09	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			08/25/20 11:09	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			08/25/20 11:09	1
Ethylene Dibromide	1.0	U	1.0	0.37	ug/L			08/25/20 11:09	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/25/20 11:09	1
cis-1,2-Dichloroethene	1.4		1.0	0.38	ug/L			08/26/20 13:15	1
trans-1,2-Dichloroethene	1.0	U *	1.0	0.43	ug/L			08/25/20 11:09	1
Isopropylbenzene	1.0	U	1.0	0.45	ug/L			08/25/20 11:09	1
Methyl acetate	10	U	10	1.7	ug/L			08/25/20 11:09	1
Methyl tert-butyl ether	1.0	U	1.0	0.44	ug/L			08/25/20 11:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/25/20 11:09	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.81	ug/L			08/25/20 11:09	1
1,2-Dichlorobenzene	1.0	U	1.0	0.43	ug/L			08/25/20 11:09	1
1,3-Dichlorobenzene	1.0	U	1.0	0.40	ug/L			08/25/20 11:09	1
1,4-Dichlorobenzene	1.0	U	1.0	0.37	ug/L			08/25/20 11:09	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/25/20 11:09	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			08/25/20 11:09	1
Methylcyclohexane	1.0	U *	1.0	0.33	ug/L			08/25/20 11:09	1

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Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: TWW-1_081220

Lab Sample ID: 240-134973-2

Date Collected: 08/12/20 13:30

Matrix: Water

Date Received: 08/14/20 09:30

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
1,2-Dichloroethane-d4 (Surr)	98		75 - 130		08/25/20 11:09	1
1,2-Dichloroethane-d4 (Surr)	89		75 - 130		08/26/20 13:15	1
4-Bromofluorobenzene (Surr)	104		47 - 134		08/25/20 11:09	1
4-Bromofluorobenzene (Surr)	95		47 - 134		08/26/20 13:15	1
Toluene-d8 (Surr)	110		69 - 122		08/25/20 11:09	1
Toluene-d8 (Surr)	103		69 - 122		08/26/20 13:15	1
Dibromofluoromethane (Surr)	114		78 - 129		08/25/20 11:09	1
Dibromofluoromethane (Surr)	105		78 - 129		08/26/20 13:15	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: MW-117S1_081320

Lab Sample ID: 240-134973-3

Date Collected: 08/13/20 11:27

Matrix: Water

Date Received: 08/14/20 09:30

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/17/20 14:00	08/18/20 16:21	1
Barium	1500		200	1.3	ug/L		08/17/20 14:00	08/18/20 16:21	1
Iron	8600	B	100	26	ug/L		08/17/20 14:00	08/18/20 16:21	1
Manganese	290		15	2.1	ug/L		08/17/20 14:00	08/18/20 16:21	1
Sodium	110000		5000	560	ug/L		08/17/20 14:00	08/18/20 16:21	1
Selenium	15	U	15	6.0	ug/L		08/17/20 14:00	08/18/20 16:21	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/17/20 14:00	08/18/20 16:38	1
Barium	1500		200	1.3	ug/L		08/17/20 14:00	08/18/20 16:38	1
Iron	7900	B	100	26	ug/L		08/17/20 14:00	08/18/20 16:38	1
Manganese	290		15	2.1	ug/L		08/17/20 14:00	08/18/20 16:38	1
Sodium	110000		5000	560	ug/L		08/17/20 14:00	08/18/20 16:38	1
Selenium	15	U	15	6.0	ug/L		08/17/20 14:00	08/18/20 16:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	220		10	2.8	mg/L			08/14/20 18:12	10
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/14/20 17:52	1
Nitrate as N	1.3		0.10	0.014	mg/L			08/14/20 17:52	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/14/20 17:52	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 08:09	08/26/20 11:30	1
Total Dissolved Solids	860		20	16	mg/L			08/17/20 08:58	1
Ammonia (as N)	8.2		0.40	0.19	mg/L			08/25/20 08:13	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 08:09	08/26/20 11:01	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: MW-117WT_081320

Lab Sample ID: 240-134973-4

Date Collected: 08/13/20 11:35

Matrix: Water

Date Received: 08/14/20 09:30

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.5	J	10	4.1	ug/L		08/17/20 14:00	08/18/20 16:42	1
Barium	2000		200	1.3	ug/L		08/17/20 14:00	08/18/20 16:42	1
Iron	96000	B	100	26	ug/L		08/17/20 14:00	08/18/20 16:42	1
Manganese	3700		15	2.1	ug/L		08/17/20 14:00	08/18/20 16:42	1
Sodium	460000		5000	560	ug/L		08/17/20 14:00	08/18/20 16:42	1
Selenium	15	U	15	6.0	ug/L		08/17/20 14:00	08/18/20 16:42	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.1	J	10	4.1	ug/L		08/17/20 14:00	08/18/20 16:55	1
Barium	2100		200	1.3	ug/L		08/17/20 14:00	08/18/20 16:55	1
Iron	97000	B	100	26	ug/L		08/17/20 14:00	08/18/20 16:55	1
Manganese	3800		15	2.1	ug/L		08/17/20 14:00	08/18/20 16:55	1
Sodium	490000		5000	560	ug/L		08/17/20 14:00	08/18/20 16:55	1
Selenium	15	U	15	6.0	ug/L		08/17/20 14:00	08/18/20 16:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3200		25	7.1	mg/L			08/14/20 18:52	25
Nitrite as N	0.50	U	0.50	0.070	mg/L			08/14/20 18:32	5
Nitrate as N	0.63		0.50	0.070	mg/L			08/14/20 18:32	5
Sulfate	5.1		5.0	1.7	mg/L			08/14/20 18:32	5
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 08:09	08/26/20 11:29	1
Total Dissolved Solids	4600		50	39	mg/L			08/17/20 08:58	1
Ammonia (as N)	66		4.0	1.9	mg/L			08/25/20 08:21	20

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 08:09	08/26/20 10:59	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (75-130)	BFB (47-134)	TOL (69-122)	DBFM (78-129)
240-134973-1	TW-242_081220	98	103	112	119
240-134973-1 MS	TW-242_081220	92	100	106	116
240-134973-1 MSD	TW-242_081220	99	114	116	123
240-134973-2	TWW-1_081220	98	104	110	114
240-134973-2	TWW-1_081220	89	95	103	105
LCS 240-448590/4	Lab Control Sample	100	107	112	127
LCS 240-448777/4	Lab Control Sample	90	104	110	109
MB 240-448590/6	Method Blank	97	102	107	118
MB 240-448777/6	Method Blank	88	93	98	104

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-448590/6

Matrix: Water

Analysis Batch: 448590

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/25/20 10:25	1
Benzene	1.0	U	1.0	0.38	ug/L			08/25/20 10:25	1
Dichlorobromomethane	1.0	U	1.0	0.35	ug/L			08/25/20 10:25	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/25/20 10:25	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/25/20 10:25	1
2-Butanone (MEK)	10	U	10	2.4	ug/L			08/25/20 10:25	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			08/25/20 10:25	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/25/20 10:25	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			08/25/20 10:25	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/25/20 10:25	1
Chloroform	1.0	U	1.0	0.40	ug/L			08/25/20 10:25	1
Chloromethane	1.0	U	1.0	0.64	ug/L			08/25/20 10:25	1
1,1-Dichloroethane	1.0	U	1.0	0.41	ug/L			08/25/20 10:25	1
1,2-Dichloroethane	1.0	U	1.0	0.43	ug/L			08/25/20 10:25	1
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/25/20 10:25	1
1,2-Dichloropropane	1.0	U	1.0	0.37	ug/L			08/25/20 10:25	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/25/20 10:25	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/25/20 10:25	1
Ethylbenzene	1.0	U	1.0	0.39	ug/L			08/25/20 10:25	1
2-Hexanone	10	U	10	2.1	ug/L			08/25/20 10:25	1
Methylene Chloride	5.0	U	5.0	1.3	ug/L			08/25/20 10:25	1
4-Methyl-2-pentanone (MIBK)	10	U	10	2.1	ug/L			08/25/20 10:25	1
Styrene	1.0	U	1.0	0.40	ug/L			08/25/20 10:25	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.56	ug/L			08/25/20 10:25	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/25/20 10:25	1
Toluene	1.0	U	1.0	0.35	ug/L			08/25/20 10:25	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/25/20 10:25	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/25/20 10:25	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			08/25/20 10:25	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/25/20 10:25	1
1,1,2-Trichloroethane	1.0	U	1.0	0.39	ug/L			08/25/20 10:25	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			08/25/20 10:25	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			08/25/20 10:25	1
Ethylene Dibromide	1.0	U	1.0	0.37	ug/L			08/25/20 10:25	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/25/20 10:25	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/25/20 10:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/25/20 10:25	1
Isopropylbenzene	1.0	U	1.0	0.45	ug/L			08/25/20 10:25	1
Methyl acetate	10	U	10	1.7	ug/L			08/25/20 10:25	1
Methyl tert-butyl ether	1.0	U	1.0	0.44	ug/L			08/25/20 10:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/25/20 10:25	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.81	ug/L			08/25/20 10:25	1
1,2-Dichlorobenzene	1.0	U	1.0	0.43	ug/L			08/25/20 10:25	1
1,3-Dichlorobenzene	1.0	U	1.0	0.40	ug/L			08/25/20 10:25	1
1,4-Dichlorobenzene	1.0	U	1.0	0.37	ug/L			08/25/20 10:25	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/25/20 10:25	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			08/25/20 10:25	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/25/20 10:25	1

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-448590/6

Matrix: Water

Analysis Batch: 448590

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		75 - 130		08/25/20 10:25	1
4-Bromofluorobenzene (Surr)	102		47 - 134		08/25/20 10:25	1
Toluene-d8 (Surr)	107		69 - 122		08/25/20 10:25	1
Dibromofluoromethane (Surr)	118		78 - 129		08/25/20 10:25	1

Lab Sample ID: LCS 240-448590/4

Matrix: Water

Analysis Batch: 448590

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	15.8		ug/L		79	33 - 155
Benzene	10.0	11.7		ug/L		117	77 - 123
Dichlorobromomethane	10.0	10.3		ug/L		103	73 - 122
Bromoform	10.0	8.74		ug/L		87	47 - 133
Bromomethane	10.0	13.8		ug/L		138	48 - 144
2-Butanone (MEK)	20.0	14.8		ug/L		74	41 - 151
Carbon disulfide	10.0	12.3		ug/L		123	67 - 127
Carbon tetrachloride	10.0	11.2		ug/L		112	61 - 142
Chlorobenzene	10.0	11.0		ug/L		110	80 - 120
Chloroethane	10.0	13.3		ug/L		133	41 - 147
Chloroform	10.0	12.5		ug/L		125	74 - 127
Chloromethane	10.0	13.3		ug/L		133	46 - 148
1,1-Dichloroethane	10.0	12.4		ug/L		124	74 - 126
1,2-Dichloroethane	10.0	9.27		ug/L		93	66 - 129
1,1-Dichloroethene	10.0	14.1	*	ug/L		141	73 - 129
1,2-Dichloropropane	10.0	11.1		ug/L		111	79 - 127
cis-1,3-Dichloropropene	10.0	9.16		ug/L		92	68 - 128
trans-1,3-Dichloropropene	10.0	8.09		ug/L		81	64 - 120
Ethylbenzene	10.0	11.3		ug/L		113	80 - 120
2-Hexanone	20.0	13.9		ug/L		69	43 - 142
Methylene Chloride	10.0	14.3	*	ug/L		143	63 - 134
4-Methyl-2-pentanone (MIBK)	20.0	14.5		ug/L		72	43 - 145
Styrene	10.0	10.9		ug/L		109	75 - 121
1,1,2,2-Tetrachloroethane	10.0	9.80		ug/L		98	45 - 151
Tetrachloroethene	10.0	11.6		ug/L		116	70 - 125
Toluene	10.0	11.0		ug/L		110	79 - 122
Trichloroethene	10.0	10.9		ug/L		109	71 - 121
Vinyl chloride	10.0	13.1		ug/L		131	61 - 134
Xylenes, Total	20.0	23.3		ug/L		117	78 - 122
1,1,1-Trichloroethane	10.0	11.2		ug/L		112	65 - 141
1,1,2-Trichloroethane	10.0	10.3		ug/L		103	79 - 121
Cyclohexane	10.0	12.9		ug/L		129	69 - 133
1,2-Dibromo-3-Chloropropane	10.0	7.52		ug/L		75	34 - 136
Ethylene Dibromide	10.0	9.88		ug/L		99	73 - 120
Dichlorodifluoromethane	10.0	11.6		ug/L		116	35 - 137
cis-1,2-Dichloroethene	10.0	12.6	*	ug/L		126	75 - 124
trans-1,2-Dichloroethene	10.0	13.2	*	ug/L		132	74 - 130
Isopropylbenzene	10.0	12.1		ug/L		121	73 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-448590/4

Matrix: Water

Analysis Batch: 448590

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl acetate	20.0	16.4		ug/L		82	47 - 140
Methyl tert-butyl ether	10.0	10.8		ug/L		108	57 - 127
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	13.6		ug/L		136	54 - 148
1,2,4-Trichlorobenzene	10.0	10.8		ug/L		108	47 - 120
1,2-Dichlorobenzene	10.0	10.9		ug/L		109	74 - 120
1,3-Dichlorobenzene	10.0	10.8		ug/L		108	74 - 120
1,4-Dichlorobenzene	10.0	11.0		ug/L		110	75 - 120
Trichlorofluoromethane	10.0	13.2		ug/L		132	52 - 148
Chlorodibromomethane	10.0	9.73		ug/L		97	75 - 120
Methylcyclohexane	10.0	13.4	*	ug/L		134	64 - 123
m-Xylene & p-Xylene	10.0	11.4		ug/L		114	79 - 121
o-Xylene	10.0	11.9		ug/L		119	75 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		75 - 130
4-Bromofluorobenzene (Surr)	107		47 - 134
Toluene-d8 (Surr)	112		69 - 122
Dibromofluoromethane (Surr)	127		78 - 129

Lab Sample ID: 240-134973-1 MS

Matrix: Water

Analysis Batch: 448590

Client Sample ID: TW-242_081220

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	U	20.0	13.5		ug/L		68	32 - 157
Benzene	1.0	U	10.0	11.0		ug/L		110	70 - 121
Dichlorobromomethane	1.0	U	10.0	9.41		ug/L		94	69 - 120
Bromoform	1.0	U	10.0	7.99		ug/L		80	41 - 128
Bromomethane	1.0	U	10.0	12.4		ug/L		124	41 - 136
2-Butanone (MEK)	10	U	20.0	13.4		ug/L		67	40 - 147
Carbon disulfide	1.0	U	10.0	10.8		ug/L		108	54 - 131
Carbon tetrachloride	1.0	U	10.0	9.92		ug/L		99	53 - 142
Chlorobenzene	1.0	U	10.0	10.3		ug/L		103	73 - 120
Chloroethane	1.0	U	10.0	12.0		ug/L		120	37 - 142
Chloroform	1.0	U	10.0	11.2		ug/L		112	66 - 126
Chloromethane	1.0	U	10.0	10.5		ug/L		105	33 - 146
1,1-Dichloroethane	1.0	U F1	10.0	11.7		ug/L		117	71 - 121
1,2-Dichloroethane	1.0	U	10.0	8.62		ug/L		86	65 - 127
1,1-Dichloroethene	1.0	U F1 *	10.0	12.6		ug/L		126	64 - 132
1,2-Dichloropropane	1.0	U	10.0	10.4		ug/L		104	73 - 125
cis-1,3-Dichloropropene	1.0	U	10.0	8.27		ug/L		83	56 - 121
trans-1,3-Dichloropropene	1.0	U	10.0	7.20		ug/L		72	53 - 120
Ethylbenzene	1.0	U	10.0	10.2		ug/L		102	66 - 122
2-Hexanone	10	U	20.0	12.5		ug/L		62	44 - 142
Methylene Chloride	5.0	U F1 *	10.0	14.0	F1	ug/L		140	59 - 127
4-Methyl-2-pentanone (MIBK)	10	U	20.0	13.5		ug/L		67	40 - 147
Styrene	1.0	U	10.0	9.97		ug/L		100	57 - 126
1,1,2,2-Tetrachloroethane	1.0	U	10.0	9.53		ug/L		95	37 - 149

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-134973-1 MS

Matrix: Water

Analysis Batch: 448590

Client Sample ID: TW-242_081220

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	1.0	U	10.0	10.7		ug/L		107	52 - 129
Toluene	1.0	U	10.0	10.3		ug/L		103	68 - 124
Trichloroethene	0.42	J	10.0	11.6		ug/L		112	56 - 124
Vinyl chloride	1.0	U	10.0	12.1		ug/L		121	49 - 136
Xylenes, Total	2.0	U	20.0	21.0		ug/L		105	64 - 124
1,1,1-Trichloroethane	1.0	U	10.0	10.3		ug/L		103	62 - 135
1,1,2-Trichloroethane	1.0	U	10.0	9.72		ug/L		97	73 - 122
Cyclohexane	1.0	U	10.0	10.2		ug/L		102	48 - 136
1,2-Dibromo-3-Chloropropane	2.0	U	10.0	6.95		ug/L		70	31 - 130
Ethylene Dibromide	1.0	U	10.0	9.25		ug/L		92	66 - 120
Dichlorodifluoromethane	1.0	U	10.0	9.69		ug/L		97	27 - 132
cis-1,2-Dichloroethene	1.0	U F1 *	10.0	13.1	F1	ug/L		131	68 - 121
trans-1,2-Dichloroethene	1.0	U F1 *	10.0	12.0		ug/L		120	69 - 126
Isopropylbenzene	1.0	U	10.0	10.9		ug/L		109	56 - 122
Methyl acetate	1.0	U	20.0	14.4		ug/L		72	41 - 137
Methyl tert-butyl ether	1.0	U	10.0	9.64		ug/L		96	50 - 126
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	10.7		ug/L		107	41 - 145
1,2,4-Trichlorobenzene	1.0	U	10.0	9.42		ug/L		94	37 - 120
1,2-Dichlorobenzene	1.0	U	10.0	9.91		ug/L		99	65 - 120
1,3-Dichlorobenzene	1.0	U	10.0	10.0		ug/L		100	64 - 120
1,4-Dichlorobenzene	1.0	U	10.0	10.4		ug/L		104	65 - 120
Trichlorofluoromethane	1.0	U	10.0	11.2		ug/L		112	45 - 152
Chlorodibromomethane	1.0	U	10.0	8.83		ug/L		88	66 - 120
Methylcyclohexane	1.0	U *	10.0	10.6		ug/L		106	40 - 125
m-Xylene & p-Xylene	2.0	U	10.0	10.3		ug/L		103	65 - 123
o-Xylene	1.0	U	10.0	10.7		ug/L		107	63 - 124

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		75 - 130
4-Bromofluorobenzene (Surr)	100		47 - 134
Toluene-d8 (Surr)	106		69 - 122
Dibromofluoromethane (Surr)	116		78 - 129

Lab Sample ID: 240-134973-1 MSD

Matrix: Water

Analysis Batch: 448590

Client Sample ID: TW-242_081220

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	U	20.0	14.1		ug/L		71	32 - 157	4	35
Benzene	1.0	U	10.0	11.4		ug/L		114	70 - 121	4	35
Dichlorobromomethane	1.0	U	10.0	9.79		ug/L		98	69 - 120	4	35
Bromoform	1.0	U	10.0	8.65		ug/L		87	41 - 128	8	35
Bromomethane	1.0	U	10.0	13.1		ug/L		131	41 - 136	5	35
2-Butanone (MEK)	10	U	20.0	13.6		ug/L		68	40 - 147	1	35
Carbon disulfide	1.0	U	10.0	11.7		ug/L		117	54 - 131	7	35
Carbon tetrachloride	1.0	U	10.0	10.8		ug/L		108	53 - 142	8	35
Chlorobenzene	1.0	U	10.0	10.9		ug/L		109	73 - 120	6	35
Chloroethane	1.0	U	10.0	12.5		ug/L		125	37 - 142	4	35

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-134973-1 MSD

Matrix: Water

Analysis Batch: 448590

Client Sample ID: TW-242_081220

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform	1.0	U	10.0	11.4		ug/L		114	66 - 126	3	35
Chloromethane	1.0	U	10.0	11.8		ug/L		118	33 - 146	12	35
1,1-Dichloroethane	1.0	U F1	10.0	12.2	F1	ug/L		122	71 - 121	4	35
1,2-Dichloroethane	1.0	U	10.0	8.79		ug/L		88	65 - 127	2	35
1,1-Dichloroethene	1.0	U F1 *	10.0	13.8	F1	ug/L		138	64 - 132	9	35
1,2-Dichloropropane	1.0	U	10.0	10.9		ug/L		109	73 - 125	4	35
cis-1,3-Dichloropropene	1.0	U	10.0	8.45		ug/L		85	56 - 121	2	35
trans-1,3-Dichloropropene	1.0	U	10.0	7.82		ug/L		78	53 - 120	8	35
Ethylbenzene	1.0	U	10.0	11.0		ug/L		110	66 - 122	8	35
2-Hexanone	10	U	20.0	13.2		ug/L		66	44 - 142	6	35
Methylene Chloride	5.0	U F1 *	10.0	14.3	F1	ug/L		143	59 - 127	2	32
4-Methyl-2-pentanone (MIBK)	10	U	20.0	13.8		ug/L		69	40 - 147	2	35
Styrene	1.0	U	10.0	10.6		ug/L		106	57 - 126	6	35
1,1,2,2-Tetrachloroethane	1.0	U	10.0	10.1		ug/L		101	37 - 149	6	35
Tetrachloroethene	1.0	U	10.0	11.0		ug/L		110	52 - 129	2	35
Toluene	1.0	U	10.0	10.7		ug/L		107	68 - 124	4	35
Trichloroethene	0.42	J	10.0	11.9		ug/L		115	56 - 124	3	35
Vinyl chloride	1.0	U	10.0	12.6		ug/L		126	49 - 136	4	35
Xylenes, Total	2.0	U	20.0	21.9		ug/L		110	64 - 124	4	35
1,1,1-Trichloroethane	1.0	U	10.0	10.7		ug/L		107	62 - 135	3	35
1,1,2-Trichloroethane	1.0	U	10.0	10.3		ug/L		103	73 - 122	6	35
Cyclohexane	1.0	U	10.0	12.3		ug/L		123	48 - 136	18	35
1,2-Dibromo-3-Chloropropane	2.0	U	10.0	7.16		ug/L		72	31 - 130	3	35
Ethylene Dibromide	1.0	U	10.0	9.60		ug/L		96	66 - 120	4	35
Dichlorodifluoromethane	1.0	U	10.0	10.6		ug/L		106	27 - 132	9	35
cis-1,2-Dichloroethene	1.0	U F1 *	10.0	13.1	F1	ug/L		131	68 - 121	1	35
trans-1,2-Dichloroethene	1.0	U F1 *	10.0	12.7	F1	ug/L		127	69 - 126	6	35
Isopropylbenzene	1.0	U	10.0	11.7		ug/L		117	56 - 122	6	20
Methyl acetate	10	U	20.0	14.7		ug/L		73	41 - 137	2	16
Methyl tert-butyl ether	1.0	U	10.0	9.87		ug/L		99	50 - 126	2	17
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	12.8		ug/L		128	41 - 145	18	35
1,2,4-Trichlorobenzene	1.0	U	10.0	10.4		ug/L		104	37 - 120	10	25
1,2-Dichlorobenzene	1.0	U	10.0	11.0		ug/L		110	65 - 120	11	35
1,3-Dichlorobenzene	1.0	U	10.0	11.4		ug/L		114	64 - 120	13	35
1,4-Dichlorobenzene	1.0	U	10.0	11.2		ug/L		112	65 - 120	7	35
Trichlorofluoromethane	1.0	U	10.0	11.6		ug/L		116	45 - 152	4	35
Chlorodibromomethane	1.0	U	10.0	9.63		ug/L		96	66 - 120	9	35
Methylcyclohexane	1.0	U *	10.0	12.4		ug/L		124	40 - 125	16	35
m-Xylene & p-Xylene	2.0	U	10.0	10.7		ug/L		107	65 - 123	4	35
o-Xylene	1.0	U	10.0	11.2		ug/L		112	63 - 124	5	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	99		75 - 130
4-Bromofluorobenzene (Surr)	114		47 - 134
Toluene-d8 (Surr)	116		69 - 122
Dibromofluoromethane (Surr)	123		78 - 129

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-448777/6

Matrix: Water

Analysis Batch: 448777

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	5.4	ug/L			08/26/20 11:45	1
Benzene	1.0	U	1.0	0.38	ug/L			08/26/20 11:45	1
Dichlorobromomethane	1.0	U	1.0	0.35	ug/L			08/26/20 11:45	1
Bromoform	1.0	U	1.0	0.76	ug/L			08/26/20 11:45	1
Bromomethane	1.0	U	1.0	0.42	ug/L			08/26/20 11:45	1
2-Butanone (MEK)	10	U	10	2.4	ug/L			08/26/20 11:45	1
Carbon disulfide	1.0	U	1.0	0.28	ug/L			08/26/20 11:45	1
Carbon tetrachloride	1.0	U	1.0	0.26	ug/L			08/26/20 11:45	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			08/26/20 11:45	1
Chloroethane	1.0	U	1.0	0.83	ug/L			08/26/20 11:45	1
Chloroform	1.0	U	1.0	0.40	ug/L			08/26/20 11:45	1
Chloromethane	1.0	U	1.0	0.64	ug/L			08/26/20 11:45	1
1,1-Dichloroethane	1.0	U	1.0	0.41	ug/L			08/26/20 11:45	1
1,2-Dichloroethane	1.0	U	1.0	0.43	ug/L			08/26/20 11:45	1
1,1-Dichloroethene	1.0	U	1.0	0.46	ug/L			08/26/20 11:45	1
1,2-Dichloropropane	1.0	U	1.0	0.37	ug/L			08/26/20 11:45	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.61	ug/L			08/26/20 11:45	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.67	ug/L			08/26/20 11:45	1
Ethylbenzene	1.0	U	1.0	0.39	ug/L			08/26/20 11:45	1
2-Hexanone	10	U	10	2.1	ug/L			08/26/20 11:45	1
Methylene Chloride	5.0	U	5.0	1.3	ug/L			08/26/20 11:45	1
4-Methyl-2-pentanone (MIBK)	10	U	10	2.1	ug/L			08/26/20 11:45	1
Styrene	1.0	U	1.0	0.40	ug/L			08/26/20 11:45	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.56	ug/L			08/26/20 11:45	1
Tetrachloroethene	1.0	U	1.0	0.33	ug/L			08/26/20 11:45	1
Toluene	1.0	U	1.0	0.35	ug/L			08/26/20 11:45	1
Trichloroethene	1.0	U	1.0	0.36	ug/L			08/26/20 11:45	1
Vinyl chloride	1.0	U	1.0	0.50	ug/L			08/26/20 11:45	1
Xylenes, Total	2.0	U	2.0	0.42	ug/L			08/26/20 11:45	1
1,1,1-Trichloroethane	1.0	U	1.0	0.24	ug/L			08/26/20 11:45	1
1,1,2-Trichloroethane	1.0	U	1.0	0.39	ug/L			08/26/20 11:45	1
Cyclohexane	1.0	U	1.0	0.48	ug/L			08/26/20 11:45	1
1,2-Dibromo-3-Chloropropane	2.0	U	2.0	0.91	ug/L			08/26/20 11:45	1
Ethylene Dibromide	1.0	U	1.0	0.37	ug/L			08/26/20 11:45	1
Dichlorodifluoromethane	1.0	U	1.0	0.35	ug/L			08/26/20 11:45	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.38	ug/L			08/26/20 11:45	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.43	ug/L			08/26/20 11:45	1
Isopropylbenzene	1.0	U	1.0	0.45	ug/L			08/26/20 11:45	1
Methyl acetate	10	U	10	1.7	ug/L			08/26/20 11:45	1
Methyl tert-butyl ether	1.0	U	1.0	0.44	ug/L			08/26/20 11:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.41	ug/L			08/26/20 11:45	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.81	ug/L			08/26/20 11:45	1
1,2-Dichlorobenzene	1.0	U	1.0	0.43	ug/L			08/26/20 11:45	1
1,3-Dichlorobenzene	1.0	U	1.0	0.40	ug/L			08/26/20 11:45	1
1,4-Dichlorobenzene	1.0	U	1.0	0.37	ug/L			08/26/20 11:45	1
Trichlorofluoromethane	1.0	U	1.0	0.45	ug/L			08/26/20 11:45	1
Chlorodibromomethane	1.0	U	1.0	0.39	ug/L			08/26/20 11:45	1
Methylcyclohexane	1.0	U	1.0	0.33	ug/L			08/26/20 11:45	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-448777/6

Matrix: Water

Analysis Batch: 448777

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		75 - 130		08/26/20 11:45	1
4-Bromofluorobenzene (Surr)	93		47 - 134		08/26/20 11:45	1
Toluene-d8 (Surr)	98		69 - 122		08/26/20 11:45	1
Dibromofluoromethane (Surr)	104		78 - 129		08/26/20 11:45	1

Lab Sample ID: LCS 240-448777/4

Matrix: Water

Analysis Batch: 448777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	11.7		ug/L		59	33 - 155
Benzene	10.0	10.9		ug/L		109	77 - 123
Dichlorobromomethane	10.0	9.86		ug/L		99	73 - 122
Bromoform	10.0	9.20		ug/L		92	47 - 133
Bromomethane	10.0	12.3		ug/L		123	48 - 144
2-Butanone (MEK)	20.0	13.8		ug/L		69	41 - 151
Carbon disulfide	10.0	11.3		ug/L		113	67 - 127
Carbon tetrachloride	10.0	9.60		ug/L		96	61 - 142
Chlorobenzene	10.0	10.8		ug/L		108	80 - 120
Chloroethane	10.0	11.7		ug/L		117	41 - 147
Chloroform	10.0	11.3		ug/L		113	74 - 127
Chloromethane	10.0	10.7		ug/L		107	46 - 148
1,1-Dichloroethane	10.0	11.3		ug/L		113	74 - 126
1,2-Dichloroethane	10.0	8.58		ug/L		86	66 - 129
1,1-Dichloroethene	10.0	11.7		ug/L		117	73 - 129
1,2-Dichloropropane	10.0	10.8		ug/L		108	79 - 127
cis-1,3-Dichloropropene	10.0	9.53		ug/L		95	68 - 128
trans-1,3-Dichloropropene	10.0	8.27		ug/L		83	64 - 120
Ethylbenzene	10.0	10.8		ug/L		108	80 - 120
2-Hexanone	20.0	13.2		ug/L		66	43 - 142
Methylene Chloride	10.0	14.1 *		ug/L		141	63 - 134
4-Methyl-2-pentanone (MIBK)	20.0	13.5		ug/L		68	43 - 145
Styrene	10.0	10.7		ug/L		107	75 - 121
1,1,2,2-Tetrachloroethane	10.0	9.73		ug/L		97	45 - 151
Tetrachloroethene	10.0	10.5		ug/L		105	70 - 125
Toluene	10.0	10.8		ug/L		108	79 - 122
Trichloroethene	10.0	10.7		ug/L		107	71 - 121
Vinyl chloride	10.0	11.8		ug/L		118	61 - 134
Xylenes, Total	20.0	22.1		ug/L		111	78 - 122
1,1,1-Trichloroethane	10.0	10.0		ug/L		100	65 - 141
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	79 - 121
Cyclohexane	10.0	10.3		ug/L		103	69 - 133
1,2-Dibromo-3-Chloropropane	10.0	7.18		ug/L		72	34 - 136
Ethylene Dibromide	10.0	9.73		ug/L		97	73 - 120
Dichlorodifluoromethane	10.0	10.1		ug/L		101	35 - 137
cis-1,2-Dichloroethene	10.0	11.5		ug/L		115	75 - 124
trans-1,2-Dichloroethene	10.0	11.6		ug/L		116	74 - 130
Isopropylbenzene	10.0	11.4		ug/L		114	73 - 123

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-448777/4

Matrix: Water

Analysis Batch: 448777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl acetate	20.0	14.4		ug/L		72	47 - 140
Methyl tert-butyl ether	10.0	9.76		ug/L		98	57 - 127
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.1		ug/L		101	54 - 148
1,2,4-Trichlorobenzene	10.0	10.3		ug/L		103	47 - 120
1,2-Dichlorobenzene	10.0	10.4		ug/L		104	74 - 120
1,3-Dichlorobenzene	10.0	10.4		ug/L		104	74 - 120
1,4-Dichlorobenzene	10.0	11.1		ug/L		111	75 - 120
Trichlorofluoromethane	10.0	11.0		ug/L		110	52 - 148
Chlorodibromomethane	10.0	9.55		ug/L		95	75 - 120
Methylcyclohexane	10.0	10.7		ug/L		107	64 - 123
m-Xylene & p-Xylene	10.0	10.9		ug/L		109	79 - 121
o-Xylene	10.0	11.2		ug/L		112	75 - 123

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		75 - 130
4-Bromofluorobenzene (Surr)	104		47 - 134
Toluene-d8 (Surr)	110		69 - 122
Dibromofluoromethane (Surr)	109		78 - 129

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-447441/1-A

Matrix: Water

Analysis Batch: 447764

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 447441

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/17/20 14:00	08/18/20 16:13	1
Barium	200	U	200	1.3	ug/L		08/17/20 14:00	08/18/20 16:13	1
Iron	31.2	J	100	26	ug/L		08/17/20 14:00	08/18/20 16:13	1
Manganese	15	U	15	2.1	ug/L		08/17/20 14:00	08/18/20 16:13	1
Sodium	5000	U	5000	560	ug/L		08/17/20 14:00	08/18/20 16:13	1
Selenium	15	U	15	6.0	ug/L		08/17/20 14:00	08/18/20 16:13	1

Lab Sample ID: LCS 240-447441/2-A

Matrix: Water

Analysis Batch: 447764

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 447441

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2050		ug/L		102	80 - 120
Barium	2000	1930		ug/L		97	80 - 120
Iron	10000	9900		ug/L		99	80 - 120
Manganese	1000	985		ug/L		98	80 - 120
Sodium	50000	49400		ug/L		99	80 - 120
Selenium	2000	2060		ug/L		103	80 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 240-134973-3 MS

Matrix: Water

Analysis Batch: 447764

Client Sample ID: MW-117S1_081320

Prep Type: Total Recoverable

Prep Batch: 447441

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	10	U	2000	2030		ug/L		102	75 - 125
Barium	1500		2000	3360		ug/L		93	75 - 125
Iron	8600	B	10000	18000		ug/L		94	75 - 125
Manganese	290		1000	1270		ug/L		97	75 - 125
Sodium	110000		50000	157000		ug/L		98	75 - 125
Selenium	15	U	2000	2020		ug/L		101	75 - 125

Lab Sample ID: 240-134973-3 MSD

Matrix: Water

Analysis Batch: 447764

Client Sample ID: MW-117S1_081320

Prep Type: Total Recoverable

Prep Batch: 447441

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	10	U	2000	2110		ug/L		106	75 - 125	4	20
Barium	1500		2000	3420		ug/L		95	75 - 125	2	20
Iron	8600	B	10000	17900		ug/L		94	75 - 125	0	20
Manganese	290		1000	1280		ug/L		98	75 - 125	1	20
Sodium	110000		50000	155000		ug/L		95	75 - 125	1	20
Selenium	15	U	2000	2090		ug/L		105	75 - 125	3	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-447290/3

Matrix: Water

Analysis Batch: 447290

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			08/14/20 16:11	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/14/20 16:11	1

Lab Sample ID: LCS 240-447290/4

Matrix: Water

Analysis Batch: 447290

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.3		mg/L		99	90 - 110
Sulfate	50.0	51.0		mg/L		102	90 - 110

Lab Sample ID: MB 240-447291/3

Matrix: Water

Analysis Batch: 447291

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/14/20 16:11	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/14/20 16:11	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-447291/4

Matrix: Water

Analysis Batch: 447291

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.52		mg/L		101	90 - 110
Nitrate as N	2.50	2.58		mg/L		103	90 - 110

Method: 9012A - Cyanide, Total and/or Amenable

Lab Sample ID: MB 240-448759/1-A

Matrix: Water

Analysis Batch: 448830

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 448759

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 08:09	08/26/20 10:10	1

Lab Sample ID: LCS 240-448759/2-A

Matrix: Water

Analysis Batch: 448830

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 448759

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.238	0.238		mg/L		100	59 - 129

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-447416/1

Matrix: Water

Analysis Batch: 447416

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.8	mg/L			08/17/20 08:58	1

Lab Sample ID: LCS 240-447416/2

Matrix: Water

Analysis Batch: 447416

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	624		mg/L		110	80 - 120

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 240-448599/7

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/25/20 07:29	1

Lab Sample ID: LCS 240-448599/8

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.59	2.41		mg/L		93	85 - 114

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

GC/MS VOA

Analysis Batch: 448590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-1	TW-242_081220	Total/NA	Water	8260B	
240-134973-2	TWW-1_081220	Total/NA	Water	8260B	
MB 240-448590/6	Method Blank	Total/NA	Water	8260B	
LCS 240-448590/4	Lab Control Sample	Total/NA	Water	8260B	
240-134973-1 MS	TW-242_081220	Total/NA	Water	8260B	
240-134973-1 MSD	TW-242_081220	Total/NA	Water	8260B	

Analysis Batch: 448777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-2	TWW-1_081220	Total/NA	Water	8260B	
MB 240-448777/6	Method Blank	Total/NA	Water	8260B	
LCS 240-448777/4	Lab Control Sample	Total/NA	Water	8260B	

Metals

Prep Batch: 447441

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Dissolved	Water	3005A	
240-134973-3	MW-117S1_081320	Total Recoverable	Water	3005A	
240-134973-4	MW-117WT_081320	Dissolved	Water	3005A	
240-134973-4	MW-117WT_081320	Total Recoverable	Water	3005A	
MB 240-447441/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447441/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-134973-3 MS	MW-117S1_081320	Total Recoverable	Water	3005A	
240-134973-3 MSD	MW-117S1_081320	Total Recoverable	Water	3005A	

Analysis Batch: 447764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Dissolved	Water	6010B	447441
240-134973-3	MW-117S1_081320	Total Recoverable	Water	6010B	447441
240-134973-4	MW-117WT_081320	Dissolved	Water	6010B	447441
240-134973-4	MW-117WT_081320	Total Recoverable	Water	6010B	447441
MB 240-447441/1-A	Method Blank	Total Recoverable	Water	6010B	447441
LCS 240-447441/2-A	Lab Control Sample	Total Recoverable	Water	6010B	447441
240-134973-3 MS	MW-117S1_081320	Total Recoverable	Water	6010B	447441
240-134973-3 MSD	MW-117S1_081320	Total Recoverable	Water	6010B	447441

General Chemistry

Analysis Batch: 447290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Total/NA	Water	300.0	
240-134973-3	MW-117S1_081320	Total/NA	Water	300.0	
240-134973-4	MW-117WT_081320	Total/NA	Water	300.0	
240-134973-4	MW-117WT_081320	Total/NA	Water	300.0	
MB 240-447290/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447290/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 447291

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Total/NA	Water	300.0	
240-134973-4	MW-117WT_081320	Total/NA	Water	300.0	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

General Chemistry (Continued)

Analysis Batch: 447291 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-447291/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447291/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 447416

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Total/NA	Water	SM 2540C	
240-134973-4	MW-117WT_081320	Total/NA	Water	SM 2540C	
MB 240-447416/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-447416/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 448599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Total/NA	Water	SM 4500 NH3 D	
240-134973-4	MW-117WT_081320	Total/NA	Water	SM 4500 NH3 D	
MB 240-448599/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 240-448599/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	

Prep Batch: 448759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Dissolved	Water	9012A	
240-134973-3	MW-117S1_081320	Total/NA	Water	9012A	
240-134973-4	MW-117WT_081320	Dissolved	Water	9012A	
240-134973-4	MW-117WT_081320	Total/NA	Water	9012A	
MB 240-448759/1-A	Method Blank	Total/NA	Water	9012A	
LCS 240-448759/2-A	Lab Control Sample	Total/NA	Water	9012A	

Analysis Batch: 448830

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134973-3	MW-117S1_081320	Dissolved	Water	9012A	448759
240-134973-3	MW-117S1_081320	Total/NA	Water	9012A	448759
240-134973-4	MW-117WT_081320	Dissolved	Water	9012A	448759
240-134973-4	MW-117WT_081320	Total/NA	Water	9012A	448759
MB 240-448759/1-A	Method Blank	Total/NA	Water	9012A	448759
LCS 240-448759/2-A	Lab Control Sample	Total/NA	Water	9012A	448759

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: TW-242_081220

Lab Sample ID: 240-134973-1

Date Collected: 08/12/20 11:50

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448590	08/25/20 10:47	LEE	TAL CAN

Client Sample ID: TWW-1_081220

Lab Sample ID: 240-134973-2

Date Collected: 08/12/20 13:30

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	448590	08/25/20 11:09	LEE	TAL CAN
Total/NA	Analysis	8260B		1	448777	08/26/20 13:15	LEE	TAL CAN

Client Sample ID: MW-117S1_081320

Lab Sample ID: 240-134973-3

Date Collected: 08/13/20 11:27

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447441	08/17/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	447764	08/18/20 16:38	WKD	TAL CAN
Total Recoverable	Prep	3005A			447441	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	447764	08/18/20 16:21	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447290	08/14/20 17:52	AGC	TAL CAN
Total/NA	Analysis	300.0		1	447291	08/14/20 17:52	AGC	TAL CAN
Total/NA	Analysis	300.0		10	447290	08/14/20 18:12	AGC	TAL CAN
Dissolved	Prep	9012A			448759	08/26/20 08:09	JR	TAL CAN
Dissolved	Analysis	9012A		1	448830	08/26/20 11:01	JR	TAL CAN
Total/NA	Prep	9012A			448759	08/26/20 08:09	JR	TAL CAN
Total/NA	Analysis	9012A		1	448830	08/26/20 11:30	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447416	08/17/20 08:58	KLR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		2	448599	08/25/20 08:13	JR	TAL CAN

Client Sample ID: MW-117WT_081320

Lab Sample ID: 240-134973-4

Date Collected: 08/13/20 11:35

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447441	08/17/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	447764	08/18/20 16:55	WKD	TAL CAN
Total Recoverable	Prep	3005A			447441	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	447764	08/18/20 16:42	WKD	TAL CAN
Total/NA	Analysis	300.0		5	447290	08/14/20 18:32	AGC	TAL CAN
Total/NA	Analysis	300.0		5	447291	08/14/20 18:32	AGC	TAL CAN
Total/NA	Analysis	300.0		25	447290	08/14/20 18:52	AGC	TAL CAN
Dissolved	Prep	9012A			448759	08/26/20 08:09	JR	TAL CAN
Dissolved	Analysis	9012A		1	448830	08/26/20 10:59	JR	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Client Sample ID: MW-117WT_081320

Lab Sample ID: 240-134973-4

Date Collected: 08/13/20 11:35

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012A			448759	08/26/20 08:09	JR	TAL CAN
Total/NA	Analysis	9012A		1	448830	08/26/20 11:29	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447416	08/17/20 08:58	KLR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		20	448599	08/25/20 08:21	JR	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-134973-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Address:

Regulatory Program: ☐ DW ☐ RCRA ☐ NPDES ☐ Other:		Project Manager: Amanda Robinson		Site Contact:		Date:		COC No.:	
Company Name: Arcadis		Tel/Email: Amanda.Robinson@arcadis.com		Lab Contact:		Carrier:		SAMPLER:	
Address: 28550 Cabot Dr. Suite 500		Analysis Turnaround Time		Sample Type		Matrix		# of Cont.	
City/State/Zip: Novi, MI 48377		CALENDAR DAYS ☐ WORKING DAYS ☐		Sample Date		Sample Time		Sample	
Phone: 810-434-8899		TAT if different from below		Sample Date		Sample Time		Sample	
Fax:		2 weeks ☐		Sample Date		Sample Time		Sample	
Project Name: Racer Saginaw GWS		1 week ☐		Sample Date		Sample Time		Sample	
Site:		2 days ☐		Sample Date		Sample Time		Sample	
PO #		1 day ☐		Sample Date		Sample Time		Sample	
TW-242-081220		8/12/20	1150	6	GW	3			
TW-1-081220		8/12/20	1330	6	GW	3			
TW-11751-081320		8/13/20	1127	6	GW	6			
MW-117WT-081320		8/13/20	1135	6	GW	6			
 240-134973 Chain of Custody									
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other									
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.									
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown									
Special Instructions/QC Requirements & Comments:									
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months									
Therm ID No.: _____									
Company: Arcadis									
Date/Time: 8/13/20 1330									
Received by: [Signature]									
Date/Time: 8/13/20 1330									
Received by: [Signature]									
Date/Time: 8/14/20 930									
Received by: [Signature]									
Date/Time:									

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 134973

Client Arcadi's Site Name _____ Cooler unpacked by: Math Snyder
Cooler Received on 8-14-20 Opened on 8-14-20
FedEx: 1st (Grd) Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time _____ **Storage Location** _____

TestAmerica Cooler # 11 Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. 2.3 °C Corrected Cooler Temp. 3.2 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC911298
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

Client sent 2 250 unpreserved bottles for sample
TW W-1 - 081820. Will log at end of 2nd sample

18. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

ANALYTICAL REPORT

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

Laboratory Job ID: 240-135004-1
Client Project/Site: Racer Saginaw SMI
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



Authorized for release by:
9/22/2020 9:20:26 AM

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

LINKS

Review your project
results through
TotalAccess

Have a Question?



Visit us at:

www.eurofinsus.com/Env

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Qualifiers

GC Semi VOA

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

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Job ID: 240-135004-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-135004-1

Comments

No additional comments.

Receipt

The samples were received on 8/14/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.2° C.

GC Semi VOA

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

Metals

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

Field Service / Mobile Lab

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

General Chemistry

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

Organic Prep

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
4500 NH3 D-2011	Ammonia	SM	TAL CAN
SM4500 P E-2011	Phosphorus	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-135004-1	MW-110WTR_081220	Water	08/12/20 10:30	08/14/20 09:30	
240-135004-2	MW-111WT_081220	Water	08/12/20 13:20	08/14/20 09:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Client Sample ID: MW-110WTR_081220

Lab Sample ID: 240-135004-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2000		5.0	2.1	ug/L	1		6020	Total
Total Phosphorus as P	0.25		0.10	0.037	mg/L	1		SM4500 P E-2011	Recoverable Total/NA

Client Sample ID: MW-111WT_081220

Lab Sample ID: 240-135004-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1248	0.068	J	0.095	0.048	ug/L	1		8082A	Total/NA
Manganese	1400		5.0	2.1	ug/L	1		6020	Total
Ammonia	1.8		0.20	0.093	mg/L	1		4500 NH3 D-2011	Recoverable Total/NA
Total Phosphorus as P	0.97		0.10	0.037	mg/L	1		SM4500 P E-2011	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Client Sample ID: MW-110WTR_081220

Lab Sample ID: 240-135004-1

Date Collected: 08/12/20 10:30

Matrix: Water

Date Received: 08/14/20 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 10:18	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 10:18	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		22 - 120	08/19/20 09:52	08/21/20 10:18	1
DCB Decachlorobiphenyl	12		10 - 120	08/19/20 09:52	08/21/20 10:18	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 12:59	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 12:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		22 - 120	08/19/20 09:52	08/21/20 12:59	1
DCB Decachlorobiphenyl	30		10 - 120	08/19/20 09:52	08/21/20 12:59	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2000		5.0	2.1	ug/L		08/17/20 14:00	08/20/20 12:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.20	U	0.20	0.093	mg/L			08/25/20 08:09	1
Total Phosphorus as P	0.25		0.10	0.037	mg/L			08/24/20 09:49	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Client Sample ID: MW-111WT_081220

Lab Sample ID: 240-135004-2

Date Collected: 08/12/20 13:20

Matrix: Water

Date Received: 08/14/20 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1248	0.068	J	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 10:33	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 10:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		22 - 120				08/19/20 09:52	08/21/20 10:33	1
DCB Decachlorobiphenyl	13		10 - 120				08/19/20 09:52	08/21/20 10:33	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 13:14	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 13:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	58		22 - 120				08/19/20 09:52	08/21/20 13:14	1
DCB Decachlorobiphenyl	29		10 - 120				08/19/20 09:52	08/21/20 13:14	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1400		5.0	2.1	ug/L		08/17/20 14:00	08/20/20 12:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.8		0.20	0.093	mg/L			08/25/20 08:32	1
Total Phosphorus as P	0.97		0.10	0.037	mg/L			08/24/20 09:54	1

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (22-120)	DCBP2 (10-120)
240-135004-1	MW-110WTR_081220	64	12
240-135004-2	MW-111WT_081220	64	13
LCS 240-447810/20-A	Lab Control Sample	62	55
MB 240-447810/19-A	Method Blank	66	61

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Dissolved

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (22-120)	DCBP2 (10-120)
240-135004-1	MW-110WTR_081220	64	30
240-135004-2	MW-111WT_081220	58	29

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-447810/19-A

Matrix: Water

Analysis Batch: 448124

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 447810

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1262	0.10	U	0.10	0.058	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1268	0.10	U	0.10	0.062	ug/L		08/19/20 09:52	08/21/20 08:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		22 - 120	08/19/20 09:52	08/21/20 08:07	1
DCB Decachlorobiphenyl	61		10 - 120	08/19/20 09:52	08/21/20 08:07	1

Lab Sample ID: LCS 240-447810/20-A

Matrix: Water

Analysis Batch: 448124

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 447810

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.34		ug/L		54	28 - 120
Aroclor-1260	2.50	1.13		ug/L		45	30 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	62		22 - 120
DCB Decachlorobiphenyl	55		10 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-447439/1-A

Matrix: Water

Analysis Batch: 448150

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 447439

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.0	U	5.0	2.1	ug/L		08/17/20 14:00	08/20/20 12:02	1

Lab Sample ID: LCS 240-447439/2-A

Matrix: Water

Analysis Batch: 448150

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 447439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Manganese	500	472		ug/L		94	80 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Method: 4500 NH3 D-2011 - Ammonia

Lab Sample ID: MB 240-448599/7

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.20	U	0.20	0.093	mg/L			08/25/20 07:29	1

Lab Sample ID: LCS 240-448599/8

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	2.59	2.41		mg/L		93	85 - 114

Method: SM4500 P E-2011 - Phosphorus

Lab Sample ID: MB 240-448406/3

Matrix: Water

Analysis Batch: 448406

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/24/20 09:10	1

Lab Sample ID: LCS 240-448406/4

Matrix: Water

Analysis Batch: 448406

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	0.478	0.478		mg/L		100	77 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

GC Semi VOA

Prep Batch: 447810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135004-1	MW-110WTR_081220	Dissolved	Water	3510C	
240-135004-1	MW-110WTR_081220	Total/NA	Water	3510C	
240-135004-2	MW-111WT_081220	Dissolved	Water	3510C	
240-135004-2	MW-111WT_081220	Total/NA	Water	3510C	
MB 240-447810/19-A	Method Blank	Total/NA	Water	3510C	
LCS 240-447810/20-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 448124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135004-1	MW-110WTR_081220	Dissolved	Water	8082A	447810
240-135004-1	MW-110WTR_081220	Total/NA	Water	8082A	447810
240-135004-2	MW-111WT_081220	Dissolved	Water	8082A	447810
240-135004-2	MW-111WT_081220	Total/NA	Water	8082A	447810
MB 240-447810/19-A	Method Blank	Total/NA	Water	8082A	447810
LCS 240-447810/20-A	Lab Control Sample	Total/NA	Water	8082A	447810

Metals

Prep Batch: 447439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135004-1	MW-110WTR_081220	Total Recoverable	Water	3005A	
240-135004-2	MW-111WT_081220	Total Recoverable	Water	3005A	
MB 240-447439/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447439/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 448150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135004-1	MW-110WTR_081220	Total Recoverable	Water	6020	447439
240-135004-2	MW-111WT_081220	Total Recoverable	Water	6020	447439
MB 240-447439/1-A	Method Blank	Total Recoverable	Water	6020	447439
LCS 240-447439/2-A	Lab Control Sample	Total Recoverable	Water	6020	447439

General Chemistry

Analysis Batch: 448406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135004-1	MW-110WTR_081220	Total/NA	Water	SM4500 P E-2011	
240-135004-2	MW-111WT_081220	Total/NA	Water	SM4500 P E-2011	
MB 240-448406/3	Method Blank	Total/NA	Water	SM4500 P E-2011	
LCS 240-448406/4	Lab Control Sample	Total/NA	Water	SM4500 P E-2011	

Analysis Batch: 448599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135004-1	MW-110WTR_081220	Total/NA	Water	4500 NH3 D-2011	
240-135004-2	MW-111WT_081220	Total/NA	Water	4500 NH3 D-2011	
MB 240-448599/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

General Chemistry (Continued)

Analysis Batch: 448599 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-448599/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Client Sample ID: MW-110WTR_081220

Lab Sample ID: 240-135004-1

Date Collected: 08/12/20 10:30

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Dissolved	Analysis	8082A		1	448124	08/21/20 12:59	LSH	TAL CAN
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 10:18	LSH	TAL CAN
Total Recoverable	Prep	3005A			447439	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	448150	08/20/20 12:07	RKT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	448599	08/25/20 08:09	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-2011		1	448406	08/24/20 09:49	TPH	TAL CAN

Client Sample ID: MW-111WT_081220

Lab Sample ID: 240-135004-2

Date Collected: 08/12/20 13:20

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Dissolved	Analysis	8082A		1	448124	08/21/20 13:14	LSH	TAL CAN
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 10:33	LSH	TAL CAN
Total Recoverable	Prep	3005A			447439	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	448150	08/20/20 12:10	RKT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	448599	08/25/20 08:32	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-2011		1	448406	08/24/20 09:54	TPH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135004-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

[illegible]

Eurofins TestAmerica Canton Sample Receipt Form/Narrative				Login # : _____
Canton Facility				
Client <u>ARCADIS</u>	Site Name _____		Cooler unpacked by: <u>Tony Rager</u>	
Cooler Received on <u>8-14-20</u>	Opened on <u>8-14-20</u>			
FedEx: 1 st Grd Exp	UPS	FAS	Clipper	Client Drop Off
			TestAmerica Courier	Other _____
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____				
TestAmerica Cooler # <u>TA</u>	Foam Box	Client Cooler	Box	Other _____
Packing material used: <u>Bubble Wrap</u> Foam <u>Plastic Bag</u> None Other _____				
COOLANT: <u>Wet Ice</u> Blue Ice Dry Ice Water None				
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form				
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C				
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. <u>0.3</u> °C Corrected Cooler Temp. <u>1.2</u> °C				
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u>				
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA				
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No NA				
-Were tamper/custody seals intact and uncompromised? Yes No NA				
3. Shippers' packing slip attached to the cooler(s)? Yes No				
4. Did custody papers accompany the sample(s)? Yes No				
5. Were the custody papers relinquished & signed in the appropriate place? Yes No				
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No				
7. Did all bottles arrive in good condition (Unbroken)? Yes No				
8. Could all bottle labels be reconciled with the COC? Yes No				
9. Were correct bottle(s) used for the test(s) indicated? Yes No				
10. Sufficient quantity received to perform indicated analyses? Yes No				
11. Are these work share samples? Yes No				
If yes, Questions 12-16 have been checked at the originating laboratory.				
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA				
13. Were VOAs on the COC? Yes No NA				
14. Were air bubbles >6 mm in any VOA vials? Larger than this. Yes No NA				
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No				
16. Was a LL Hg or Me Hg trip blank present? Yes No				
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____				
Concerning _____				

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES 	Samples processed by: _____
18. SAMPLE CONDITION Sample(s) _____ were received after the recommended holding time had expired. Sample(s) _____ were received in a broken container. Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION Sample(s) _____ were further preserved in the laboratory. Time preserved: _____ Preservative(s) added/Lot number(s): _____ VOA Sample Preservation - Date/Time VOAs Frozen: _____	

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			pH	Temp	Added (mls)	Lot #
MW - 110 WTR - 081220	240-135004-A-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW - 110 WTR - 081220	240-135004-B-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW - 110 WTR - 081220	240-135004-C-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW - 111 WT - 081220	240-135004-A-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW - 111 WT - 081220	240-135004-B-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW - 111 WT - 081220	240-135004-C-2	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____

- 1
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[illegible]

ANALYTICAL REPORT

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

Laboratory Job ID: 240-135018-1
Client Project/Site: Racer Saginaw GWS
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



Authorized for release by:
9/22/2020 9:27:02 AM

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

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Job ID: 240-135018-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw GWS

Report Number: 240-135018-1

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

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

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

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

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

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

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

RECEIPT

The samples were received on 8/14/2020 9:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.2° C, 4.3° C and 5.1° C.

POLYCHLORINATED BIPHENYLS (PCBS)

Samples MW-186WT_081220 (240-135018-1) and DUP-03_081220 (240-135018-2) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082A. The samples were prepared on 08/19/2020 and analyzed on 08/21/2020.

Method 8082A: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur:

MW-186WT_081220(240-135018-1), MW-186WT_081220(240-135018-1[MS]) and MW-186WT_081220 (240-135018-1[MSD]).4818454

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

POLYCHLORINATED BIPHENYLS (PCBS)

Samples MW-186WT_081220(240-135018-1) and DUP-03_081220 (240-135018-2) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082A. The samples were prepared on 08/19/2020 and analyzed on 08/21/2020.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Job ID: 240-135018-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Method 8082A: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: MW-186WT_081220 (240-135018-1), MW-186WT_081220 (240-135018-1[MS]) and MW-186WT_081220 (240-135018-1[MSD]).4818454

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

TOTAL RECOVERABLE METALS (ICPMS)

Sample MW-186WT_081220 (240-135018-1) was analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 08/17/2020 and analyzed on 08/20/2020.

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

TOTAL PHOSPHORUS

Sample MW-186WT_081220 (240-135018-1) was analyzed for total phosphorus in accordance with SM 4500 P E. The samples were analyzed on 08/24/2020.

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

AMMONIA

Sample MW-186WT_081220 (240-135018-1) was analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/25/2020.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
4500 NH3 D-2011	Ammonia	SM	TAL CAN
SM4500 P E-2011	Phosphorus	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-135018-1	MW-186WT_081220	Water	08/12/20 14:25	08/14/20 09:30	
240-135018-2	DUP-03_081220	Water	08/12/20 00:00	08/14/20 09:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Client Sample ID: MW-186WT_081220

Lab Sample ID: 240-135018-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese	410		5.0	2.1	ug/L	1			6020	Total Recoverable
Ammonia	1.3		0.20	0.093	mg/L	1			4500 NH3 D-2011	Total/NA
Total Phosphorus as P	0.44		0.10	0.037	mg/L	1			SM4500 P E-2011	Total/NA

Client Sample ID: DUP-03_081220

Lab Sample ID: 240-135018-2

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Client Sample ID: MW-186WT_081220

Lab Sample ID: 240-135018-1

Date Collected: 08/12/20 14:25

Matrix: Water

Date Received: 08/14/20 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 10:48	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 10:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	50		22 - 120				08/19/20 09:52	08/21/20 10:48	1
DCB Decachlorobiphenyl	24		10 - 120				08/19/20 09:52	08/21/20 10:48	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 13:28	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 13:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	70		22 - 120				08/19/20 09:52	08/21/20 13:28	1
DCB Decachlorobiphenyl	26		10 - 120				08/19/20 09:52	08/21/20 13:28	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	410		5.0	2.1	ug/L		08/17/20 14:00	08/20/20 12:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.3		0.20	0.093	mg/L			08/25/20 08:29	1
Total Phosphorus as P	0.44		0.10	0.037	mg/L			08/24/20 09:59	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Client Sample ID: DUP-03_081220

Lab Sample ID: 240-135018-2

Date Collected: 08/12/20 00:00

Matrix: Water

Date Received: 08/14/20 09:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.097	U	0.097	0.054	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1221	0.097	U	0.097	0.055	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1232	0.097	U	0.097	0.072	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1242	0.097	U	0.097	0.074	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1248	0.097	U	0.097	0.049	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1254	0.097	U	0.097	0.039	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1260	0.097	U	0.097	0.045	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1262	0.097	U	0.097	0.056	ug/L		08/19/20 09:52	08/21/20 11:31	1
Aroclor-1268	0.097	U	0.097	0.060	ug/L		08/19/20 09:52	08/21/20 11:31	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		22 - 120	08/19/20 09:52	08/21/20 11:31	1
DCB Decachlorobiphenyl	37		10 - 120	08/19/20 09:52	08/21/20 11:31	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 14:12	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 14:12	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	64		22 - 120	08/19/20 09:52	08/21/20 14:12	1
DCB Decachlorobiphenyl	25		10 - 120	08/19/20 09:52	08/21/20 14:12	1

Eurofins TestAmerica, Canton

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (22-120)	DCBP2 (10-120)
240-135018-1	MW-186WT_081220	50	24
240-135018-1 MS	MW-186WT_081220	66	28
240-135018-1 MSD	MW-186WT_081220	70	30
240-135018-2	DUP-03_081220	63	37
LCS 240-447810/20-A	Lab Control Sample	62	55
MB 240-447810/19-A	Method Blank	66	61

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Dissolved

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCX2 (22-120)	DCBP2 (10-120)
240-135018-1	MW-186WT_081220	70	26
240-135018-1 MS	MW-186WT_081220	60	19
240-135018-1 MSD	MW-186WT_081220	62	18
240-135018-2	DUP-03_081220	64	25

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-447810/19-A

Matrix: Water

Analysis Batch: 448124

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 447810

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1262	0.10	U	0.10	0.058	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1268	0.10	U	0.10	0.062	ug/L		08/19/20 09:52	08/21/20 08:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		22 - 120	08/19/20 09:52	08/21/20 08:07	1
DCB Decachlorobiphenyl	61		10 - 120	08/19/20 09:52	08/21/20 08:07	1

Lab Sample ID: LCS 240-447810/20-A

Matrix: Water

Analysis Batch: 448124

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 447810

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.34		ug/L		54	28 - 120
Aroclor-1260	2.50	1.13		ug/L		45	30 - 120

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Tetrachloro-m-xylene	62		22 - 120
DCB Decachlorobiphenyl	55		10 - 120

Lab Sample ID: 240-135018-1 MS

Matrix: Water

Analysis Batch: 448124

Client Sample ID: MW-186WT_081220

Prep Type: Total/NA

Prep Batch: 447810

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	0.095	U	2.48	1.42		ug/L		57	14 - 120
Aroclor-1260	0.095	U	2.48	1.04		ug/L		42	10 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
Tetrachloro-m-xylene	66		22 - 120
DCB Decachlorobiphenyl	28		10 - 120

Lab Sample ID: 240-135018-1 MSD

Matrix: Water

Analysis Batch: 448124

Client Sample ID: MW-186WT_081220

Prep Type: Total/NA

Prep Batch: 447810

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aroclor-1016	0.095	U	2.48	1.16		ug/L		47	14 - 120	20	30
Aroclor-1260	0.095	U	2.48	0.943		ug/L		38	10 - 120	10	30

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 240-135018-1 MSD

Matrix: Water

Analysis Batch: 448124

Client Sample ID: MW-186WT_081220

Prep Type: Total/NA

Prep Batch: 447810

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	70		22 - 120
DCB Decachlorobiphenyl	30		10 - 120

Lab Sample ID: 240-135018-1 MS

Matrix: Water

Analysis Batch: 448124

Client Sample ID: MW-186WT_081220

Prep Type: Dissolved

Prep Batch: 447810

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	0.095	U	2.38	1.16		ug/L		49	14 - 120
Aroclor-1260	0.095	U	2.38	0.918		ug/L		39	10 - 120

	MS	MS	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	60		22 - 120
DCB Decachlorobiphenyl	19		10 - 120

Lab Sample ID: 240-135018-1 MSD

Matrix: Water

Analysis Batch: 448124

Client Sample ID: MW-186WT_081220

Prep Type: Dissolved

Prep Batch: 447810

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016	0.095	U	2.38	1.16		ug/L		49	14 - 120	0	30
Aroclor-1260	0.095	U	2.38	0.926		ug/L		39	10 - 120	1	30

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	62		22 - 120
DCB Decachlorobiphenyl	18		10 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-447439/1-A

Matrix: Water

Analysis Batch: 448150

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 447439

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.0	U	5.0	2.1	ug/L		08/17/20 14:00	08/20/20 12:02	1

Lab Sample ID: LCS 240-447439/2-A

Matrix: Water

Analysis Batch: 448150

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 447439

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	500	472		ug/L		94	80 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Method: 4500 NH3 D-2011 - Ammonia

Lab Sample ID: MB 240-448599/7

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.20	U	0.20	0.093	mg/L			08/25/20 07:29	1

Lab Sample ID: LCS 240-448599/8

Matrix: Water

Analysis Batch: 448599

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	2.59	2.41		mg/L		93	85 - 114

Method: SM4500 P E-2011 - Phosphorus

Lab Sample ID: MB 240-448406/3

Matrix: Water

Analysis Batch: 448406

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/24/20 09:10	1

Lab Sample ID: LCS 240-448406/4

Matrix: Water

Analysis Batch: 448406

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	0.478	0.478		mg/L		100	77 - 120

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

GC Semi VOA

Prep Batch: 447810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135018-1	MW-186WT_081220	Dissolved	Water	3510C	
240-135018-1	MW-186WT_081220	Total/NA	Water	3510C	
240-135018-2	DUP-03_081220	Dissolved	Water	3510C	
240-135018-2	DUP-03_081220	Total/NA	Water	3510C	
MB 240-447810/19-A	Method Blank	Total/NA	Water	3510C	
LCS 240-447810/20-A	Lab Control Sample	Total/NA	Water	3510C	
240-135018-1 MS	MW-186WT_081220	Dissolved	Water	3510C	
240-135018-1 MS	MW-186WT_081220	Total/NA	Water	3510C	
240-135018-1 MSD	MW-186WT_081220	Dissolved	Water	3510C	
240-135018-1 MSD	MW-186WT_081220	Total/NA	Water	3510C	

Analysis Batch: 448124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135018-1	MW-186WT_081220	Dissolved	Water	8082A	447810
240-135018-1	MW-186WT_081220	Total/NA	Water	8082A	447810
240-135018-2	DUP-03_081220	Dissolved	Water	8082A	447810
240-135018-2	DUP-03_081220	Total/NA	Water	8082A	447810
MB 240-447810/19-A	Method Blank	Total/NA	Water	8082A	447810
LCS 240-447810/20-A	Lab Control Sample	Total/NA	Water	8082A	447810
240-135018-1 MS	MW-186WT_081220	Dissolved	Water	8082A	447810
240-135018-1 MS	MW-186WT_081220	Total/NA	Water	8082A	447810
240-135018-1 MSD	MW-186WT_081220	Dissolved	Water	8082A	447810
240-135018-1 MSD	MW-186WT_081220	Total/NA	Water	8082A	447810

Metals

Prep Batch: 447439

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135018-1	MW-186WT_081220	Total Recoverable	Water	3005A	
MB 240-447439/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447439/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 448150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135018-1	MW-186WT_081220	Total Recoverable	Water	6020	447439
MB 240-447439/1-A	Method Blank	Total Recoverable	Water	6020	447439
LCS 240-447439/2-A	Lab Control Sample	Total Recoverable	Water	6020	447439

General Chemistry

Analysis Batch: 448406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135018-1	MW-186WT_081220	Total/NA	Water	SM4500 P E-2011	
MB 240-448406/3	Method Blank	Total/NA	Water	SM4500 P E-2011	
LCS 240-448406/4	Lab Control Sample	Total/NA	Water	SM4500 P E-2011	

Analysis Batch: 448599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135018-1	MW-186WT_081220	Total/NA	Water	4500 NH3 D-2011	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

General Chemistry (Continued)

Analysis Batch: 448599 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-448599/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	
LCS 240-448599/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Client Sample ID: MW-186WT_081220

Lab Sample ID: 240-135018-1

Date Collected: 08/12/20 14:25

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Dissolved	Analysis	8082A		1	448124	08/21/20 13:28	LSH	TAL CAN
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 10:48	LSH	TAL CAN
Total Recoverable	Prep	3005A			447439	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	448150	08/20/20 12:12	RKT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	448599	08/25/20 08:29	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-2011		1	448406	08/24/20 09:59	TPH	TAL CAN

Client Sample ID: DUP-03_081220

Lab Sample ID: 240-135018-2

Date Collected: 08/12/20 00:00

Matrix: Water

Date Received: 08/14/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Dissolved	Analysis	8082A		1	448124	08/21/20 14:12	LSH	TAL CAN
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 11:31	LSH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135018-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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Chain of Custody Record

460232

eurolins

Environment Testing
TestAmerica

Address:

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

TAL-8210

Client Contact Company Name: Arcadis Address: 28550 Cabot Dr Suite 500 City/State/Zip: Novi, MI 48377 Phone: 810 434 8899 Fax: Project Name: River Saginaw GWS Site: River Saginaw PO# 20042836.05001 (SMI)		Project Manager: Scott Clark Tel/Email: Arcadis@arcadis.com Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Site Contact: Lab Contact: Date: Carrier:		COC No: _____ of _____ COCs Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:				
Sample Identification MW-186WT-081220		Sample Date 8/12/2020	Sample Time 1425	Sample Type (C=Comp, G=Grab) G	Matrix 34	# of Cont. 15	Filtered Sample (Y/N) Y	Perform MS / MSD (Y/N) Y	Dissolved PCBs Total PCBs Total Monomers Phosphorus Ammonia Nitrogen	Sample Specific Notes:
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other										
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.										
Special Instructions/QC Requirements & Comments:										
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Cor'd:		Therm ID No.:		
Relinquished by:		Company: Arcadis		Date/Time: 8-13-20 13:30		Received by: Joe Hale		Company: ETA		
Relinquished by:		Company: ETA		Date/Time: 8/13/20 1519		Received by: Gary Roper		Company: ETA		
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Date/Time:		

Eurofins TestAmerica Canton Sample Receipt Form/Narrative				Login # : _____
Canton Facility				
Client <u>Arcadis</u>	Site Name _____	Cooler unpacked by: <u>Danny Ray</u>		
Cooler Received on <u>8-14-20</u>	Opened on <u>8-14-20</u>			
FedEx: 1 st ☒ Grd Exp ☐ UPS ☐ FAS ☐ Clipper ☐	Client Drop Off ☐	TestAmerica Courier ☐	Other ☐	
Receipt After-hours: Drop-off Date/Time _____		Storage Location _____		
TestAmerica Cooler # <u>TA</u>	Foam Box ☐	Client Cooler ☐	Box ☐	Other ☐
Packing material used: <u>Bubble Wrap</u> ☐ Foam ☐ <u>Plastic Bag</u> ☐ None ☐ Other _____				
COOLANT: <u>Wet Ice</u> ☐ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐				
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form				
IR GUN# IR-10 (CF <u>+0.7</u> °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C				
IR GUN #IR-11 (CF <u>+0.9</u> °C) Observed Cooler Temp. <u>3.9</u> °C Corrected Cooler Temp. <u>4.3</u> °C				
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> ☒ Yes ☐ No				
-Were the seals on the outside of the cooler(s) signed & dated? ☒ Yes ☐ No ☐ NA				
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? ☒ Yes ☐ No ☐ NA				
-Were tamper/custody seals intact and uncompromised? ☒ Yes ☐ No ☐ NA				
3. Shippers' packing slip attached to the cooler(s)? ☒ Yes ☐ No				
4. Did custody papers accompany the sample(s)? ☒ Yes ☐ No				
5. Were the custody papers relinquished & signed in the appropriate place? ☒ Yes ☐ No				
6. Was/were the person(s) who collected the samples clearly identified on the COC? ☒ Yes ☐ No				
7. Did all bottles arrive in good condition (Unbroken)? ☒ Yes ☐ No				
8. Could all bottle labels be reconciled with the COC? ☒ Yes ☐ No				
9. Were correct bottle(s) used for the test(s) indicated? ☒ Yes ☐ No				
10. Sufficient quantity received to perform indicated analyses? ☒ Yes ☐ No				
11. Are these work share samples? ☒ Yes ☐ No				
If yes, Questions 12-16 have been checked at the originating laboratory.				
12. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No ☐ NA pH Strip Lot# <u>HC911298</u>				
13. Were VOAs on the COC? ☒ Yes ☐ No ☐ NA				
14. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No ☐ NA Larger than this.				
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ ☒ Yes ☐ No ☐ NA				
16. Was a LL Hg or Me Hg trip blank present? ☒ Yes ☐ No ☐ NA				
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____				
Concerning _____				

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES 	Samples processed by: _____
18. SAMPLE CONDITION Sample(s) _____ were received after the recommended holding time had expired. Sample(s) _____ were received in a broken container. Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION Sample(s) _____ were further preserved in the laboratory. Time preserved: _____ Preservative(s) added/Lot number(s): _____ VOA Sample Preservation - Date/Time VOAs Frozen: _____	

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			<u>pH</u>	<u>Temp</u>	<u>Added (mls)</u>	<u>Lot #</u>
MW - 186WT - 081220	240-135018-A-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW - 186WT - 081220	240-135018-B-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW - 186WT - 081220	240-135018-C-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____

ANALYTICAL REPORT

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

Laboratory Job ID: 240-135063-1
Client Project/Site: Racer Saginaw GWS
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



Authorized for release by:
9/22/2020 9:14:33 AM

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

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Qualifiers

Metals

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

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Job ID: 240-135063-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw GWS

Report Number: 240-135063-1

Revision

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

Report revised on 9/22/2020 to correct sample 2 ID.

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

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

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

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

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

RECEIPT

The samples were received on 8/15/2020 10:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.7° C and 3.7° C.

DISSOLVED METALS (ICP)

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/18/2020 and analyzed on 08/19/2020.

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

TOTAL RECOVERABLE METALS (ICP)

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/18/2020 and analyzed on 08/19/2020.

Sodium was detected in method blank MB 240-447628/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Job ID: 240-135063-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

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

TOTAL DISSOLVED SOLIDS

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 08/18/2020.

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

ANIONS

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/15/2020.

Nitrite as N failed the recovery criteria low for the MS/MSD of sample MW-118WT_081420MS/MSD (240-135063-1) in batch 240-447512. Nitrate as N failed the recovery criteria high.

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

ANIONS

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/15/2020.

Sulfate failed the recovery criteria high for the MS of sample MW-118WT_081420MS (240-135063-1) in batch 240-447511.

Chloride and Sulfate failed the recovery criteria high for the MSD of sample MW-118WT_081420MSD (240-135063-1) in batch 240-447511.

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

DISSOLVED CYANIDE

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for dissolved cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/26/2020.

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

TOTAL CYANIDE

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/26/2020.

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

AMMONIA

Samples MW-118WT_081420 (240-135063-1) and MW-118S1_081420 (240-135063-2) were analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/27/2020.

Sample MW-118WT_081420 (240-135063-1)[10X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
9012A	Cyanide, Total and/or Amenable	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
SM 4500 NH3 D	Ammonia	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
9012A	Cyanide, Total and/or Amenable, Distillation	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-135063-1	MW-118WT_081420	Water	08/14/20 10:50	08/15/20 10:30	
240-135063-2	MW-118S1_081420	Water	08/14/20 10:55	08/15/20 10:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Client Sample ID: MW-118WT_081420

Lab Sample ID: 240-135063-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15		10	4.1	ug/L	1		6010B	Total Recoverable
Barium	250		200	1.3	ug/L	1		6010B	Total Recoverable
Iron	26000		100	26	ug/L	1		6010B	Total Recoverable
Manganese	970		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	48000	B	5000	560	ug/L	1		6010B	Total Recoverable
Arsenic	15		10	4.1	ug/L	1		6010B	Dissolved
Barium	250		200	1.3	ug/L	1		6010B	Dissolved
Iron	26000		100	26	ug/L	1		6010B	Dissolved
Manganese	1000		15	2.1	ug/L	1		6010B	Dissolved
Sodium	100000	B	5000	560	ug/L	1		6010B	Dissolved
Chloride	120	F1	1.0	0.28	mg/L	1		300.0	Total/NA
Nitrate as N	1.2	F1	0.10	0.014	mg/L	1		300.0	Total/NA
Sulfate	0.52	J F1	1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	720		10	7.8	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	14		2.0	0.93	mg/L	10		SM 4500 NH3 D	Total/NA

Client Sample ID: MW-118S1_081420

Lab Sample ID: 240-135063-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.8	J	10	4.1	ug/L	1		6010B	Total Recoverable
Barium	29	J	200	1.3	ug/L	1		6010B	Total Recoverable
Iron	3900		100	26	ug/L	1		6010B	Total Recoverable
Manganese	770		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	13000	B	5000	560	ug/L	1		6010B	Total Recoverable
Arsenic	8.2	J	10	4.1	ug/L	1		6010B	Dissolved
Barium	28	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	2700		100	26	ug/L	1		6010B	Dissolved
Manganese	800		15	2.1	ug/L	1		6010B	Dissolved
Sodium	15000	B	5000	560	ug/L	1		6010B	Dissolved
Chloride	17		1.0	0.28	mg/L	1		300.0	Total/NA
Sulfate	0.42	J	1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	200		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Client Sample ID: MW-118WT_081420

Lab Sample ID: 240-135063-1

Date Collected: 08/14/20 10:50

Matrix: Water

Date Received: 08/15/20 10:30

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		10	4.1	ug/L		08/18/20 14:00	08/19/20 13:04	1
Barium	250		200	1.3	ug/L		08/18/20 14:00	08/19/20 13:04	1
Iron	26000		100	26	ug/L		08/18/20 14:00	08/19/20 13:04	1
Manganese	970		15	2.1	ug/L		08/18/20 14:00	08/19/20 13:04	1
Sodium	48000	B	5000	560	ug/L		08/18/20 14:00	08/19/20 13:04	1
Selenium	15	U	15	6.0	ug/L		08/18/20 14:00	08/19/20 13:04	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	15		10	4.1	ug/L		08/18/20 14:00	08/19/20 13:24	1
Barium	250		200	1.3	ug/L		08/18/20 14:00	08/19/20 13:24	1
Iron	26000		100	26	ug/L		08/18/20 14:00	08/19/20 13:24	1
Manganese	1000		15	2.1	ug/L		08/18/20 14:00	08/19/20 13:24	1
Sodium	100000	B	5000	560	ug/L		08/18/20 14:00	08/19/20 13:24	1
Selenium	15	U	15	6.0	ug/L		08/18/20 14:00	08/19/20 13:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	120	F1	1.0	0.28	mg/L			08/15/20 16:31	1
Nitrite as N	0.10	U F1 F2	0.10	0.014	mg/L			08/15/20 16:31	1
Nitrate as N	1.2	F1	0.10	0.014	mg/L			08/15/20 16:31	1
Sulfate	0.52	J F1	1.0	0.35	mg/L			08/15/20 16:31	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:34	1
Total Dissolved Solids	720		10	7.8	mg/L			08/18/20 08:32	1
Ammonia (as N)	14		2.0	0.93	mg/L			08/27/20 15:46	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:42	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Client Sample ID: MW-118S1_081420

Lab Sample ID: 240-135063-2

Date Collected: 08/14/20 10:55

Matrix: Water

Date Received: 08/15/20 10:30

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.8	J	10	4.1	ug/L		08/18/20 14:00	08/19/20 13:28	1
Barium	29	J	200	1.3	ug/L		08/18/20 14:00	08/19/20 13:28	1
Iron	3900		100	26	ug/L		08/18/20 14:00	08/19/20 13:28	1
Manganese	770		15	2.1	ug/L		08/18/20 14:00	08/19/20 13:28	1
Sodium	13000	B	5000	560	ug/L		08/18/20 14:00	08/19/20 13:28	1
Selenium	15	U	15	6.0	ug/L		08/18/20 14:00	08/19/20 13:28	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.2	J	10	4.1	ug/L		08/18/20 14:00	08/19/20 13:41	1
Barium	28	J	200	1.3	ug/L		08/18/20 14:00	08/19/20 13:41	1
Iron	2700		100	26	ug/L		08/18/20 14:00	08/19/20 13:41	1
Manganese	800		15	2.1	ug/L		08/18/20 14:00	08/19/20 13:41	1
Sodium	15000	B	5000	560	ug/L		08/18/20 14:00	08/19/20 13:41	1
Selenium	15	U	15	6.0	ug/L		08/18/20 14:00	08/19/20 13:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		1.0	0.28	mg/L			08/15/20 17:36	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/15/20 17:36	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/15/20 17:36	1
Sulfate	0.42	J	1.0	0.35	mg/L			08/15/20 17:36	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:30	1
Total Dissolved Solids	200		10	7.8	mg/L			08/18/20 08:32	1
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/27/20 15:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:32	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-447628/1-A

Matrix: Water

Analysis Batch: 447822

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 447628

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/18/20 14:00	08/19/20 12:55	1
Barium	200	U	200	1.3	ug/L		08/18/20 14:00	08/19/20 12:55	1
Iron	100	U	100	26	ug/L		08/18/20 14:00	08/19/20 12:55	1
Manganese	15	U	15	2.1	ug/L		08/18/20 14:00	08/19/20 12:55	1
Sodium	602	J	5000	560	ug/L		08/18/20 14:00	08/19/20 12:55	1
Selenium	15	U	15	6.0	ug/L		08/18/20 14:00	08/19/20 12:55	1

Lab Sample ID: LCS 240-447628/2-A

Matrix: Water

Analysis Batch: 447822

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 447628

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2140		ug/L		107	80 - 120
Barium	2000	2030		ug/L		101	80 - 120
Iron	10000	10200		ug/L		102	80 - 120
Manganese	1000	1010		ug/L		101	80 - 120
Sodium	50000	50200		ug/L		100	80 - 120
Selenium	2000	2140		ug/L		107	80 - 120

Lab Sample ID: 240-135063-1 MS

Matrix: Water

Analysis Batch: 447822

Client Sample ID: MW-118WT_081420

Prep Type: Total Recoverable

Prep Batch: 447628

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	15		2000	2170		ug/L		108	75 - 125
Barium	250		2000	2270		ug/L		101	75 - 125
Iron	26000		10000	36300		ug/L		104	75 - 125
Manganese	970		1000	1970		ug/L		100	75 - 125
Sodium	48000	B	50000	99600		ug/L		103	75 - 125
Selenium	15	U	2000	2130		ug/L		107	75 - 125

Lab Sample ID: 240-135063-1 MSD

Matrix: Water

Analysis Batch: 447822

Client Sample ID: MW-118WT_081420

Prep Type: Total Recoverable

Prep Batch: 447628

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	15		2000	2040		ug/L		101	75 - 125	6	20
Barium	250		2000	2230		ug/L		99	75 - 125	1	20
Iron	26000		10000	35800		ug/L		99	75 - 125	1	20
Manganese	970		1000	1930		ug/L		96	75 - 125	2	20
Sodium	48000	B	50000	98800		ug/L		101	75 - 125	1	20
Selenium	15	U	2000	2010		ug/L		100	75 - 125	6	20

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-447511/3

Matrix: Water

Analysis Batch: 447511

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			08/15/20 15:48	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/15/20 15:48	1

Lab Sample ID: LCS 240-447511/4

Matrix: Water

Analysis Batch: 447511

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.5		mg/L		99	90 - 110
Sulfate	50.0	51.0		mg/L		102	90 - 110

Lab Sample ID: 240-135063-1 MS

Matrix: Water

Analysis Batch: 447511

Client Sample ID: MW-118WT_081420

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	120	F1	50.0	179		mg/L		117	80 - 120
Sulfate	0.52	J F1	50.0	86.0	F1	mg/L		171	80 - 120

Lab Sample ID: 240-135063-1 MSD

Matrix: Water

Analysis Batch: 447511

Client Sample ID: MW-118WT_081420

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	120	F1	50.0	186	F1	mg/L		130	80 - 120	4	15
Sulfate	0.52	J F1	50.0	99.9	F1	mg/L		199	80 - 120	15	15

Lab Sample ID: MB 240-447512/3

Matrix: Water

Analysis Batch: 447512

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/15/20 15:48	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/15/20 15:48	1

Lab Sample ID: LCS 240-447512/4

Matrix: Water

Analysis Batch: 447512

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.59		mg/L		104	90 - 110
Nitrate as N	2.50	2.67		mg/L		107	90 - 110

Lab Sample ID: 240-135063-1 MS

Matrix: Water

Analysis Batch: 447512

Client Sample ID: MW-118WT_081420

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.10	U F1 F2	2.50	1.92	F1	mg/L		77	80 - 120
Nitrate as N	1.2	F1	2.50	4.58	F1	mg/L		136	80 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 240-135063-1 MSD

Matrix: Water

Analysis Batch: 447512

Client Sample ID: MW-118WT_081420

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	0.10	U F1 F2	2.50	2.28	F2	mg/L		91	80 - 120	17	15
Nitrate as N	1.2	F1	2.50	5.00	F1	mg/L		153	80 - 120	9	15

Method: 9012A - Cyanide, Total and/or Amenable

Lab Sample ID: MB 240-448834/1-A

Matrix: Water

Analysis Batch: 448850

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 448834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:18	1

Lab Sample ID: LCS 240-448834/2-A

Matrix: Water

Analysis Batch: 448850

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 448834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.238	0.244		mg/L		103	85 - 115

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-447596/1

Matrix: Water

Analysis Batch: 447596

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.8	mg/L			08/18/20 08:32	1

Lab Sample ID: LCS 240-447596/2

Matrix: Water

Analysis Batch: 447596

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	192	219		mg/L		114	80 - 120

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 240-449077/7

Matrix: Water

Analysis Batch: 449077

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/27/20 13:24	1

Lab Sample ID: LCS 240-449077/8

Matrix: Water

Analysis Batch: 449077

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	13.8	13.3		mg/L		96	85 - 114

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Metals

Prep Batch: 447628

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Dissolved	Water	3005A	
240-135063-1	MW-118WT_081420	Total Recoverable	Water	3005A	
240-135063-2	MW-118S1_081420	Dissolved	Water	3005A	
240-135063-2	MW-118S1_081420	Total Recoverable	Water	3005A	
MB 240-447628/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447628/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-135063-1 MS	MW-118WT_081420	Total Recoverable	Water	3005A	
240-135063-1 MSD	MW-118WT_081420	Total Recoverable	Water	3005A	

Analysis Batch: 447822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Dissolved	Water	6010B	447628
240-135063-1	MW-118WT_081420	Total Recoverable	Water	6010B	447628
240-135063-2	MW-118S1_081420	Dissolved	Water	6010B	447628
240-135063-2	MW-118S1_081420	Total Recoverable	Water	6010B	447628
MB 240-447628/1-A	Method Blank	Total Recoverable	Water	6010B	447628
LCS 240-447628/2-A	Lab Control Sample	Total Recoverable	Water	6010B	447628
240-135063-1 MS	MW-118WT_081420	Total Recoverable	Water	6010B	447628
240-135063-1 MSD	MW-118WT_081420	Total Recoverable	Water	6010B	447628

General Chemistry

Analysis Batch: 447511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Total/NA	Water	300.0	
240-135063-2	MW-118S1_081420	Total/NA	Water	300.0	
MB 240-447511/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447511/4	Lab Control Sample	Total/NA	Water	300.0	
240-135063-1 MS	MW-118WT_081420	Total/NA	Water	300.0	
240-135063-1 MSD	MW-118WT_081420	Total/NA	Water	300.0	

Analysis Batch: 447512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Total/NA	Water	300.0	
240-135063-2	MW-118S1_081420	Total/NA	Water	300.0	
MB 240-447512/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447512/4	Lab Control Sample	Total/NA	Water	300.0	
240-135063-1 MS	MW-118WT_081420	Total/NA	Water	300.0	
240-135063-1 MSD	MW-118WT_081420	Total/NA	Water	300.0	

Analysis Batch: 447596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Total/NA	Water	SM 2540C	
240-135063-2	MW-118S1_081420	Total/NA	Water	SM 2540C	
MB 240-447596/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-447596/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Prep Batch: 448834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Dissolved	Water	9012A	
240-135063-1	MW-118WT_081420	Total/NA	Water	9012A	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

General Chemistry (Continued)

Prep Batch: 448834 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-2	MW-118S1_081420	Dissolved	Water	9012A	
240-135063-2	MW-118S1_081420	Total/NA	Water	9012A	
MB 240-448834/1-A	Method Blank	Total/NA	Water	9012A	
LCS 240-448834/2-A	Lab Control Sample	Total/NA	Water	9012A	

Analysis Batch: 448850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Dissolved	Water	9012A	448834
240-135063-1	MW-118WT_081420	Total/NA	Water	9012A	448834
240-135063-2	MW-118S1_081420	Dissolved	Water	9012A	448834
240-135063-2	MW-118S1_081420	Total/NA	Water	9012A	448834
MB 240-448834/1-A	Method Blank	Total/NA	Water	9012A	448834
LCS 240-448834/2-A	Lab Control Sample	Total/NA	Water	9012A	448834

Analysis Batch: 449077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135063-1	MW-118WT_081420	Total/NA	Water	SM 4500 NH3 D	
240-135063-2	MW-118S1_081420	Total/NA	Water	SM 4500 NH3 D	
MB 240-449077/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 240-449077/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Client Sample ID: MW-118WT_081420

Lab Sample ID: 240-135063-1

Date Collected: 08/14/20 10:50

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447628	08/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	447822	08/19/20 13:24	WKD	TAL CAN
Total Recoverable	Prep	3005A			447628	08/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	447822	08/19/20 13:04	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447511	08/15/20 16:31	AGC	TAL CAN
Total/NA	Analysis	300.0		1	447512	08/15/20 16:31	AGC	TAL CAN
Dissolved	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Dissolved	Analysis	9012A		1	448850	08/26/20 13:42	BLW	TAL CAN
Total/NA	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Total/NA	Analysis	9012A		1	448850	08/26/20 13:34	BLW	TAL CAN
Total/NA	Analysis	SM 2540C		1	447596	08/18/20 08:32	KLR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		10	449077	08/27/20 15:46	JMB	TAL CAN

Client Sample ID: MW-118S1_081420

Lab Sample ID: 240-135063-2

Date Collected: 08/14/20 10:55

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447628	08/18/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	447822	08/19/20 13:41	WKD	TAL CAN
Total Recoverable	Prep	3005A			447628	08/18/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	447822	08/19/20 13:28	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447511	08/15/20 17:36	AGC	TAL CAN
Total/NA	Analysis	300.0		1	447512	08/15/20 17:36	AGC	TAL CAN
Dissolved	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Dissolved	Analysis	9012A		1	448850	08/26/20 13:32	BLW	TAL CAN
Total/NA	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Total/NA	Analysis	9012A		1	448850	08/26/20 13:30	BLW	TAL CAN
Total/NA	Analysis	SM 2540C		1	447596	08/18/20 08:32	KLR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449077	08/27/20 15:49	JMB	TAL CAN

Laboratory References:

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135063-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 135063

Canton Facility

Client Arcadis

Site Name _____

Cooler unpacked by: [Signature]Cooler Received on 8-15-20Opened on 8-15-20FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other [Signature]

Receipt After-hours: Drop-off Date/Time _____

Storage Location _____

TestAmerica Cooler # 74 Foam Box Client Cooler Box Other _____Packing material used: Bubble Wrap Foam Plastic Bag None Other _____COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☒ See Multiple Cooler Form

IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

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

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

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

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

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

3. Shippers' packing slip attached to the cooler(s)? Yes No

4. Did custody papers accompany the sample(s)? Yes No

5. Were the custody papers relinquished & signed in the appropriate place? Yes No

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

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

8. Could all bottle labels be reconciled with the COC? Yes No

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

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

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC911298

13. Were VOAs on the COC? Yes No

14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No

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

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

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

Sample(s) _____ were received in a broken container.

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

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container		Preservative	
			pH	Temp	Added (mls)	Lot #
MW-118WT_081420	240-135063-A-1	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-118WT_081420	240-135063-B-1	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-118WT_081420	240-135063-D-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-118WT_081420	240-135063-E-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-118WT_081420	240-135063-F-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-11851_081420	240-135063-A-2	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-11851_081420	240-135063-B-2	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-11851_081420	240-135063-D-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-11851_081420	240-135063-E-2	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-11851_081420	240-135063-F-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____

ANALYTICAL REPORT

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

Laboratory Job ID: 240-135083-1
Client Project/Site: Racer Saginaw SMI

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



Authorized for release by:
8/31/2020 3:38:42 PM
Opal Johnson, Project Manager II
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Designee for
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www.eurofinsus.com/Env

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Qualifiers

GC/MS Semi VOA

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

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

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

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Job ID: 240-135083-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw SMI

Report Number: 240-135083-1

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

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

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

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

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

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

RECEIPT

The samples were received on 8/15/2020 10:30 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.7° C and 3.7° C.

POLYCHLORINATED BIPHENYLS (PCBS)

Samples MW-114WT_081320 (240-135083-1) and MW-185_081420 (240-135083-5) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082A. The samples were prepared on 08/19/2020 and analyzed on 08/21/2020.

The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: MW-114WT_081320 (240-135083-1), (240-135018-G-1-A), (240-135018-J-1-A MS) and (240-135018-F-1-A MSD). Reagent: 4818454

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

SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Samples MW-108WT_081320 (240-135083-3) and DUP-03_081320 (240-135083-4) were analyzed for semivolatile organic compounds (GCMS) in accordance with EPA SW-846 Method 8270C. The samples were prepared on 08/19/2020 and analyzed on 08/21/2020.

The laboratory control sample (LCS) for preparation batch 240-447807 and analytical batch 240-448149 recovered outside control limits for the following analyte: Fluorene. This analyte was biased high in the LCS and was not detected in the associated samples: MW-108WT_081320 (240-135083-3) and DUP-03_081320 (240-135083-4); therefore, the data have been reported.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Job ID: 240-135083-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

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

POLYCHLORINATED BIPHENYLS (PCBS)

Samples MW-114WT_081320 (240-135083-1), MW-185_081420 (240-135083-5) and FB-SM1-01_081420 (240-135083-6) were analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA SW-846 Method 8082A. The samples were prepared on 08/19/2020 and analyzed on 08/21/2020.

All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: MW-114WT_081320 (240-135083-1), (240-135018-G-1-A), (240-135018-J-1-A MS) and (240-135018-F-1-A MSD). Reagent: 4818454.

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

TOTAL RECOVERABLE METALS (ICPMS)

Samples MW-114WT_081320 (240-135083-1), MW-108WT_081320 (240-135083-3) and MW-185_081420 (240-135083-5) were analyzed for total recoverable metals (ICPMS) in accordance with EPA SW-846 Method 6020. The samples were prepared on 08/17/2020 and analyzed on 08/18/2020.

Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: MW-114WT_081320 (240-135083-1), MW-108WT_081320 (240-135083-3) and MW-185_081420 (240-135083-5). The continuing calibration blanks and method blanks may not support the lower PQL.

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

TOTAL PHOSPHORUS

Samples MW-114WT_081320 (240-135083-1), MW-108WT_081320 (240-135083-3) and MW-185_081420 (240-135083-5) were analyzed for total phosphorus in accordance with SM 4500 P E. The samples were analyzed on 08/27/2020.

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

AMMONIA

Samples MW-114WT_081320 (240-135083-1), MW-114S2_081320 (240-135083-2), MW-108WT_081320 (240-135083-3) and MW-185_081420 (240-135083-5) were analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/27/2020 and 08/28/2020.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method	Method Description	Protocol	Laboratory
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL CAN
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
4500 NH3 D-2011	Ammonia	SM	TAL CAN
SM4500 P E-2011	Phosphorus	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CAN

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-135083-1	MW-114WT_081320	Water	08/13/20 15:10	08/15/20 10:30	
240-135083-2	MW-114S2_081320	Water	08/13/20 15:30	08/15/20 10:30	
240-135083-3	MW-108WT_081320	Water	08/13/20 15:15	08/15/20 10:30	
240-135083-4	DUP-03_081320	Water	08/13/20 00:00	08/15/20 10:30	
240-135083-5	MW-185_081420	Water	08/14/20 08:45	08/15/20 10:30	
240-135083-6	FB-SM1-01_081420	Water	08/14/20 12:40	08/15/20 10:30	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-114WT_081320

Lab Sample ID: 240-135083-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese	740		1.0	2.1	ug/L	1			6020	Total Recoverable
Ammonia	0.36		0.20	0.093	mg/L	1			4500 NH3 D-2011	Total/NA
Total Phosphorus as P	0.28		0.10	0.037	mg/L	1			SM4500 P E-2011	Total/NA

Client Sample ID: MW-114S2_081320

Lab Sample ID: 240-135083-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Ammonia	2.2		0.20	0.093	mg/L	1			4500 NH3 D-2011	Total/NA

Client Sample ID: MW-108WT_081320

Lab Sample ID: 240-135083-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese	2000		1.0	2.1	ug/L	1			6020	Total Recoverable
Ammonia	1.1		0.20	0.093	mg/L	1			4500 NH3 D-2011	Total/NA

Client Sample ID: DUP-03_081320

Lab Sample ID: 240-135083-4

No Detections.

Client Sample ID: MW-185_081420

Lab Sample ID: 240-135083-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Manganese	320		1.0	2.1	ug/L	1			6020	Total Recoverable
Ammonia	0.10	J	0.20	0.093	mg/L	1			4500 NH3 D-2011	Total/NA

Client Sample ID: FB-SM1-01_081420

Lab Sample ID: 240-135083-6

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-114WT_081320

Lab Sample ID: 240-135083-1

Date Collected: 08/13/20 15:10

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 08:51	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 08:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		22 - 120	08/19/20 09:52	08/21/20 08:51	1
DCB Decachlorobiphenyl	28		10 - 120	08/19/20 09:52	08/21/20 08:51	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 11:46	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 11:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	60		22 - 120	08/19/20 09:52	08/21/20 11:46	1
DCB Decachlorobiphenyl	30		10 - 120	08/19/20 09:52	08/21/20 11:46	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	740		1.0	2.1	ug/L		08/17/20 14:00	08/18/20 17:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.36		0.20	0.093	mg/L			08/27/20 15:37	1
Total Phosphorus as P	0.28		0.10	0.037	mg/L			08/27/20 08:54	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-114S2_081320

Lab Sample ID: 240-135083-2

Date Collected: 08/13/20 15:30

Matrix: Water

Date Received: 08/15/20 10:30

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	2.2		0.20	0.093	mg/L			08/27/20 15:39	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-108WT_081320

Lab Sample ID: 240-135083-3

Date Collected: 08/13/20 15:15

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.96	U	0.96	0.47	ug/L		08/19/20 09:45	08/21/20 14:51	1
bis (2-chloroisopropyl) ether	0.96	U	0.96	0.53	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,4-Dimethylphenol	1.9	U	1.9	0.50	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,4-Dinitrophenol	9.6	U	9.6	6.0	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		08/19/20 09:45	08/21/20 14:51	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		08/19/20 09:45	08/21/20 14:51	1
2-Chloronaphthalene	0.96	U	0.96	0.46	ug/L		08/19/20 09:45	08/21/20 14:51	1
2-Chlorophenol	0.96	U	0.96	0.26	ug/L		08/19/20 09:45	08/21/20 14:51	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		08/19/20 09:45	08/21/20 14:51	1
2-Methylphenol	0.96	U	0.96	0.20	ug/L		08/19/20 09:45	08/21/20 14:51	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		08/19/20 09:45	08/21/20 14:51	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		08/19/20 09:45	08/21/20 14:51	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		08/19/20 09:45	08/21/20 14:51	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		08/19/20 09:45	08/21/20 14:51	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		08/19/20 09:45	08/21/20 14:51	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		08/19/20 09:45	08/21/20 14:51	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		08/19/20 09:45	08/21/20 14:51	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		08/19/20 09:45	08/21/20 14:51	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.53	ug/L		08/19/20 09:45	08/21/20 14:51	1
4-Nitroaniline	1.9	U	1.9	0.88	ug/L		08/19/20 09:45	08/21/20 14:51	1
4-Nitrophenol	9.6	U	9.6	2.1	ug/L		08/19/20 09:45	08/21/20 14:51	1
Acenaphthene	0.19	U	0.19	0.17	ug/L		08/19/20 09:45	08/21/20 14:51	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		08/19/20 09:45	08/21/20 14:51	1
Acetophenone	0.96	U	0.96	0.35	ug/L		08/19/20 09:45	08/21/20 14:51	1
Anthracene	0.19	U	0.19	0.13	ug/L		08/19/20 09:45	08/21/20 14:51	1
Atrazine	1.9	U	1.9	0.92	ug/L		08/19/20 09:45	08/21/20 14:51	1
Benzaldehyde	1.9	U	1.9	0.73	ug/L		08/19/20 09:45	08/21/20 14:51	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 14:51	1
Benzo[a]pyrene	0.19	U	0.19	0.17	ug/L		08/19/20 09:45	08/21/20 14:51	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 14:51	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		08/19/20 09:45	08/21/20 14:51	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		08/19/20 09:45	08/21/20 14:51	1
Bis(2-chloroethoxy)methane	0.96	U	0.96	0.44	ug/L		08/19/20 09:45	08/21/20 14:51	1
Bis(2-chloroethyl)ether	0.96	U	0.96	0.39	ug/L		08/19/20 09:45	08/21/20 14:51	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		08/19/20 09:45	08/21/20 14:51	1
Butyl benzyl phthalate	1.9	U	1.9	0.64	ug/L		08/19/20 09:45	08/21/20 14:51	1
Caprolactam	4.8	U	4.8	0.90	ug/L		08/19/20 09:45	08/21/20 14:51	1
Carbazole	0.96	U	0.96	0.47	ug/L		08/19/20 09:45	08/21/20 14:51	1
Chrysene	0.19	U	0.19	0.18	ug/L		08/19/20 09:45	08/21/20 14:51	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 14:51	1
Dibenzofuran	0.96	U	0.96	0.54	ug/L		08/19/20 09:45	08/21/20 14:51	1
Diethyl phthalate	4.8	U	4.8	3.7	ug/L		08/19/20 09:45	08/21/20 14:51	1
Dimethyl phthalate	1.9	U	1.9	0.50	ug/L		08/19/20 09:45	08/21/20 14:51	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		08/19/20 09:45	08/21/20 14:51	1
Di-n-octyl phthalate	1.9	U	1.9	0.79	ug/L		08/19/20 09:45	08/21/20 14:51	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 14:51	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-108WT_081320

Lab Sample ID: 240-135083-3

Date Collected: 08/13/20 15:15

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	0.19	U *	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 14:51	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 14:51	1
Hexachlorobutadiene	0.96	U	0.96	0.52	ug/L		08/19/20 09:45	08/21/20 14:51	1
Hexachlorocyclopentadiene	9.6	U	9.6	1.7	ug/L		08/19/20 09:45	08/21/20 14:51	1
Hexachloroethane	0.96	U	0.96	0.38	ug/L		08/19/20 09:45	08/21/20 14:51	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		08/19/20 09:45	08/21/20 14:51	1
Isophorone	0.96	U	0.96	0.31	ug/L		08/19/20 09:45	08/21/20 14:51	1
Naphthalene	0.19	U	0.19	0.10	ug/L		08/19/20 09:45	08/21/20 14:51	1
Nitrobenzene	0.96	U	0.96	0.49	ug/L		08/19/20 09:45	08/21/20 14:51	1
N-Nitrosodi-n-propylamine	0.96	U	0.96	0.24	ug/L		08/19/20 09:45	08/21/20 14:51	1
N-Nitrosodiphenylamine	0.96	U	0.96	0.42	ug/L		08/19/20 09:45	08/21/20 14:51	1
Pentachlorophenol	9.6	U	9.6	3.0	ug/L		08/19/20 09:45	08/21/20 14:51	1
Phenol	0.96	U	0.96	0.12	ug/L		08/19/20 09:45	08/21/20 14:51	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 14:51	1
Pyrene	0.19	U	0.19	0.17	ug/L		08/19/20 09:45	08/21/20 14:51	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		08/19/20 09:45	08/21/20 14:51	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	92		39 - 120	08/19/20 09:45	08/21/20 14:51	1
2-Fluorophenol (Surr)	41		10 - 120	08/19/20 09:45	08/21/20 14:51	1
2,4,6-Tribromophenol (Surr)	93		33 - 120	08/19/20 09:45	08/21/20 14:51	1
Nitrobenzene-d5 (Surr)	77		33 - 120	08/19/20 09:45	08/21/20 14:51	1
Phenol-d5 (Surr)	25		10 - 120	08/19/20 09:45	08/21/20 14:51	1
Terphenyl-d14 (Surr)	98		36 - 122	08/19/20 09:45	08/21/20 14:51	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2000		1.0	2.1	ug/L		08/17/20 14:00	08/18/20 17:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.1		0.20	0.093	mg/L			08/28/20 15:58	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/27/20 08:19	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: DUP-03_081320

Lab Sample ID: 240-135083-4

Date Collected: 08/13/20 00:00

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	0.95	U	0.95	0.47	ug/L		08/19/20 09:45	08/21/20 13:14	1
bis (2-chloroisopropyl) ether	0.95	U	0.95	0.52	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,4,5-Trichlorophenol	4.8	U	4.8	1.9	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,4,6-Trichlorophenol	4.8	U	4.8	1.7	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,4-Dichlorophenol	1.9	U	1.9	0.25	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,4-Dimethylphenol	1.9	U	1.9	0.49	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,4-Dinitrophenol	9.5	U	9.5	5.9	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,4-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		08/19/20 09:45	08/21/20 13:14	1
2,6-Dinitrotoluene	4.8	U	4.8	2.0	ug/L		08/19/20 09:45	08/21/20 13:14	1
2-Chloronaphthalene	0.95	U	0.95	0.46	ug/L		08/19/20 09:45	08/21/20 13:14	1
2-Chlorophenol	0.95	U	0.95	0.26	ug/L		08/19/20 09:45	08/21/20 13:14	1
2-Methylnaphthalene	0.19	U	0.19	0.11	ug/L		08/19/20 09:45	08/21/20 13:14	1
2-Methylphenol	0.95	U	0.95	0.20	ug/L		08/19/20 09:45	08/21/20 13:14	1
2-Nitroaniline	1.9	U	1.9	0.49	ug/L		08/19/20 09:45	08/21/20 13:14	1
2-Nitrophenol	1.9	U	1.9	0.54	ug/L		08/19/20 09:45	08/21/20 13:14	1
3,3'-Dichlorobenzidine	4.8	U	4.8	1.1	ug/L		08/19/20 09:45	08/21/20 13:14	1
3-Nitroaniline	1.9	U	1.9	0.54	ug/L		08/19/20 09:45	08/21/20 13:14	1
4,6-Dinitro-2-methylphenol	4.8	U	4.8	2.7	ug/L		08/19/20 09:45	08/21/20 13:14	1
4-Bromophenyl phenyl ether	1.9	U	1.9	0.48	ug/L		08/19/20 09:45	08/21/20 13:14	1
4-Chloro-3-methylphenol	1.9	U	1.9	0.28	ug/L		08/19/20 09:45	08/21/20 13:14	1
4-Chloroaniline	1.9	U	1.9	0.30	ug/L		08/19/20 09:45	08/21/20 13:14	1
4-Chlorophenyl phenyl ether	1.9	U	1.9	0.52	ug/L		08/19/20 09:45	08/21/20 13:14	1
4-Nitroaniline	1.9	U	1.9	0.87	ug/L		08/19/20 09:45	08/21/20 13:14	1
4-Nitrophenol	9.5	U	9.5	2.1	ug/L		08/19/20 09:45	08/21/20 13:14	1
Acenaphthene	0.19	U	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 13:14	1
Acenaphthylene	0.19	U	0.19	0.12	ug/L		08/19/20 09:45	08/21/20 13:14	1
Acetophenone	0.95	U	0.95	0.35	ug/L		08/19/20 09:45	08/21/20 13:14	1
Anthracene	0.19	U	0.19	0.13	ug/L		08/19/20 09:45	08/21/20 13:14	1
Atrazine	1.9	U	1.9	0.91	ug/L		08/19/20 09:45	08/21/20 13:14	1
Benzaldehyde	1.9	U	1.9	0.72	ug/L		08/19/20 09:45	08/21/20 13:14	1
Benzo[a]anthracene	0.19	U	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 13:14	1
Benzo[a]pyrene	0.19	U	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 13:14	1
Benzo[b]fluoranthene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 13:14	1
Benzo[g,h,i]perylene	0.19	U	0.19	0.17	ug/L		08/19/20 09:45	08/21/20 13:14	1
Benzo[k]fluoranthene	0.19	U	0.19	0.13	ug/L		08/19/20 09:45	08/21/20 13:14	1
Bis(2-chloroethoxy)methane	0.95	U	0.95	0.43	ug/L		08/19/20 09:45	08/21/20 13:14	1
Bis(2-chloroethyl)ether	0.95	U	0.95	0.38	ug/L		08/19/20 09:45	08/21/20 13:14	1
Bis(2-ethylhexyl) phthalate	4.8	U	4.8	2.1	ug/L		08/19/20 09:45	08/21/20 13:14	1
Butyl benzyl phthalate	1.9	U	1.9	0.63	ug/L		08/19/20 09:45	08/21/20 13:14	1
Caprolactam	4.8	U	4.8	0.89	ug/L		08/19/20 09:45	08/21/20 13:14	1
Carbazole	0.95	U	0.95	0.47	ug/L		08/19/20 09:45	08/21/20 13:14	1
Chrysene	0.19	U	0.19	0.18	ug/L		08/19/20 09:45	08/21/20 13:14	1
Dibenz(a,h)anthracene	0.19	U	0.19	0.14	ug/L		08/19/20 09:45	08/21/20 13:14	1
Dibenzofuran	0.95	U	0.95	0.53	ug/L		08/19/20 09:45	08/21/20 13:14	1
Diethyl phthalate	4.8	U	4.8	3.6	ug/L		08/19/20 09:45	08/21/20 13:14	1
Dimethyl phthalate	1.9	U	1.9	0.49	ug/L		08/19/20 09:45	08/21/20 13:14	1
Di-n-butyl phthalate	4.8	U	4.8	1.7	ug/L		08/19/20 09:45	08/21/20 13:14	1
Di-n-octyl phthalate	1.9	U	1.9	0.78	ug/L		08/19/20 09:45	08/21/20 13:14	1
Fluoranthene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 13:14	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: DUP-03_081320

Lab Sample ID: 240-135083-4

Date Collected: 08/13/20 00:00

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluorene	0.19	U *	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 13:14	1
Hexachlorobenzene	0.19	U	0.19	0.15	ug/L		08/19/20 09:45	08/21/20 13:14	1
Hexachlorobutadiene	0.95	U	0.95	0.52	ug/L		08/19/20 09:45	08/21/20 13:14	1
Hexachlorocyclopentadiene	9.5	U	9.5	1.7	ug/L		08/19/20 09:45	08/21/20 13:14	1
Hexachloroethane	0.95	U	0.95	0.38	ug/L		08/19/20 09:45	08/21/20 13:14	1
Indeno[1,2,3-cd]pyrene	0.19	U	0.19	0.13	ug/L		08/19/20 09:45	08/21/20 13:14	1
Isophorone	0.95	U	0.95	0.31	ug/L		08/19/20 09:45	08/21/20 13:14	1
Naphthalene	0.19	U	0.19	0.10	ug/L		08/19/20 09:45	08/21/20 13:14	1
Nitrobenzene	0.95	U	0.95	0.49	ug/L		08/19/20 09:45	08/21/20 13:14	1
N-Nitrosodi-n-propylamine	0.95	U	0.95	0.24	ug/L		08/19/20 09:45	08/21/20 13:14	1
N-Nitrosodiphenylamine	0.95	U	0.95	0.42	ug/L		08/19/20 09:45	08/21/20 13:14	1
Pentachlorophenol	9.5	U	9.5	3.0	ug/L		08/19/20 09:45	08/21/20 13:14	1
Phenol	0.95	U	0.95	0.12	ug/L		08/19/20 09:45	08/21/20 13:14	1
Phenanthrene	0.19	U	0.19	0.16	ug/L		08/19/20 09:45	08/21/20 13:14	1
Pyrene	0.19	U	0.19	0.17	ug/L		08/19/20 09:45	08/21/20 13:14	1
3 & 4 Methylphenol	1.9	U	1.9	0.18	ug/L		08/19/20 09:45	08/21/20 13:14	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	91		39 - 120				08/19/20 09:45	08/21/20 13:14	1
2-Fluorophenol (Surr)	35		10 - 120				08/19/20 09:45	08/21/20 13:14	1
2,4,6-Tribromophenol (Surr)	83		33 - 120				08/19/20 09:45	08/21/20 13:14	1
Nitrobenzene-d5 (Surr)	75		33 - 120				08/19/20 09:45	08/21/20 13:14	1
Phenol-d5 (Surr)	21		10 - 120				08/19/20 09:45	08/21/20 13:14	1
Terphenyl-d14 (Surr)	90		36 - 122				08/19/20 09:45	08/21/20 13:14	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-185_081420

Lab Sample ID: 240-135083-5

Date Collected: 08/14/20 08:45

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 09:05	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 09:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	52		22 - 120				08/19/20 09:52	08/21/20 09:05	1
DCB Decachlorobiphenyl	39		10 - 120				08/19/20 09:52	08/21/20 09:05	1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 12:01	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 12:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	63		22 - 120				08/19/20 09:52	08/21/20 12:01	1
DCB Decachlorobiphenyl	51		10 - 120				08/19/20 09:52	08/21/20 12:01	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	320		1.0	2.1	ug/L		08/17/20 14:00	08/18/20 17:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.10	J	0.20	0.093	mg/L			08/28/20 16:03	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/27/20 08:59	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: FB-SM1-01_081420

Lab Sample ID: 240-135083-6

Date Collected: 08/14/20 12:40

Matrix: Water

Date Received: 08/15/20 10:30

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1262	0.095	U	0.095	0.055	ug/L		08/19/20 09:52	08/21/20 09:20	1
Aroclor-1268	0.095	U	0.095	0.059	ug/L		08/19/20 09:52	08/21/20 09:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	67		22 - 120				08/19/20 09:52	08/21/20 09:20	1
DCB Decachlorobiphenyl	32		10 - 120				08/19/20 09:52	08/21/20 09:20	1

Surrogate Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		FBP (39-120)	2FP (10-120)	TBP (33-120)	NBZ (33-120)	PHL (10-120)	TPHL (36-122)
240-135083-3	MW-108WT_081320	92	41	93	77	25	98
240-135083-3 MS	MW-108WT_081320	87	43	84	83	28	91
240-135083-3 MSD	MW-108WT_081320	84	42	88	82	25	97
240-135083-4	DUP-03_081320	91	35	83	75	21	90
LCS 240-447807/11-A	Lab Control Sample	97	52	87	93	32	110
MB 240-447807/10-A	Method Blank	87	43	67	75	25	90

Surrogate Legend

FBP = 2-Fluorobiphenyl (Surr)
2FP = 2-Fluorophenol (Surr)
TBP = 2,4,6-Tribromophenol (Surr)
NBZ = Nitrobenzene-d5 (Surr)
PHL = Phenol-d5 (Surr)
TPHL = Terphenyl-d14 (Surr)

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (22-120)	DCBP2 (10-120)
240-135083-1	MW-114WT_081320	66	28
240-135083-5	MW-185_081420	52	39
240-135083-6	FB-SM1-01_081420	67	32
LCS 240-447810/20-A	Lab Control Sample	62	55
MB 240-447810/19-A	Method Blank	66	61

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Dissolved

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		TCX2 (22-120)	DCBP2 (10-120)
240-135083-1	MW-114WT_081320	60	30
240-135083-5	MW-185_081420	63	51

Surrogate Legend

TCX = Tetrachloro-m-xylene
DCBP = DCB Decachlorobiphenyl

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-447807/10-A

Matrix: Water

Analysis Batch: 448149

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 447807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1'-Biphenyl	1.0	U	1.0	0.49	ug/L		08/19/20 09:45	08/21/20 09:36	1
bis (2-chloroisopropyl) ether	1.0	U	1.0	0.55	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,4,5-Trichlorophenol	5.0	U	5.0	2.0	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,4,6-Trichlorophenol	5.0	U	5.0	1.8	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,4-Dichlorophenol	2.0	U	2.0	0.26	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,4-Dimethylphenol	2.0	U	2.0	0.52	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,4-Dinitrophenol	10	U	10	6.2	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,4-Dinitrotoluene	5.0	U	5.0	2.1	ug/L		08/19/20 09:45	08/21/20 09:36	1
2,6-Dinitrotoluene	5.0	U	5.0	2.1	ug/L		08/19/20 09:45	08/21/20 09:36	1
2-Chloronaphthalene	1.0	U	1.0	0.48	ug/L		08/19/20 09:45	08/21/20 09:36	1
2-Chlorophenol	1.0	U	1.0	0.27	ug/L		08/19/20 09:45	08/21/20 09:36	1
2-Methylnaphthalene	0.20	U	0.20	0.11	ug/L		08/19/20 09:45	08/21/20 09:36	1
2-Methylphenol	1.0	U	1.0	0.21	ug/L		08/19/20 09:45	08/21/20 09:36	1
2-Nitroaniline	2.0	U	2.0	0.51	ug/L		08/19/20 09:45	08/21/20 09:36	1
2-Nitrophenol	2.0	U	2.0	0.56	ug/L		08/19/20 09:45	08/21/20 09:36	1
3,3'-Dichlorobenzidine	5.0	U	5.0	1.2	ug/L		08/19/20 09:45	08/21/20 09:36	1
3-Nitroaniline	2.0	U	2.0	0.57	ug/L		08/19/20 09:45	08/21/20 09:36	1
4,6-Dinitro-2-methylphenol	5.0	U	5.0	2.8	ug/L		08/19/20 09:45	08/21/20 09:36	1
4-Bromophenyl phenyl ether	2.0	U	2.0	0.50	ug/L		08/19/20 09:45	08/21/20 09:36	1
4-Chloro-3-methylphenol	2.0	U	2.0	0.30	ug/L		08/19/20 09:45	08/21/20 09:36	1
4-Chloroaniline	2.0	U	2.0	0.32	ug/L		08/19/20 09:45	08/21/20 09:36	1
4-Chlorophenyl phenyl ether	2.0	U	2.0	0.55	ug/L		08/19/20 09:45	08/21/20 09:36	1
4-Nitroaniline	2.0	U	2.0	0.92	ug/L		08/19/20 09:45	08/21/20 09:36	1
4-Nitrophenol	10	U	10	2.2	ug/L		08/19/20 09:45	08/21/20 09:36	1
Acenaphthene	0.20	U	0.20	0.17	ug/L		08/19/20 09:45	08/21/20 09:36	1
Acenaphthylene	0.20	U	0.20	0.13	ug/L		08/19/20 09:45	08/21/20 09:36	1
Acetophenone	1.0	U	1.0	0.37	ug/L		08/19/20 09:45	08/21/20 09:36	1
Anthracene	0.20	U	0.20	0.14	ug/L		08/19/20 09:45	08/21/20 09:36	1
Atrazine	2.0	U	2.0	0.95	ug/L		08/19/20 09:45	08/21/20 09:36	1
Benzaldehyde	2.0	U	2.0	0.76	ug/L		08/19/20 09:45	08/21/20 09:36	1
Benzo[a]anthracene	0.20	U	0.20	0.17	ug/L		08/19/20 09:45	08/21/20 09:36	1
Benzo[a]pyrene	0.20	U	0.20	0.17	ug/L		08/19/20 09:45	08/21/20 09:36	1
Benzo[b]fluoranthene	0.20	U	0.20	0.15	ug/L		08/19/20 09:45	08/21/20 09:36	1
Benzo[g,h,i]perylene	0.20	U	0.20	0.18	ug/L		08/19/20 09:45	08/21/20 09:36	1
Benzo[k]fluoranthene	0.20	U	0.20	0.14	ug/L		08/19/20 09:45	08/21/20 09:36	1
Bis(2-chloroethoxy)methane	1.0	U	1.0	0.46	ug/L		08/19/20 09:45	08/21/20 09:36	1
Bis(2-chloroethyl)ether	1.0	U	1.0	0.40	ug/L		08/19/20 09:45	08/21/20 09:36	1
Bis(2-ethylhexyl) phthalate	5.0	U	5.0	2.2	ug/L		08/19/20 09:45	08/21/20 09:36	1
Butyl benzyl phthalate	2.0	U	2.0	0.67	ug/L		08/19/20 09:45	08/21/20 09:36	1
Caprolactam	5.0	U	5.0	0.93	ug/L		08/19/20 09:45	08/21/20 09:36	1
Carbazole	1.0	U	1.0	0.49	ug/L		08/19/20 09:45	08/21/20 09:36	1
Chrysene	0.20	U	0.20	0.19	ug/L		08/19/20 09:45	08/21/20 09:36	1
Dibenz(a,h)anthracene	0.20	U	0.20	0.15	ug/L		08/19/20 09:45	08/21/20 09:36	1
Dibenzofuran	1.0	U	1.0	0.56	ug/L		08/19/20 09:45	08/21/20 09:36	1
Diethyl phthalate	5.0	U	5.0	3.8	ug/L		08/19/20 09:45	08/21/20 09:36	1
Dimethyl phthalate	2.0	U	2.0	0.52	ug/L		08/19/20 09:45	08/21/20 09:36	1
Di-n-butyl phthalate	5.0	U	5.0	1.8	ug/L		08/19/20 09:45	08/21/20 09:36	1
Di-n-octyl phthalate	2.0	U	2.0	0.82	ug/L		08/19/20 09:45	08/21/20 09:36	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-447807/10-A

Matrix: Water

Analysis Batch: 448149

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 447807

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoranthene	0.20	U	0.20	0.16	ug/L		08/19/20 09:45	08/21/20 09:36	1
Fluorene	0.20	U	0.20	0.17	ug/L		08/19/20 09:45	08/21/20 09:36	1
Hexachlorobenzene	0.20	U	0.20	0.16	ug/L		08/19/20 09:45	08/21/20 09:36	1
Hexachlorobutadiene	1.0	U	1.0	0.54	ug/L		08/19/20 09:45	08/21/20 09:36	1
Hexachlorocyclopentadiene	10	U	10	1.8	ug/L		08/19/20 09:45	08/21/20 09:36	1
Hexachloroethane	1.0	U	1.0	0.40	ug/L		08/19/20 09:45	08/21/20 09:36	1
Indeno[1,2,3-cd]pyrene	0.20	U	0.20	0.14	ug/L		08/19/20 09:45	08/21/20 09:36	1
Isophorone	1.0	U	1.0	0.32	ug/L		08/19/20 09:45	08/21/20 09:36	1
Naphthalene	0.20	U	0.20	0.11	ug/L		08/19/20 09:45	08/21/20 09:36	1
Nitrobenzene	1.0	U	1.0	0.51	ug/L		08/19/20 09:45	08/21/20 09:36	1
N-Nitrosodi-n-propylamine	1.0	U	1.0	0.25	ug/L		08/19/20 09:45	08/21/20 09:36	1
N-Nitrosodiphenylamine	1.0	U	1.0	0.44	ug/L		08/19/20 09:45	08/21/20 09:36	1
Pentachlorophenol	10	U	10	3.1	ug/L		08/19/20 09:45	08/21/20 09:36	1
Phenol	1.0	U	1.0	0.13	ug/L		08/19/20 09:45	08/21/20 09:36	1
Phenanthrene	0.20	U	0.20	0.17	ug/L		08/19/20 09:45	08/21/20 09:36	1
Pyrene	0.20	U	0.20	0.18	ug/L		08/19/20 09:45	08/21/20 09:36	1
3 & 4 Methylphenol	2.0	U	2.0	0.19	ug/L		08/19/20 09:45	08/21/20 09:36	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorobiphenyl (Surr)	87		39 - 120	08/19/20 09:45	08/21/20 09:36	1
2-Fluorophenol (Surr)	43		10 - 120	08/19/20 09:45	08/21/20 09:36	1
2,4,6-Tribromophenol (Surr)	67		33 - 120	08/19/20 09:45	08/21/20 09:36	1
Nitrobenzene-d5 (Surr)	75		33 - 120	08/19/20 09:45	08/21/20 09:36	1
Phenol-d5 (Surr)	25		10 - 120	08/19/20 09:45	08/21/20 09:36	1
Terphenyl-d14 (Surr)	90		36 - 122	08/19/20 09:45	08/21/20 09:36	1

Lab Sample ID: LCS 240-447807/11-A

Matrix: Water

Analysis Batch: 448149

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,1'-Biphenyl	20.0	20.3		ug/L		102	57 - 120
bis (2-chloroisopropyl) ether	20.0	18.0		ug/L		90	32 - 131
2,4,5-Trichlorophenol	20.0	18.0		ug/L		90	61 - 120
2,4,6-Trichlorophenol	20.0	18.4		ug/L		92	63 - 120
2,4-Dichlorophenol	20.0	19.5		ug/L		97	60 - 120
2,4-Dimethylphenol	20.0	17.8		ug/L		89	56 - 120
2,4-Dinitrophenol	40.0	19.2		ug/L		48	20 - 122
2,4-Dinitrotoluene	20.0	22.1		ug/L		111	66 - 120
2,6-Dinitrotoluene	20.0	21.7		ug/L		109	70 - 120
2-Chloronaphthalene	20.0	20.0		ug/L		100	58 - 120
2-Chlorophenol	20.0	18.8		ug/L		94	55 - 120
2-Methylnaphthalene	20.0	19.3		ug/L		97	58 - 120
2-Methylphenol	20.0	16.4		ug/L		82	50 - 120
2-Nitroaniline	20.0	21.3		ug/L		107	55 - 124
2-Nitrophenol	20.0	19.2		ug/L		96	60 - 120
3,3'-Dichlorobenzidine	40.0	48.1		ug/L		120	53 - 125
3-Nitroaniline	20.0	15.3		ug/L		76	53 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-447807/11-A

Matrix: Water

Analysis Batch: 448149

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4,6-Dinitro-2-methylphenol	40.0	33.8		ug/L		84	48 - 136
4-Bromophenyl phenyl ether	20.0	19.1		ug/L		96	61 - 120
4-Chloro-3-methylphenol	20.0	18.3		ug/L		92	59 - 120
4-Chloroaniline	20.0	2.26		ug/L		11	10 - 120
4-Chlorophenyl phenyl ether	20.0	20.3		ug/L		101	63 - 120
4-Nitroaniline	20.0	20.4		ug/L		102	58 - 120
4-Nitrophenol	40.0	11.0		ug/L		28	10 - 120
Acenaphthene	20.0	19.8		ug/L		99	60 - 120
Acenaphthylene	20.0	18.4		ug/L		92	60 - 105
Acetophenone	20.0	20.7		ug/L		104	57 - 120
Anthracene	20.0	20.3		ug/L		101	63 - 120
Atrazine	40.0	43.9		ug/L		110	67 - 125
Benzaldehyde	40.0	39.7		ug/L		99	48 - 120
Benzo[a]anthracene	20.0	19.8		ug/L		99	63 - 120
Benzo[a]pyrene	20.0	20.7		ug/L		104	57 - 120
Benzo[b]fluoranthene	20.0	20.2		ug/L		101	63 - 120
Benzo[g,h,i]perylene	20.0	22.5		ug/L		112	66 - 120
Benzo[k]fluoranthene	20.0	21.8		ug/L		109	63 - 120
Bis(2-chloroethoxy)methane	20.0	19.5		ug/L		98	56 - 120
Bis(2-chloroethyl)ether	20.0	18.6		ug/L		93	51 - 120
Bis(2-ethylhexyl) phthalate	20.0	24.0		ug/L		120	54 - 133
Butyl benzyl phthalate	20.0	22.7		ug/L		114	56 - 124
Caprolactam	40.0	4.15	J	ug/L		10	10 - 120
Carbazole	20.0	22.3		ug/L		112	66 - 120
Chrysene	20.0	19.7		ug/L		98	64 - 120
Dibenz(a,h)anthracene	20.0	20.6		ug/L		103	61 - 120
Dibenzofuran	20.0	20.2		ug/L		101	62 - 120
Diethyl phthalate	20.0	21.3		ug/L		107	60 - 120
Dimethyl phthalate	20.0	21.0		ug/L		105	55 - 120
Di-n-butyl phthalate	20.0	22.5		ug/L		112	61 - 123
Di-n-octyl phthalate	20.0	21.4		ug/L		107	52 - 124
Fluoranthene	20.0	21.6		ug/L		108	67 - 120
Fluorene	20.0	21.4	*	ug/L		107	62 - 105
Hexachlorobenzene	20.0	19.7		ug/L		99	57 - 120
Hexachlorobutadiene	20.0	16.1		ug/L		81	39 - 120
Hexachlorocyclopentadiene	20.0	8.11	J	ug/L		41	20 - 120
Hexachloroethane	20.0	17.0		ug/L		85	40 - 120
Indeno[1,2,3-cd]pyrene	20.0	20.6		ug/L		103	65 - 120
Isophorone	20.0	19.6		ug/L		98	57 - 120
Naphthalene	20.0	18.5		ug/L		93	55 - 120
Nitrobenzene	20.0	19.3		ug/L		97	56 - 120
N-Nitrosodi-n-propylamine	20.0	20.7		ug/L		104	52 - 120
N-Nitrosodiphenylamine	20.0	19.8		ug/L		99	61 - 120
Pentachlorophenol	40.0	23.1		ug/L		58	32 - 120
Phenol	20.0	6.65		ug/L		33	12 - 120
Phenanthrene	20.0	19.7		ug/L		98	62 - 120
Pyrene	20.0	20.2		ug/L		101	63 - 120
3 & 4 Methylphenol	20.0	14.2		ug/L		71	45 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-447807/11-A

Matrix: Water

Analysis Batch: 448149

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 447807

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorobiphenyl (Surr)	97		39 - 120
2-Fluorophenol (Surr)	52		10 - 120
2,4,6-Tribromophenol (Surr)	87		33 - 120
Nitrobenzene-d5 (Surr)	93		33 - 120
Phenol-d5 (Surr)	32		10 - 120
Terphenyl-d14 (Surr)	110		36 - 122

Lab Sample ID: 240-135083-3 MS

Matrix: Water

Analysis Batch: 448149

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
1,1'-Biphenyl	0.96	U	19.2	16.5		ug/L		86	33 - 120
bis (2-chloroisopropyl) ether	0.96	U	19.2	15.1		ug/L		79	21 - 120
2,4,5-Trichlorophenol	4.8	U	19.2	16.2		ug/L		84	51 - 120
2,4,6-Trichlorophenol	4.8	U	19.2	16.3		ug/L		85	48 - 120
2,4-Dichlorophenol	1.9	U	19.2	16.6		ug/L		86	46 - 120
2,4-Dimethylphenol	1.9	U	19.2	14.7		ug/L		77	38 - 120
2,4-Dinitrophenol	9.6	U	38.5	22.5		ug/L		58	10 - 139
2,4-Dinitrotoluene	4.8	U	19.2	18.3		ug/L		95	52 - 120
2,6-Dinitrotoluene	4.8	U	19.2	18.3		ug/L		95	53 - 120
2-Chloronaphthalene	0.96	U	19.2	16.7		ug/L		87	39 - 120
2-Chlorophenol	0.96	U	19.2	14.9		ug/L		77	38 - 120
2-Methylnaphthalene	0.19	U	19.2	16.1		ug/L		84	38 - 120
2-Methylphenol	0.96	U	19.2	13.4		ug/L		70	30 - 120
2-Nitroaniline	1.9	U	19.2	18.7		ug/L		97	40 - 120
2-Nitrophenol	1.9	U	19.2	16.7		ug/L		87	42 - 120
3,3'-Dichlorobenzidine	4.8	U	38.5	6.64		ug/L		17	14 - 136
3-Nitroaniline	1.9	U	19.2	10.6		ug/L		55	35 - 120
4,6-Dinitro-2-methylphenol	4.8	U	38.5	28.6		ug/L		74	10 - 151
4-Bromophenyl phenyl ether	1.9	U	19.2	15.3		ug/L		80	42 - 120
4-Chloro-3-methylphenol	1.9	U	19.2	15.4		ug/L		80	35 - 120
4-Chloroaniline	1.9	U	19.2	1.87	J	ug/L		10	10 - 120
4-Chlorophenyl phenyl ether	1.9	U	19.2	16.6		ug/L		86	42 - 120
4-Nitroaniline	1.9	U	19.2	13.3		ug/L		69	37 - 120
4-Nitrophenol	9.6	U	38.5	10.0		ug/L		26	11 - 120
Acenaphthene	0.19	U	19.2	16.4		ug/L		85	43 - 120
Acenaphthylene	0.19	U	19.2	15.1		ug/L		78	43 - 120
Acetophenone	0.96	U	19.2	16.8		ug/L		87	41 - 120
Anthracene	0.19	U	19.2	16.2		ug/L		84	44 - 120
Atrazine	1.9	U	38.5	36.6		ug/L		95	54 - 127
Benzaldehyde	1.9	U	38.5	31.8		ug/L		83	40 - 120
Benzo[a]anthracene	0.19	U	19.2	16.3		ug/L		85	41 - 120
Benzo[a]pyrene	0.19	U	19.2	16.8		ug/L		87	38 - 120
Benzo[b]fluoranthene	0.19	U	19.2	16.2		ug/L		84	40 - 120
Benzo[g,h,i]perylene	0.19	U	19.2	18.7		ug/L		97	35 - 123
Benzo[k]fluoranthene	0.19	U	19.2	16.1		ug/L		84	42 - 120
Bis(2-chloroethoxy)methane	0.96	U	19.2	16.8		ug/L		87	41 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-135083-3 MS

Matrix: Water

Analysis Batch: 448149

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Bis(2-chloroethyl)ether	0.96	U	19.2	15.5		ug/L		81	35 - 120
Bis(2-ethylhexyl) phthalate	4.8	U	19.2	20.6		ug/L		107	29 - 136
Butyl benzyl phthalate	1.9	U	19.2	19.1		ug/L		99	32 - 133
Caprolactam	4.8	U	38.5	3.85	J	ug/L		10	10 - 120
Carbazole	0.96	U	19.2	18.3		ug/L		95	51 - 120
Chrysene	0.19	U	19.2	15.6		ug/L		81	42 - 120
Dibenz(a,h)anthracene	0.19	U	19.2	17.0		ug/L		89	38 - 121
Dibenzofuran	0.96	U	19.2	16.7		ug/L		87	44 - 120
Diethyl phthalate	4.8	U	19.2	18.2		ug/L		95	52 - 120
Dimethyl phthalate	1.9	U	19.2	18.4		ug/L		96	53 - 120
Di-n-butyl phthalate	4.8	U	19.2	18.2		ug/L		95	42 - 126
Di-n-octyl phthalate	1.9	U	19.2	17.7		ug/L		92	27 - 135
Fluoranthene	0.19	U	19.2	17.1		ug/L		89	42 - 122
Fluorene	0.19	U *	19.2	17.6		ug/L		91	46 - 120
Hexachlorobenzene	0.19	U	19.2	15.5		ug/L		81	37 - 120
Hexachlorobutadiene	0.96	U	19.2	12.8		ug/L		66	19 - 120
Hexachlorocyclopentadiene	9.6	U	19.2	6.75	J	ug/L		35	10 - 120
Hexachloroethane	0.96	U	19.2	12.7		ug/L		66	20 - 120
Indeno[1,2,3-cd]pyrene	0.19	U	19.2	17.2		ug/L		89	36 - 123
Isophorone	0.96	U	19.2	16.7		ug/L		87	40 - 120
Naphthalene	0.19	U	19.2	15.6		ug/L		81	10 - 134
Nitrobenzene	0.96	U	19.2	16.2		ug/L		84	40 - 120
N-Nitrosodi-n-propylamine	0.96	U	19.2	17.2		ug/L		89	37 - 120
N-Nitrosodiphenylamine	0.96	U	19.2	16.0		ug/L		83	46 - 120
Pentachlorophenol	9.6	U	38.5	24.8		ug/L		65	24 - 120
Phenol	0.96	U	19.2	5.38		ug/L		28	10 - 120
Phenanthrene	0.19	U	19.2	15.7		ug/L		82	45 - 120
Pyrene	0.19	U	19.2	16.5		ug/L		86	39 - 121
3 & 4 Methylphenol	1.9	U	19.2	11.5		ug/L		60	25 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
2-Fluorobiphenyl (Surr)	87		39 - 120
2-Fluorophenol (Surr)	43		10 - 120
2,4,6-Tribromophenol (Surr)	84		33 - 120
Nitrobenzene-d5 (Surr)	83		33 - 120
Phenol-d5 (Surr)	28		10 - 120
Terphenyl-d14 (Surr)	91		36 - 122

Lab Sample ID: 240-135083-3 MSD

Matrix: Water

Analysis Batch: 448149

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1'-Biphenyl	0.96	U	19.2	17.4		ug/L		91	33 - 120	5	35
bis (2-chloroisopropyl) ether	0.96	U	19.2	15.2		ug/L		79	21 - 120	1	35
2,4,5-Trichlorophenol	4.8	U	19.2	17.1		ug/L		89	51 - 120	5	35
2,4,6-Trichlorophenol	4.8	U	19.2	17.2		ug/L		89	48 - 120	5	35
2,4-Dichlorophenol	1.9	U	19.2	17.2		ug/L		90	46 - 120	4	35

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-135083-3 MSD

Matrix: Water

Analysis Batch: 448149

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
2,4-Dimethylphenol	1.9	U	19.2	15.0		ug/L		78	38 - 120	2	35
2,4-Dinitrophenol	9.6	U	38.5	25.6		ug/L		66	10 - 139	13	35
2,4-Dinitrotoluene	4.8	U	19.2	19.9		ug/L		103	52 - 120	8	35
2,6-Dinitrotoluene	4.8	U	19.2	20.1		ug/L		104	53 - 120	9	35
2-Chloronaphthalene	0.96	U	19.2	17.3		ug/L		90	39 - 120	4	35
2-Chlorophenol	0.96	U	19.2	15.2		ug/L		79	38 - 120	2	35
2-Methylnaphthalene	0.19	U	19.2	17.1		ug/L		89	38 - 120	6	35
2-Methylphenol	0.96	U	19.2	13.0		ug/L		68	30 - 120	3	35
2-Nitroaniline	1.9	U	19.2	19.2		ug/L		100	40 - 120	3	35
2-Nitrophenol	1.9	U	19.2	16.6		ug/L		86	42 - 120	0	35
3,3'-Dichlorobenzidine	4.8	U	38.5	7.42		ug/L		19	14 - 136	11	35
3-Nitroaniline	1.9	U	19.2	11.5		ug/L		60	35 - 120	9	35
4,6-Dinitro-2-methylphenol	4.8	U	38.5	33.8		ug/L		88	10 - 151	17	35
4-Bromophenyl phenyl ether	1.9	U	19.2	17.6		ug/L		91	42 - 120	14	35
4-Chloro-3-methylphenol	1.9	U	19.2	16.5		ug/L		86	35 - 120	7	35
4-Chloroaniline	1.9	U	19.2	2.15		ug/L		11	10 - 120	14	35
4-Chlorophenyl phenyl ether	1.9	U	19.2	17.8		ug/L		93	42 - 120	7	35
4-Nitroaniline	1.9	U	19.2	13.2		ug/L		69	37 - 120	1	35
4-Nitrophenol	9.6	U	38.5	10.8		ug/L		28	11 - 120	8	35
Acenaphthene	0.19	U	19.2	17.3		ug/L		90	43 - 120	5	35
Acenaphthylene	0.19	U	19.2	15.7		ug/L		82	43 - 120	4	35
Acetophenone	0.96	U	19.2	17.0		ug/L		88	41 - 120	1	35
Anthracene	0.19	U	19.2	18.9		ug/L		98	44 - 120	15	35
Atrazine	1.9	U	38.5	39.9		ug/L		104	54 - 127	9	35
Benzaldehyde	1.9	U	38.5	32.3		ug/L		84	40 - 120	2	35
Benzo[a]anthracene	0.19	U	19.2	19.1		ug/L		99	41 - 120	15	35
Benzo[a]pyrene	0.19	U	19.2	19.0		ug/L		99	38 - 120	12	35
Benzo[b]fluoranthene	0.19	U	19.2	19.0		ug/L		99	40 - 120	16	35
Benzo[g,h,i]perylene	0.19	U	19.2	22.1		ug/L		115	35 - 123	17	35
Benzo[k]fluoranthene	0.19	U	19.2	18.7		ug/L		97	42 - 120	15	35
Bis(2-chloroethoxy)methane	0.96	U	19.2	16.7		ug/L		87	41 - 120	0	35
Bis(2-chloroethyl)ether	0.96	U	19.2	15.5		ug/L		81	35 - 120	0	35
Bis(2-ethylhexyl) phthalate	4.8	U	19.2	24.5		ug/L		127	29 - 136	17	35
Butyl benzyl phthalate	1.9	U	19.2	22.6		ug/L		118	32 - 133	17	35
Caprolactam	4.8	U	38.5	4.10	J	ug/L		11	10 - 120	6	33
Carbazole	0.96	U	19.2	21.4		ug/L		112	51 - 120	16	35
Chrysene	0.19	U	19.2	18.7		ug/L		97	42 - 120	18	35
Dibenz(a,h)anthracene	0.19	U	19.2	18.8		ug/L		98	38 - 121	10	35
Dibenzofuran	0.96	U	19.2	17.8		ug/L		93	44 - 120	6	35
Diethyl phthalate	4.8	U	19.2	19.6		ug/L		102	52 - 120	7	29
Dimethyl phthalate	1.9	U	19.2	19.0		ug/L		99	53 - 120	3	35
Di-n-butyl phthalate	4.8	U	19.2	21.6		ug/L		112	42 - 126	17	35
Di-n-octyl phthalate	1.9	U	19.2	20.5		ug/L		107	27 - 135	15	35
Fluoranthene	0.19	U	19.2	20.1		ug/L		104	42 - 122	16	35
Fluorene	0.19	U *	19.2	19.0		ug/L		99	46 - 120	8	35
Hexachlorobenzene	0.19	U	19.2	17.9		ug/L		93	37 - 120	14	35
Hexachlorobutadiene	0.96	U	19.2	14.1		ug/L		73	19 - 120	10	35
Hexachlorocyclopentadiene	9.6	U	19.2	7.34	J	ug/L		38	10 - 120	8	35
Hexachloroethane	0.96	U	19.2	13.5		ug/L		70	20 - 120	6	35

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-135083-3 MSD

Matrix: Water

Analysis Batch: 448149

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Prep Batch: 447807

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Indeno[1,2,3-cd]pyrene	0.19	U	19.2	19.9		ug/L		103	36 - 123	14	35
Isophorone	0.96	U	19.2	16.8		ug/L		87	40 - 120	1	35
Naphthalene	0.19	U	19.2	16.2		ug/L		84	10 - 134	3	35
Nitrobenzene	0.96	U	19.2	16.2		ug/L		84	40 - 120	0	35
N-Nitrosodi-n-propylamine	0.96	U	19.2	17.5		ug/L		91	37 - 120	2	35
N-Nitrosodiphenylamine	0.96	U	19.2	18.0		ug/L		94	46 - 120	12	35
Pentachlorophenol	9.6	U	38.5	28.1		ug/L		73	24 - 120	13	35
Phenol	0.96	U	19.2	5.18		ug/L		27	10 - 120	4	35
Phenanthrene	0.19	U	19.2	18.3		ug/L		95	45 - 120	15	35
Pyrene	0.19	U	19.2	19.5		ug/L		101	39 - 121	16	35
3 & 4 Methylphenol	1.9	U	19.2	11.3		ug/L		59	25 - 120	2	35

Surrogate	MSD %Recovery	MSD Qualifier	Limits
2-Fluorobiphenyl (Surr)	84		39 - 120
2-Fluorophenol (Surr)	42		10 - 120
2,4,6-Tribromophenol (Surr)	88		33 - 120
Nitrobenzene-d5 (Surr)	82		33 - 120
Phenol-d5 (Surr)	25		10 - 120
Terphenyl-d14 (Surr)	97		36 - 122

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-447810/19-A

Matrix: Water

Analysis Batch: 448124

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 447810

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1262	0.10	U	0.10	0.058	ug/L		08/19/20 09:52	08/21/20 08:07	1
Aroclor-1268	0.10	U	0.10	0.062	ug/L		08/19/20 09:52	08/21/20 08:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Tetrachloro-m-xylene	66		22 - 120	08/19/20 09:52	08/21/20 08:07	1
DCB Decachlorobiphenyl	61		10 - 120	08/19/20 09:52	08/21/20 08:07	1

Lab Sample ID: LCS 240-447810/20-A

Matrix: Water

Analysis Batch: 448124

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 447810

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.34		ug/L		54	28 - 120
Aroclor-1260	2.50	1.13		ug/L		45	30 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 240-447810/20-A
Matrix: Water
Analysis Batch: 448124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447810

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Tetrachloro-m-xylene	62		22 - 120
DCB Decachlorobiphenyl	55		10 - 120

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-447498/1-A
Matrix: Water
Analysis Batch: 447768

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 447498

Analyte	MB	MB								
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Manganese	1.0	U	1.0	2.1	ug/L		08/17/20 14:00	08/18/20 17:02		1

Lab Sample ID: LCS 240-447498/2-A
Matrix: Water
Analysis Batch: 447768

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 447498

Analyte		Spike	LCS	LCS				%Rec.		
		Added	Result	Qualifier	Unit	D	%Rec	Limits		
Manganese		500	487		ug/L		97	80 - 120		

Lab Sample ID: 240-135083-3 MSD
Matrix: Water
Analysis Batch: 447768

Client Sample ID: MW-108WT_081320
Prep Type: Total Recoverable
Prep Batch: 447498

Analyte	Sample	Sample	Spike	MSD	MSD			%Rec.		RPD
	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD
Manganese	2000		500	2590	4	ug/L		113	75 - 125	1

Method: 4500 NH3 D-2011 - Ammonia

Lab Sample ID: MB 240-449077/7
Matrix: Water
Analysis Batch: 449077

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB								
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Ammonia	0.20	U	0.20	0.093	mg/L			08/27/20 13:24		1

Lab Sample ID: LCS 240-449077/8
Matrix: Water
Analysis Batch: 449077

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte		Spike	LCS	LCS				%Rec.		
		Added	Result	Qualifier	Unit	D	%Rec	Limits		
Ammonia		13.8	13.3		mg/L		96	85 - 114		

Lab Sample ID: MB 240-449258/7
Matrix: Water
Analysis Batch: 449258

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB								
	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
Ammonia	0.20	U	0.20	0.093	mg/L			08/28/20 15:35		1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: 4500 NH3 D-2011 - Ammonia (Continued)

Lab Sample ID: LCS 240-449258/8

Matrix: Water

Analysis Batch: 449258

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			13.8	12.7		mg/L		92	85 - 114		

Lab Sample ID: 240-135083-5 MS

Matrix: Water

Analysis Batch: 449258

Client Sample ID: MW-185_081420

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.10	J	2.50	2.66		mg/L		102	79 - 130		

Lab Sample ID: 240-135083-5 MSD

Matrix: Water

Analysis Batch: 449258

Client Sample ID: MW-185_081420

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.10	J	2.50	2.81		mg/L		108	79 - 130	6	10

Method: SM4500 P E-2011 - Phosphorus

Lab Sample ID: MB 240-448943/3

Matrix: Water

Analysis Batch: 448943

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			08/27/20 06:54	1

Lab Sample ID: LCS 240-448943/4

Matrix: Water

Analysis Batch: 448943

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Phosphorus as P			0.478	0.472		mg/L		99	77 - 120		

Lab Sample ID: LCSD 240-448943/5

Matrix: Water

Analysis Batch: 448943

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P			0.478	0.450		mg/L		94	77 - 120	5	20

Lab Sample ID: 240-135083-3 MS

Matrix: Water

Analysis Batch: 448943

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Phosphorus as P	0.10	U	0.500	0.545		mg/L		109	38 - 156		

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Method: SM4500 P E-2011 - Phosphorus (Continued)

Lab Sample ID: 240-135083-3 MSD

Matrix: Water

Analysis Batch: 448943

Client Sample ID: MW-108WT_081320

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Phosphorus as P	0.10	U	0.500	0.535		mg/L		107	38 - 156	2	29

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

GC/MS Semi VOA

Prep Batch: 447807

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-3	MW-108WT_081320	Total/NA	Water	3510C	
240-135083-4	DUP-03_081320	Total/NA	Water	3510C	
MB 240-447807/10-A	Method Blank	Total/NA	Water	3510C	
LCS 240-447807/11-A	Lab Control Sample	Total/NA	Water	3510C	
240-135083-3 MS	MW-108WT_081320	Total/NA	Water	3510C	
240-135083-3 MSD	MW-108WT_081320	Total/NA	Water	3510C	

Analysis Batch: 448149

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-3	MW-108WT_081320	Total/NA	Water	8270C	447807
240-135083-4	DUP-03_081320	Total/NA	Water	8270C	447807
MB 240-447807/10-A	Method Blank	Total/NA	Water	8270C	447807
LCS 240-447807/11-A	Lab Control Sample	Total/NA	Water	8270C	447807
240-135083-3 MS	MW-108WT_081320	Total/NA	Water	8270C	447807
240-135083-3 MSD	MW-108WT_081320	Total/NA	Water	8270C	447807

GC Semi VOA

Prep Batch: 447810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-1	MW-114WT_081320	Dissolved	Water	3510C	
240-135083-1	MW-114WT_081320	Total/NA	Water	3510C	
240-135083-5	MW-185_081420	Dissolved	Water	3510C	
240-135083-5	MW-185_081420	Total/NA	Water	3510C	
240-135083-6	FB-SM1-01_081420	Total/NA	Water	3510C	
MB 240-447810/19-A	Method Blank	Total/NA	Water	3510C	
LCS 240-447810/20-A	Lab Control Sample	Total/NA	Water	3510C	

Analysis Batch: 448124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-1	MW-114WT_081320	Dissolved	Water	8082A	447810
240-135083-1	MW-114WT_081320	Total/NA	Water	8082A	447810
240-135083-5	MW-185_081420	Dissolved	Water	8082A	447810
240-135083-5	MW-185_081420	Total/NA	Water	8082A	447810
240-135083-6	FB-SM1-01_081420	Total/NA	Water	8082A	447810
MB 240-447810/19-A	Method Blank	Total/NA	Water	8082A	447810
LCS 240-447810/20-A	Lab Control Sample	Total/NA	Water	8082A	447810

Metals

Prep Batch: 447498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-1	MW-114WT_081320	Total Recoverable	Water	3005A	
240-135083-3	MW-108WT_081320	Total Recoverable	Water	3005A	
240-135083-5	MW-185_081420	Total Recoverable	Water	3005A	
MB 240-447498/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447498/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-135083-3 MSD	MW-108WT_081320	Total Recoverable	Water	3005A	

Analysis Batch: 447768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-1	MW-114WT_081320	Total Recoverable	Water	6020	447498

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Metals (Continued)

Analysis Batch: 447768 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-3	MW-108WT_081320	Total Recoverable	Water	6020	447498
240-135083-5	MW-185_081420	Total Recoverable	Water	6020	447498
MB 240-447498/1-A	Method Blank	Total Recoverable	Water	6020	447498
LCS 240-447498/2-A	Lab Control Sample	Total Recoverable	Water	6020	447498
240-135083-3 MSD	MW-108WT_081320	Total Recoverable	Water	6020	447498

General Chemistry

Analysis Batch: 448943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-1	MW-114WT_081320	Total/NA	Water	SM4500 P E-2011	
240-135083-3	MW-108WT_081320	Total/NA	Water	SM4500 P E-2011	
240-135083-5	MW-185_081420	Total/NA	Water	SM4500 P E-2011	
MB 240-448943/3	Method Blank	Total/NA	Water	SM4500 P E-2011	
LCS 240-448943/4	Lab Control Sample	Total/NA	Water	SM4500 P E-2011	
LCSD 240-448943/5	Lab Control Sample Dup	Total/NA	Water	SM4500 P E-2011	
240-135083-3 MS	MW-108WT_081320	Total/NA	Water	SM4500 P E-2011	
240-135083-3 MSD	MW-108WT_081320	Total/NA	Water	SM4500 P E-2011	

Analysis Batch: 449077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-1	MW-114WT_081320	Total/NA	Water	4500 NH3 D-2011	
240-135083-2	MW-114S2_081320	Total/NA	Water	4500 NH3 D-2011	
MB 240-449077/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	
LCS 240-449077/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	

Analysis Batch: 449258

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135083-3	MW-108WT_081320	Total/NA	Water	4500 NH3 D-2011	
240-135083-5	MW-185_081420	Total/NA	Water	4500 NH3 D-2011	
MB 240-449258/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	
LCS 240-449258/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	
240-135083-5 MS	MW-185_081420	Total/NA	Water	4500 NH3 D-2011	
240-135083-5 MSD	MW-185_081420	Total/NA	Water	4500 NH3 D-2011	

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-114WT_081320

Lab Sample ID: 240-135083-1

Date Collected: 08/13/20 15:10

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Dissolved	Analysis	8082A		1	448124	08/21/20 11:46	LSH	TAL CAN
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 08:51	LSH	TAL CAN
Total Recoverable	Prep	3005A			447498	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	447768	08/18/20 17:19	RKT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	449077	08/27/20 15:37	JMB	TAL CAN
Total/NA	Analysis	SM4500 P E-2011		1	448943	08/27/20 08:54	TPH	TAL CAN

Client Sample ID: MW-114S2_081320

Lab Sample ID: 240-135083-2

Date Collected: 08/13/20 15:30

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	4500 NH3 D-2011		1	449077	08/27/20 15:39	JMB	TAL CAN

Client Sample ID: MW-108WT_081320

Lab Sample ID: 240-135083-3

Date Collected: 08/13/20 15:15

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447807	08/19/20 09:45	MDH	TAL CAN
Total/NA	Analysis	8270C		1	448149	08/21/20 14:51	JMG	TAL CAN
Total Recoverable	Prep	3005A			447498	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	447768	08/18/20 17:07	RKT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	449258	08/28/20 15:58	JMB	TAL CAN
Total/NA	Analysis	SM4500 P E-2011		1	448943	08/27/20 08:19	TPH	TAL CAN

Client Sample ID: DUP-03_081320

Lab Sample ID: 240-135083-4

Date Collected: 08/13/20 00:00

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447807	08/19/20 09:45	MDH	TAL CAN
Total/NA	Analysis	8270C		1	448149	08/21/20 13:14	JMG	TAL CAN

Client Sample ID: MW-185_081420

Lab Sample ID: 240-135083-5

Date Collected: 08/14/20 08:45

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Dissolved	Analysis	8082A		1	448124	08/21/20 12:01	LSH	TAL CAN
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 09:05	LSH	TAL CAN

Eurofins TestAmerica, Canton

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Client Sample ID: MW-185_081420

Lab Sample ID: 240-135083-5

Date Collected: 08/14/20 08:45

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			447498	08/17/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6020		1	447768	08/18/20 17:21	RKT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	449258	08/28/20 16:03	JMB	TAL CAN
Total/NA	Analysis	SM4500 P E-2011		1	448943	08/27/20 08:59	TPH	TAL CAN

Client Sample ID: FB-SM1-01_081420

Lab Sample ID: 240-135083-6

Date Collected: 08/14/20 12:40

Matrix: Water

Date Received: 08/15/20 10:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447810	08/19/20 09:52	MDH	TAL CAN
Total/NA	Analysis	8082A		1	448124	08/21/20 09:20	LSH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw SMI

Job ID: 240-135083-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

MICHIGAN
190

Chain of Custody Record 460237



Environment Testing
TestAmerica

Address:

TAL-8210

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

Client Contact Company Name: <u>AMERICAN</u> Address: <u>28550 CABOT DR STE 500</u> City/State/Zip: <u>NGUYEN, MI 48377</u> Phone: <u>248-994-2240</u> Fax: <u>248-994-2241</u> Project Name: <u>RACEN SAGINAW</u> Site: <u>SMT</u> P.O.#: <u>35042836-05001</u>		Project Manager: Tel/Email: _____ Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below _____ ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Site Contact: Lab Contact: _____ Date: _____ Carrier: _____ COC No: _____ of _____ COCs	
Sample Identification MW-114WT-081320 MW-114S2-081320 MW-108WT-081320 DUP-03 MW-185WT-081420 FB-SM1-01-081420		Sample Type (C=Comp, G=Grab) Sample Date Sample Time Matrix # of Cont.		Filtered Sample (Y/N) Perform MS/MSD (Y/N) (Phos) (Hous) (Total) (Manganese) (Total) (PCB) (Dissolved) (PCB) (SVOCs)	
Sample Specific Notes: Dissolved PCB Field Filtered MS/MSD		 240-135083 Chain of Custody			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other _____ Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown					
Special Instructions/QC Requirements & Comments:					
Relinquished by: <u>Joe Hale</u> Relinquished by: <u>Joe Hale</u> Relinquished by: _____		Custody Seal No.: <u>1110001</u> Company: <u>ETA</u> Date/Time: <u>8/14/20 14:45</u>		Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____	
Relinquished by: _____ Relinquished by: _____ Relinquished by: _____		Received by: <u>Joe Hale</u> Company: <u>ETA</u> Date/Time: <u>8/14/20 14:45</u>		Received by: <u>Joe Hale</u> Company: <u>ETA</u> Date/Time: <u>8-15-20 1030</u>	

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login #: 135082

Client Arcadis Site Name _____ Cooler unpacked by: [Signature]
Cooler Received on 8-15-20 Opened on 8-15-20
FedEx: 1st Grd ☒ Exp ☐ UPS ☐ FAS ☐ Clipper ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ☐

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 714 Foam Box ☐ Client Cooler ☐ Box ☐ Other ☐
Packing material used: Bubble Wrap ☐ Foam ☐ Plastic Bag ☐ None ☐ Other ☐
COOLANT: Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐

1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes ☒ No ☐
-Were the seals on the outside of the cooler(s) signed & dated? Yes ☐ No ☒ NA ☐
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes ☐ No ☒ NA ☐
-Were tamper/custody seals intact and uncompromised? Yes ☐ No ☒ NA ☐

3. Shippers' packing slip attached to the cooler(s)? Yes ☐ No ☒4. Did custody papers accompany the sample(s)? Yes ☐ No ☒5. Were the custody papers relinquished & signed in the appropriate place? Yes ☐ No ☒6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes ☐ No ☒7. Did all bottles arrive in good condition (Unbroken)? Yes ☐ No ☒8. Could all bottle labels be reconciled with the COC? Yes ☐ No ☒9. Were correct bottle(s) used for the test(s) indicated? Yes ☐ No ☒10. Sufficient quantity received to perform indicated analyses? Yes ☐ No ☒11. Are these work share samples? Yes ☐ No ☒

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes ☒ No ☐ NA ☐ pH Strip Lot# HC91129813. Were VOAs on the COC? Yes ☐ No ☒14. Were air bubbles >6 mm in any VOA vials? ☒ Larger than this. Yes ☐ No ☒ NA ☐15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes ☐ No ☒16. Was a LL Hg or Me Hg trip blank present? Yes ☐ No ☒

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

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

Sample(s) _____ were received in a broken container.

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

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container		Preservative	
			pH	Temp	Added (mls)	Lot #
MW-114WT_081320	240-135083-A-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-114WT_081320	240-135083-B-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-114WT_081320	240-135083-C-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-114S2_081320	240-135083-A-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-108WT_081320	240-135083-A-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-108WT_081320	240-135083-B-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-108WT_081320	240-135083-C-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-185_081420	240-135083-A-5	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-185_081420	240-135083-B-5	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-185_081420	240-135083-C-5	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____

ANALYTICAL REPORT

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

Laboratory Job ID: 240-135144-1
Client Project/Site: Racer Saginaw GWS
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



Authorized for release by:
9/28/2020 8:50:22 AM

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

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results through
TotalAccess

Have a Question?



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www.eurofinsus.com/Env

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Qualifiers

Metals

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

General Chemistry

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

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Job ID: 240-135144-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw GWS

Report Number: 240-135144-1

Revision

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

Report revised on 9/28/2020 to report methods 2540C and 300 correctly on samples 3 and 4. They were switched in the original report.

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

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

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

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

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

RECEIPT

The samples were received on 8/18/2020 11:10 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4° C.

DISSOLVED METALS (ICP)

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/19/2020 and analyzed on 08/20/2020 and 08/21/2020.

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

TOTAL RECOVERABLE METALS (ICP)

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/19/2020 and analyzed on 08/20/2020 and 08/21/2020.

Sample X-4D_081720 (240-135144-4)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Job ID: 240-135144-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

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

TOTAL DISSOLVED SOLIDS

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 08/19/2020 and 08/20/2020.

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

ANIONS

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/18/2020.

Samples X-9D_081720 (240-135144-2)[5X] and X-4CAUGR_081720 (240-135144-3)[5X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

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

ANIONS

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/18/2020.

Samples X-9D_081720 (240-135144-2)[25X], X-9D_081720 (240-135144-2)[5X], X-4CAUGR_081720 (240-135144-3)[25X] and X-4CAUGR_081720 (240-135144-3)[5X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

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

DISSOLVED CYANIDE

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for dissolved cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/26/2020 and 08/28/2020.

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

TOTAL CYANIDE

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/26/2020 and 08/28/2020.

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

AMMONIA

Samples X-9AR_081720 (240-135144-1), X-9D_081720 (240-135144-2), X-4CAUGR_081720 (240-135144-3) and X-4D_081720 (240-135144-4) were analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/31/2020.

Sample X-4D_081720 (240-135144-4)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
9012A	Cyanide, Total and/or Amenable	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
SM 4500 NH3 D	Ammonia	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
9012A	Cyanide, Total and/or Amenable, Distillation	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-135144-1	X-9AR_081720	Water	08/17/20 09:35	08/18/20 11:10	
240-135144-2	X-9D_081720	Water	08/17/20 12:25	08/18/20 11:10	
240-135144-3	X-4CAUGR_081720	Water	08/17/20 09:55	08/18/20 11:10	
240-135144-4	X-4D_081720	Water	08/17/20 12:14	08/18/20 11:10	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-9AR_081720

Lab Sample ID: 240-135144-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	23		10	4.1	ug/L	1		6010B	Total
Barium	57	J	200	1.3	ug/L	1		6010B	Recoverable
Iron	6400		100	26	ug/L	1		6010B	Total
Manganese	3100		15	2.1	ug/L	1		6010B	Recoverable
Sodium	9600		5000	560	ug/L	1		6010B	Total
Arsenic	24		10	4.1	ug/L	1		6010B	Recoverable
Barium	57	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	5600		100	26	ug/L	1		6010B	Dissolved
Manganese	3000		15	2.1	ug/L	1		6010B	Dissolved
Sodium	9700		5000	560	ug/L	1		6010B	Dissolved
Chloride	13		1.0	0.28	mg/L	1		300.0	Total/NA
Total Dissolved Solids	360		10	7.8	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	0.11	J	0.20	0.093	mg/L	1		SM 4500 NH3 D	Total/NA

Client Sample ID: X-9D_081720

Lab Sample ID: 240-135144-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	38		10	4.1	ug/L	1		6010B	Total
Barium	200		200	1.3	ug/L	1		6010B	Recoverable
Iron	22000		100	26	ug/L	1		6010B	Total
Manganese	3400		15	2.1	ug/L	1		6010B	Recoverable
Sodium	490000		5000	560	ug/L	1		6010B	Total
Arsenic	22		10	4.1	ug/L	1		6010B	Recoverable
Barium	160	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	13000		100	26	ug/L	1		6010B	Dissolved
Manganese	2200		15	2.1	ug/L	1		6010B	Dissolved
Sodium	560000		10000	1100	ug/L	2		6010B	Dissolved
Chloride	1100		25	7.1	mg/L	25		300.0	Total/NA
Sulfate	170		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	2100		40	31	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	4.9		0.20	0.093	mg/L	1		SM 4500 NH3 D	Total/NA
Cyanide, Total	0.0066	J	0.010	0.0060	mg/L	1		9012A	Dissolved

Client Sample ID: X-4CAUGR_081720

Lab Sample ID: 240-135144-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	7.2	J	10	4.1	ug/L	1		6010B	Total
Barium	54	J	200	1.3	ug/L	1		6010B	Recoverable
Iron	2700		100	26	ug/L	1		6010B	Total
Manganese	300		15	2.1	ug/L	1		6010B	Recoverable
Sodium	13000		5000	560	ug/L	1		6010B	Total

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-4CAUGR_081720 (Continued)

Lab Sample ID: 240-135144-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.3	J	10	4.1	ug/L	1		6010B	Dissolved
Barium	54	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	2700		100	26	ug/L	1		6010B	Dissolved
Manganese	300		15	2.1	ug/L	1		6010B	Dissolved
Sodium	13000		5000	560	ug/L	1		6010B	Dissolved
Chloride	18		1.0	0.28	mg/L	1		300.0	Total/NA
Nitrate as N	0.031	J	0.10	0.014	mg/L	1		300.0	Total/NA
Total Dissolved Solids	280		10	7.8	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	0.34		0.20	0.093	mg/L	1		SM 4500 NH3 D	Total/NA

Client Sample ID: X-4D_081720

Lab Sample ID: 240-135144-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	6.3	J	10	4.1	ug/L	1		6010B	Total Recoverable
Barium	81	J	200	1.3	ug/L	1		6010B	Total Recoverable
Iron	1200		100	26	ug/L	1		6010B	Total Recoverable
Manganese	210		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	630000		10000	1100	ug/L	2		6010B	Total Recoverable
Arsenic	5.8	J	10	4.1	ug/L	1		6010B	Dissolved
Barium	84	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	1100		100	26	ug/L	1		6010B	Dissolved
Manganese	220		15	2.1	ug/L	1		6010B	Dissolved
Sodium	650000		10000	1100	ug/L	2		6010B	Dissolved
Chloride	1300		25	7.1	mg/L	25		300.0	Total/NA
Sulfate	190		5.0	1.7	mg/L	5		300.0	Total/NA
Total Dissolved Solids	2100		50	39	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	7.6		0.40	0.19	mg/L	2		SM 4500 NH3 D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-9AR_081720

Lab Sample ID: 240-135144-1

Date Collected: 08/17/20 09:35

Matrix: Water

Date Received: 08/18/20 11:10

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23		10	4.1	ug/L		08/19/20 14:00	08/20/20 20:30	1
Barium	57	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 20:30	1
Iron	6400		100	26	ug/L		08/19/20 14:00	08/20/20 20:30	1
Manganese	3100		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:30	1
Sodium	9600		5000	560	ug/L		08/19/20 14:00	08/20/20 20:30	1
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:30	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	24		10	4.1	ug/L		08/19/20 14:00	08/20/20 20:34	1
Barium	57	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 20:34	1
Iron	5600		100	26	ug/L		08/19/20 14:00	08/20/20 20:34	1
Manganese	3000		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:34	1
Sodium	9700		5000	560	ug/L		08/19/20 14:00	08/20/20 20:34	1
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	13		1.0	0.28	mg/L			08/18/20 21:16	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/18/20 21:16	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/18/20 21:16	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/18/20 21:16	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:55	1
Total Dissolved Solids	360		10	7.8	mg/L			08/20/20 07:42	1
Ammonia (as N)	0.11	J	0.20	0.093	mg/L			08/31/20 07:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:53	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-9D_081720

Lab Sample ID: 240-135144-2

Date Collected: 08/17/20 12:25

Matrix: Water

Date Received: 08/18/20 11:10

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	38		10	4.1	ug/L		08/19/20 14:00	08/20/20 20:38	1
Barium	200		200	1.3	ug/L		08/19/20 14:00	08/20/20 20:38	1
Iron	22000		100	26	ug/L		08/19/20 14:00	08/20/20 20:38	1
Manganese	3400		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:38	1
Sodium	490000		5000	560	ug/L		08/19/20 14:00	08/20/20 20:38	1
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:38	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22		10	4.1	ug/L		08/19/20 14:00	08/20/20 20:43	1
Barium	160	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 20:43	1
Iron	13000		100	26	ug/L		08/19/20 14:00	08/20/20 20:43	1
Manganese	2200		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:43	1
Sodium	560000		10000	1100	ug/L		08/19/20 14:00	08/21/20 15:01	2
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100		25	7.1	mg/L			08/18/20 21:59	25
Nitrite as N	0.50	U	0.50	0.070	mg/L			08/18/20 21:38	5
Nitrate as N	0.50	U	0.50	0.070	mg/L			08/18/20 21:38	5
Sulfate	170		5.0	1.7	mg/L			08/18/20 21:38	5
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 14:02	1
Total Dissolved Solids	2100		40	31	mg/L			08/20/20 07:42	1
Ammonia (as N)	4.9		0.20	0.093	mg/L			08/31/20 07:33	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.0066	J	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 14:00	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-4CAUGR_081720

Lab Sample ID: 240-135144-3

Date Collected: 08/17/20 09:55

Matrix: Water

Date Received: 08/18/20 11:10

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.2	J	10	4.1	ug/L		08/19/20 14:00	08/20/20 20:47	1
Barium	54	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 20:47	1
Iron	2700		100	26	ug/L		08/19/20 14:00	08/20/20 20:47	1
Manganese	300		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:47	1
Sodium	13000		5000	560	ug/L		08/19/20 14:00	08/20/20 20:47	1
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:47	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.3	J	10	4.1	ug/L		08/19/20 14:00	08/20/20 20:51	1
Barium	54	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 20:51	1
Iron	2700		100	26	ug/L		08/19/20 14:00	08/20/20 20:51	1
Manganese	300		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:51	1
Sodium	13000		5000	560	ug/L		08/19/20 14:00	08/20/20 20:51	1
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	18		1.0	0.28	mg/L			08/18/20 23:05	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/18/20 23:05	1
Nitrate as N	0.031	J	0.10	0.014	mg/L			08/18/20 23:05	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/18/20 23:05	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:13	1
Total Dissolved Solids	280		10	7.8	mg/L			08/19/20 08:53	1
Ammonia (as N)	0.34		0.20	0.093	mg/L			08/31/20 07:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:11	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-4D_081720

Lab Sample ID: 240-135144-4

Date Collected: 08/17/20 12:14

Matrix: Water

Date Received: 08/18/20 11:10

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	6.3	J	10	4.1	ug/L		08/19/20 14:00	08/20/20 20:56	1
Barium	81	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 20:56	1
Iron	1200		100	26	ug/L		08/19/20 14:00	08/20/20 20:56	1
Manganese	210		15	2.1	ug/L		08/19/20 14:00	08/20/20 20:56	1
Sodium	630000		10000	1100	ug/L		08/19/20 14:00	08/21/20 15:06	2
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 20:56	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.8	J	10	4.1	ug/L		08/19/20 14:00	08/20/20 21:00	1
Barium	84	J	200	1.3	ug/L		08/19/20 14:00	08/20/20 21:00	1
Iron	1100		100	26	ug/L		08/19/20 14:00	08/20/20 21:00	1
Manganese	220		15	2.1	ug/L		08/19/20 14:00	08/20/20 21:00	1
Sodium	650000		10000	1100	ug/L		08/19/20 14:00	08/21/20 15:10	2
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 21:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300		25	7.1	mg/L			08/18/20 22:43	25
Nitrite as N	0.50	U	0.50	0.070	mg/L			08/18/20 22:21	5
Nitrate as N	0.50	U	0.50	0.070	mg/L			08/18/20 22:21	5
Sulfate	190		5.0	1.7	mg/L			08/18/20 22:21	5
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:10	1
Total Dissolved Solids	2100		50	39	mg/L			08/19/20 08:53	1
Ammonia (as N)	7.6		0.40	0.19	mg/L			08/31/20 07:38	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:08	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-447771/1-A
Matrix: Water
Analysis Batch: 448143

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 447771

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/19/20 14:00	08/20/20 18:56	1
Barium	200	U	200	1.3	ug/L		08/19/20 14:00	08/20/20 18:56	1
Iron	100	U	100	26	ug/L		08/19/20 14:00	08/20/20 18:56	1
Manganese	15	U	15	2.1	ug/L		08/19/20 14:00	08/20/20 18:56	1
Sodium	5000	U	5000	560	ug/L		08/19/20 14:00	08/20/20 18:56	1
Selenium	15	U	15	6.0	ug/L		08/19/20 14:00	08/20/20 18:56	1

Lab Sample ID: LCS 240-447771/2-A
Matrix: Water
Analysis Batch: 448143

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 447771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2040		ug/L		102	80 - 120
Barium	2000	1910		ug/L		95	80 - 120
Iron	10000	10200		ug/L		102	80 - 120
Manganese	1000	998		ug/L		100	80 - 120
Sodium	50000	49000		ug/L		98	80 - 120
Selenium	2000	2040		ug/L		102	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-447686/3
Matrix: Water
Analysis Batch: 447686

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			08/18/20 16:03	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/18/20 16:03	1

Lab Sample ID: LCS 240-447686/4
Matrix: Water
Analysis Batch: 447686

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	49.9		mg/L		100	90 - 110
Sulfate	50.0	51.5		mg/L		103	90 - 110

Lab Sample ID: MB 240-447687/3
Matrix: Water
Analysis Batch: 447687

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/18/20 16:03	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/18/20 16:03	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-447687/4

Matrix: Water

Analysis Batch: 447687

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	2.50	2.64		mg/L		106	90 - 110
Nitrate as N	2.50	2.73		mg/L		109	90 - 110

Method: 9012A - Cyanide, Total and/or Amenable

Lab Sample ID: MB 240-448834/1-A

Matrix: Water

Analysis Batch: 448850

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 448834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/26/20 12:27	08/26/20 13:18	1

Lab Sample ID: LCS 240-448834/2-A

Matrix: Water

Analysis Batch: 448850

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 448834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.238	0.244		mg/L		103	59 - 129

Lab Sample ID: MB 240-449154/1-A

Matrix: Water

Analysis Batch: 449187

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 449154

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 08:46	1

Lab Sample ID: LCS 240-449154/2-A

Matrix: Water

Analysis Batch: 449187

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 449154

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.238	0.254		mg/L		107	59 - 129

Lab Sample ID: MRL 240-449187/10

Matrix: Water

Analysis Batch: 449187

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0103		mg/L		103	70 - 130

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-447786/1

Matrix: Water

Analysis Batch: 447786

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.8	mg/L			08/19/20 08:53	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 240-447786/2

Matrix: Water

Analysis Batch: 447786

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	563		mg/L		99	80 - 120

Lab Sample ID: MB 240-447953/1

Matrix: Water

Analysis Batch: 447953

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.8	mg/L			08/20/20 07:42	1

Lab Sample ID: LCS 240-447953/2

Matrix: Water

Analysis Batch: 447953

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	558		mg/L		98	80 - 120

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 240-449355/7

Matrix: Water

Analysis Batch: 449355

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/31/20 07:00	1

Lab Sample ID: LCS 240-449355/8

Matrix: Water

Analysis Batch: 449355

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.59	2.38		mg/L		92	85 - 114

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Metals

Prep Batch: 447771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Dissolved	Water	3005A	
240-135144-1	X-9AR_081720	Total Recoverable	Water	3005A	
240-135144-2	X-9D_081720	Dissolved	Water	3005A	
240-135144-2	X-9D_081720	Total Recoverable	Water	3005A	
240-135144-3	X-4CAUGR_081720	Dissolved	Water	3005A	
240-135144-3	X-4CAUGR_081720	Total Recoverable	Water	3005A	
240-135144-4	X-4D_081720	Dissolved	Water	3005A	
240-135144-4	X-4D_081720	Total Recoverable	Water	3005A	
MB 240-447771/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447771/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 448143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Dissolved	Water	6010B	447771
240-135144-1	X-9AR_081720	Total Recoverable	Water	6010B	447771
240-135144-2	X-9D_081720	Dissolved	Water	6010B	447771
240-135144-2	X-9D_081720	Total Recoverable	Water	6010B	447771
240-135144-3	X-4CAUGR_081720	Dissolved	Water	6010B	447771
240-135144-3	X-4CAUGR_081720	Total Recoverable	Water	6010B	447771
240-135144-4	X-4D_081720	Dissolved	Water	6010B	447771
240-135144-4	X-4D_081720	Total Recoverable	Water	6010B	447771
MB 240-447771/1-A	Method Blank	Total Recoverable	Water	6010B	447771
LCS 240-447771/2-A	Lab Control Sample	Total Recoverable	Water	6010B	447771

Analysis Batch: 448202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-2	X-9D_081720	Dissolved	Water	6010B	447771
240-135144-4	X-4D_081720	Dissolved	Water	6010B	447771
240-135144-4	X-4D_081720	Total Recoverable	Water	6010B	447771

General Chemistry

Analysis Batch: 447686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Total/NA	Water	300.0	
240-135144-2	X-9D_081720	Total/NA	Water	300.0	
240-135144-2	X-9D_081720	Total/NA	Water	300.0	
240-135144-3	X-4CAUGR_081720	Total/NA	Water	300.0	
240-135144-4	X-4D_081720	Total/NA	Water	300.0	
240-135144-4	X-4D_081720	Total/NA	Water	300.0	
MB 240-447686/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447686/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 447687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Total/NA	Water	300.0	
240-135144-2	X-9D_081720	Total/NA	Water	300.0	
240-135144-3	X-4CAUGR_081720	Total/NA	Water	300.0	
240-135144-4	X-4D_081720	Total/NA	Water	300.0	
MB 240-447687/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447687/4	Lab Control Sample	Total/NA	Water	300.0	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

General Chemistry

Analysis Batch: 447786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-3	X-4CAUGR_081720	Total/NA	Water	SM 2540C	
240-135144-4	X-4D_081720	Total/NA	Water	SM 2540C	
MB 240-447786/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-447786/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Analysis Batch: 447953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Total/NA	Water	SM 2540C	
240-135144-2	X-9D_081720	Total/NA	Water	SM 2540C	
MB 240-447953/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-447953/2	Lab Control Sample	Total/NA	Water	SM 2540C	

Prep Batch: 448834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Dissolved	Water	9012A	
240-135144-1	X-9AR_081720	Total/NA	Water	9012A	
240-135144-2	X-9D_081720	Dissolved	Water	9012A	
240-135144-2	X-9D_081720	Total/NA	Water	9012A	
MB 240-448834/1-A	Method Blank	Total/NA	Water	9012A	
LCS 240-448834/2-A	Lab Control Sample	Total/NA	Water	9012A	

Analysis Batch: 448850

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Dissolved	Water	9012A	448834
240-135144-1	X-9AR_081720	Total/NA	Water	9012A	448834
240-135144-2	X-9D_081720	Dissolved	Water	9012A	448834
240-135144-2	X-9D_081720	Total/NA	Water	9012A	448834
MB 240-448834/1-A	Method Blank	Total/NA	Water	9012A	448834
LCS 240-448834/2-A	Lab Control Sample	Total/NA	Water	9012A	448834

Prep Batch: 449154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-3	X-4CAUGR_081720	Dissolved	Water	9012A	
240-135144-3	X-4CAUGR_081720	Total/NA	Water	9012A	
240-135144-4	X-4D_081720	Dissolved	Water	9012A	
240-135144-4	X-4D_081720	Total/NA	Water	9012A	
MB 240-449154/1-A	Method Blank	Total/NA	Water	9012A	
LCS 240-449154/2-A	Lab Control Sample	Total/NA	Water	9012A	

Analysis Batch: 449187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-3	X-4CAUGR_081720	Dissolved	Water	9012A	449154
240-135144-3	X-4CAUGR_081720	Total/NA	Water	9012A	449154
240-135144-4	X-4D_081720	Dissolved	Water	9012A	449154
240-135144-4	X-4D_081720	Total/NA	Water	9012A	449154
MB 240-449154/1-A	Method Blank	Total/NA	Water	9012A	449154
LCS 240-449154/2-A	Lab Control Sample	Total/NA	Water	9012A	449154
MRL 240-449187/10	Lab Control Sample	Total/NA	Water	9012A	

Eurofins TestAmerica, Canton

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

General Chemistry

Analysis Batch: 449355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135144-1	X-9AR_081720	Total/NA	Water	SM 4500 NH3 D	
240-135144-2	X-9D_081720	Total/NA	Water	SM 4500 NH3 D	
240-135144-3	X-4CAUGR_081720	Total/NA	Water	SM 4500 NH3 D	
240-135144-4	X-4D_081720	Total/NA	Water	SM 4500 NH3 D	
MB 240-449355/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 240-449355/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-9AR_081720

Lab Sample ID: 240-135144-1

Date Collected: 08/17/20 09:35

Matrix: Water

Date Received: 08/18/20 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448143	08/20/20 20:34	WKD	TAL CAN
Total Recoverable	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448143	08/20/20 20:30	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447686	08/18/20 21:16	JMB	TAL CAN
Total/NA	Analysis	300.0		1	447687	08/18/20 21:16	JMB	TAL CAN
Dissolved	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Dissolved	Analysis	9012A		1	448850	08/26/20 13:53	BLW	TAL CAN
Total/NA	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Total/NA	Analysis	9012A		1	448850	08/26/20 13:55	BLW	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449355	08/31/20 07:15	JR	TAL CAN

Client Sample ID: X-9D_081720

Lab Sample ID: 240-135144-2

Date Collected: 08/17/20 12:25

Matrix: Water

Date Received: 08/18/20 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448143	08/20/20 20:43	WKD	TAL CAN
Dissolved	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		2	448202	08/21/20 15:01	WKD	TAL CAN
Total Recoverable	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448143	08/20/20 20:38	WKD	TAL CAN
Total/NA	Analysis	300.0		5	447686	08/18/20 21:38	JMB	TAL CAN
Total/NA	Analysis	300.0		5	447687	08/18/20 21:38	JMB	TAL CAN
Total/NA	Analysis	300.0		25	447686	08/18/20 21:59	JMB	TAL CAN
Dissolved	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Dissolved	Analysis	9012A		1	448850	08/26/20 14:00	BLW	TAL CAN
Total/NA	Prep	9012A			448834	08/26/20 12:27	JR	TAL CAN
Total/NA	Analysis	9012A		1	448850	08/26/20 14:02	BLW	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449355	08/31/20 07:33	JR	TAL CAN

Client Sample ID: X-4CAUGR_081720

Lab Sample ID: 240-135144-3

Date Collected: 08/17/20 09:55

Matrix: Water

Date Received: 08/18/20 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448143	08/20/20 20:51	WKD	TAL CAN
Total Recoverable	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448143	08/20/20 20:47	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447686	08/18/20 23:05	JMB	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Client Sample ID: X-4CAUGR_081720

Lab Sample ID: 240-135144-3

Date Collected: 08/17/20 09:55

Matrix: Water

Date Received: 08/18/20 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	447687	08/18/20 23:05	JMB	TAL CAN
Dissolved	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Dissolved	Analysis	9012A		1	449187	08/28/20 09:11	JR	TAL CAN
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 09:13	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447786	08/19/20 08:53	KLR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449355	08/31/20 07:35	JR	TAL CAN

Client Sample ID: X-4D_081720

Lab Sample ID: 240-135144-4

Date Collected: 08/17/20 12:14

Matrix: Water

Date Received: 08/18/20 11:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448143	08/20/20 21:00	WKD	TAL CAN
Dissolved	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		2	448202	08/21/20 15:10	WKD	TAL CAN
Total Recoverable	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448143	08/20/20 20:56	WKD	TAL CAN
Total Recoverable	Prep	3005A			447771	08/19/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		2	448202	08/21/20 15:06	WKD	TAL CAN
Total/NA	Analysis	300.0		5	447686	08/18/20 22:21	JMB	TAL CAN
Total/NA	Analysis	300.0		5	447687	08/18/20 22:21	JMB	TAL CAN
Total/NA	Analysis	300.0		25	447686	08/18/20 22:43	JMB	TAL CAN
Dissolved	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Dissolved	Analysis	9012A		1	449187	08/28/20 09:08	JR	TAL CAN
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 09:10	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447786	08/19/20 08:53	KLR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		2	449355	08/31/20 07:38	JR	TAL CAN

Laboratory References:

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw GWS

Job ID: 240-135144-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Canton

Address:

TAL-8210

Company Name: ARCADIS		Client Contact	
Address: 28550 CABOT DR. 576500			
City/State/Zip: NEW J, NJ 08837			
Phone: 248-994-2240			
Fax: 248-994-2241			
Project Name: RACEN SATURNAL			
Site: GPL			
PO # 30042636.11000			

Project Manager:		Tel/Email:		Analysis Turnaround Time		Site Contact:		Date:		COC No:	
☐ CALENDAR DAYS		☐ WORKING DAYS		TAT if different from Below		Lab Contact:		Carrier:		COCs	
☐ 2 weeks		☐ 1 week		☐ 2 days		☐ 1 day					

Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.
8/17/20	9:35	G	GW	6
8/17/20	12:25	G	GW	6
8/17/20	9:55	G	GW	6
8/17/20	12:14	G	GW	6

Sample Identification	Sample Specific Notes:
X-9AR-081720	
X-9D-081720	
X-4CAUGR-081720	
X-4D-081720	



240-135144 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other	
Possible Hazard Identification:	
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.	
☐ Non-Hazard	☐ Flammable ☐ Skin Irritant
☐ Return to Client	☐ Disposal by Lab ☐ Archive for _____ Months
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	

Special Instructions/QC Requirements & Comments:	
Custody Seal No.:	Company:
Relinquished by:	Date/Time: 8-17-20 15:00
Relinquished by:	Date/Time:
Relinquished by:	Date/Time:

Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:	
Received by:		Company:		Date/Time: 8-18-20 1110	
Received by:		Company:		Date/Time:	
Received by:		Company:		Date/Time:	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13

Eurofins TestAmerica Canton Sample Receipt Form/Narrative		Login # : <u>135144</u>
Canton Facility		
Client <u>Arcadis</u>	Site Name _____	Cooler unpacked by: <u>[Signature]</u>
Cooler Received on <u>8-18-20</u>	Opened on <u>8-18-20</u>	
FedEx: 1 st Grd Exp <u>UPS</u> FAS Clipper	Client Drop Off	TestAmerica Courier Other _____
Receipt After-hours: Drop-off Date/Time		Storage Location
TestAmerica Cooler # <u>77</u>	Foam Box	Client Cooler Box Other _____
Packing material used: Bubble Wrap	Foam	<u>Plastic Bag</u> None Other _____
COOLANT: <u>Wet Ice</u>	Blue Ice	Dry Ice Water None
1. Cooler temperature upon receipt		☐ See Multiple Cooler Form
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C		
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. <u>0.5</u> °C Corrected Cooler Temp. <u>1.9</u> °C		
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u>		Yes No
-Were the seals on the outside of the cooler(s) signed & dated?		Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?		Yes <u>No</u>
-Were tamper/custody seals intact and uncompromised?		Yes No NA
3. Shippers' packing slip attached to the cooler(s)?		Yes No
4. Did custody papers accompany the sample(s)?		Yes No
5. Were the custody papers relinquished & signed in the appropriate place?		Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC?		Yes <u>No</u>
7. Did all bottles arrive in good condition (Unbroken)?		Yes No
8. Could all bottle labels be reconciled with the COC?		Yes No
9. Were correct bottle(s) used for the test(s) indicated?		Yes No
10. Sufficient quantity received to perform indicated analyses?		Yes No
11. Are these work share samples?		Yes <u>No</u>
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?		<u>Yes</u> No NA pH Strip Lot# <u>HC911298</u>
13. Were VOAs on the COC?		Yes <u>No</u>
14. Were air bubbles >6 mm in any VOA vials? Larger than this.		Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____		Yes <u>No</u>
16. Was a LL Hg or Me Hg trip blank present?		Yes <u>No</u>
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____		
Concerning _____		

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by: _____
18. SAMPLE CONDITION	
Sample(s) _____ were received after the recommended holding time had expired.	
Sample(s) _____ were received in a broken container.	
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION	
Sample(s) _____ were further preserved in the laboratory.	
Time preserved: _____ Preservative(s) added/Lot number(s): _____	
VOA Sample Preservation - Date/Time VOAs Frozen: _____	

WI-NC-099

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container		Preservative	
			pH	Temp	Added (mls)	Lot #
X-9AR_081720	240-135144-A-1	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9AR_081720	240-135144-B-1	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9AR_081720	240-135144-D-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-9AR_081720	240-135144-E-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-9AR_081720	240-135144-F-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
X-9D_081720	240-135144-A-2	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9D_081720	240-135144-B-2	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9D_081720	240-135144-D-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-9D_081720	240-135144-E-2	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-9D_081720	240-135144-F-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
X-4CAUGR_081720	240-135144-A-3	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-4CAUGR_081720	240-135144-B-3	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-4CAUGR_081720	240-135144-D-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-4CAUGR_081720	240-135144-E-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-4CAUGR_081720	240-135144-F-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
X-4D_081720	240-135144-A-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-4D_081720	240-135144-B-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-4D_081720	240-135144-D-4	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-4D_081720	240-135144-E-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-4D_081720	240-135144-F-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____

ANALYTICAL REPORT

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

Laboratory Job ID: 240-135179-1
Client Project/Site: Racer Saginaw
Revision: 1

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, Michigan 48377

Attn: Scott Clearwater



Authorized for release by:
9/22/2020 10:48:18 AM

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

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

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Definitions/Glossary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

General Chemistry

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

Glossary

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

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Job ID: 240-135179-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Racer Saginaw

Report Number: 240-135179-1

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

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

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

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

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

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

RECEIPT

The samples were received on 8/19/2020 10:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.4° C and 3.5° C.

DISSOLVED METALS (ICP)

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/20/2020 and analyzed on 08/21/2020.

Barium, Iron, Manganese and Sodium failed the recovery criteria low for the MS of sample MW-183WT_081820MS (240-135179-4) in batch 240-448202.

Several analytes exceeded the RPD limit for the MSD of sample MW-183WT_081820MSD (240-135179-4) in batch 240-448202.

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

TOTAL RECOVERABLE METALS (ICP)

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 08/20/2020 and analyzed on 08/21/2020.

Case Narrative

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Job ID: 240-135179-1 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

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

TOTAL DISSOLVED SOLIDS

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for total dissolved solids in accordance with SM 2540C. The samples were analyzed on 08/20/2020.

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

ANIONS

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/19/2020 and 08/20/2020.

Sample X-9CAUG_081820 (240-135179-1)[5X] required dilution prior to analysis due to the nature of the sample matrix. The reporting limits have been adjusted accordingly.

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

ANIONS

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for anions in accordance with EPA Method 300.0. The samples were analyzed on 08/19/2020 and 08/20/2020.

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

DISSOLVED CYANIDE

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for dissolved cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/28/2020.

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

TOTAL CYANIDE

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for total cyanide in accordance with EPA SW-846 Method 9012A. The samples were prepared and analyzed on 08/28/2020.

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

AMMONIA

Samples X-9CAUG_081820 (240-135179-1), X-9BR_081820 (240-135179-2), X-4AR_081820 (240-135179-3), MW-183WT_081820 (240-135179-4) and DUP-05_081820 (240-135179-5) were analyzed for ammonia in accordance with SM 4500 NH3 D. The samples were analyzed on 08/31/2020.

Sample X-9BR_081820 (240-135179-2)[2X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

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

Method Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN
300.0	Anions, Ion Chromatography	MCAWW	TAL CAN
9012A	Cyanide, Total and/or Amenable	SW846	TAL CAN
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL CAN
SM 4500 NH3 D	Ammonia	SM	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN
9012A	Cyanide, Total and/or Amenable, Distillation	SW846	TAL CAN

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

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

Laboratory References:

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

Sample Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-135179-1	X-9CAUG_081820	Water	08/18/20 10:30	08/19/20 10:40	
240-135179-2	X-9BR_081820	Water	08/18/20 13:00	08/19/20 10:40	
240-135179-3	X-4AR_081820	Water	08/18/20 14:45	08/19/20 10:40	
240-135179-4	MW-183WT_081820	Water	08/18/20 09:20	08/19/20 10:40	
240-135179-5	DUP-05_081820	Water	08/18/20 00:00	08/19/20 10:40	

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: X-9CAUG_081820

Lab Sample ID: 240-135179-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	73	J	200	1.3	ug/L	1		6010B	Total Recoverable
Iron	8900		100	26	ug/L	1		6010B	Total Recoverable
Manganese	480		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	16000		5000	560	ug/L	1		6010B	Total Recoverable
Barium	69	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	8000		100	26	ug/L	1		6010B	Dissolved
Manganese	440		15	2.1	ug/L	1		6010B	Dissolved
Sodium	14000		5000	560	ug/L	1		6010B	Dissolved
Chloride	12		1.0	0.28	mg/L	1		300.0	Total/NA
Sulfate	0.38	J	1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	470		10	7.8	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	1.4		0.20	0.093	mg/L	1		SM 4500 NH3 D	Total/NA

Client Sample ID: X-9BR_081820

Lab Sample ID: 240-135179-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	50	J	200	1.3	ug/L	1		6010B	Total Recoverable
Iron	5000		100	26	ug/L	1		6010B	Total Recoverable
Manganese	590		15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	100000		5000	560	ug/L	1		6010B	Total Recoverable
Arsenic	4.7	J	10	4.1	ug/L	1		6010B	Dissolved
Barium	56	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	7200		100	26	ug/L	1		6010B	Dissolved
Manganese	680		15	2.1	ug/L	1		6010B	Dissolved
Sodium	200000		5000	560	ug/L	1		6010B	Dissolved
Chloride	190		1.0	0.28	mg/L	1		300.0	Total/NA
Sulfate	0.87	J	1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	680		10	7.8	mg/L	1		SM 2540C	Total/NA
Ammonia (as N)	5.9		0.40	0.19	mg/L	2		SM 4500 NH3 D	Total/NA

Client Sample ID: X-4AR_081820

Lab Sample ID: 240-135179-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	25	J	200	1.3	ug/L	1		6010B	Total Recoverable
Manganese	3.0	J	15	2.1	ug/L	1		6010B	Total Recoverable
Sodium	28000		5000	560	ug/L	1		6010B	Total Recoverable
Barium	36	J	200	1.3	ug/L	1		6010B	Dissolved
Manganese	180		15	2.1	ug/L	1		6010B	Dissolved
Sodium	27000		5000	560	ug/L	1		6010B	Dissolved
Chloride	17		1.0	0.28	mg/L	1		300.0	Total/NA
Nitrate as N	1.5		0.10	0.014	mg/L	1		300.0	Total/NA
Sulfate	1.1		1.0	0.35	mg/L	1		300.0	Total/NA
Total Dissolved Solids	310		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: MW-183WT_081820

Lab Sample ID: 240-135179-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.6	J	10	4.1	ug/L	1		6010B	Total
									Recoverable
Barium	48	J	200	1.3	ug/L	1		6010B	Total
									Recoverable
Iron	5400		100	26	ug/L	1		6010B	Total
									Recoverable
Manganese	1600		15	2.1	ug/L	1		6010B	Total
									Recoverable
Sodium	14000		5000	560	ug/L	1		6010B	Total
									Recoverable
Arsenic	7.0	J F2	10	4.1	ug/L	1		6010B	Dissolved
Barium	53	J F1 F2	200	1.3	ug/L	1		6010B	Dissolved
Iron	5800	F1 F2	100	26	ug/L	1		6010B	Dissolved
Manganese	1800	F1 F2	15	2.1	ug/L	1		6010B	Dissolved
Sodium	15000	F1 F2	5000	560	ug/L	1		6010B	Dissolved
Chloride	17		1.0	0.28	mg/L	1		300.0	Total/NA
Total Dissolved Solids	380		10	7.8	mg/L	1		SM 2540C	Total/NA

Client Sample ID: DUP-05_081820

Lab Sample ID: 240-135179-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.5	J	10	4.1	ug/L	1		6010B	Total
									Recoverable
Barium	53	J	200	1.3	ug/L	1		6010B	Total
									Recoverable
Iron	5700		100	26	ug/L	1		6010B	Total
									Recoverable
Manganese	1800		15	2.1	ug/L	1		6010B	Total
									Recoverable
Sodium	15000		5000	560	ug/L	1		6010B	Total
									Recoverable
Arsenic	5.3	J	10	4.1	ug/L	1		6010B	Dissolved
Barium	52	J	200	1.3	ug/L	1		6010B	Dissolved
Iron	5600		100	26	ug/L	1		6010B	Dissolved
Manganese	1800		15	2.1	ug/L	1		6010B	Dissolved
Sodium	15000		5000	560	ug/L	1		6010B	Dissolved
Chloride	17		1.0	0.28	mg/L	1		300.0	Total/NA
Total Dissolved Solids	400		10	7.8	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: X-9CAUG_081820

Lab Sample ID: 240-135179-1

Date Collected: 08/18/20 10:30

Matrix: Water

Date Received: 08/19/20 10:40

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:09	1
Barium	73	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:09	1
Iron	8900		100	26	ug/L		08/20/20 14:00	08/21/20 22:09	1
Manganese	480		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:09	1
Sodium	16000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:09	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:09	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:14	1
Barium	69	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:14	1
Iron	8000		100	26	ug/L		08/20/20 14:00	08/21/20 22:14	1
Manganese	440		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:14	1
Sodium	14000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:14	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	12		1.0	0.28	mg/L			08/20/20 00:22	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/20/20 00:22	1
Nitrate as N	0.50	U	0.50	0.070	mg/L			08/20/20 00:43	5
Sulfate	0.38	J	1.0	0.35	mg/L			08/20/20 00:22	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:30	1
Total Dissolved Solids	470		10	7.8	mg/L			08/20/20 07:42	1
Ammonia (as N)	1.4		0.20	0.093	mg/L			08/31/20 08:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:29	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: X-9BR_081820

Lab Sample ID: 240-135179-2

Date Collected: 08/18/20 13:00

Matrix: Water

Date Received: 08/19/20 10:40

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:18	1
Barium	50	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:18	1
Iron	5000		100	26	ug/L		08/20/20 14:00	08/21/20 22:18	1
Manganese	590		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:18	1
Sodium	100000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:18	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:18	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.7	J	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:22	1
Barium	56	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:22	1
Iron	7200		100	26	ug/L		08/20/20 14:00	08/21/20 22:22	1
Manganese	680		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:22	1
Sodium	200000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:22	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	190		1.0	0.28	mg/L			08/20/20 01:49	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/20/20 01:49	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/20/20 01:49	1
Sulfate	0.87	J	1.0	0.35	mg/L			08/20/20 01:49	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:27	1
Total Dissolved Solids	680		10	7.8	mg/L			08/20/20 07:42	1
Ammonia (as N)	5.9		0.40	0.19	mg/L			08/31/20 07:59	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:22	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: X-4AR_081820

Lab Sample ID: 240-135179-3

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/19/20 10:40

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:35	1
Barium	25	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:35	1
Iron	100	U	100	26	ug/L		08/20/20 14:00	08/21/20 22:35	1
Manganese	3.0	J	15	2.1	ug/L		08/20/20 14:00	08/21/20 22:35	1
Sodium	28000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:35	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:35	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:39	1
Barium	36	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:39	1
Iron	100	U	100	26	ug/L		08/20/20 14:00	08/21/20 22:39	1
Manganese	180		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:39	1
Sodium	27000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:39	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		1.0	0.28	mg/L			08/20/20 02:32	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/20/20 02:32	1
Nitrate as N	1.5		0.10	0.014	mg/L			08/20/20 02:32	1
Sulfate	1.1		1.0	0.35	mg/L			08/20/20 02:32	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:15	1
Total Dissolved Solids	310		10	7.8	mg/L			08/20/20 07:42	1
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/31/20 10:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: MW-183WT_081820

Lab Sample ID: 240-135179-4

Date Collected: 08/18/20 09:20

Matrix: Water

Date Received: 08/19/20 10:40

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6	J	10	4.1	ug/L		08/20/20 14:00	08/21/20 21:06	1
Barium	48	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 21:06	1
Iron	5400		100	26	ug/L		08/20/20 14:00	08/21/20 21:06	1
Manganese	1600		15	2.1	ug/L		08/20/20 14:00	08/21/20 21:06	1
Sodium	14000		5000	560	ug/L		08/20/20 14:00	08/21/20 21:06	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 21:06	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	7.0	J F2	10	4.1	ug/L		08/20/20 14:00	08/21/20 21:23	1
Barium	53	J F1 F2	200	1.3	ug/L		08/20/20 14:00	08/21/20 21:23	1
Iron	5800	F1 F2	100	26	ug/L		08/20/20 14:00	08/21/20 21:23	1
Manganese	1800	F1 F2	15	2.1	ug/L		08/20/20 14:00	08/21/20 21:23	1
Sodium	15000	F1 F2	5000	560	ug/L		08/20/20 14:00	08/21/20 21:23	1
Selenium	15	U F2	15	6.0	ug/L		08/20/20 14:00	08/21/20 21:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		1.0	0.28	mg/L			08/19/20 17:51	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/19/20 17:51	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/19/20 17:51	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/19/20 17:51	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 08:52	1
Total Dissolved Solids	380		10	7.8	mg/L			08/20/20 07:42	1
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/31/20 10:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:16	1

Client Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: DUP-05_081820

Lab Sample ID: 240-135179-5

Date Collected: 08/18/20 00:00

Matrix: Water

Date Received: 08/19/20 10:40

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.5	J	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:43	1
Barium	53	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:43	1
Iron	5700		100	26	ug/L		08/20/20 14:00	08/21/20 22:43	1
Manganese	1800		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:43	1
Sodium	15000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:43	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:43	1

Method: 6010B - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.3	J	10	4.1	ug/L		08/20/20 14:00	08/21/20 22:48	1
Barium	52	J	200	1.3	ug/L		08/20/20 14:00	08/21/20 22:48	1
Iron	5600		100	26	ug/L		08/20/20 14:00	08/21/20 22:48	1
Manganese	1800		15	2.1	ug/L		08/20/20 14:00	08/21/20 22:48	1
Sodium	15000		5000	560	ug/L		08/20/20 14:00	08/21/20 22:48	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	17		1.0	0.28	mg/L			08/19/20 18:56	1
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/19/20 18:56	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/19/20 18:56	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/19/20 18:56	1
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:36	1
Total Dissolved Solids	400		10	7.8	mg/L			08/20/20 07:42	1
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/31/20 10:19	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 09:38	1

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 240-447977/1-A

Matrix: Water

Analysis Batch: 448202

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 447977

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	4.1	ug/L		08/20/20 14:00	08/21/20 20:58	1
Barium	200	U	200	1.3	ug/L		08/20/20 14:00	08/21/20 20:58	1
Iron	100	U	100	26	ug/L		08/20/20 14:00	08/21/20 20:58	1
Manganese	15	U	15	2.1	ug/L		08/20/20 14:00	08/21/20 20:58	1
Sodium	5000	U	5000	560	ug/L		08/20/20 14:00	08/21/20 20:58	1
Selenium	15	U	15	6.0	ug/L		08/20/20 14:00	08/21/20 20:58	1

Lab Sample ID: LCS 240-447977/2-A

Matrix: Water

Analysis Batch: 448202

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 447977

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2060		ug/L		103	80 - 120
Barium	2000	1950		ug/L		98	80 - 120
Iron	10000	9720		ug/L		97	80 - 120
Manganese	1000	986		ug/L		99	80 - 120
Sodium	50000	48800		ug/L		98	80 - 120
Selenium	2000	2070		ug/L		104	80 - 120

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 448202

Client Sample ID: MW-183WT_081820

Prep Type: Total Recoverable

Prep Batch: 447977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	4.6	J	2000	1970		ug/L		98	75 - 125
Barium	48	J	2000	1900		ug/L		93	75 - 125
Iron	5400		10000	14500		ug/L		91	75 - 125
Manganese	1600		1000	2540		ug/L		90	75 - 125
Sodium	14000		50000	60700		ug/L		93	75 - 125
Selenium	15	U	2000	1960		ug/L		98	75 - 125

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 448202

Client Sample ID: MW-183WT_081820

Prep Type: Total Recoverable

Prep Batch: 447977

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	4.6	J	2000	2090		ug/L		104	75 - 125	6	20
Barium	48	J	2000	2010		ug/L		98	75 - 125	6	20
Iron	5400		10000	15300		ug/L		99	75 - 125	5	20
Manganese	1600		1000	2740		ug/L		110	75 - 125	7	20
Sodium	14000		50000	64100		ug/L		100	75 - 125	6	20
Selenium	15	U	2000	2080		ug/L		104	75 - 125	6	20

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 448202

Client Sample ID: MW-183WT_081820

Prep Type: Dissolved

Prep Batch: 447977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	7.0	J F2	2000	1600		ug/L		80	75 - 125

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 448202

Client Sample ID: MW-183WT_081820

Prep Type: Dissolved

Prep Batch: 447977

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	53	J F1 F2	2000	1540	F1	ug/L		74	75 - 125
Iron	5800	F1 F2	10000	11700	F1	ug/L		59	75 - 125
Manganese	1800	F1 F2	1000	2150	F1	ug/L		33	75 - 125
Sodium	15000	F1 F2	50000	49500	F1	ug/L		68	75 - 125
Selenium	15	U F2	2000	1600		ug/L		80	75 - 125

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 448202

Client Sample ID: MW-183WT_081820

Prep Type: Dissolved

Prep Batch: 447977

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Arsenic	7.0	J F2	2000	1990	F2	ug/L		99	75 - 125	21	20
Barium	53	J F1 F2	2000	1920	F2	ug/L		93	75 - 125	22	20
Iron	5800	F1 F2	10000	14600	F2	ug/L		87	75 - 125	22	20
Manganese	1800	F1 F2	1000	2680	F2	ug/L		85	75 - 125	22	20
Sodium	15000	F1 F2	50000	61500	F2	ug/L		92	75 - 125	22	20
Selenium	15	U F2	2000	1980	F2	ug/L		99	75 - 125	21	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-447903/3

Matrix: Water

Analysis Batch: 447903

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1.0	U	1.0	0.28	mg/L			08/19/20 15:35	1
Sulfate	1.0	U	1.0	0.35	mg/L			08/19/20 15:35	1

Lab Sample ID: LCS 240-447903/4

Matrix: Water

Analysis Batch: 447903

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	50.0	50.0		mg/L		100	90 - 110
Sulfate	50.0	51.6		mg/L		103	90 - 110

Lab Sample ID: 240-135179-3 MS

Matrix: Water

Analysis Batch: 447903

Client Sample ID: X-4AR_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	17		50.0	70.1		mg/L		105	80 - 120
Sulfate	1.1		50.0	55.4		mg/L		108	80 - 120

Lab Sample ID: 240-135179-3 MSD

Matrix: Water

Analysis Batch: 447903

Client Sample ID: X-4AR_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Chloride	17		50.0	71.0		mg/L		107	80 - 120	1	15

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-135179-3 MSD

Matrix: Water

Analysis Batch: 447903

Client Sample ID: X-4AR_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	1.1		50.0	56.4		mg/L		111	80 - 120	2	15

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 447903

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	17		50.0	69.3		mg/L		105	80 - 120		
Sulfate	1.0	U	50.0	54.2		mg/L		108	80 - 120		

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 447903

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	17		50.0	69.6		mg/L		106	80 - 120	0	15
Sulfate	1.0	U	50.0	54.5		mg/L		109	80 - 120	1	15

Lab Sample ID: MB 240-447904/3

Matrix: Water

Analysis Batch: 447904

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrite as N	0.10	U	0.10	0.014	mg/L			08/19/20 15:35	1
Nitrate as N	0.10	U	0.10	0.014	mg/L			08/19/20 15:35	1

Lab Sample ID: LCS 240-447904/4

Matrix: Water

Analysis Batch: 447904

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	2.50	2.64		mg/L		106	90 - 110		
Nitrate as N	2.50	2.73		mg/L		109	90 - 110		

Lab Sample ID: 240-135179-3 MS

Matrix: Water

Analysis Batch: 447904

Client Sample ID: X-4AR_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrite as N	0.10	U	2.50	2.89		mg/L		116	80 - 120		
Nitrate as N	1.5		2.50	4.37		mg/L		116	80 - 120		

Lab Sample ID: 240-135179-3 MSD

Matrix: Water

Analysis Batch: 447904

Client Sample ID: X-4AR_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	0.10	U	2.50	2.90		mg/L		116	80 - 120	0	15
Nitrate as N	1.5		2.50	4.41		mg/L		118	80 - 120	1	15

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 447904

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrite as N	0.10	U	2.50	2.86		mg/L		114	80 - 120
Nitrate as N	0.10	U	2.50	2.88		mg/L		115	80 - 120

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 447904

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrite as N	0.10	U	2.50	2.93		mg/L		117	80 - 120	2	15
Nitrate as N	0.10	U	2.50	2.90		mg/L		116	80 - 120	1	15

Method: 9012A - Cyanide, Total and/or Amenable

Lab Sample ID: MB 240-449154/1-A

Matrix: Water

Analysis Batch: 449187

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 449154

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cyanide, Total	0.010	U	0.010	0.0060	mg/L		08/28/20 07:54	08/28/20 08:46	1

Lab Sample ID: LCS 240-449154/2-A

Matrix: Water

Analysis Batch: 449187

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 449154

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.238	0.254		mg/L		107	85 - 115

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 449187

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Prep Batch: 449154

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.010	U	0.0400	0.0420		mg/L		105	22 - 135

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 449187

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Prep Batch: 449154

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.010	U	0.0400	0.0417		mg/L		104	22 - 135	1	40

Lab Sample ID: MRL 240-449187/10

Matrix: Water

Analysis Batch: 449187

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.0100	0.0103		mg/L		103	70 - 130

Eurofins TestAmerica, Canton

QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method: 9012A - Cyanide, Total and/or Amenable (Continued)

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 449187

Client Sample ID: MW-183WT_081820

Prep Type: Dissolved

Prep Batch: 449154

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cyanide, Total	0.010	U	0.0400	0.0418		mg/L		105	22 - 135

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 449187

Client Sample ID: MW-183WT_081820

Prep Type: Dissolved

Prep Batch: 449154

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cyanide, Total	0.010	U	0.0400	0.0416		mg/L		104	22 - 135	0	40

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 240-447953/1

Matrix: Water

Analysis Batch: 447953

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	10	U	10	7.8	mg/L			08/20/20 07:42	1

Lab Sample ID: LCS 240-447953/2

Matrix: Water

Analysis Batch: 447953

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	567	558		mg/L		98	80 - 120

Lab Sample ID: 240-135179-4 DU

Matrix: Water

Analysis Batch: 447953

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	380		386		mg/L		0.3	20

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 240-449355/7

Matrix: Water

Analysis Batch: 449355

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/31/20 07:00	1

Lab Sample ID: LCS 240-449355/8

Matrix: Water

Analysis Batch: 449355

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.59	2.38		mg/L		92	85 - 114

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QC Sample Results

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: MB 240-449410/7

Matrix: Water

Analysis Batch: 449410

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia (as N)	0.20	U	0.20	0.093	mg/L			08/31/20 08:30	1

Lab Sample ID: LCS 240-449410/8

Matrix: Water

Analysis Batch: 449410

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	2.59	2.50		mg/L		96	85 - 114

Lab Sample ID: 240-135179-4 MS

Matrix: Water

Analysis Batch: 449410

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia (as N)	0.20	U	2.50	2.58		mg/L		103	79 - 130

Lab Sample ID: 240-135179-4 MSD

Matrix: Water

Analysis Batch: 449410

Client Sample ID: MW-183WT_081820

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia (as N)	0.20	U	2.50	2.64		mg/L		105	79 - 130	2	10

QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Metals

Prep Batch: 447977

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Dissolved	Water	3005A	
240-135179-1	X-9CAUG_081820	Total Recoverable	Water	3005A	
240-135179-2	X-9BR_081820	Dissolved	Water	3005A	
240-135179-2	X-9BR_081820	Total Recoverable	Water	3005A	
240-135179-3	X-4AR_081820	Dissolved	Water	3005A	
240-135179-3	X-4AR_081820	Total Recoverable	Water	3005A	
240-135179-4	MW-183WT_081820	Dissolved	Water	3005A	
240-135179-4	MW-183WT_081820	Total Recoverable	Water	3005A	
240-135179-5	DUP-05_081820	Dissolved	Water	3005A	
240-135179-5	DUP-05_081820	Total Recoverable	Water	3005A	
MB 240-447977/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-447977/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
240-135179-4 MS	MW-183WT_081820	Dissolved	Water	3005A	
240-135179-4 MS	MW-183WT_081820	Total Recoverable	Water	3005A	
240-135179-4 MSD	MW-183WT_081820	Dissolved	Water	3005A	
240-135179-4 MSD	MW-183WT_081820	Total Recoverable	Water	3005A	

Analysis Batch: 448202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Dissolved	Water	6010B	447977
240-135179-1	X-9CAUG_081820	Total Recoverable	Water	6010B	447977
240-135179-2	X-9BR_081820	Dissolved	Water	6010B	447977
240-135179-2	X-9BR_081820	Total Recoverable	Water	6010B	447977
240-135179-3	X-4AR_081820	Dissolved	Water	6010B	447977
240-135179-3	X-4AR_081820	Total Recoverable	Water	6010B	447977
240-135179-4	MW-183WT_081820	Dissolved	Water	6010B	447977
240-135179-4	MW-183WT_081820	Total Recoverable	Water	6010B	447977
240-135179-5	DUP-05_081820	Dissolved	Water	6010B	447977
240-135179-5	DUP-05_081820	Total Recoverable	Water	6010B	447977
MB 240-447977/1-A	Method Blank	Total Recoverable	Water	6010B	447977
LCS 240-447977/2-A	Lab Control Sample	Total Recoverable	Water	6010B	447977
240-135179-4 MS	MW-183WT_081820	Dissolved	Water	6010B	447977
240-135179-4 MS	MW-183WT_081820	Total Recoverable	Water	6010B	447977
240-135179-4 MSD	MW-183WT_081820	Dissolved	Water	6010B	447977
240-135179-4 MSD	MW-183WT_081820	Total Recoverable	Water	6010B	447977

General Chemistry

Analysis Batch: 447903

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Total/NA	Water	300.0	
240-135179-2	X-9BR_081820	Total/NA	Water	300.0	
240-135179-3	X-4AR_081820	Total/NA	Water	300.0	
240-135179-4	MW-183WT_081820	Total/NA	Water	300.0	
240-135179-5	DUP-05_081820	Total/NA	Water	300.0	
MB 240-447903/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447903/4	Lab Control Sample	Total/NA	Water	300.0	
240-135179-3 MS	X-4AR_081820	Total/NA	Water	300.0	
240-135179-3 MSD	X-4AR_081820	Total/NA	Water	300.0	
240-135179-4 MS	MW-183WT_081820	Total/NA	Water	300.0	
240-135179-4 MSD	MW-183WT_081820	Total/NA	Water	300.0	

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

General Chemistry

Analysis Batch: 447904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Total/NA	Water	300.0	
240-135179-1	X-9CAUG_081820	Total/NA	Water	300.0	
240-135179-2	X-9BR_081820	Total/NA	Water	300.0	
240-135179-3	X-4AR_081820	Total/NA	Water	300.0	
240-135179-4	MW-183WT_081820	Total/NA	Water	300.0	
240-135179-5	DUP-05_081820	Total/NA	Water	300.0	
MB 240-447904/3	Method Blank	Total/NA	Water	300.0	
LCS 240-447904/4	Lab Control Sample	Total/NA	Water	300.0	
240-135179-3 MS	X-4AR_081820	Total/NA	Water	300.0	
240-135179-3 MSD	X-4AR_081820	Total/NA	Water	300.0	
240-135179-4 MS	MW-183WT_081820	Total/NA	Water	300.0	
240-135179-4 MSD	MW-183WT_081820	Total/NA	Water	300.0	

Analysis Batch: 447953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Total/NA	Water	SM 2540C	
240-135179-2	X-9BR_081820	Total/NA	Water	SM 2540C	
240-135179-3	X-4AR_081820	Total/NA	Water	SM 2540C	
240-135179-4	MW-183WT_081820	Total/NA	Water	SM 2540C	
240-135179-5	DUP-05_081820	Total/NA	Water	SM 2540C	
MB 240-447953/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 240-447953/2	Lab Control Sample	Total/NA	Water	SM 2540C	
240-135179-4 DU	MW-183WT_081820	Total/NA	Water	SM 2540C	

Prep Batch: 449154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Dissolved	Water	9012A	
240-135179-1	X-9CAUG_081820	Total/NA	Water	9012A	
240-135179-2	X-9BR_081820	Dissolved	Water	9012A	
240-135179-2	X-9BR_081820	Total/NA	Water	9012A	
240-135179-3	X-4AR_081820	Total/NA	Water	9012A	
240-135179-4	MW-183WT_081820	Dissolved	Water	9012A	
240-135179-4	MW-183WT_081820	Total/NA	Water	9012A	
240-135179-5	DUP-05_081820	Dissolved	Water	9012A	
240-135179-5	DUP-05_081820	Total/NA	Water	9012A	
MB 240-449154/1-A	Method Blank	Total/NA	Water	9012A	
LCS 240-449154/2-A	Lab Control Sample	Total/NA	Water	9012A	
240-135179-4 MS	MW-183WT_081820	Dissolved	Water	9012A	
240-135179-4 MS	MW-183WT_081820	Total/NA	Water	9012A	
240-135179-4 MSD	MW-183WT_081820	Dissolved	Water	9012A	
240-135179-4 MSD	MW-183WT_081820	Total/NA	Water	9012A	

Analysis Batch: 449187

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Dissolved	Water	9012A	449154
240-135179-1	X-9CAUG_081820	Total/NA	Water	9012A	449154
240-135179-2	X-9BR_081820	Dissolved	Water	9012A	449154
240-135179-2	X-9BR_081820	Total/NA	Water	9012A	449154
240-135179-3	X-4AR_081820	Total/NA	Water	9012A	449154
240-135179-4	MW-183WT_081820	Dissolved	Water	9012A	449154
240-135179-4	MW-183WT_081820	Total/NA	Water	9012A	449154

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QC Association Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

General Chemistry (Continued)

Analysis Batch: 449187 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-5	DUP-05_081820	Dissolved	Water	9012A	449154
240-135179-5	DUP-05_081820	Total/NA	Water	9012A	449154
MB 240-449154/1-A	Method Blank	Total/NA	Water	9012A	449154
LCS 240-449154/2-A	Lab Control Sample	Total/NA	Water	9012A	449154
MRL 240-449187/10	Lab Control Sample	Total/NA	Water	9012A	
240-135179-4 MS	MW-183WT_081820	Dissolved	Water	9012A	449154
240-135179-4 MS	MW-183WT_081820	Total/NA	Water	9012A	449154
240-135179-4 MSD	MW-183WT_081820	Dissolved	Water	9012A	449154
240-135179-4 MSD	MW-183WT_081820	Total/NA	Water	9012A	449154

Analysis Batch: 449355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-1	X-9CAUG_081820	Total/NA	Water	SM 4500 NH3 D	
240-135179-2	X-9BR_081820	Total/NA	Water	SM 4500 NH3 D	
MB 240-449355/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 240-449355/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	

Analysis Batch: 449410

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-135179-3	X-4AR_081820	Total/NA	Water	SM 4500 NH3 D	
240-135179-4	MW-183WT_081820	Total/NA	Water	SM 4500 NH3 D	
240-135179-5	DUP-05_081820	Total/NA	Water	SM 4500 NH3 D	
MB 240-449410/7	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 240-449410/8	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	
240-135179-4 MS	MW-183WT_081820	Total/NA	Water	SM 4500 NH3 D	
240-135179-4 MSD	MW-183WT_081820	Total/NA	Water	SM 4500 NH3 D	

Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: X-9CAUG_081820

Lab Sample ID: 240-135179-1

Date Collected: 08/18/20 10:30

Matrix: Water

Date Received: 08/19/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448202	08/21/20 22:14	WKD	TAL CAN
Total Recoverable	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448202	08/21/20 22:09	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447903	08/20/20 00:22	JWW	TAL CAN
Total/NA	Analysis	300.0		1	447904	08/20/20 00:22	JWW	TAL CAN
Total/NA	Analysis	300.0		5	447904	08/20/20 00:43	JWW	TAL CAN
Dissolved	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Dissolved	Analysis	9012A		1	449187	08/28/20 09:29	JR	TAL CAN
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 09:30	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449355	08/31/20 08:08	JR	TAL CAN

Client Sample ID: X-9BR_081820

Lab Sample ID: 240-135179-2

Date Collected: 08/18/20 13:00

Matrix: Water

Date Received: 08/19/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448202	08/21/20 22:22	WKD	TAL CAN
Total Recoverable	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448202	08/21/20 22:18	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447903	08/20/20 01:49	JWW	TAL CAN
Total/NA	Analysis	300.0		1	447904	08/20/20 01:49	JWW	TAL CAN
Dissolved	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Dissolved	Analysis	9012A		1	449187	08/28/20 09:22	JR	TAL CAN
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 09:27	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		2	449355	08/31/20 07:59	JR	TAL CAN

Client Sample ID: X-4AR_081820

Lab Sample ID: 240-135179-3

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/19/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448202	08/21/20 22:39	WKD	TAL CAN
Total Recoverable	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448202	08/21/20 22:35	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447903	08/20/20 02:32	JWW	TAL CAN
Total/NA	Analysis	300.0		1	447904	08/20/20 02:32	JWW	TAL CAN

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Lab Chronicle

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Client Sample ID: X-4AR_081820

Lab Sample ID: 240-135179-3

Date Collected: 08/18/20 14:45

Matrix: Water

Date Received: 08/19/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 09:15	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449410	08/31/20 10:16	JR	TAL CAN

Client Sample ID: MW-183WT_081820

Lab Sample ID: 240-135179-4

Date Collected: 08/18/20 09:20

Matrix: Water

Date Received: 08/19/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448202	08/21/20 21:23	WKD	TAL CAN
Total Recoverable	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448202	08/21/20 21:06	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447903	08/19/20 17:51	JWW	TAL CAN
Total/NA	Analysis	300.0		1	447904	08/19/20 17:51	JWW	TAL CAN
Dissolved	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Dissolved	Analysis	9012A		1	449187	08/28/20 09:16	JR	TAL CAN
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 08:52	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449410	08/31/20 10:32	JR	TAL CAN

Client Sample ID: DUP-05_081820

Lab Sample ID: 240-135179-5

Date Collected: 08/18/20 00:00

Matrix: Water

Date Received: 08/19/20 10:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Dissolved	Analysis	6010B		1	448202	08/21/20 22:48	WKD	TAL CAN
Total Recoverable	Prep	3005A			447977	08/20/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	6010B		1	448202	08/21/20 22:43	WKD	TAL CAN
Total/NA	Analysis	300.0		1	447903	08/19/20 18:56	JWW	TAL CAN
Total/NA	Analysis	300.0		1	447904	08/19/20 18:56	JWW	TAL CAN
Dissolved	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Dissolved	Analysis	9012A		1	449187	08/28/20 09:38	JR	TAL CAN
Total/NA	Prep	9012A			449154	08/28/20 07:54	JR	TAL CAN
Total/NA	Analysis	9012A		1	449187	08/28/20 09:36	JR	TAL CAN
Total/NA	Analysis	SM 2540C		1	447953	08/20/20 07:42	JR	TAL CAN
Total/NA	Analysis	SM 4500 NH3 D		1	449410	08/31/20 10:19	JR	TAL CAN

Laboratory References:

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: ARCADIS U.S., Inc.
Project/Site: Racer Saginaw

Job ID: 240-135179-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20 *
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

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MICHIGAN
190

2.5/3.4
2.6/3.5

Chain of Custody Record

460227



Environment Testing
TestAmerica

Address:

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

TAL-8210

Client Contact Company Name: ARCADIS Address: 28550 CANTON RD 512500 City/State/Zip: NOVI, MI 48377 Phone: 248-944-2240 Fax: 248-944-2241 Project Name: RACER SAGINAW Site: GPC PO # 30042836-11000		Project Manager: Tel/Email:		Site Contact: Lab Contact:		Date: Carrier:		COC No: of COCs	
Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below: _____ ☐ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Sample Date 8/18/20		Sample Time 10:30		Sample Type G		Matrix GW	
Sample Identification X-9CARG-081820		Sample Date 8/18/20		Sample Time 13:00		Sample Type G		Matrix GW	
Sample Identification X-9AR-081820		Sample Date 8/18/20		Sample Time 14:45		Sample Type G		Matrix GW	
Sample Identification MW-183WT-081820		Sample Date 8/18/20		Sample Time 9:20		Sample Type G		Matrix GW	
Sample Identification DUP-05		Sample Date 8/18/20		Sample Time 6		Sample Type G		Matrix GW	
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other									
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.									
☐ Non-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown									
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:	
Relinquished by:		Company: ARCADIS		Relinquished by:		Company:		Date/Time: 8-18-20 14:00	
Relinquished by:		Company:		Relinquished by:		Company:		Date/Time:	
Relinquished by:		Company:		Relinquished by:		Company:		Date/Time:	

Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 135179

Canton Facility

Client Arco 13

Site Name

Cooler unpacked by: Not SMACooler Received on 8-19-20Opened on 8-19-20FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # 13 Foam Box Client Cooler Box OtherPacking material used: Bubble Wrap Foam Plastic Bag None OtherCOOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☒ See Multiple Cooler Form

IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

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

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1

Yes No

-Were the seals on the outside of the cooler(s) signed & dated?

Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Yes No

-Were tamper/custody seals intact and uncompromised?

Yes No NA

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

Yes No

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

Yes No

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

Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

Yes No

7. Did all bottles arrive in good condition (Unbroken)?

Yes No

8. Could all bottle labels be reconciled with the COC?

Yes No

9. Were correct bottle(s) used for the test(s) indicated?

Yes No

10. Sufficient quantity received to perform indicated analyses?

Yes No

11. Are these work share samples?

Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

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

Yes No NA

pH Strip Lot# HC911298

13. Were VOAs on the COC?

Yes No

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

Yes No NA

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

Yes No

16. Was a LL Hg or Me Hg trip blank present?

Yes No

Tests that are not
checked for pH by
Receiving:VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

18. SAMPLE CONDITION

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

Sample(s) _____ were received in a broken container.

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

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container		Preservative	
			pH	Temp	Added (mls)	Lot #
X-9CAVG_081820	240-135179-A-1	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9CAVG_081820	240-135179-B-1	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9CAVG_081820	240-135179-D-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-9CAVG_081820	240-135179-E-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-9CAVG_081820	240-135179-F-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
X-9BR_081820	240-135179-A-2	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9BR_081820	240-135179-B-2	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-9BR_081820	240-135179-D-2	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-9BR_081820	240-135179-E-2	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-9BR_081820	240-135179-F-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
X-4AR_081820	240-135179-A-3	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
X-4AR_081820	240-135179-C-3	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
X-4AR_081820	240-135179-D-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
X-4AR_081820	240-135179-E-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-183WT_081820	240-135179-A-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-183WT_081820	240-135179-B-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-183WT_081820	240-135179-C-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-183WT_081820	240-135179-D-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-183WT_081820	240-135179-E-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-183WT_081820	240-135179-F-4	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
MW-183WT_081820	240-135179-J-4	Plastic 500ml - with Sulfuric Acid	_____	_____	_____	_____
MW-183WT_081820	240-135179-K-4	Plastic 500ml - with Sulfuric Acid	_____	_____	_____	_____
MW-183WT_081820	240-135179-L-4	Plastic 500ml - with Sulfuric Acid	_____	_____	_____	_____
MW-183WT_081820	240-135179-M-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-183WT_081820	240-135179-N-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-183WT_081820	240-135179-O-4	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
MW-183WT_081820	240-135179-P-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-183WT_081820	240-135179-Q-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
MW-183WT_081820	240-135179-R-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____
DUP-05	240-135179-A-5	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
DUP-05	240-135179-B-5	Plastic 250ml - with Sodium Hydroxide	>12	_____	_____	_____
DUP-05	240-135179-D-5	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
DUP-05	240-135179-E-5	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
DUP-05	240-135179-F-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____	_____

ATTACHMENT 4

Field Sampling Logs



Groundwater Sampling Form



Project Number	30042836	Well ID	MW-149WT	Date	08/11/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	71.6 degrees F and Clear. The wind is blowing N/NW at 29.0 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	8.57	Total Depth (ft-bmp)	20.35	Water Column(ft)	11.78	Gallons in Well	1.91
MP Elevation		Pump Intake (ft-bmp)	18	Purge Method	Low-Flow	Sample Method	Low-Flow
Sample Time	11:20	Volumes Purged	0.55	Sample ID	MW-149WT_081120	Sampled by	Billy Cobern
Purge Start	10:40	Gallons Purged	1.06	Replicate/ Code No.			
Purge End	11:45						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:40	0	0	100	8.57	0.00							Clear	None
10:45	5	5	100	8.75	0.13	6.81	0.87	14.3	0.45	14.4	-98.3	Clear	None
10:50	5	10	100	8.87	0.26	6.85	0.87	10.2	0.32	14.6	-103	Clear	None
10:55	5	15	100	8.89	0.40	6.88	0.87	7.71	0.27	14.7	-107.3	Clear	None
11:00	5	20	100	8.89	0.53	6.93	0.86	5.14	0.21	14.6	-113.2	Clear	None
11:05	5	25	100	8.89	0.66	6.96	0.86	3.13	0.18	14.5	-119.5	Clear	None
11:10	5	30	100	8.89	0.79	6.99	0.86	0.02	0.17	14.5	-122.3	Clear	None
11:15	5	35	100	8.89	0.92	7.01	0.86	0.02	0.17	14.6	-124.6	Clear	None
11:20	5	40	100	8.89	1.06	7.03	0.86	0.02	0.16	14.6	-127.9	Clear	None

Constituent Sampled	Container	Number	Preservative
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Arsenic	500 mL Plastic	1	HNO3
Dissolved Arsenic	500 mL Plastic	1	HNO3

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-107S1	Date	08/11/2020
Project Name/Location	Racer Saginaw		Weather(°F)	77.0 degrees F and Clear. The wind is blowing N/NW at 16.9 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	7.49	Total Depth (ft-bmp)	20.2	Water Column(ft)	12.71
MP Elevation		Pump Intake (ft-bmp)	18	Purge Method	Low-Flow
Sample Time	12:45	Volumes Purged	0.57	Sample ID	MW-107S1_081120
Purge Start	12:00	Gallons Purged	1.19	Replicate/ Code No.	
Purge End	12:50				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:00	0	0	100	7.49	0.00							Clear	None
12:05	5	5	100	7.52	0.13	7.47	1.36	1.16	1.26	17.9	-99	Clear	None
12:10	5	10	100	7.52	0.26	7.47	1.36	0.02	2	17	-120.9	Clear	None
12:15	5	15	100	7.52	0.40	7.47	1.36	0.02	0.29	16.9	-125.7	Clear	None
12:20	5	20	100	7.52	0.53	7.47	1.36	0.02	0.23	17.2	-129.1	Clear	None
12:25	5	25	100	7.52	0.66	7.47	1.36	0.02	0.17	17.8	-126.6	Clear	None
12:30	5	30	100	7.52	0.79	7.47	1.36	0.02	0.14	17.9	-128.7	Clear	None
12:35	5	35	100	7.52	0.92	7.46	1.36	0.02	0.11	17.5	-130.8	Clear	None
12:40	5	40	100	7.52	0.11	7.46	1.36	0.02	0.11	17.5	-131	Clear	None
12:45	5	45	100	7.52	1.19	7.46	1.36	0.02	0.12	17.5	-131.2	Clear	None

Constituent Sampled	Container	Number	Preservative
Ammonia	500 mL Plastic	1	H2SO4

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-111WT	Date	08/12/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	80.6 degrees F and Clear. The wind is blowing SW at 16.9 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	7.19	Total Depth (ft-bmp)	12.9	Water Column(ft)	5.71	Gallons in Well	0.93
MP Elevation		Pump Intake (ft-bmp)	11	Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	13:20	Volumes Purged	0.64	Sample ID	MW-111WT_081220	Sampled by	Billy Cobern
Purge Start	12:35	Gallons Purged	0.59	Replicate/ Code No.			
Purge End	15:10						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:35	0	0	50	7.19	0.00							Clear	None
12:40	5	5	50	7.37	0.07	7.17	0.81	5.17	0.32	21.1	-106.4	Clear	None
12:45	5	10	50	7.48	0.13	7.17	0.8	3.13	0.44	21.3	-125	Clear	None
12:50	5	15	50	7.54	0.20	7.17	0.8	1.94	0.26	21.5	-136.2	Clear	None
12:55	5	20	50	7.59	0.26	7.17	0.8	0.02	0.19	21.4	-146.9	Clear	None
13:00	5	25	50	7.64	0.33	7.18	0.8	0.02	0.15	21.5	-151.3	Clear	None
13:05	5	30	50	7.68	0.40	7.18	0.79	0.02	0.14	21.3	-154.3	Clear	None
13:10	5	35	50	7.74	0.46	7.17	0.78	0.02	0.22	21.6	-154.2	Clear	None
13:15	5	40	50	7.77	0.53	7.18	0.78	0.02	0.2	21.4	-155.5	Clear	None
13:20	5	45	50	7.81	0.59	7.17	0.78	0.02	0.21	21.7	-155.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Ammonia Nitrogen	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Manganese	500 mL Plastic	1	HNO3
Total PCBs	1L Amber	2	None
Dissolved PCBs	1L Amber	2	None

Comments: Didn't meet drawdown requirements

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Completion: Stick-up

Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-110WTR	Date	08/12/2020
Project Name/Location	Racer Saginaw		Weather(°F)	68.0 degrees F and Clear. The wind is blowing undefined at 0.0 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	8.31	Total Depth (ft-bmp)	14	Water Column(ft)	5.69
MP Elevation		Pump Intake (ft-bmp)	12	Purge Method	Ultra Low-Flow
Sample Time	10:30	Volumes Purged	0.65	Sample ID	MW-110WTR_081220
Purge Start	09:45	Gallons Purged	0.59	Replicate/ Code No.	
Purge End	12:20				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
09:45	0	0	50	8.31	0.00							Clear	None
09:50	5	5	50	8.43	0.07	7.09	0.64	0.02	0.57	16.7	34.2	Clear	None
09:55	5	10	50	8.48	0.13	7.08	0.64	0.02	0.57	16.8	18.4	Clear	None
10:00	5	15	50	8.5	0.20	7.07	0.64	0.02	0.75	16.9	-6.2	Clear	None
10:05	5	20	50	8.5	0.26	7.06	0.64	0.02	0.66	16.8	-28.1	Clear	None
10:10	5	25	50	8.5	0.33	6.98	0.67	0.02	0.63	16.9	-40.9	Clear	None
10:15	5	30	50	8.5	0.40	6.88	0.8	0.02	0.51	16.9	-46.6	Clear	None
10:20	5	35	50	8.5	0.46	6.85	0.93	0.02	0.63	17	-54	Clear	None
10:25	5	40	50	8.5	0.53	6.85	0.93	0.02	0.62	17	-54.7	Clear	None
10:30	5	45	50	8.5	0.59	6.85	0.94	0.02	0.59	16.9	-55	Clear	None

Constituent Sampled	Container	Number	Preservative
Ammonia Nitrogen	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Manganese	500 mL Plastic	1	HNO3
Total PCBs	1L Amber	2	None
Dissolved PCB's	1L Amber	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Completion: Stick-up

Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-114WT	Date	08/13/2020
Project Name/Location	Racer Saginaw		Weather(°F)	82.4 degrees F and Clear. The wind is blowing undefined at 0.0 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	6.55	Total Depth (ft-bmp)	10.95	Water Column(ft)	4.4
MP Elevation		Pump Intake (ft-bmp)	10	Purge Method	Ultra Low-Flow
Sample Time	15:10	Volumes Purged	1.12	Sample ID	MW-114WT_081320
Purge Start	14:10	Gallons Purged	0.79	Replicate/ Code No.	
Purge End	17:00			Sample Method	Ultra Low-Flow
				Sampled by	Billy Cobern

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:10	0	0	100	6.55	0.00							Clear	None
14:15	5	5	50	6.65	0.07	7.07	0.64	28.1	0.32	24.8	-98.8	Clear	None
14:20	5	10	50	6.71	0.13	7.07	0.63	19.1	0.35	25.1	-112.1	Clear	None
14:25	5	15	50	6.74	0.20	7.07	0.62	13.6	0.36	25.4	-118	Clear	None
14:30	5	20	50	6.78	0.26	7.78	0.62	9.12	0.32	25.6	-121.9	Clear	None
14:35	5	25	50	6.82	0.33	7.06	0.62	6.82	0.29	25.7	-125.1	Clear	None
14:40	5	30	50	6.85	0.40	7.14	0.6	3.12	0.15	24.9	-138.8	Clear	None
14:45	5	35	50	6.89	0.46	7.16	0.56	3.69	0.16	25.8	-141.2	Clear	None
14:50	5	40	50	7.01	0.53	7.17	0.54	4.79	0.14	26.2	-146.5	Clear	None
14:55	5	45	50	7.06	0.59	7.18	0.54	2.3	0.12	26.2	-148.4	Clear	None
15:00	5	50	50	7.11	0.66	7.2	0.51	0.98	0.04	25.8	-153.6	Clear	None
15:05	5	55	50	7.15	0.73	7.2	0.52	0.84	0.04	25.6	-153.6	Clear	None
15:10	5	60	50	7.19	0.79	7.21	0.51	0.72	0.04	25.4	-153.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Total PCBs	1L Amber	2	None
Dissolved PCBs	1L Amber	2	None
Ammonia Nitrogen	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Manganese	500 mL Plastic	1	HNO3

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Information

Well Location:	SMI	Well Locked at Arrival:	yes
Condition of Well:	Good condition	Well Locked at Departure:	yes
Well Completion:	Stick-up	Key Number To Well:	NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-107WT	Date	08/11/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	77.0 degrees F and Clear. The wind is blowing NW at 37.0 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	7.39	Total Depth (ft-bmp)	11.8	Water Column(ft)	4.41	Gallons in Well	0.72
MP Elevation		Pump Intake (ft-bmp)	11	Purge Method	Low-Flow	Sample Method	Low-Flow
Sample Time	13:55	Volumes Purged	1.65	Sample ID	MW-107WT_081120	Sampled by	Billy Cobern
Purge Start	13:10	Gallons Purged	1.19	Replicate/ Code No.	DUP-01_081120		

Purge End		15:30											
Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:10	0	0	100	7.39	0.00							Clear	None
13:15	5	5	100	7.44	0.13	7.1	0.88	13.3	1.32	19.9	63.1	Clear	None
13:20	5	10	100	7.45	0.26	7.1	0.88	10.2	1.27	20.2	50.6	Clear	None
13:25	5	15	100	7.45	0.40	7.11	0.88	7.62	1.21	20.3	48	Clear	None
13:30	5	20	100	7.45	0.53	7.11	0.88	0.02	1.12	20.3	45.8	Clear	None
13:35	5	25	100	7.45	0.66	7.1	0.88	0.02	1.18	20.4	40.1	Clear	None
13:40	5	30	100	7.45	0.79	7.1	0.88	0.02	0.98	19.8	42.8	Clear	None
13:45	5	35	100	7.45	0.92	7.11	0.87	0.02	1.11	20.4	48.1	Clear	None
13:50	5	40	100	7.45	1.06	7.11	0.87	0.02	1.07	20.6	48.3	Clear	None
13:55	5	45	100	7.45	1.19	7.11	0.88	0.02	1.01	20.3	48.4	Clear	None

Constituent Sampled	Container	Number	Preservative
Ammonia	500 mL Plastic	2	H2SO4
Phosphorus	500 mL Plastic	4	H2SO4
Total Arsenic	500 mL Plastic	4	HNO3
Dissolved Arsenic	500 mL Plastic	4	None
Total Manganese	500 mL Plastic	4	HNO3

Comments: Also MSMSD for some parameters

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Completion: Stick-up

Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-185WT	Date	08/14/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	60.8 degrees F and Clear. The wind is blowing N at 12.1 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	6.04	Total Depth (ft-bmp)	10.45	Water Column(ft)	4.41	Gallons in Well	0.72
MP Elevation		Pump Intake (ft-bmp)	10	Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	08:45	Volumes Purged	0.73	Sample ID	MW-185WT_081420	Sampled by	Billy Cobern
Purge Start	08:05	Gallons Purged	0.53	Replicate/ Code No.			
Purge End	10:45						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
08:05	0	0	50	6.04	0.00							Clear	None
08:10	5	5	50	6.05	0.07	7.12	0.467	2.1	0.42	19.6	326.4	Clear	None
08:15	5	10	50	6.05	0.13	7.42	0.455	3.65	0.36	19.7	282	Clear	None
08:20	5	15	50	6.05	0.20	7.49	0.448	2.12	0.35	19.8	260.3	Clear	None
08:25	5	20	50	6.05	0.26	7.58	0.44	1.68	0.34	19.9	240.1	Clear	None
08:30	5	25	50	6.05	0.33	7.59	0.437	1.54	0.33	20.1	227.2	Clear	None
08:35	5	30	50	6.05	0.40	7.6	0.433	1.71	0.32	20.2	212.9	Clear	None
08:40	5	35	50	6.05	0.46	7.61	0.431	1.53	0.31	20.3	207.8	Clear	None
08:45	5	40	50	6.05	0.53	7.62	0.429	1.48	0.31	20.4	203.4	Clear	None

Constituent Sampled	Container	Number	Preservative
Total PCBs	1L Amber	2	None
Dissolved PCBs	1L Amber	2	None
Ammonia Nitrogen	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Manganese	500 mL Plastic	1	HNO3

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	QPTW-13R		Date	08/11/2020	
Project Name/Location	Racer Saginaw		Weather(°F)	78.8 degrees F and Clear. The wind is blowing NW at 25.0 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	4.65	Total Depth (ft-bmp)	14.25	Water Column(ft)	9.6	Gallons in Well	1.56
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow	Sample Method	Low-Flow
Sample Time	14:40	Volumes Purged		Sample ID	QPTW-13R_081120	Sampled by	Donald Richmond
Purge Start	14:00	Gallons Purged		Replicate/ Code No.	Dup-02_081120		

Purge End		14:40											
Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:30	0	0	100	4.68	0.00	6.86	1.03	7.84	0.13	18.7	-86.1	Clear	None
14:35	5	5	100	4.68	0.00	6.88	1.04	4.25	0.13	18.7	-87.4	Clear	None
14:40	5	10	100	4.68	0.00	6.89	1.04	4.23	0.13	18.7	-88.3	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	4	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Saginaw Michigan	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: Flush mount	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-186WT	Date	08/12/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	73.4 degrees F and Clear. The wind is blowing undefined at 0.0 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	6.65	Total Depth (ft-bmp)	21.25	Water Column(ft)	14.6	Gallons in Well	2.37
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	14:25	Volumes Purged		Sample ID	MW-186WT_081220	Sampled by	Donald Richmond
Purge Start	10:05	Gallons Purged		Replicate/ Code No.	Dup-03_081220		
Purge End	18:25						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:00	0	0	50	6.65	0.00	7.61	0.43	4.87	0.21	20.4	-151.2	Clear	None
14:05	5	5	50	6.65	0.00	7.59	0.431	6.68	0.19	20.4	-163.8	Clear	None
14:10	5	10	50	7.75	0.00	7.59	0.434	6.65	0.14	20.5	-164.7	Clear	None
14:15	5	15	50	7.75	0.00	7.59	0.434	4.47	0.15	20.5	-168.6	Clear	None
14:15	1440	15	50	7.75	0.00	7.61	0.435	4.47	0.14	20.5	-169	Clear	None
14:18	3	18	50	7.75	0.00	7.62	0.435	3.53	0.16	20.5	173.5	Clear	None

Constituent Sampled	Container	Number	Preservative
Total PCBs	1L Amber	8	None
Dissolved PCBs	1L Amber	8	None
Ammonia Nitrogen	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Manganese	500 mL Plastic	1	HNO3

Comments: MSMSD for total and dissolved PCBs

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Saginaw Michigan	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-134WT	Date	08/11/2020
Project Name/Location	Racer Saginaw		Weather(°F)	77.0 degrees F and Clear. The wind is blowing N/NW at 16.9 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	6.4	Total Depth (ft-bmp)	15.4	Water Column(ft)	9
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow
Sample Time	12:30	Volumes Purged		Sample ID	MW-134WT_081120
Purge Start	12:05	Gallons Purged		Replicate/ Code No.	
Purge End	12:30			Sampled by	Donald Richmond

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:10	0	0	100	6.4	0.00	6.97	1.25	10.8	0.34	17.5	-120	Clear	None
12:15	5	5	100	6	0.00	6.98	1.23	2	0.18	17.8	-124.9	Clear	None
12:20	5	10	100	6	0.00	6.98	1.22	1.01	0.12	17.7	-127.7	Clear	None
12:25	5	15	100	6	0.00	6.98	1.21	1.48	0.11	17.6	-128	Clear	None
12:30	5	20	100	6	0.00	7	1.19	0.93	10	17.3	-129.5	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Saginaw Michigan	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	B-3R	Date	08/11/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	80.6 degrees F and Clear. The wind is blowing N/NW at 12.1 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	8.3	Total Depth (ft-bmp)	18.6	Water Column(ft)	10.3	Gallons in Well	1.67
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow	Sample Method	Low-Flow
Sample Time	16:50	Volumes Purged		Sample ID	B-3R_081120	Sampled by	Donald Richmond
Purge Start	15:30	Gallons Purged		Replicate/ Code No.			
Purge End	15:55						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
15:40	0	0	100	8.47	0.00	7.99	0.95	4.63	0.29	16.6	-245.3	Clear	None
15:45	5	5	100	8.47	0.00	7.99	0.94	5.05	0.28	16	-241.6	Clear	None
15:50	5	10	100	8.47	0.00	7.99	0.94	4.55	0.27	16.3	-236	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Saginaw Michigan	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number 30042836 Well ID MW-114S2 Date 08/13/2020

Project Name/Location Racer Saginaw Weather(°F) 82.4 degrees F and Clear. The wind is blowing E/SE at 16.9 mph.

Measuring Pt. Description Top of Inner Casing Screen Setting (ft-bmp) -- Casing Diameter (in) 2 Well Casing Material PVC

Static Water Level (ft-bmp) 8.22 Total Depth (ft-bmp) 30.85 Water Column(ft) 22.63 Gallons in Well 3.68

MP Elevation Pump Intake (ft-bmp) Purge Method Low-Flow Sample Method Low-Flow

Sample Time 15:30 Volumes Purged Sample ID MW-114S2_081320 Sampled by Donald Richmond

Purge Start 14:25 Gallons Purged Replicate/ Code No.

Purge End 15:40

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:35	0	0	100	8.22	0.00	2.44	0.68	2.89	0.4	18.4	207	Clear	None
14:40	5	5	100	8.3	0.00	5.83	0.66	5.2	0.35	17.2	5.9	Clear	None
14:45	5	10	100	8.3	0.00	5.45	0.69	3.81	0.36	18	21.5	Clear	None
14:50	5	15	100	8.3	0.00	7.17	0.71		0.35	19.1	-74	Clear	None
15:10	20	35	100	8.3	0.00	6.79	0.75	4.51	0.42	18	-10.8	Clear	None
15:15	5	40	100	8.3	0.00	6.76	0.73	3.45	0.33	18	-26.6	Clear	None
15:20	5	45	100	8.3	0.00	6.64	0.7	3.45	0.33	17.3	-32.4	Clear	None
15:25	5	50	100	8.3	0.00	6.56	0.71	3.09	0.35	17.6	-32	Clear	None
15:30	5	55	100	8.3	0.00	6.45	0.71	3.83	0.36	17.1	-28.2	Clear	None

Constituent Sampled Container Number Preservative
Nitrogen, Ammonia (as N) 500 mL Plastic 1 H2SO4

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Saginaw Michigan Well Locked at Arrival: yes
Condition of Well: Good condition Well Locked at Departure: yes
Well Completion: Stick-up Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-108WT	Date	08/13/2020
Project Name/Location	Racer Saginaw		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	8.02	Total Depth (ft-bmp)	10.4	Water Column(ft)	2.38
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow
Sample Time	15:15	Volumes Purged		Sample ID	MW-108WT_081320
Purge Start	14:20	Gallons Purged		Replicate/ Code No.	DUP-03_081320
Purge End	17:15				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:50	0	0	100	8.02	0.00	6.87	0.79	0.93	0.39	22.1	-38.7	Clear	None
14:55	5	5	100	8.02	0.00	6.9	0.7	1.71	0.29	22.3	-42.5	Clear	None
15:00	5	10	100	8.02	0.00	6.89	0.71	1.78	0.26	22.3	-43.6	Clear	None
15:05	5	15	100	8.02	0.00	6.9	0.7	1.75	0.23	22.3	-45.9	Clear	None
15:10	5	20	100	8.02	0.00	6.86	0.7	1.75	0.21	21.9	-44.1	Clear	None

Constituent Sampled	Container	Number	Preservative
Ammonia	500 mL Plastic	1	H2SO4
Phosphorus	500 mL Plastic	1	H2SO4
Total Manganese	500 mL Plastic	1	HNO3
SVOCs	1L Amber	8	None
PFAS	250mL HDPE Plastic	2	None

Comments: MSMSD for SVOCs

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-131WT	Date	08/11/2020
Project Name/Location	Racer Saginaw		Weather(°F)	71.6 degrees F and Partly Cloudy. The wind is blowing N/NW at 20.9 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	4.94	Total Depth (ft-bmp)	14.4	Water Column(ft)	9.46
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow
Sample Time	11:30	Volumes Purged		Sample ID	MW-131WT_081120
Purge Start	11:10	Gallons Purged		Replicate/ Code No.	
Purge End	11:35			Sample Method	Low-Flow
Well Casing Material	PVC	Gallons in Well	1.54	Sampled by	Donald Richmond

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:15	0	0	100	4.94	0.00	7.23	0.76	1.9	0.14	18.7	-110.2	Clear	None
11:20	5	5	100	5	0.00	7.16	0.73	0.63	0.12	19.1	-117.5	Clear	None
11:23	3	8	100	5	0.00	7.23	0.74	0.67	0.13	19.2	-121.8	Clear	None
11:30	7	15	100	5	0.00	7.21	0.75	0.53	0.12	19.5	-122.4	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: NA	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-108S2	Date	08/11/2020
Project Name/Location	Racer Saginaw		Weather(°F)	80.6 degrees F and Clear. The wind is blowing NW at 20.9 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	7.12	Total Depth (ft-bmp)	30.55	Water Column(ft)	23.43
MP Elevation		Pump Intake (ft-bmp)	28	Purge Method	Low-Flow
Sample Time	16:35	Volumes Purged	0.24	Sample ID	MW-108S2_081120
Purge Start	16:00	Gallons Purged	0.92	Replicate/ Code No.	
Purge End	16:40				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
16:00	0	0	100	7.12	0.00							Clear	None
16:05	5	5	100	7.17	0.13	7.6	0.88	14.1	0.69	18	4.8	Clear	None
16:10	5	10	100	7.17	0.26	7.56	0.87	12.2	0.32	17.6	-44.2	Clear	None
16:15	5	15	100	7.17	0.40	7.52	0.87	9.86	0.27	17	-84.7	Clear	None
16:20	5	20	100	7.17	0.53	7.47	0.88	8.78	0.18	16.8	-107.6	Clear	None
16:25	5	25	100	7.17	0.66	7.47	0.89	7.75	0.22	17	-88.7	Clear	None
16:30	5	30	100	7.17	0.79	7.47	0.89	7.61	0.23	17	-87.9	Clear	None
16:35	5	35	100	7.17	0.92	7.48	0.89	7.34	0.24	17	-87.1	Clear	None

Constituent Sampled	Container	Number	Preservative
Ammonia	500 mL Plastic	1	H2SO4

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: SMI	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number 30042836 Well ID X-4CAUGR Date 08/17/2020

Project Name/Location		Racer Saginaw		Weather(°F)			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	2.85	Total Depth (ft-bmp)	22.15	Water Column(ft)	19.3	Gallons in Well	3.14
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	09:55	Volumes Purged		Sample ID	X-4CAUGR_081720	Sampled by	Shawn Elswick
Purge Start	08:51	Gallons Purged		Replicate/ Code No.			
Purge End	11:10						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
09:18	0	0	50	3.1	0.00	6.64	0.53	4.62	0.4	19.8	-41.3	Clear	None
09:23	5	5	50	3.1	0.00	6.72	0.523	1.85	0.32	19.7	-61.9	Clear	None
09:34	11	16	50	3.1	0.00	6.75	0.524	0.02	0.27	19.6	-66.8	Clear	None
09:39	5	21	50	3.1	0.00	6.82	0.526	0.02	0.23	19.6	-71.3	Clear	None
09:51	12	33	50	3.1	0.00	6.85	0.528	0.02	0.25	19.6	-72.9	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-183WT	Date	08/18/2020		
Project Name/Location	Racer Saginaw		Weather(°F)				
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	5.99	Total Depth (ft-bmp)	18.4	Water Column(ft)	12.41	Gallons in Well	2.02
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	09:20	Volumes Purged		Sample ID	MW-183WT_081820	Sampled by	Shawn Elswick
Purge Start	08:18	Gallons Purged	0.00	Replicate/ Code No.	Dup-05_081820		

Purge End		15:29											
Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
08:49	0	0	50	5.99	0.00	6.57	0.67	0.02	1.11	17.5	-13.8	Clear	None
08:54	5	5	50	5.99	0.00	6.67	0.67	0.99	0.75	17.4	-37	Clear	None
08:59	5	10	50	5.99	0.00	6.73	0.67	1.27	0.71	17.4	-48.9	Clear	None
09:04	5	15	50	5.99	0.00	6.77	0.67	1.54	0.58	17.5	-57.7	Clear	None
09:09	5	20	50	5.99	0.00	6.81	0.67	0.02	0.52	17.4	-64	Clear	None
09:14	5	25	50	5.99	0.00	6.83	0.67	0.02	0.51	17.5	-68.2	Clear	None
09:19	5	30	50	5.99	0.00	6.86	0.67	0.02	0.5	17.6	-69.8	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	4	HNO3
Dissolved TAL Metals	500 mL Plastic	4	HNO3
Total Cyanide	250 mL Plastic	4	NaOH
Dissolved Cyanide	250 mL Plastic	4	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	4	None
Nitrogen, Ammonia (as N)	500 mL Plastic	4	H2SO4
PFAS	250mL HDPE Plastic	2	None

Comments: MSMSD

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-125WT	Date	09/08/2020
Project Name/Location	Racer Saginaw		Weather(°F)	57.2 degrees F and Cloudy. The wind is blowing NE at 41.1 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	2.89	Total Depth (ft-bmp)	15.45	Water Column(ft)	12.56
MP Elevation		Pump Intake (ft-bmp)	13	Purge Method	Low-Flow
Sample Time	16:55	Volumes Purged	0.71	Sample ID	MW-125WT_090820
Purge Start	16:00	Gallons Purged	1.45	Replicate/ Code No.	
Purge End	17:00				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
16:00	0	0	100	2.89	0.00							Clear	None
16:05	5	5	100	3.22	0.13	6.76	1.06	45.1	0.71	16.9	-19.4	Clear	None
16:10	5	10	100	3.21	0.26	6.78	1.08	29.6	0.54	16.9	-24.7	Clear	None
16:15	5	15	100	3.2	0.40	6.78	1.12	28.2	0.48	16.9	-29.2	Clear	None
16:20	5	20	100	3.2	0.53	6.79	1.16	22.4	0.4	16.8	-33.6	Clear	None
16:25	5	25	100	3.2	0.66	6.79	1.17	18.8	0.36	16.8	-39.1	Clear	None
16:30	5	30	100	3.2	0.79	6.79	1.18	15.4	0.31	16.9	-40.4	Clear	None
16:35	5	35	100	3.2	0.92	6.8	1.19	12.1	0.27	16.9	-41.9	Clear	None
16:40	5	40	100	3.2	1.06	6.8	1.19	10.3	0.23	16.8	-43	Clear	None
16:45	5	45	100	3.2	1.19	6.8	1.2	9.04	0.2	16.9	-44.2	Clear	None
16:50	5	50	100	3.2	1.32	6.8	1.21	8.97	0.2	16.8	-45.7	Clear	None
16:55	5	55	100	3.2	1.45	6.8	1.21	8.85	0.21	16.9	-47.1	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-10AR2	Date	09/08/2020
Project Name/Location	Racer Saginaw		Weather(°F)	53.6 degrees F and Cloudy. The wind is blowing E/NE at 41.1 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	8.25	Total Depth (ft-bmp)	18.6	Water Column(ft)	10.35
MP Elevation		Pump Intake (ft-bmp)	16	Purge Method	Low-Flow
Sample Time	13:00	Volumes Purged	0.86	Sample ID	X-10-AR2_090820
Purge Start	12:05	Gallons Purged	1.45	Replicate/ Code No.	DUP-01_090820
Purge End	13:15				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
12:05	0	0	100	8.25	0.00							Clear	None
12:10	5	5	100	8.38	0.13	7.04	0.87	37.9	2.44	15.3	-20.7	Clear	None
12:15	5	10	100	8.53	0.26	6.81	0.88	31.1	0.54	15	-33.9	Clear	None
12:20	5	15	100	8.62	0.40	6.84	0.88	26.8	0.46	15.1	-40.5	Clear	None
12:25	5	20	100	8.72	0.53	6.91	0.88	26.2	0.45	15.3	-47.6	Clear	None
12:30	5	25	100	8.81	0.66	6.94	0.88	22.6	0.46	15.3	-51.1	Clear	None
12:35	5	30	100	8.89	0.79	6.97	0.88	18.7	0.4	15.3	-55.4	Clear	None
12:40	5	35	100	8.96	0.92	6.98	0.88	16.3	0.43	15.4	-57.9	Clear	None
12:45	5	40	100	9	1.06	6.99	0.88	13.7	0.44	15.4	-60	Clear	None
12:50	5	45	100	9	1.19	6.99	0.88	9.89	0.32	15.5	-61.9	Clear	None
12:55	5	50	100	9.05	1.32	7	0.88	9.62	0.31	15.5	-62.7	Clear	None
13:00	5	55	100	9.09	1.45	7.01	0.88	9.45	0.31	15.5	-63.3	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	4	None

Comments: Didn't meet drawdown requirements

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-2A	Date	09/08/2020
Project Name/Location	Racer Saginaw		Weather(°F)	53.6 degrees F and Cloudy. The wind is blowing NE at 41.1 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	5.52	Total Depth (ft-bmp)	11.55	Water Column(ft)	6.03
MP Elevation		Pump Intake (ft-bmp)	10	Purge Method	Low-Flow
Sample Time	11:05	Volumes Purged	1.48	Sample ID	X-2A_090820
Purge Start	10:10	Gallons Purged	1.45	Replicate/ Code No.	X-2A_090820
Purge End	11:20				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:10	0	0	100	5.52	0.00							Clear	None
10:15	5	5	100	5.95	0.13	7.13	0.74	26.7	0.28	16.1	63.1	Clear	None
10:20	5	10	100	5.93	0.26	7.51	0.7	27.8	0.24	15.8	1.4	Clear	None
10:25	5	15	100	5.9	0.40	7.66	0.69	24.7	0.19	15.6	-15.6	Clear	None
10:30	5	20	100	5.86	0.53	8	0.69	19.1	0.18	15.6	-43	Clear	None
10:35	5	25	100	5.84	0.66	8.35	0.7	16.7	0.16	15.5	-65.4	Clear	None
10:40	5	30	100	5.84	0.79	8.45	0.7	14.1	0.16	15.3	-72.6	Clear	None
10:45	5	35	100	5.84	0.92	8.69	0.71	11.7	0.14	15.1	-95	Clear	None
10:50	5	40	100	5.84	1.06	8.72	0.71	10.3	0.1	15.2	-106.9	Clear	None
10:55	5	45	100	5.84	1.19	8.82	0.72	9.91	0.08	15.2	-123.3	Clear	None
11:00	5	50	100	5.84	1.32	8.83	0.71	9.82	0.08	15.2	-124.2	Clear	None
11:05	5	55	100	5.84	1.45	8.83	0.71	9.73	0.08	15.3	-124.6	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	6	None

Comments: MSMSD

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	TWW-1	Date	09/08/2020		
Project Name/Location	Racer Saginaw		Weather(°F)	53.6 degrees F and Cloudy. The wind is blowing E/NE at 54.0 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	3.93	Total Depth (ft-bmp)	10.8	Water Column(ft)	6.87	Gallons in Well	1.12
MP Elevation		Pump Intake (ft-bmp)	9	Purge Method	Low-Flow	Sample Method	Low-Flow
Sample Time	15:10	Volumes Purged	1.65	Sample ID	TWW-1_090820	Sampled by	Billy Cobern
Purge Start	14:00	Gallons Purged	1.85	Replicate/ Code No.			
Purge End	15:15						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:00	0	0	100	3.93	0.00							Clear	None
14:05	5	5	100	4.15	0.13	7	2.46	26.2	1.41	17.7	-84	Clear	None
14:10	5	10	100	4.15	0.26	7	2.19	107	1.39	17.7	-80.1	Clear	None
14:15	5	15	100	4.15	0.40	7	2.02	84.8	1.36	17.8	-79.6	Clear	None
14:20	5	20	100	4.15	0.53	7	1.91	54.3	1.33	17.8	-78.1	Clear	None
14:25	5	25	100	4.15	0.66	6.99	1.81	50.1	2.24	17.8	-70.6	Clear	None
14:30	5	30	100	4.15	0.79	6.99	1.75	48.2	3.06	17.8	-63.8	Clear	None
14:35	5	35	100	4.15	0.92	6.98	1.78	40.2	2.85	17.8	-69.8	Clear	None
14:40	5	40	100	4.15	1.06	6.98	1.74	32.1	2.32	17.6	-60.1	Clear	None
14:45	5	45	100	4.15	1.19	6.98	1.71	24.3	2.02	17.7	-58.6	Clear	None
14:50	5	50	100	4.15	1.32	6.97	1.71	17.8	1.97	17.6	-56.1	Clear	None
14:55	5	55	100	4.15	1.45	6.96	1.71	14.9	1.78	17.6	-54.3	Clear	None
15:00	5	60	100	4.15	1.59	6.96	1.71	11.7	1.72	17.4	-53.2	Clear	None
15:05	5	65	100	4.15	1.72	6.96	1.71	11.2	1.73	17.6	-52.3	Clear	None
15:10	5	70	100	4.15	1.85	6.94	1.71	11.2	1.69	17.6	-51.3	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250 mL Plastic	2	None

Comments: PVC stick up with no outer casing

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL

Well Locked at Arrival: no

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Condition of Well: Good condition

Well Locked at Departure: no

Well Completion: Stick-up

Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number 30042836 Well ID X-9D Date 08/17/2020

Project Name/Location	Racer Saginaw		Weather(°F)	69.8 degrees F and Mostly Cloudy. The wind is blowing NW at 12.1 mph.			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	0.98	Total Depth (ft-bmp)	50.2	Water Column(ft)	49.22	Gallons in Well	8
MP Elevation		Pump Intake (ft-bmp)	48	Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	12:25	Volumes Purged	0.11	Sample ID	X-9D_081720	Sampled by	Billy Cobern
Purge Start	11:20	Gallons Purged	0.86	Replicate/ Code No.			
Purge End	13:25						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:20	0	0	50	0.98	0.00							Clear	None
11:25	5	5	50	1.01	0.07	7.41	1.05	3.79	1.29	21.9	4.2	Clear	None
11:30	5	10	50	1.01	0.13	7.48	1.05	2.97	0.8	21.9	-101.5	Clear	None
11:35	5	15	50	1.01	0.20	7.49	1.05	3.31	0.71	22.1	-116.2	Clear	None
11:40	5	20	50	1.01	0.26	7.49	1.05	3.71	0.63	22	-137.4	Clear	None
11:45	5	25	50	1.01	0.33	7.48	1.05	2.83	0.61	22.3	-144.7	Clear	None
11:50	5	30	50	1.01	0.40	7.47	1.05	2.22	0.59	22.5	-150.5	Clear	None
11:55	5	35	50	1.01	0.46	7.47	1.05	2.06	0.56	22.9	-152.3	Clear	None
12:00	5	40	50	1.01	0.53	7.46	1.05	2.42	0.51	23.2	-155.2	Clear	None
12:05	5	45	50	1.01	0.59	7.44	1.05	2.11	0.41	23.6	-159.2	Clear	None
12:10	5	50	50	1.01	0.66	7.43	1.05	2.03	0.35	23.8	-163.1	Clear	None
12:15	5	55	50	1.01	0.73	7.43	1.05	2.21	0.36	23.9	-166.1	Clear	None
12:20	5	60	50	1.01	0.79	7.43	1.05	2.12	0.34	23.8	-168.6	Clear	None
12:25	5	65	50	1.01	0.86	7.43	1.05	1.89	0.33	23.8	-167.8	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None

Comments:

Well Casing Volume Conversion

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	GPL	Well Locked at Arrival:	yes
Condition of Well:	Good condition	Well Locked at Departure:	yes
Well Completion:	Stick-up	Key Number To Well:	NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-9AR	Date	08/17/2020
Project Name/Location	Racer Saginaw		Weather(°F)	66.2 degrees F and Cloudy. The wind is blowing W/NW at 12.1 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	2.27	Total Depth (ft-bmp)	16.05	Water Column(ft)	13.78
MP Elevation		Pump Intake (ft-bmp)	13.5	Purge Method	Ultra Low-Flow
Sample Time	09:35	Volumes Purged	0.21	Sample ID	X-9AR_081720
Purge Start	09:00	Gallons Purged	0.46	Replicate/ Code No.	
Purge End	10:35				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
09:00	0	0	50	2.27	0.00							Clear	None
09:05	5	5	50	2.31	0.07	6.99	0.532	1.71	1.23	19.5	-46.3	Clear	None
09:10	5	10	50	2.33	0.13	7.02	0.541	0.02	0.87	19.3	-60.6	Clear	None
09:15	5	15	50	2.34	0.20	7.04	0.56	0.02	0.41	19.4	-73.1	Clear	None
09:20	5	20	50	2.35	0.26	7.05	0.559	0.02	0.38	19.4	-88.4	Clear	None
09:25	5	25	50	2.36	0.33	7.05	0.559	0.02	0.36	19.4	-93.3	Clear	None
09:30	5	30	50	2.36	0.40	7.08	0.556	0.02	0.34	19.2	-97.1	Clear	None
09:35	5	35	50	2.36	0.46	7.09	0.556	0.02	0.34	19.3	-94.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Completion: Stick-up

Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-118WT	Date	08/14/2020
Project Name/Location	Racer Saginaw		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	1.35	Total Depth (ft-bmp)	16.72	Water Column(ft)	15.37
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow
Sample Time	10:50	Volumes Purged		Sample ID	MW-118WT_081420
Purge Start	08:10	Gallons Purged		Sampled by	Donnie Richmond
Purge End	12:15			Replicate/ Code No.	

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:30	0	0	50	1.35	0.00	6.82	1.56	6.02	0.44	22	-112.4	Clear	None
10:40	10	10	50	1.35	0.00	6.79	1.58	5.21	0.15	22	-113.5	Clear	None
10:45	5	15	50	1.35	0.00	6.82	1.55	5.52	0.15	22.2	-114.2	Clear	None
10:50	5	20	50	1.35	0.00	6.79	1.58	5.45	0.15	22.2	-114.6	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	250 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Racer Saginaw	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: NA	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-117WT	Date	08/13/2020
Project Name/Location	Racer Saginaw		Weather(°F)	60.8 degrees F and Clear. The wind is blowing undefined at 0.0 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	1.5	Total Depth (ft-bmp)	18.44	Water Column(ft)	16.94
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow
Sample Time	09:09	Volumes Purged		Sample ID	MW-117WT_081320
Purge Start	08:20	Gallons Purged		Sampled by	Donald Richmond
Purge End	13:00			Replicate/ Code No.	

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:15	0	0	50	1.5	0.00	6.37	8.55	22	0.17	25.7	-90.9	Clear	None
11:20	7	7	50	1.5	0.00	6.4	8.74	19.9	0.16	25.7	-95.1	Clear	None
11:24	4	9	50	1.5	0.00	6.08	9.27	17.7	0.16	25.9	-92.7	Clear	None
11:27	3	12	50	1.5	0.00	6.41	9.41	17.2	0.13	25.8	-96.8	Clear	None
11:33	6	18	50	1.5	0.00	6.41	9.25	12.2	0.13	25.1	-95.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Saginaw Michigan	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number 30042836 Well ID MW-117S1 Date 08/13/2020

Project Name/Location		Racer Saginaw		Weather(°F)	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Well Casing Material	PVC				
Static Water Level (ft-bmp)	2.42	Total Depth (ft-bmp)	35.42	Water Column(ft)	33
Gallons in Well	5.36				
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow
Sample Method	Ultra Low-Flow				
Sample Time	11:27	Volumes Purged		Sample ID	MW-117S1_081320
Sampled by	Shawn Elswick				
Purge Start	08:17	Gallons Purged		Replicate/ Code No.	
Purge End	13:03				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:07	0	0	50	2.42	0.00	6.93	1.52	8.7	0.28	26.3	-89.6	Clear	None
11:13	6	6	50	2.42	0.00	6.9	1.52	9.1	0.2	26.6	-88.9	Clear	None
11:18	5	11	50	2.42	0.00	6.93	1.52	9.23	0.18	26.9	-90.3	Clear	None
11:22	4	15	50	2.42	0.00	6.91	1.52	8.98	0.2	27	-90.6	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number 30042836 Well ID TW-242 Date 08/12/2020

Project Name/Location		Racer Saginaw		Weather(°F)			
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	6.95	Total Depth (ft-bmp)	10.15	Water Column(ft)	3.2	Gallons in Well	0.52
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow	Sample Method	Low-Flow
Sample Time	11:50	Volumes Purged		Sample ID	TW-242_081220	Sampled by	Shawn Elswick
Purge Start	10:44	Gallons Purged		Replicate/ Code No.			
Purge End	11:53						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:12	0	0	100	7.62	0.00	6.99	1.12	5.38	0.8	21.1	86.3	Clear	None
11:17	5	5	100	7.74	0.00	6.97	1.12	1.1	0.59	21	77.6	Clear	None
11:22	5	10	100	7.91	0.00	7.02	1.12	2.51	0.62	21	71.9	Clear	None
11:27	5	15	100	8.01	0.00	7.05	1.12	2.51	0.44	21.1	56.6	Clear	None
11:32	5	20	100	8.09	0.00	7.04	1.12	2.57	0.35	21.5	47.6	Clear	None
11:37	5	25	100	8.19	0.00	7.08	1.12	2.54	0.34	21.5	32.7	Clear	None
11:42	5	30	100	8.3	0.00	7.07	1.12	2.45	0.32	21.4	28.5	Clear	None
11:47	5	35	100	8.42	0.00	7.04	1.13	2.42	0.31	21.4	21.1	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-2A	Date	08/11/2020
Project Name/Location	Racer Saginaw		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	4.8	Total Depth (ft-bmp)	11.55	Water Column(ft)	6.75
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow
Sample Time	16:34	Volumes Purged		Sample ID	X-2A_081120
Purge Start	15:07	Gallons Purged		Replicate/ Code No.	
Purge End	16:43				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
16:16	0	0	100	5.25	0.00	8.23	0.73	6.09	0.97	21.2	99.9	Clear	None
16:23	7	7	100	5.25	0.00	8.84	0.72	6.22	0.76	20.6	84.8	Clear	None
16:28	5	12	100	5.25	0.00	8.87	0.72	6.26	0.53	20.9	72.4	Clear	None
16:33	5	17	100	5.25	0.00	8.88	0.72	6.68	0.62	20.4	61.8	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-4D	Date	08/17/2020
Project Name/Location	Racer Saginaw		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Well Casing Material	PVC				
Static Water Level (ft-bmp)	0.91	Total Depth (ft-bmp)	47.2	Water Column(ft)	46.29
Gallons in Well	7.52				
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow
Sample Method	Ultra Low-Flow				
Sample Time	12:14	Volumes Purged		Sample ID	X-4D_081720
Sampled by	Shawn Elswick				
Purge Start	11:28	Gallons Purged	0.00	Replicate/ Code No.	

Purge End													
Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:37	0	0	50	0.91	0.00	7.92	0.406	1.85	0.49	22.8	-94.5	Clear	None
11:43	6	6	50	0.91	0.00	7.88	0.412	0.02	0.41	22.8	-95.5	Clear	None
11:48	5	11	50	0.91	0.00	7.85	0.432	0.02	0.36	22.9	-97	Clear	None
11:54	6	17	50	0.91	0.00	7.77	0.442	0.02	0.37	23.3	-98.4	Clear	None
11:59	5	22	50	0.91	0.00	7.7	0.443	0.02	0.37	23.5	-99.1	Clear	None
12:03	4	26	50	0.92	0.00	7.36	4.33	0.02	0.49	23.2	-96.5	Clear	None
12:08	5	31	50	0.92	0.00	7.34	4.42	0.02	0.3	23.5	-96.6	Clear	None
12:12	4	35	50	0.92	0.00	7.33	4.47	0.02	0.3	23.5	-97.7	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: _____	Well Locked at Arrival: ☒ yes
Condition of Well: <u>Good condition</u>	Well Locked at Departure: ☒ yes
Well Completion: <u>Stick-up</u>	Key Number To Well: <u>NA</u>

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-10AR2	Date	08/12/2020
Project Name/Location	Racer Saginaw		Weather(°F)		
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	7.68	Total Depth (ft-bmp)	18.6	Water Column(ft)	10.92
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow
Sample Time	09:48	Volumes Purged		Sample ID	X-10AR2_081220
Purge Start	09:12	Gallons Purged	0.00	Replicate/ Code No.	
Purge End	09:56				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
09:24	0	0	100	8.16	0.00	6.76	0.6	0.68	0.99	16.8	-54.5	Clear	None
09:31	7	7	100	8.14	0.00	6.82	0.6	0.02	1.82	16.9	-57.6	Clear	None
09:37	6	13	100	8.14	0.00	6.82	0.87	0.02	0.25	16.9	-57.8	Clear	None
09:42	5	18	100	8.14	0.00	6.85	0.87	0.02	0.18	17	-59.9	Clear	None
09:47	5	23	100	8.16	0.00	6.89	0.87	0.02	0.17	17.1	-62.4	Clear	None

Constituent Sampled	Container	Number	Preservative
PFAS	250mL HDPE Plastic	2	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number 30042836 Well ID TWW-1 Date 08/12/2020

Project Name/Location		Racer Saginaw		Weather(°F)	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	3.63	Total Depth (ft-bmp)	10.8	Water Column(ft)	7.17
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Low-Flow
Sample Time	13:30	Volumes Purged		Sample ID	TWW-1_081220
Purge Start	12:58	Gallons Purged		Replicate/ Code No.	
Purge End	13:40				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
13:07	0	0	100	3.67	0.00	6.81	2.16	4.95	0.22	22.7	-100.4	Clear	None
13:12	5	5	100	3.76	0.00	6.82	2.07	2.49	0.14	23	-98.2	Clear	None
13:17	5	10	100	3.76	0.00	6.85	1.99	0.68	0.22	22.9	-94.9	Clear	None
13:22	5	15	100	3.76	0.00	6.86	1.95	0.68	0.24	22.8	-91.84	Clear	None
13:27	5	20	100	3.76	0.00	6.88	1.92	0.65	0.22	22.8	-90.2	Clear	None

Constituent Sampled	Container	Number	Preservative
VOCs	40 mL Glass	3	HCL
PFAS	250mL HDPE Plastic	2	None

Comments: Well in wetland. Approximately 1' deep at well.

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location:	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-9CAUG	Date	08/18/2020		
Project Name/Location	Saginaw, Michigan	Weather(°F)	57.2 degrees F and Clear. The wind is blowing W/NW at 33.0 mph.				
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	2.97	Total Depth (ft-bmp)	28.3	Water Column(ft)	25.33	Gallons in Well	4.12
MP Elevation		Pump Intake (ft-bmp)	26	Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	10:30	Volumes Purged	0.38	Sample ID	X-9CAUG_081820	Sampled by	Billy Cobern
Purge Start	08:30	Gallons Purged	1.59	Replicate/ Code No.			
Purge End	11:20						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
08:30	0	0	50	2.97	0.00							Clear	None
08:35	5	5	50	3.02	0.07	6.43	0.82	62.7	0.96	17.1	125.1	Clear	None
09:00	25	30	50	3.05	0.40			41.1				Clear	None
09:30	30	60	50	3.05	0.79			32.2				Clear	None
10:00	30	90	50	3.05	1.19			10.2				Clear	None
10:15	15	105	50	3.05	1.39	6.92	0.87	2.27	0.94	17.3	-89.3	Clear	None
10:20	5	110	50	3.05	1.45	6.92	0.87	2.06	0.92	17.4	-88.1	Clear	None
10:25	5	115	50	3.05	1.52	6.92	0.87	2.09	0.92	17.3	-89.1	Clear	None
10:30	5	120	50	3.05	1.59	6.92	0.87	1.82	0.91	17.4	-88	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL

Well Locked at Arrival: yes

Condition of Well: Good condition

Well Locked at Departure: yes

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Well Completion: Stick-up

Key Number To Well: NA

ft-bmp = feet below measuring point
in = inches
ft = feet
mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
NTU = Nephelometric Turbidity Unit
mg/L = milligrams per liter

mV = millivolts
°F = degrees Fahrenheit
°C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-9BR	Date	08/18/2020		
Project Name/Location	Saginaw, Michigan	Weather(°F)	68.0 degrees F and Clear. The wind is blowing N/NW at 41.1 mph.				
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	3.28	Total Depth (ft-bmp)	34.1	Water Column(ft)	30.82	Gallons in Well	5.01
MP Elevation		Pump Intake (ft-bmp)	32	Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	13:00	Volumes Purged	0.24	Sample ID	X-9BR_081820	Sampled by	Billy Cobern
Purge Start	11:35	Gallons Purged	1.19	Replicate/ Code No.			
Purge End	13:50						

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
11:35	0	0	50	3.28	0.00							Clear	None
11:40	5	5	50	3.33	0.07	7.12	0.66	63	1.37	20.6	47.1	Clear	None
12:00	20	25	50	3.33	0.40	7.09	0.71	48.3	1.1	20.3	-65.3	Clear	None
12:30	30	55	50	3.33	0.79			14.1				Clear	None
12:45	15	70	50	3.33	0.99	7.08	0.72	3.73	0.52	21	-90.7	Clear	None
12:50	5	75	50	3.33	1.06	7.08	0.72	2.21	0.49	21.1	-91.1	Clear	None
12:55	5	80	50	3.33	1.12	7.08	0.72	1.83	0.47	21.1	-91.3	Clear	None
13:00	5	85	50	3.33	1.19	7.08	0.72	0.02	0.46	21.2	-91.4	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL	Well Locked at Arrival: yes
Condition of Well: Good condition	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	X-4AR	Date	08/18/2020		
Project Name/Location	Saginaw, Michigan	Weather(°F)	73.4 degrees F and Partly Cloudy. The wind is blowing NW at 49.9 mph.				
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2	Well Casing Material	PVC
Static Water Level (ft-bmp)	1.25	Total Depth (ft-bmp)	6.8	Water Column(ft)	5.55	Gallons in Well	0.9
MP Elevation		Pump Intake (ft-bmp)	7	Purge Method	Ultra Low-Flow	Sample Method	Ultra Low-Flow
Sample Time	14:45	Volumes Purged	0.37	Sample ID	X-4AR_081820	Sampled by	Billy Cobern
Purge Start	14:20	Gallons Purged	0.33	Replicate/ Code No.			

Purge End													
Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
14:20	0	0	50	1.25	0.00							Clear	None
14:25	5	5	50	1.95	0.07	8.31	0.51	0.75	4.79	25.6	122.6	Clear	None
14:30	5	10	50	2.3	0.13	8.29	0.51	0.02	3.99	25.7	122.1	Clear	None
14:35	5	15	50	2.65	0.20	8.28	0.51	0.02	3.88	25.8	121.8	Clear	None
14:40	5	20	50	3.01	0.26	8.27	0.51	0.02	3.85	26.1	120.2	Clear	None
14:45	5	25	50	3.38	0.33	8.27	0.51	0.02	3.82	26.2	118.9	Clear	None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None

Comments: Well purged dry during sampling. No sample for dissolved cyanide was collected.

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot
 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: GPL	Well Locked at Arrival: yes
Condition of Well: Needs repairs	Well Locked at Departure: yes
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

Groundwater Sampling Form



Project Number	30042836	Well ID	MW-118S1	Date	08/14/2020
Project Name/Location	Racer Saginaw		Weather(°F)	80.6 degrees F and Clear. The wind is blowing NE at 25.0 mph.	
Measuring Pt. Description	Top of Inner Casing	Screen Setting (ft-bmp)	--	Casing Diameter (in)	2
Static Water Level (ft-bmp)	1.94	Total Depth (ft-bmp)	34.14	Water Column(ft)	32.2
MP Elevation		Pump Intake (ft-bmp)		Purge Method	Ultra Low-Flow
Sample Time	12:47	Volumes Purged		Sample ID	MW-118S1_081420
Purge Start	08:21	Gallons Purged		Replicate/ Code No.	
Purge End	12:50			Sample Method	Ultra Low-Flow
Sampled by	Shawn Elswick				

Time	Minutes Elapsed	Total Elapsed Minutes	Rate mL/min	Depth to Water (ft)	Gallons Purged	pH (standard units)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Temperature °C	Redox (mV)	Appearance	
												Color	Odor
10:26	0	0	50	1.94	0.00	7	0.376	10.6	0.28	24	-107.6		None
10:35	9	9	50	1.94	0.00	7.01	0.374	8.7	0.13	24	-104.3		None
10:44	9	18	50	1.94	0.00	6.96	0.371	8.45	0.1	24.1	-99.7		None
10:53	9	27	50	1.94	0.00	7.03	0.37	8.87	0.1	24.2	-101.7		None

Constituent Sampled	Container	Number	Preservative
Total TAL Metals	500 mL Plastic	1	HNO3
Dissolved TAL Metals	500 mL Plastic	1	HNO3
Total Cyanide	250 mL Plastic	1	NaOH
Dissolved Cyanide	250 mL Plastic	1	NaOH
Chloride,Nitrogen, Nitrate-Nit	500 mL Plastic	1	None
Nitrogen, Ammonia (as N)	500 mL Plastic	1	H2SO4

Comments:

Well Casing Volume Conversion

Well diameter (inches) = gallons per foot 1 = 0.04 1.5 = 0.09 2.5 = 0.26 3.5 = 0.50 6 = 1.47
 1.25 = 0.06 2 = 0.16 3 = 0.37 4 = 0.65

Well Information

Well Location: Racer Saginaw	Well Locked at Arrival: no
Condition of Well: Good condition	Well Locked at Departure: no
Well Completion: Stick-up	Key Number To Well: NA

ft-bmp = feet below measuring point
 in = inches
 ft = feet
 mL/min = milliliters per minute

mS/cm = milliSiemens per centimeter
 NTU = Nephelometric Turbidity Unit
 mg/L = milligrams per liter

mV = millivolts
 °F = degrees Fahrenheit
 °C = degrees Celsius

ATTACHMENT 5

SMI and Green Point Landfill Site Inspection Forms



RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties

77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan

Annual Observation and Maintenance Inspection Checklist

Inspector Name:	Bill Cobern
Inspection Date and Time:	8-10-20 9:00AM
Weather Conditions:	P Cloudy 70's-80's
Inspector Signature:	

Green Point Landfill

Locations		No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Site Access Road		X		
	Erosion/Washout/Settlement	X		
	Sufficient Gravel	X		
Landfill Cover				
	Bare spots	X		
	Stressed Vegetation	X		
	Cracks or intrusions	X		
	Burrowing Animals	X		
	Erosion		Black cover exposed in several areas	
	Washout		Black cover exposed in several areas	
	Settlement	X		
	Water Ponding		Possible ponding in areas on the south side	
	Protruding Objects	X		
	Undesirable (woody) Growth	X		
	Slope Movement	X		
Leachate Breakouts				
	Area Locations	X		
	Seepage or groundwater discharge	X		
Surface Water Drainage System				
	Drainage Swales		Black cover exposed on edges	
	Culverts	x		
	Downchutes	x		
	Primary Sedimentation Basin	x		
	Bank Erosion		Black cover exposed on edges	
	Silt Levels	X		
Gas Management System				
	Vent Riser Condition	X		
	Vent Screen Condition	X		
	Detectable Odor	X		
	Surface Seal	X		
Overall Site Appearance		X		
Mitigation Wetlands		X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

SMI terminated Type III Landfills

Location		No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover				
	Bare spots	X		
	Stressed Vegetation	X		
	Cracks or intrusions	X		
	Burrowing Animals		Filled one small burrow on the north side of the north landfill	8/10/2020
	Erosion	X		
	Washout	X		
	Settlement	X		
	Water Ponding	X		
	Protruding Objects	X		
	Undesirable (woody) Growth		many on both, mitigated some, several remain	
	Slope Movement	X		
Leachate Breakouts				
	Area Locations	X		
	Seepage or groundwater discharge	X		

SMI Former Plant Slab Soil Cover Area

Includes the following subareas - I27.7 manhole area, former Melting Department Area, former Quench Pit Area

Location		No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover				
	Bare spots	X		
	Stressed Vegetation	X		
	Cracks or intrusions	X		
	Burrowing Animals	X		
	Erosion	X		
	Washout	X		
	Settlement	X		
	Water Ponding	X		
	Protruding Objects	X		
	Undesirable (woody) Growth	X		
	Slope Movement	X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

SMI Former Southwest LNAPL Area

Location		No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Area Access Road				
Erosion/Washout/Settlement		X		
Sufficient Gravel		X		
Soil Cover				
Bare spots		X		
Stressed Vegetation		X		
Cracks or intrusions		X		
Burrowing Animals		X		
Erosion		X		
Washout		X		
Settlement		X		
Water Ponding		X		
Protruding Objects		X		
Undesirable (woody) Growth		X		
Slope Movement		X		

Former Railyard Area

Location		No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover				
Bare spots		X		
Stressed Vegetation		X		
Cracks or intrusions		X		
Burrowing Animals		X		
Erosion		X		
Washout		X		
Settlement		X		
Water Ponding		X		
Protruding Objects		X		
Undesirable (woody) Growth		X		
Slope Movement		X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

Peninsula Property

Location	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion	X		
Washout	X		
Settlement	X		
Water Ponding	X		
Protruding Objects	X		
Undesirable (woody) Growth	X		
Slope Movement	X		

SMI Stormwater Pond

Locations	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Intrusive Restriction			
Disturbance to pond lining	X		
Erosion	X		
Evidence of Sheen	X		
Signs of intrusive activity	X		

Overall Site Condition

Locations	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Monitoring Wells / LNAPL Systems:			
Have any monitoring wells or LNAPL systems been damaged or destroyed?	X		
Well Cap Integrity	X		
Well lock integrity	X		
Water Wells:			
Have any water wells been installed at the Property?	X		
Building Construction/Additions:			
Have any new buildings been constructed, added onto or any other redevelopment occurred at the Site?	X		
Permanent Markers:			
Are the markers visible and is the map and wording in legible condition with no vegetation blocking it?	X		
Evidence of Disturbance	X		
Land Use - Non-Residential/Passive Recreational:			
In accordance with the RC the land use needs to remain non-residential/passive recreational, is the property still non-residential/passive recreational use?	X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

Other items, if any:

Please describe any other notable items identified during Inspection.	X		

Notes:

- 1. If issue is identified, a Record of Maintenance Form must be completed
- Use related refers to any wear or development that occurs as part of the daily use of the Property. An example would be trail use, etc.
- Naturally occurring refers to any wear or damage caused by natural phenomenon. Examples include flooding, rain, spontaneous tree growth, etc.
- Inspections to be completed annually

Submit completed form to EGLE Saginaw Bay District Office RRD, 401 Ketchum Street, Suite B, Bay City, MI 48708 attention Amanda Armbruster annually by December 20.

RECORD OF MAINTENANCE FORM
RACER Saginaw Malleable Industrial Land (SMI), Green Point Landfill, and Peninsula Property
77 and 79 West Center Street, and 3300 Salt Road, Saginaw, Michigan
RC Reference Number - RC-OWMRP-111-17-_____

Work Location On-Site: SMI terminated Type III Landfill - Southerly

Description of Work: Filled one small burrow on the north side of the north landfill

Photo Log:

Attach photos of the area in question before and after the maintenance. Indicate photo number and brief description.

Materials Used: NA

Personal Protective Equipment Used (if applicable): NA

Work Performed By (Contractor Name): Arcadis

Address of Contractor: 28550 Cabot Dr. #500
Novi, MI 48377

Telephone of Contractor: (248)994-2240

Start Date: 8/10/2020

Completion Date: 8/10/2020

Designated Inspector: Bill Cobern

Inspector Signature and Date: Bill Cobern 8/10/2020

Comments:



Photo 1. Small animal burrow on the north side of the north Type III Landfill.



Photo 2. Mitigated small animal burrow on the north side of the north Type III Landfill.

ATTACHMENT 6

SMI Well Construction Logs, Sampling Parameters, and Field Parameters



Attachment 6
Monitoring Well Sampling Plan and Construction Summary
2020 Annual Report
RACER Trust
Green Point Landfill
Saginaw, Michigan

Well ID	Screen Interval (ft bgs) ¹	Screened Unit/Zone	Well Construction	Date Installed	TIC ² Elevation (ft AMSL) ³
MW-117WT	3-13	Water Table	2" PVC	5/3/1995	582.37
MW-117S1	24.2-29.2	Lower Sand	2" PVC	5/3/1995	583.70
MW-118WT	1.6-11.6	Water Table	2" PVC	5/2/1995	582.98
MW-118S1	23.5-28.5	Lower Sand	2" PVC	5/2/1995	583.28
MW-125WT	2.5-12.5	Water Table	2" PVC	1/4/1995	586.98
MW-183WT	6-16	Water Table	2" PVC	7/24/2000	588.77
X-2A	8.6-11.6	Water Table	2" PVC	6/2/1980	593.12
X-4AR	3.3-8.3	Water Table	2" PVC	NA	586.82
X-4CAUGR	14-19	Upper Sand	2" PVC	7/24/2007	586.36
X-4D	40-45	Lower Sand	2" PVC	7/23/2007	586.32
X-9AR	3-13	Water Table	2" PVC	5/26/1995	586.95
X-9BR	26-31	Upper Sand	2" PVC	5/17/1995	586.85
X-9CAUG	20-25	Upper Sand	2" PVC	5/5/1995	586.62
X-9D	42.5-47.5	Lower Sand	2" PVC	7/23/2007	587.47
X-10AR2	6-16	Water Table	2" PVC	11/6/2001	594.67
TWW-1	1.5-6.5	Water Table	2" PVC	1/22/1997	587.31
TW-242	2-7	Water Table	2" PVC	7/16/1998	589.58

Notes:

¹ Depths are in feet below ground surface (ft bgs)

² TIC = top of inner casing

³ Elevations are in feet above mean sea level (ft AMSL)

" PVC = inch polyvinyl chloride

NA = not available

Constituent & Preservative - Container Description											
Well ID	Proposed Monitoring Plan (2020)	Total TAL Metals ¹ (ULF Only ²) HNO ₃ - 500mL Poly	TAL Dissolved Metals ¹ HNO ₃ - 500mL Poly	Total Cyanide NaOH - 250mL Poly	Dissolved Cyanide NaOH - 250mL Poly	TDS, Sulfate, Chloride, Nitrite, Nitrate ³ unpreserved - 500mL Poly	Ammonia nitrogen H ₂ SO ₄ - 500 mL Poly	VOCs HCl - 3x40mL VOA	PFAS unpreserved - 2x250mL HDPE	Screen interval	QA/QC
MW-117S1	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, ammonia nitrogen, and PFAS	X	X	X	X	X	X	X		24.2-29.2	
MW-117WT	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, ammonia nitrogen, and PFAS	X	X	X	X	X	X	X		3-13	
MW-118S1	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X	X	X	X			23.5-28.5	
MW-118WT	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, ammonia nitrogen, and PFAS	X	X	X	X	X	X	X		1.6-11.6	
MW-183WT	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, ammonia nitrogen, and PFAS	X	X	X	X	X	X	X		6-16	Duplicate for ammonia nitrogen, total and dissolved TAL metals, total and dissolved cyanide, chloride, sulphate, nitrite, nitrate, and TDS; MS/MSD for ammonia nitrogen, total and dissolved TAL metals, total and dissolved cyanide, chloride, sulfate, nitrite, nitrate, and TDS
X-4AR ⁴	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X		X	X			NA-8.3	
X-4CAUGR	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X	X	X	X			14-19	
X-4D	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X	X	X	X			40-45	
X-9AR	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, ammonia nitrogen, and PFAS	X	X	X	X	X	X	X		3-13	
X-9BR	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X	X	X	X			26-31	
X-9CAUG	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X	X	X	X			20-25	
X-9D	TAL metals (total and dissolved), cyanide (total and dissolved), TDS, chloride, sulfate, nitrite, nitrate, and ammonia nitrogen	X	X	X	X	X	X			42.5-47.5	
TWW-1	VOC and PFAS						X	X		1.5-6.5	
TW-242	VOC						X			2-7	
MW-125WT	PFAS							X		2.5-12.5	MW-125WT used as an alternative as MW-122WT was inaccessible.
X-10AR2	PFAS							X		6-16	Duplicate for PFAS
X-2A	PFAS							X		8.6-11.6	MS/MSD for PFAS Equipment Blank for PFAS

Notes:

¹TAL dissolved metals plus cyanide, and indicator parameters (sulfate, chloride, total dissolved solids, nitrate, nitrite, and ammonia nitrogen).

²Ultra Low Flow (ULF) sampling refers to the use of a purge and sampling rate of approximately 1 liter per hour, implemented to minimize sample turbidity.

³TDS, sulfate, chloride, nitrite, and nitrate will all be included in one unpreserved 500 mL poly bottle and will be reported seperately using method 300.

⁴Well went dry during sampling, unable to collect dissolved cyanide.

HDPE = high-density ployethylene

HNO₃ = nitric acid

H₂SO₄ = sulfuric acid

mL = milliliter

MS/MSD = matrix spike/matrix spike duplicate

NA = not available

NaOH = sodium hydroxide

PFAS = per- and ployfluoroalkyl substances

VOC = volatile organic compound

Attachment 6
Field Parameters, 2020 Annual Report
RACER Trust
Green Point Landfill
Saginaw, Michigan

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-117S1	10/01/10	1.243	0.21	-82.5	8.14	13.15	1.3
MW-117S1	09/27/11	1.7	1.26	-82.3	6.89	15.7	0.8
MW-117S1	09/13/12	1.310	_ ²	-90.3	6.77	15.61	0.42
MW-117S1	09/24/13	4.123	0.75	-126.0	6.87	11.23	0.4
MW-117S1	09/22/14	1.307	0.58	-50.4	6.45	12.14	4.5
MW-117S1	10/01/15	1.681	0.17	127.91	6.69	13.28	8.03
MW-117S1	09/27/16	0.643	0.89	-34.7	6.56	15.64	7.99
MW-117S1	11/13/17	1.043	0.20	161.4	5.88	10.34	3.58
MW-117S1	08/21/19	0.464	7.87	-44.6	6.88	18.6	1.49
MW-117S1	08/13/20	1.52	0.20	-90.6	6.91	27	8.98
MW-117WT	10/01/10	8.45	0.11	-90	8.45	16.51	0.9
MW-117WT	09/27/11	9.535	0.68	-103	6.60	13.39	1.1
MW-117WT	09/13/12	10.33	_ ²	-77.2	6.23	16.32	0.68
MW-117WT	09/24/13	29.95	0.41	-109.8	6.37	12.72	0.80
MW-117WT	09/23/14	8.05	0.70	-57.8	6.25	12.05	8.60
MW-117WT	10/01/15	9.684	0.43	-97.38	6.55	12.74	5.96
MW-117WT	09/27/16	9.531	0.30	-157.64	6.71	15.85	2.72
MW-117WT	08/13/20	9.25	0.13	-95.7	6.41	25.1	12.2

Attachment 6
Field Parameters, 2020 Annual Report
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Green Point Landfill
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Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
MW-118S1 ¹	09/27/11	1.81	1.19	-91.9	7.02	17.6	0.3
MW-118S1	09/13/12	1.803	3.82	-230.3	6.83	15.83	1.03
MW-118S1	09/24/13	4.289	0.72	-95.8	6.36	13.17	0.9
MW-118S1	09/22/14	1.38	0.30	-56	6.35	12.49	9.7
MW-118S1	10/01/15	1.753	0.20	116.27	6.77	12.78	1.4
MW-118S1	09/27/16	0.662	0.94	13.84	6.71	14.3	7.91
MW-118S1	11/13/17	1.303	0.2	4.2	5.94	10.19	7.41
MW-118S1	08/14/20	0.37	0.1	-101.7	7.03	24.2	8.87
MW-118WT	09/30/10	3.435	0.22	-104.2	7.27	14.89	1.8
MW-118WT	09/27/11	3.261	0.71	-92.8	6.43	17.13	0.3
MW-118WT	09/13/12	2.451	1.37	-201.4	6.74	16.99	0.66
MW-118WT	09/24/13	5.017	0.95	-115.3	6.38	15.17	0.4
MW-118WT	09/22/14	1.521	0.20	-60.4	6.72	12.88	8.2
MW-118WT	10/01/15	1.939	0.36	-126.86	6.99	17.02	1.4
MW-118WT	09/27/16	2.072	0.79	-161.44	6.99	15.74	0.79
MW-118WT	11/13/17	1.654	0.26	-27.8	6.05	11.51	0.87
MW-118WT	08/14/20	1.58	0.15	-114.6	6.79	22.2	5.45
MW-125WT	09/08/20	1.21	0.21	-47.1	6.8	16.9	8.85
MW-183WT	09/28/10	0.633	0.33	-119.6	7.45	13.01	3.5
MW-183WT	09/28/11	0.814	0.26	-128.1	7.73	13.82	1.2
MW-183WT	09/14/12	0.962	0.25	-207.6	7.11	15.30	0.43
MW-183WT	09/24/13	2.390	0.51	-105.2	6.56	17.12	1.8
MW-183WT	09/22/14	Missing field notes					
MW-183WT	10/01/15	0.750	0.37	-139.06	7.28	13.45	0.9
MW-183WT	09/28/16	1.299	0.20	-125.02	7.23	16.52	0.20
MW-183WT	08/29/17	0.665	1.09	-91.4	6.94	20.50	1.74
MW-183WT	09/26/18	0.55	0.60	-83.7	6.65	16.0	0.96
MW-183WT	08/21/19	0.70	0.27	-67.5	7.11	15.2	1.96
MW-183WT	08/18/20	0.67	0.50	-69.8	6.86	17.6	0.02

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Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
TWW-1	09/29/10	3.924	1.15	-54.7	6.99	15.08	9.1
TWW-1	09/21/11	2.89	3.11	-7.1	6.87	18.42	1.2
TWW-1	09/14/12	2.289	2	19.0	6.87	19.30	0.59
TWW-1	09/24/13	3.004	0.64	-139.6	6.84	17.47	2.27
TWW-1	09/23/14	2.342	0.23	-89.9	6.91	17.35	1.01
TWW-1	10/01/15	2.534	0.49	84.32	6.79	17.82	6.09
TWW-1	09/28/16	2.531	0.34	-156.95	7.06	18.04	1.56
TWW-1	08/30/17	1.712	7.70	-52.6	7.22	19.10	8.43
TWW-1	09/25/18	1.48 ³	0.54	-89.8	6.75	21.30	0.58
TWW-1	08/22/19	1.59	0.21	-10.1	6.91	20.80	0.02
TWW-1	08/12/20	1.92	0.22	-90.2	6.88	22.8	0.65
TWW-1	09/08/20	1.71	1.69	-51.3	6.94	17.6	11.20
X-2A	08/11/20	0.72	0.62	61.8	8.88	20.4	6.68
X-2A	09/08/20	0.71	0.08	-124.6	8.83	15.3	9.73
X-4AR	DRY 2010, 2011, 2012, 2013	NA	NA	NA	NA	NA	NA
X-4AR	10/01/15	1.008	8.26	45.81	8	22.09	142.9
X-4AR ⁴	09/28/16	0.360	2.07	9.63	7.23	17.08	20.11
X-4AR ⁴	08/29/17	Well was pumped dry and sampled upon recharge					
X-4AR ⁵	09/26/18	0.71	0.53	3.1	7.37	17.1	8.14
X-4AR	08/18/20	0.51	3.82	118.9	8.27	26.2	0.02
X-4CAUGR	09/28/10	1.03	0.34	-79.8	7.11	12.29	1.1
X-4CAUGR	09/26/11	0.971	1.17	-97.1	6.96	17.25	1.2
X-4CAUGR	09/14/12	1.050	0.19	-293.7	6.93	11.83	0.48
X-4CAUGR	09/24/13	0.783	0.19	-64.1	6.22	13.21	1.49
X-4CAUGR	09/22/14	Missing field notes					
X-4CAUGR	10/01/15	1.225	0.25	-116.75	7.10	13.43	2.29
X-4CAUGR	09/28/16	0.396	0.85	-14.23	6.78	14.88	0.68
X-4CAUGR	08/29/17	0.910	0.16	-45.2	7.26	25.8	1.89
X-4CAUGR	09/26/18	0.500	0.40	-23.1	6.72	16.1	4.69
X-4CAUGR	08/22/19	0.568	0.23	-62.8	7.02	17.8	1.83
X-4CAUGR	08/17/20	0.528	0.25	-72.9	6.85	19.6	0.02

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Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
X-4D	09/28/10	4.58	0.53	-146.7	7.41	13.45	1.3
X-4D	09/26/11	4.897	1.67	-105.7	7.62	15.94	0.0
X-4D	09/14/12	4.884	0.50	-208.1	7.20	11.92	0.4
X-4D	09/24/13	3.937	0.23	-36.8	6.40	13.30	1.45
X-4D	09/22/14	Missing field notes					
X-4D	10/01/15	4.561	0.18	110.66	7.19	12.91	4.08
X-4D	09/28/16	4.908	0.22	-151.91	7.35	15.05	0.10
X-4D	08/29/17	4.451	0.94	117.2	7.18	24.2	0.38
X-4D	09/26/18	2.89	0.39	2.4	6.82	16.2	3.87
X-4D	08/22/19	0.71	0.37	18.7	7.11	17.9	1.93
X-4D	08/17/20	4.47	0.30	-97.7	7.33	23.5	0.02
X-9AR	09/29/10	0.815	0.24	-81.5	7.45	11.44	0.9
X-9AR	09/23/11	1.142	0.38	-114.8	7.09	11.63	0.0
X-9AR	09/12/12	1.056	8.20	-92.7	6.88	14.03	0.45
X-9AR	09/25/13	5.685	0.26	-122.6	6.95	10.54	1.90
X-9AR	09/22/14	Missing field notes					
X-9AR	10/01/15	1.224	0.71	-126.9	6.90	12.1	1.34
X-9AR	09/28/16	0.417	0.66	-56.94	6.63	15.03	1.95
X-9AR	08/29/17	0.816	0.28	-55.5	7.33	19.7	1.09
X-9AR	09/26/18	0.79	0.27	-70.4	6.30	17.6	2.54
X-9AR	08/21/19	0.73	0.28	-61.2	7.06	20.1	0.02
X-9AR	08/17/20	0.556	0.34	-94.7	7.09	19.3	0.02
X-9BR	09/28/10	1.215	0.10	-93.4	7.09	14.53	0.8
X-9BR	09/23/11	1.41	0.20	-113.8	7.13	11.29	0.0
X-9BR	09/12/12	1.358	0.21	-217.9	6.69	14.02	0.97
X-9BR	09/25/13	6.571	0.24	-146.0	6.98	11.31	1.76
X-9BR	09/22/14	Missing field notes					
X-9BR	10/01/15	1.859	0.36	129.69	6.92	11.49	7.27
X-9BR	09/28/16	2.020	0.08	-168.87	7.19	15.33	2.36
X-9BR	08/29/17	1.595	1.42	-168.3	7.06	17.3	1.64
X-9BR	09/26/18	0.428	0.30	-23.6	6.64	16.1	3.06
X-9BR	08/21/19	1.29	2.47	-145.5	7.04	20.9	1.95
X-9BR	08/18/20	0.72	0.46	-91.4	7.08	21.2	0.02

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Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
X-9CAUG	09/28/10	0.995	0.29	-72.3	6.97	12.45	0.1
X-9CAUG	09/23/11	1.07	0.45	-116.9	7.03	12.79	0.0
X-9CAUG	09/12/12	1.132	1.98	-137.1	6.65	21.04	0.76
X-9CAUG	09/25/13	5.046	0.27	-69.0	6.54	15.64	1.29
X-9CAUG	09/22/14	Missing field notes					
X-9CAUG	10/01/15	1.469	0.27	-156.66	7.12	12.32	4.73
X-9CAUG	09/28/16	0.634	0.60	0.50	6.74	12.24	3.95
X-9CAUG	08/29/17	0.956	0.34	-99.40	7.33	17	1.71
X-9CAUG	09/25/18	0.80 ³	0.43	-98.2	7.11	19.82	516.53 ⁶
X-9CAUG	08/21/19	0.93	0.35	-109.5	6.92	18.8	1.97
X-9CAUG	08/18/20	0.87	0.91	-88.0	6.92	17.4	1.82
X-9D	09/28/10	3.257	0.41	-93.2	7.31	12.54	0.1
X-9D	09/23/11	4.27	0.56	-113.8	7.44	11.73	0.0
X-9D	09/12/12	3.510	_ ²	-83.1	7.13	14.20	0.10
X-9D	09/25/13	19.53	0.17	-113.1	7.08	13.03	1.71
X-9D	09/22/14	Missing field notes					
X-9D	10/01/15	4.496	0.16	89.53	7.24	12.68	6.59
X-9D	09/28/16	4.567	0.12	166.31	7.23	11.2	1.24
X-9D	08/29/17	2.140	0.82	133.4	7.00	17	1.07
X-9D	09/25/18	3.44 ³	0.15	-138.8	7.11	18.64	14.86 ⁶
X-9D	08/20/19	4.52	0.30	-101.9	7.21	22.2	7.82
X-9D	08/17/20	1.05	0.33	-167.8	7.43	23.8	1.89
X-10AR2	08/12/20	0.87	0.17	-62.4	6.89	17.1	0.02
X-10AR2	09/08/20	0.88	0.31	-63.3	7.01	15.5	9.45
X-10BR	09/29/10	2.446	0.20	-101.2	6.69	14.17	1.4
X-10BR	09/22/11	1.692	0.79	-88.1	6.87	13.25	4.8
X-10BR	09/14/12	1.953	_ ²	-91.6	6.59	14.58	0.42
X-10BR	09/24/13	21.55	0.28	-104.5	6.40	14.21	4.89
X-10BR	Well Abandoned						

Attachment 6
Field Parameters, 2020 Annual Report
RACER Trust
Green Point Landfill
Saginaw, Michigan

Well ID	Date Sampled	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	pH (SU)	Temperature (°C)	Turbidity (NTUs)
TW-242	08/30/17	1.019	0.45	-96.1	7.01	17.1	9.02
TW-242	09/25/18	0.780	1.29	81.71	7.11	19.03	20.16
TW-242	08/22/19	1.11	0.37	-1.5	7.03	17.7	49.4
TW-242	08/12/20	1.13	0.31	21.1	7.04	21.4	2.42

Notes:

°C = Celsius.

mg/L = milligrams per liter.

mV = millivolts.

NTUs = Nephelometric Turbidity Units.

SU = Standard Units.

mS/cm = milliSiemens per centimeter.

NA = not applicable/not available.

1. Monitoring well MW-188S1 was sampled on October 10, 2010 but the sampling log was not found.
2. No reading due to faulty dissolved oxygen sensor.
3. Conductivity not recorded. Specific conductance reported instead.
4. Monitoring well purged dry upon sampling. Well was allowed to recharge and then a sample was collected.
5. Monitoring well purged dry. Well did not sufficiently recharge during sampling event; therefore, no sample was collected.
6. Turbidimeter malfunctioned during sampling. Turbidity result is not accurate.

ATTACHMENT 7

Site Maintenance Memo



RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

Inspector Name:	Shawn Elswick
Inspection Date and Time:	10/12-14/2020
Weather Conditions:	Cloudy 60s
Inspector Signature:	

Green Point Landfill

Locations	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Site Access Road			
Erosion/Washout/Settlement	X		
Sufficient Gravel	X		
Landfill Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion		Repaired areas with exposed cover noted during 8/10/2020 inspection	10/12-10/14/2020
Washout		Repaired areas with exposed cover noted during 8/10/2020 inspection	10/12-10/14/2020
Settlement	X		
Water Ponding		Repaired areas with ponded water noted during 8/10/2020 inspection	10/12-10/14/2020
Protruding Objects	X		
Undesirable (woody) Growth	X		
Slope Movement	X		
Leachate Breakouts			
Area Locations	X		
Seepage or groundwater discharge	X		
Surface Water Drainage System			
Drainage Swales		Repaired edges with exposed cover noted during 8/10/2020 inspection	10/12-10/14/2020
Culverts	X		
Downchutes	X		
Primary Sedimentation Basin	X		
Bank Erosion		Repaired edges with exposed cover noted during 8/10/2020 inspection	10/12-10/14/2020
Silt Levels	X		
Gas Management System			
Vent Riser Condition	X		
Vent Screen Condition	X		
Detectable Odor	X		
Surface Seal	X		
Overall Site Appearance	X		
Mitigation Wetlands	X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

SMI terminated Type III Landfills

Location	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion	X		
Washout	X		
Settlement	X		
Water Ponding	X		
Protruding Objects	X		
Undesirable (woody) Growth		Brush hogged areas with woody growth noted during 8/10/2020 inspection	10/14/2020
Slope Movement	X		
Leachate Breakouts			
Area Locations	X		
Seepage or groundwater discharge	X		

SMI Former Plant Slab Soil Cover Area

Includes the following subareas - I27.7 manhole area, former Melting Department Area, former Quench Pit Area

Location	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion	X		
Washout	X		
Settlement	X		
Water Ponding	X		
Protruding Objects	X		
Undesirable (woody) Growth	X		
Slope Movement	X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

SMI Former Southwest LNAPL Area

Location	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Area Access Road			
Erosion/Washout/Settlement	X		
Sufficient Gravel	X		
Soil Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion	X		
Washout	X		
Settlement	X		
Water Ponding	X		
Protruding Objects	X		
Undesirable (woody) Growth	X		
Slope Movement	X		

Former Railyard Area

Location	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion	X		
Washout	X		
Settlement	X		
Water Ponding	X		
Protruding Objects	X		
Undesirable (woody) Growth	X		
Slope Movement	X		

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

Peninsula Property

Location	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Soil Cover			
Bare spots	X		
Stressed Vegetation	X		
Cracks or intrusions	X		
Burrowing Animals	X		
Erosion	X		
Washout	X		
Settlement	X		
Water Ponding	X		
Protruding Objects	X		
Undesirable (woody) Growth	X		
Slope Movement	X		

SMI Stormwater Pond

Locations	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Intrusive Restriction			
Disturbance to pond lining	X		
Erosion	X		
Evidence of Sheen	X		
Signs of intrusive activity	X		

Overall Site Condition

Locations	No Issue	Potential Issue Description, if identified ¹ Note if issue is from property use or naturally occurring	Date Record of Maintenance Was Completed
Monitoring Wells / LNAPL Systems:			
Have any monitoring wells or LNAPL systems been damaged or destroyed?	X		
Well Cap Integrity	X		
Well lock integrity	X		
Water Wells:			
Have any water wells been installed at the Property?	X		
Building Construction/Additions:			
Have any new buildings been constructed, added onto or any other redevelopment occurred at the Site?	X		
Permanent Markers:			
Are the markers visible and is the map and wording in legible condition with no vegetation blocking it?	X		
Evidence of Disturbance	X		
Land Use - Non-Residential/Passive Recreational:			
In accordance with the RC the land use needs to remain non-residential/passive recreational, is the property still non-residential/passive recreational use?	X		
Other items, if any:			
Please describe any other notable items identified during Inspection.	X		

Notes:

1. If issue is identified, a Record of Maintenance Form must be completed

RACER Saginaw Malleable, Green Point Landfill, Peninsula Properties
77 and 79 West Center Street, and 3300 Salt Road, Saginaw Michigan
Annual Observation and Maintenance Inspection Checklist

- Use related refers to any wear or development that occurs as part of the daily use of the Property. An example would be trail use, etc.
- Naturally occurring refers to any wear or damage caused by natural phenomenon. Examples include flooding, rain, spontaneous tree growth, etc.
- Inspections to be completed annually

Submit completed form to EGLE Saginaw Bay District Office RRD, 401 Ketchum Street, Suite B, Bay City, MI 48708 attention Amanda Armbruster annually by December 20.

RECORD OF MAINTENANCE FORM
RACER Saginaw Malleable Industrial Land (SMI), Green Point Landfill, and Peninsula Property
77 and 79 West Center Street, and 3300 Salt Road, Saginaw, Michigan
RC Reference Number - RC-OWMRP-111-17-_____

Work Location On-Site: _____ GPL and SMI

Description of Work:

Repaired areas with exposed upper liner on GPL. These areas were first filled with topsoil to restore 6 inches of cover thickness over the mid-slope drainage swale liner, then seeded, and covered with erosion blanket. Brush hogged areas with woody growth on all landfills.

Photo Log:

Attach photos of the area in question before and after the maintenance. Indicate photo number and brief description.

Photos attached are an example of work that was done.

Materials Used: _____ Topsoil, seed, erosion blanket

Personal Protective Equipment Used (if applicable): _____

Work Performed By (Contractor Name): _____ JSS

Address of Contractor: _____ 13858 Northern Springs Drive, Cedar Springs, MI 49319

Telephone of Contractor: _____

Start Date: _____ 10/12/2020

Completion Date: _____ 10/14/2020

Designated Inspector: _____ Shawn Elswick

Inspector Signature and Date: _____ Shawn Elswick 10/14/2020

Comments: JSS repaired a total of 800 linear feet of exposed liner on GPL over multiple 10-20 foot locations, with the longest section being approximately 80 feet. The exposed liner areas ranged from 6 inches to 2 feet wide. These areas were first filled with topsoil to restore 6 inches of cover thickness over the mid-slope drainage swale liner, then seeded, and covered with erosion blanket; in accordance with the approved Green Point Landfill Final Cover System Construction Certification Report dated January 2020, see attached detail figure from the report. Brush hogging was completed at several areas of woody growth on all Site landfills.



Photo 1: Area on northeast side of GPL after filling with topsoil.



Photo 2: Erosion blanket installed over area on northeast side of GPL.



Photo 3: Erosion blanket installed over area on northeast side of GPL.



Photo 4: Area on north side of GPL after filling with topsoil.



Photo 5: Grass seed applied to area on north side of GPL.



Photo 6: Erosion blanket installed over area on north side of GPL.



Photo 7: Area on southeast side of GPL while filling with topsoil.



Photo 8: Erosion blanket installed over area on southeast side of GPL.



Photo 9: Erosion blanket installed over area on southeast side of GPL.



Photo 10: Area on southwest side of GPL before filling in with topsoil.



Photo 11: Area on southwest side of GPL after filling in with topsoil.



Photo 12: Area on southwest side of GPL after filling in with topsoil.



Photo 13: Erosion blanket installed over area on southwest side of GPL.



Photo 14: Erosion blanket installed over area on southwest side of GPL.



Photo 15: Erosion blanket installed over area on southwest side of GPL.



Photo 16: Area on northwest side of GPL after filling in with topsoil.



Photo 17: Area on northwest side of GPL after filling in with topsoil.



Photo 18: Erosion blanket installed over area on northwest side of GPL.



Photo 19: Erosion blanket installed over area on northwest side of GPL.



Photo 20: Brush hogging woody growth on SMI Type III landfills.

ATTACHMENT 8

Well Modification Memo



MEMO

To:

Dave Favero, RACER Trust

Copies:

Arcadis of Michigan, LLC
28550 Cabot Drive
Suite 500
Novi
Michigan 48377
Tel 248 994 2240
Fax 248 994 2241

From:

Scott Clearwater

Date:

November 20, 2020

Arcadis Project No.:

30042836

Subject:

Well Modification at Green Point Landfill

RACER Saginaw Malleable Industrial Land, Saginaw, Michigan

Arcadis of Michigan, LLC (Arcadis) is submitting this memorandum summarizing completion of well modification activities for the Saginaw Malleable Industrial Land (Site) which is made up collectively of Saginaw Malleable Industrial Land (SMI), the former Green Point Landfill (GPL), and the Peninsula Property (collectively the Site) and is located at 77 Crosstown Parkway, Saginaw, Michigan.

INTRODUCTION

Extended high standing water / surface water elevations have been observed at the Site throughout the GPL property at the southern part of the Site. This high water has been observed over the past couple years, and has led to several wells at the GPL property being inaccessible based on the standing water level being to the point where it was at or above the top of casing (TOC) of the well and the well could not be gauged or sampled. Some of the key monitoring wells that were inaccessible are in the Operation & Maintenance Plan groundwater monitoring program for the assessment and monitoring of groundwater quality along the eastern side of the landfill. These wells included MW-117WT, MW-117S1, MW-118WT, and MW-118S1. It was determined that completing the well modifications would provide additional seal at the ground surface/standing water interface and allow accessibility for the well above the water line. This was needed based on the unknown duration of these high water conditions in order to be able to gauge and monitor at those locations.

WORK PLAN

A work plan was developed and submitted to the Michigan Department of the Environment, Great Lakes, & Energy (EGLE) on July 21, 2020 proposing to modify the monitoring well casing height for the monitoring wells along the east side of Green Point Landfill that are part of the annual O&M Plan but have been inaccessible due to high water. These included MW-117WT, MW-117S1, MW-118WT, and MW-118S1.

The plan consisted of adding an outer casing that will fit over the upright protective cover and act as an extended/taller protective cover that will extend from ground to higher above the water level. Standing water inside the new outer protective casing would be pumped out. The space between the outside of the existing protective cover and the inside of the new outer protective casing would be filled with a bentonite-concrete slurry. Then a riser coupling and riser extension would be added onto the top of casing of the monitoring well so that the wells are extended taller above the water level.

EGLE raised questions on the plan in an email dated July 27, 2020 and these questions were addressed during phone discussion July 27, 2020, following which the work plan was approved as part of the O&M Plan on July 31, 2020.

WELL MODIFICATION ACTIVITY COMPLETION SUMMARY

Arcadis sub-contracted with Job Site Services (JSS) for the completion of the well modifications. The modification activity was completed on August 10, 2020 in accordance with the work plan by accessing the wells in the flooded area from a pontoon boat to conduct the well modifications.

New outer protective cover casing extensions were placed over existing protective covers which were at or below the surface water level. The protective cover extensions were selected based on the existing protective cover type in order to fit tightly over them and extend the protective cover over the wells to a height 2 feet above the surface water. Water was removed from inside the protective covers. The inner well casings were then extended 3 to 4 feet using a PVC coupling with a PFAS free gasket. The void space between the outer casings and the well casing was packed with approximately 1 to 2 feet of bentonite-concrete slurry to seal and then approximately 2 feet of sand for stability. The new extended top of casings will be surveyed into the well network during 2021.

Photos of the completed well modifications are provided in **Attachment 1**.

CONCLUSION

Based on the well modifications performed, the monitoring wells are now raised up to a height where they extend above the surface water and can be safely opened without water entering the casing. The completed bentonite-concrete slurry inside the protective cover will provide added seal from the standing surface water and the extended riser and protective cover allows access to gauge and monitor conditions.

Enclosures:

Attachment 1 - Photolog



Photo 1: Well casing extended using a PVC coupling and riser section and protective well cover extension added that is designed to fit tightly over existing protective cover and add more length.



Photo 2: Adding bentonite-concrete slurry to seal then sand to set in place.



Photo 3: MW-117WT and NW-117S1 series showing completed riser and protective cover extensions raised above waterline and additional seal along well casing.

Clearwater, Scott

From: Clearwater, Scott
Sent: Tuesday, July 21, 2020 11:43 AM
To: Armbruster, Amanda (DEQ)
Cc: Dave Favero
Subject: RE: RE: RACER Saginaw O&M Plan Update - Well Modification Plan

Amanda,

We have developed a plan to modify the well casing height on the monitoring wells along the east side of Green Point Landfill that are part of the annual O&M Plan but have been inaccessible due to high water, these include MW-117WT, MW-117S1, MW-118WT, and MW-118S1.

Our plan consists of adding an outer casing that will fit over the upright protective cover and act as an extended/taller protective cover that will extend from ground to higher above the water level. Any standing water inside the new outer protective casing will be pumped out. The space between the outside of the existing protective cover and the inside of the new outer protective casing will be filled with a concrete slurry. Then we will add a riser coupling and riser extension onto the top of casing of the monitoring well so that the wells are extended taller above the water level. J-plugs on the monitoring wells will be replaced and a cap will be put in place on the top of the outer protective casing. The new extended top of casings will be surveyed in to the well network.

Our plan is to work from a pontoon boat to conduct the well modifications. Annual sampling can be completed by accessing the wells with a smaller John Boat.

Assuming these modifications are successful, the proposed alternate wells listed in the June 2020 draft O&M Plan (MW-115WT, MW-115S1, and X-10AR2) would no longer be utilized. PFAS analysis would be added to MW-117WT and MW-118WT. If you concur these updates will be made to the draft O&M Plan, we will coordinate with the County, and the modifications can be installed during the next sampling event which is tentatively scheduled for the week of August 10, 2020.

Thank you,
Scott

Scott Clearwater | Certified Project Manager | scott.clearwater@arcadis.com

Arcadis | Arcadis of Michigan, LLC
28550 Cabot Drive, Suite 500, Novi, MI | 48377 | USA
T. +1 810 225 1921 | M. + 1 248 346 5970

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Be green, leave it on the screen.

ATTACHMENT 9

2020 PCB Cover Inspections and Quarterly LNAPL
Gauging/Inspections





Memorandum

December 4, 2020

To: Dave Favero (RACER)

Ref. No.: 11208013

From: John-Eric Pardys/kf/1

Tel: 519-340-4316

Subject: **2020 Inspections and Quarterly Gauging
RACER Trust Saginaw Malleable Industrial Land, Saginaw Michigan**

1. Introduction

This memorandum presents a summary of the inspections conducted on the cover placed over the former building slab, including the I27.7 Manhole Area, and quarterly gauging/inspections of the LNAPL areas completed in 2020 at RACER Trust's Saginaw Malleable Industrial Land (Site) in Saginaw, Michigan (Figure 1). The purpose is to confirm the cover is being maintained in accordance with 40 CFR 761.61 (a)(8) and to identify any changes in LNAPL conditions that would necessitate further evaluation.

2. Visual Cover Observations

GHD field staff completed a visual assessment on Tuesday, June 3, 2020 of the cover placed over the former building slab, including the I27.7 Manhole Area, to document its condition and to recommend any maintenance that may be required. The week prior to the inspection, Saginaw area received approximately 0.61-inches of rain (<https://w2.weather.gov/climate/index.php?wfo=dtx>). See Attachment A for a photographic log documenting the cover observations.

The following observations were made during the inspection:

- Standing water was present in one area on the southeast edge of the cap (see Photo 5), and in one area on the northwest edge of the cap (see Photo 6).
- No erosion of the cover was identified.
- There was minor heaving and cracking around some of the monitoring wells in the Quench Pit Area (QP-1, QP-2, and QP-3). No maintenance was required.
- There were no signs of any major depressions on the cover. There is substantial vegetation growth over the entire cover, with growth in some areas exceeding 2 feet. Photo 3 and Photo 4 show the general state of the vegetation growth on the cover. Vegetation was primarily composed of grasses, clovers, wildflowers, thistles, and other small plants. There was some woody growth, primarily cottonwood trees which were about 2-3-inches tall. There was also phragmite growth in one area of the cover.
- There was evidence of deer and geese present on the cover.



GHD evaluated the areas of standing water following large rain events and the areas did not affect the cover integrity. GHD will continue to inspect the cover following major rainfall events to ensure standing water does not impact the integrity of the cap and to identify areas of potential erosion.

Based on the results of the June 2020 inspection, no maintenance of the cover was required beyond the mowing that was conducted by the County between the second quarterly inspection and the third quarterly inspection. The cover was inspected again in September 2020 and December 2020 and there were no erosion issues identified.

3. Quarterly LNAPL Gauging/Inspection Events

Pursuant to the MDEQ approved monitoring plan (Attachment B), GHD continued quarterly gauging in 2020. A summary of the quarterly gauging information is provided in Table 1. Table 1 also includes the historical gauging information for reference. A copy of the quarterly inspection forms are included in Attachment C. Figure 2 presents the Quench Pit Area monitoring well locations. All water levels/LNAPL thicknesses were below the top of screen, with the exception of one location (QPTW-13R), during the Q1-2020, Q2-2020, Q3-2020 gauging events. The LNAPL thickness in the wells is consistent with historical readings and changes in LNAPL thickness in wells exhibit the expected correlation with fluctuations in hydraulic conditions (i.e., water table elevation).

GHD also inspected manholes in the Southwest Plant LNAPL area, the storm water pond and the secondary pond for the presence of LNAPL. Figure 3 presents the location of the inspection points. A slight sheen was identified in a few of the manholes, however, no evidence of LNAPL was identified in the Stormwater Pond or the Secondary Pond. A summary of the manhole inspections is provided in Table 2.

Table 3 summarizes the LNAPL Transmissivity that has been completed to date. No transmissivity testing was completed in 2020 as conditions were similar to when the previous tests were completed. A memorandum was submitted to EGLE on January 28, 2019 summarizing transmissivity testing that has been completed. The memorandum concluded that the remaining concern with LNAPL appears to be limited to the potential for residual LNAPL sheen to enter active sewers that discharge to the on-Site stormwater pond. However, it is noted that no sheen has been observed in the on-Site stormwater pond since before the Plant was closed in 2007. Further, transmissivity testing since 2016 has demonstrated LNAPL is not readily or practically recoverable.

4. Conclusions/Recommendations

With respect to the cover, in order to keep phragmite growth and woody growth under control, GHD recommends continuing to mow at a minimum annually.

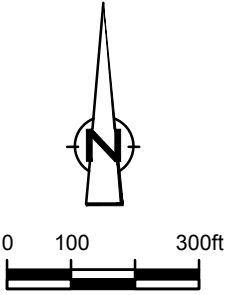
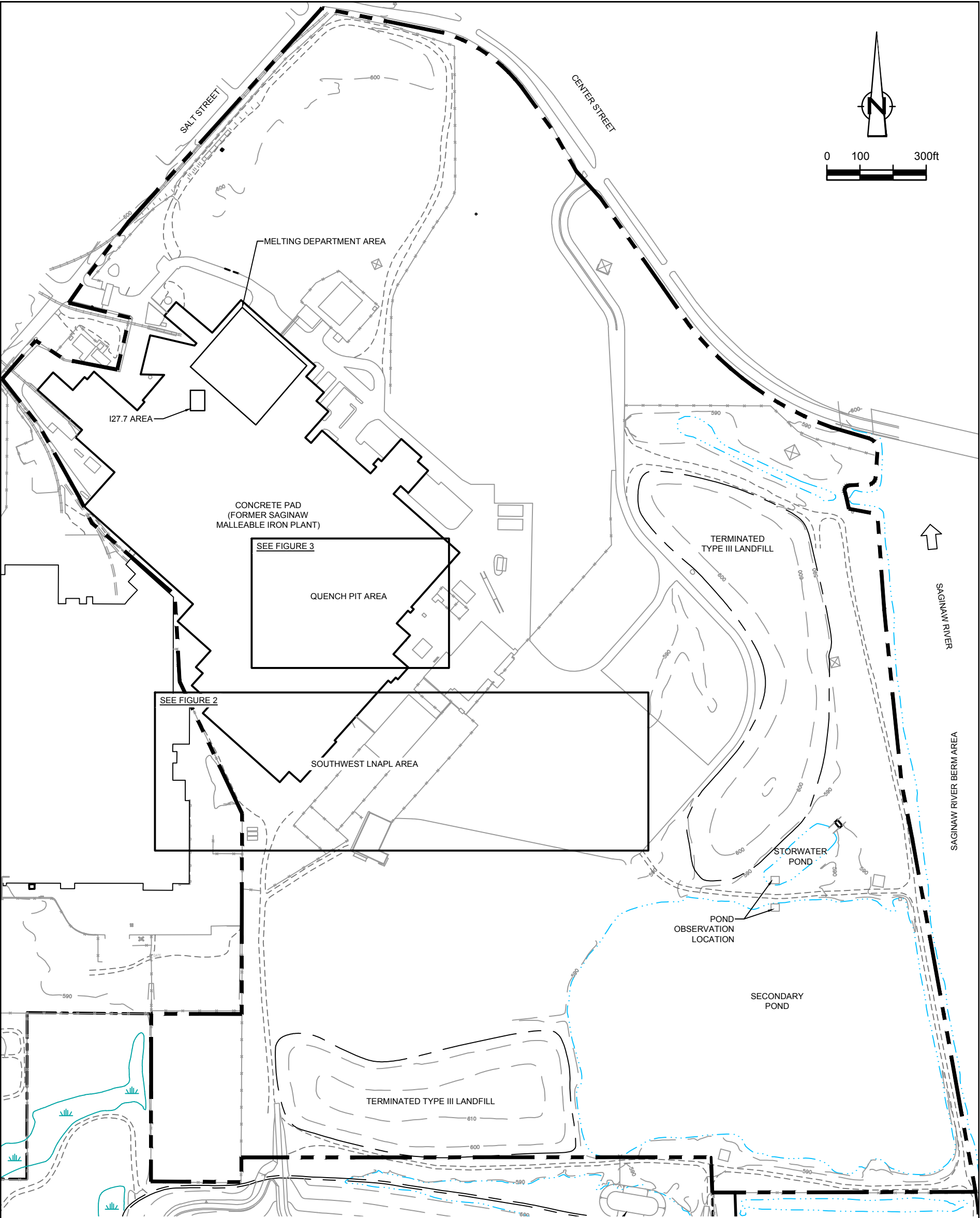
LNAPL conditions continue to remain stable and, therefore, no further evaluation is necessary beyond continued monitoring. Consistent with the January 28, 2019 memorandum, GHD recommends that no



additional transmissivity testing be performed and quarterly gauging and observations be reduced to annually.

List of Enclosures:

Figure 1	Site Plan
Figure 2	Quench Pit Area – LNAPL Monitoring Program
Figure 3	Southwest Plan LNAPL Area – LNAPL Monitoring Program
Table 1	Summary of Groundwater Gauging Data – Quench Pit Area
Table 2	Summary of Manhole Inspections – Southwest LNAPL Area
Table 3	Summary of Transmissivity Testing – Quench Pit Area
Attachment A	Photographic Log – Cover Inspection
Attachment B	MDEQ (now EGLE) correspondence regarding Quench Pit Area Monitoring Program
Attachment C	Inspection Forms



- LEGEND**
- RACER MALLEABLE IRON INDUSTRIAL LAND PROPERTY LINE (APPROX.)
 - - - UNPAVED ROAD
 - - - GROUND SURFACE ELEVATION CONTOUR (10 FT INTERVAL)
 - x - x - FENCE LINE

NOTE:
THIS DRAWING HAS BEEN PREPARED
UTILIZING THE BEST AVAILABLE INFORMATION.

figure 1
SITE PLAN
RACER SAGINAW MALLEABLE IRON INDUSTRIAL LAND
Saginaw, Michigan



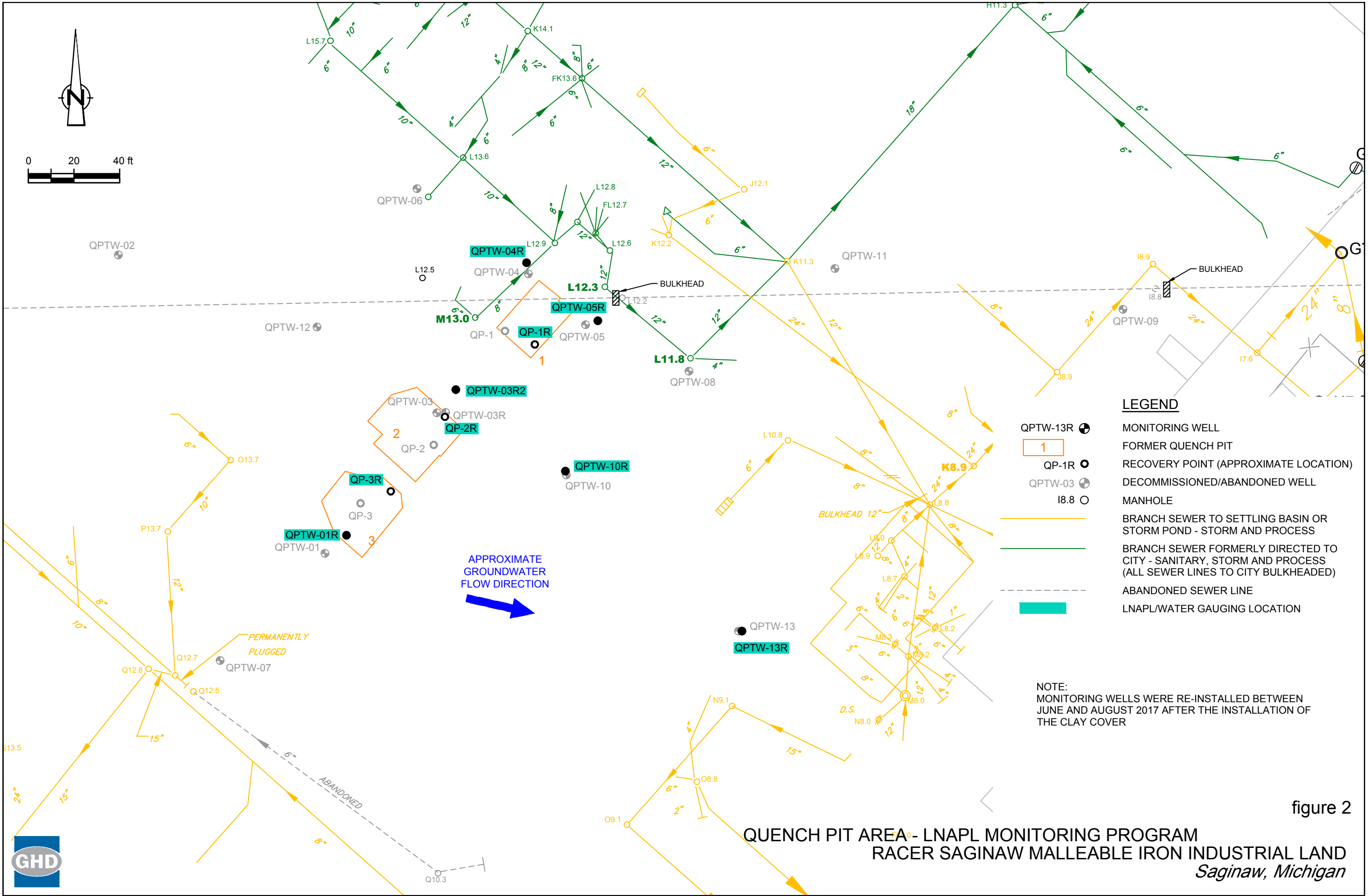


figure 2

QUENCH PIT AREA - LNAPL MONITORING PROGRAM
RACER SAGINAW MALLEABLE IRON INDUSTRIAL LAND
Saginaw, Michigan

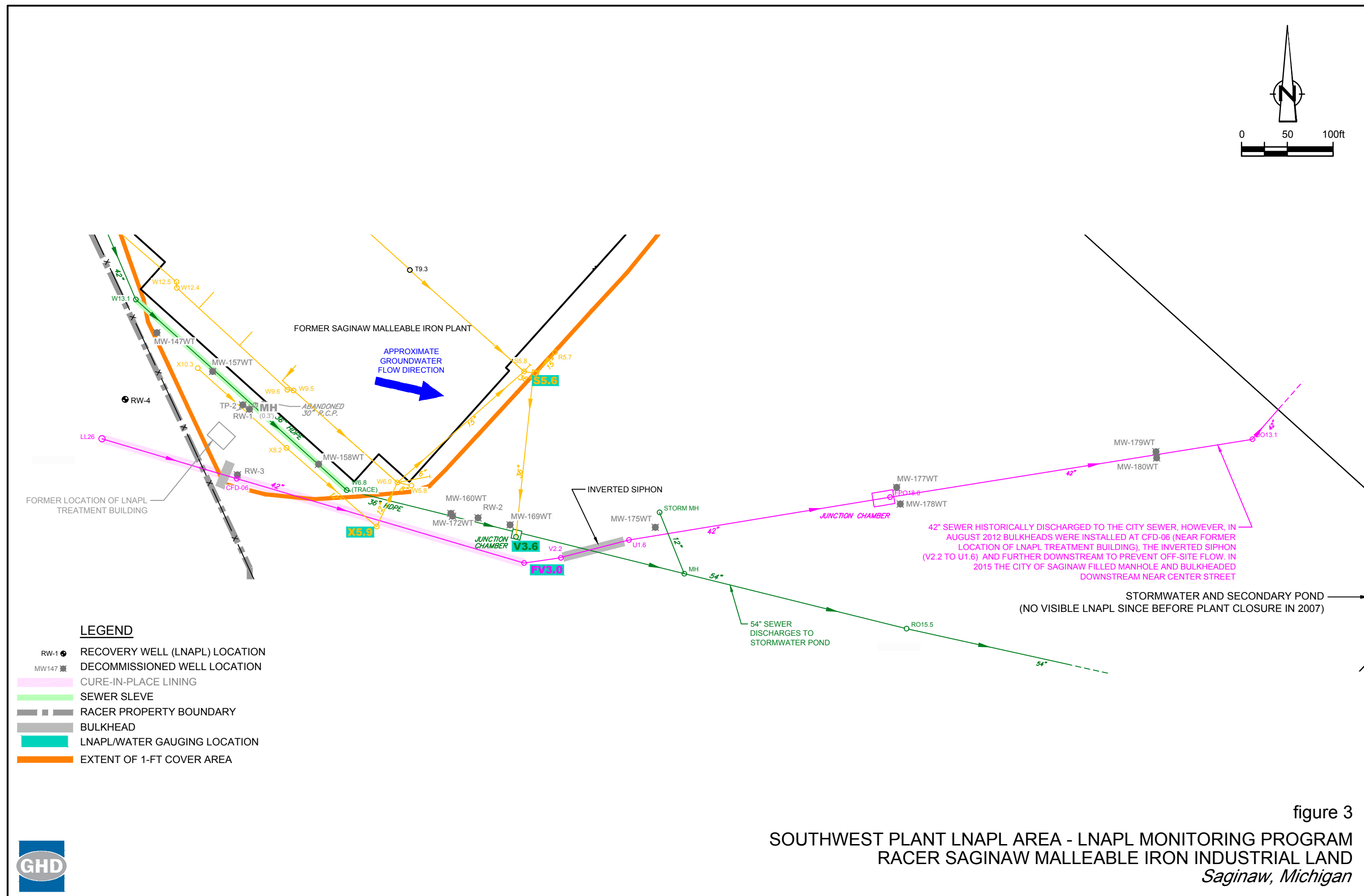


figure 3
SOUTHWEST PLANT LNAPL AREA - LNAPL MONITORING PROGRAM
RACER SAGINAW MALLEABLE IRON INDUSTRIAL LAND
Saginaw, Michigan



Table 1
Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-01	03/17/05	592.3	591.95	2.85	12.85	10.48	7.28	3.20	584.29	7.66
	04/12/05	592.3	591.95	2.85	12.85	10.63	7.30	3.33	584.25	7.70
	05/31/05	592.3	591.95	2.85	12.85	10.69	7.36	3.33	584.19	7.76
	06/24/05	592.3	591.95	2.85	12.85	10.45	7.04	3.41	584.50	7.45
	08/12/05	592.3	591.95	2.85	12.85	10.20	6.95	3.25	584.61	7.34
	10/14/05	592.3	591.95	2.85	12.85	10.58	7.29	3.29	584.27	7.68
	11/08/05	592.3	591.95	2.85	12.85	10.82	7.44	3.38	584.10	7.85
	12/19/05	592.3	591.95	2.85	12.85	10.91	7.52	3.39	584.02	7.93
	01/31/06	592.3	591.95	2.85	12.85	10.53	7.29	3.24	584.27	7.68
	02/15/06	592.3	591.95	2.85	12.85	10.46	7.21	3.25	584.35	7.60
	03/13/06	592.3	591.95	2.85	12.85	9.71	6.93	2.78	584.69	7.26
	04/10/06	592.3	591.95	2.85	12.85	10.02	7.04	2.98	584.55	7.40
	05/22/06	592.3	591.95	2.85	12.85	10.23	7.11	3.12	584.47	7.48
	06/21/06	592.3	591.95	2.85	12.85	10.22	7.05	3.17	584.52	7.43
	07/11/06	592.3	591.95	2.85	12.85	9.67	6.82	2.85	584.79	7.16
	08/23/06	592.3	591.95	2.85	12.85	9.99	6.78	3.21	584.78	7.17
	09/26/06	592.3	591.95	2.85	12.85	9.90	6.82	3.08	584.76	7.19
	10/30/06	592.3	591.95	2.85	12.85	9.62	6.83	2.79	584.79	7.16
	11/27/06	592.3	591.95	2.85	12.85	9.79	6.91	2.88	584.69	7.26
	12/27/06	592.3	591.95	2.85	12.85	9.97	6.96	3.01	584.63	7.32
	01/15/07	592.3	591.95	2.85	12.85	9.79	6.94	2.85	584.67	7.28
	02/21/07	592.3	591.95	2.85	12.85	10.35	7.29	3.06	584.29	7.66
	03/23/07	592.3	591.95	2.85	12.85	10.18	7.27	2.91	584.33	7.62
	04/09/07	592.3	591.95	2.85	12.85	10.39	7.25	3.14	584.32	7.63
	05/15/07	592.3	591.95	2.85	12.85	10.09	7.32	2.77	584.30	7.65
	06/11/07	592.3	591.95	2.85	12.85	10.36	7.47	2.89	584.13	7.82
	07/11/07	592.3	591.95	2.85	12.85	10.36	7.43	2.93	584.17	7.78
	08/16/07	592.3	591.95	2.85	12.85	10.41	7.48	2.93	584.12	7.83
	09/17/07	592.3	591.95	2.85	12.85	10.11	7.38	2.73	584.24	7.71
	11/26/07	592.3	591.95	2.85	12.85	10.62	7.64	2.98	583.95	8.00
	12/12/07	592.3	591.95	2.85	12.85	10.79	7.77	3.02	583.82	8.13
	01/11/08	592.3	591.95	2.85	12.85	10.32	7.56	2.76	584.06	7.89
	02/05/08	592.3	591.95	2.85	12.85	9.91	7.42	2.49	584.23	7.72
	04/11/08	592.3	591.95	2.85	12.85	8.41	6.60	1.81	585.13	6.82
	05/16/08	592.3	591.95	2.85	12.85	8.65	6.56	2.09	585.14	6.81
	10/29/08	592.3	591.95	2.85	12.85	8.71	6.39	2.32	585.28	6.67
	01/21/09	592.3	591.95	2.85	12.85	8.22	6.26	1.96	585.45	6.50
	03/18/09	592.3	591.95	2.85	12.85	8.07	6.16	1.91	585.56	6.39
	10/17/09	592.3	591.95	2.85	12.85	8.46	6.39	2.07	585.31	6.64
	10/23/09	592.3	591.95	2.85	12.85	8.07	6.34	1.73	585.40	6.55
	06/24/10	592.3	591.95	2.85	12.85	8.31	5.06	3.25	586.50	5.45
	07/08/10	592.3	591.95	2.85	12.85	8.88	4.62	4.26	586.82	5.13
	07/22/10	592.3	591.95	2.85	12.85	9.86	4.81	5.05	586.53	5.42
	07/29/10	592.3	591.95	2.85	12.85	8.27	5.11	3.16	586.46	5.49
	08/06/10	592.3	591.95	2.85	12.85	8.13	5.41	2.72	586.21	5.74
	08/13/10	592.3	591.95	2.85	12.85	6.83	4.04	2.79	587.58	4.37
	08/27/10	592.3	591.95	2.85	12.85	7.40	4.42	2.98	587.17	4.78
	09/23/10	592.3	591.95	2.85	12.85	5.54	3.05	2.49	588.60	3.35
	10/15/10	592.3	591.95	2.85	12.85	7.14	4.01	3.13	587.56	4.39
	10/29/10	592.3	591.95	2.85	12.85	6.90	3.99	2.91	587.61	4.34
	12/07/10	592.3	591.95	2.85	12.85	7.61	3.87	3.74	587.63	4.32
	03/18/11	592.3	591.95	2.85	12.85	6.57	3.54	3.03	588.05	3.90
	04/08/11	592.3	591.95	2.85	12.85	6.15	2.77	3.38	588.77	3.18
	05/09/11	592.3	591.95	2.85	12.85	5.98	3.11	2.87	588.50	3.45
	06/09/11	592.3	591.95	2.85	12.85	6.31	3.16	3.15	588.41	3.54
	07/05/11	592.3	591.95	2.85	12.85	5.62	3.31	2.31	588.36	3.59
	08/23/11	592.3	591.95	2.85	12.85	4.21	2.88	1.33	588.91	3.04
	10/14/11	592.3	591.95	2.85	12.85	5.72	3.81	1.91	587.91	4.04
	01/24/12	592.3	591.95	2.85	12.85	6.28	1.66	4.62	589.74	2.21
	03/20/12	592.3	591.95	2.85	12.85	5.41	2.67	2.74	588.95	3.00
	04/23/12	592.3	591.95	2.85	12.85	5.53	2.16	3.37	589.39	2.56
	06/11/12	592.3	591.95	2.85	12.85	6.72	2.87	3.85	588.62	3.33
	07/10/12	592.3	591.95	2.85	12.85	5.41	3.69	1.72	588.05	3.90
	08/29/12	592.3	591.95	2.85	12.85	5.75	3.04	2.71	588.58	3.37
	09/12/12	592.3	591.95	2.85	12.85	4.25	2.90	1.35	588.89	3.06
	11/06/12	592.3	591.95	2.85	12.85	4.06	3.04	1.02	588.79	3.16
	12/05/12	592.3	591.95	2.85	12.85	4.41	3.26	1.15	588.55	3.40
	04/03/13	592.3	591.95	2.85	12.85	4.91	3.37	1.54	588.40	3.55
	07/18/13	592.3	591.95	2.85	12.85	3.48	2.80	0.68	589.07	2.88
	09/23/13	592.3	591.95	2.85	12.85	4.34	3.74	0.60	588.14	3.81
	06/02/14	592.3	591.95	2.85	12.85	3.06	2.36	0.70	589.51	2.44
	07/09/14	592.3	591.95	2.85	12.85	2.92	1.07	1.85	590.66	1.29

Table 1
Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-01 (cont'd)	07/31/14	592.3	591.95	2.85	12.85	3.17	1.99	1.18	589.82	2.13
	09/16/14	592.3	591.95	2.85	12.85	3.31	2.27	1.04	589.56	2.39
	03/24/15	592.3	591.95	2.85	12.85	4.51	3.14	1.37	588.65	3.30
	06/17/15	592.3	591.95	2.85	12.85	3.31	1.25	2.06	590.45	1.50
	09/09/15	592.3	591.95	2.85	12.85	3.81	1.11	2.70	590.52	1.43
	12/04/15	592.3	591.95	2.85	12.85	4.70	3.48	1.22	588.32	3.63
	03/15/16	592.3	591.95	2.85	12.85	5.13	1.94	3.19	589.63	2.32
	06/17/16	592.3	591.95	2.85	12.85	2.23	1.17	1.06	590.65	1.30
	09/22/16	592.3	591.95	2.85	12.85	3.82	2.86	0.96	588.97	2.98
	09/27/16	ABANDONED								
QPTW-01R	09/06/17	594.69	594.49	2.00	12.00	4.14	---	---	590.35	4.14
	11/27/17	594.69	594.49	2.00	12.00	4.17	---	---	590.32	4.17
	02/27/18	594.69	594.49	2.00	12.00	3.66	---	---	590.83	3.66
	06/04/18	594.69	594.49	2.00	12.00	3.81	---	---	590.68	3.81
	10/05/18	594.69	594.49	2.00	12.00	4.13	---	---	590.36	4.13
	12/11/18	594.69	594.49	2.00	12.00	frozen	---	---	---	---
	03/12/19	594.69	594.49	2.00	12.00	3.94	---	---	590.55	3.94
	06/18/19	594.69	594.49	2.00	12.00	2.53	2.51	0.02	591.98	2.51
	09/16/19	594.69	594.49	2.00	12.00	4.34	---	---	590.15	4.34
	12/03/19	594.69	594.49	2.00	12.00	2.22	2.19	0.03	592.30	2.19
	03/12/20	594.69	594.49	2.00	12.00	2.87	---	---	591.62	2.87
	06/03/20	594.69	594.49	2.00	12.00	2.54	---	---	591.95	2.54
	09/09/20	594.69	594.49	2.00	12.00	4.62	4.60	0.02	589.89	4.60
	12/03/20	594.69	594.49	2.00	12.00	4.86	---	---	589.63	4.86
QPTW-02	03/17/05	592.6	592.35	2.80	12.80	7.54	7.51	0.03	584.84	7.51
	04/12/05	592.6	592.35	2.80	12.80	7.64	7.58	0.06	584.76	7.59
	05/31/05	592.6	592.35	2.80	12.80	7.54	7.50	0.04	584.85	7.50
	06/24/05	592.6	592.35	2.80	12.80	7.41	7.38	0.03	584.97	7.38
	08/12/05	592.6	592.35	2.80	12.80	7.30	7.26	0.04	585.09	7.26
	10/14/05	592.6	592.35	2.80	12.80	7.50	7.44	0.06	584.90	7.45
	11/08/05	592.6	592.35	2.80	12.80	7.52	7.49	0.03	584.86	7.49
	12/19/05	592.6	592.35	2.80	12.80	7.67	7.63	0.04	584.72	7.63
	01/31/06	592.6	592.35	2.80	12.80	7.53	7.48	0.05	584.86	7.49
	02/15/06	592.6	592.35	2.80	12.80	7.50	7.47	0.03	584.88	7.47
	03/13/06	592.6	592.35	2.80	12.80	7.30	7.26	0.04	585.09	7.26
	04/10/06	592.6	592.35	2.80	12.80	7.39	7.36	0.03	584.99	7.36
	05/22/06	592.6	592.35	2.80	12.80	7.38	7.35	0.03	585.00	7.35
	06/21/06	592.6	592.35	2.80	12.80	7.33	7.29	0.04	585.06	7.29
	07/11/06	592.6	592.35	2.80	12.80	7.29	7.26	0.03	585.09	7.26
	08/23/06	592.6	592.35	2.80	12.80	7.28	7.26	0.02	585.09	7.26
	09/26/06	592.6	592.35	2.80	12.80	7.39	7.37	0.02	584.98	7.37
	10/30/06	592.6	592.35	2.80	12.80	7.38	7.35	0.03	585.00	7.35
	11/27/06	592.6	592.35	2.80	12.80	7.41	7.38	0.03	584.97	7.38
	12/27/06	592.6	592.35	2.80	12.80	7.44	7.42	0.02	584.93	7.42
	01/15/07	592.6	592.35	2.80	12.80	7.46	7.42	0.04	584.93	7.42
	02/21/07	592.6	592.35	2.80	12.80	7.47	7.46	0.01	584.89	7.46
	03/23/07	592.6	592.35	2.80	12.80	7.42	7.40	0.02	584.95	7.40
	04/09/07	592.6	592.35	2.80	12.80	7.45	7.43	0.02	584.92	7.43
	05/15/07	592.6	592.35	2.80	12.80	7.50	7.48	0.02	584.87	7.48
	08/16/07	592.6	592.35	2.80	12.80	7.65	7.62	0.03	584.73	7.62
	09/17/07	592.6	592.35	2.80	12.80	7.51	7.48	0.03	584.87	7.48
	11/26/07	592.6	592.35	2.80	12.80	7.73	7.71	0.02	584.64	7.71
	12/12/07	592.6	592.35	2.80	12.80	7.76	7.74	0.02	584.61	7.74
	01/11/08	592.6	592.35	2.80	12.80	7.15	7.14	0.01	585.21	7.14
	02/05/08	592.6	592.35	2.80	12.80	7.27	7.26	0.01	585.09	7.26
	04/11/08	592.6	592.35	2.80	12.80	6.79	---	---	585.56	6.79
	05/16/08	592.6	592.35	2.80	12.80	7.30	---	---	585.05	7.30
	10/29/08	592.6	592.35	2.80	12.80	6.99	---	---	585.36	6.99
	01/21/09	592.6	592.35	2.80	12.80	6.53	---	---	585.82	6.53
	03/18/09	592.6	592.35	2.80	12.80	6.28	---	---	586.07	6.28
	10/17/09	592.6	592.35	2.80	12.80	6.93	---	---	585.42	6.93
	10/23/09	592.6	592.35	2.80	12.80	7.08	---	---	585.27	7.08
	10/15/10	592.6	592.35	2.80	12.80	5.23	---	---	587.12	5.23
	10/29/10	592.6	592.35	2.80	12.80	5.30	---	---	587.05	5.30
	03/18/11	592.6	592.35	2.80	12.80	3.96	---	---	588.39	3.96
	04/08/11	592.6	592.35	2.80	12.80	3.19	---	---	589.16	3.19
	05/09/11	592.6	592.35	2.80	12.80	3.47	---	---	588.88	3.47
	06/09/11	592.6	592.35	2.80	12.80	3.58	---	---	588.77	3.58
	07/05/11	592.6	592.35	2.80	12.80	3.79	---	---	588.56	3.79
	08/23/11	592.6	592.35	2.80	12.80	3.11	---	---	589.24	3.11
	10/14/11	592.6	592.35	2.80	12.80	4.04	---	---	588.31	4.04
	11/23/11	592.6	592.35	2.80	12.80	3.81	---	---	588.54	3.81
	03/20/12	592.6	592.35	2.80	12.80	2.77	---	---	589.58	2.77
	04/23/12	592.6	592.35	2.80	12.80	3.02	---	---	589.33	3.02
	06/11/12	592.6	592.35	2.80	12.80	3.22	---	---	589.13	3.22
	07/10/12	592.6	592.35	2.80	12.80	3.88	---	---	588.47	3.88
	08/29/12	592.6	592.35	2.80	12.80	3.22	---	---	589.13	3.22
	09/12/12	592.6	592.35	2.80	12.80	3.01	---	---	589.34	3.01

Table 1
Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-02 (cont'd)	10/01/12	592.6	592.35	2.80	12.80	3.79	---	---	588.56	3.79
	11/06/12	592.6	592.35	2.80	12.80	2.98	---	---	589.37	2.98
	12/05/12	592.6	592.35	2.80	12.80	3.61	---	---	588.74	3.61
	04/03/13	592.6	592.35	2.80	12.80	3.25	---	---	589.10	3.25
	07/18/13	592.6	592.35	2.80	12.80	2.59	---	---	589.76	2.59
	09/23/13	592.6	592.35	2.80	12.80	3.94	---	---	588.41	3.94
	04/25/14	592.6	592.35	2.80	12.80	1.81	---	---	590.54	1.81
	06/02/14	592.6	592.35	2.80	12.80	2.62	---	---	589.73	2.62
	07/31/14	592.6	592.35	2.80	12.80	2.31	---	---	590.04	2.31
	09/16/14	592.6	592.35	2.80	12.80	2.36	---	---	589.99	2.36
	03/24/15	592.6	592.35	2.80	12.80	3.20	---	---	589.15	3.20
	06/17/15	592.6	592.35	2.80	12.80	under water	---	---	---	under water
	09/09/15	592.6	592.35	2.80	12.80	1.84	---	---	590.51	1.84
	12/04/15	592.6	592.35	2.80	12.80	3.85	---	---	588.50	3.85
	03/15/16	592.6	592.35	2.80	12.80	1.98	---	---	590.37	1.98
	06/17/16	592.6	592.35	2.80	12.80	1.66	---	---	590.69	1.66
	09/22/16	592.6	592.35	2.80	12.80	2.98	---	---	589.37	2.98
	09/27/16	ABANDONED								
QPTW-03R	04/25/14	592.5	592.13	2.75	12.75	2.19	1.82	0.37	590.27	1.86
	06/02/14	592.5	592.13	2.75	12.75	3.13	2.86	0.27	589.24	2.89
	07/09/14	592.5	592.13	2.75	12.75	2.10	1.98	0.12	590.14	1.99
	07/31/14	592.5	592.13	2.75	12.75	2.74	2.66	0.08	589.46	2.67
	09/16/14	592.5	592.13	2.75	12.75	3.27	---	---	588.86	3.27
	03/24/15	592.5	592.13	2.75	12.75	3.56	3.55	0.01	588.58	3.55
	06/17/15	592.5	592.13	2.75	12.75	3.36	2.72	0.64	589.33	2.80
	09/09/15	592.5	592.13	2.75	12.75	2.74	2.46	0.28	589.64	2.49
	12/04/15	592.5	592.13	2.75	12.75	4.14	---	---	587.99	4.14
	03/15/16	592.5	592.13	2.75	12.75	2.46	2.39	0.07	589.73	2.40
	06/17/16	592.5	592.13	2.75	12.75	2.30	1.77	0.53	590.30	1.83
	09/22/16	592.5	592.13	2.75	12.75	3.78	3.05	0.73	588.99	3.14
	09/27/16	ABANDONED								
QPTW-03R2	09/06/17	594.91	594.61	2.00	12.00	5.24	---	---	589.37	5.24
	11/27/17	594.91	594.61	2.00	12.00	5.07	4.85	0.22	589.73	4.88
	02/27/18	594.91	594.61	2.00	12.00	4.31	3.92	0.39	590.64	3.97
	06/04/18	594.91	594.61	2.00	12.00	4.83	4.65	0.18	589.94	4.67
	10/05/18	594.91	594.61	2.00	12.00	5.75	5.21	0.54	589.34	5.27
	12/11/18	594.91	594.61	2.00	12.00	5.13	4.52	0.61	590.02	4.59
	03/12/19	594.91	594.61	2.00	12.00	5.14	4.17	0.97	590.32	4.29
	06/18/19	594.91	594.61	2.00	12.00	3.26	3.03	0.23	591.55	3.06
	09/16/19	594.91	594.61	2.00	12.00	5.92	5.38	0.54	589.17	5.44
	12/03/19	594.91	594.61	2.00	12.00	2.35	---	---	592.26	2.35
	03/12/20	594.91	594.61	2.00	12.00	3.71	---	---	590.90	3.71
	06/03/20	594.91	594.61	2.00	12.00	3.49	---	---	591.12	3.49
	09/09/20	594.91	594.61	2.00	12.00	5.78	5.59	0.19	589.00	5.61
	12/03/20	594.91	594.61	2.00	12.00	6.16	5.86	0.30	588.71	5.90
QPTW-04	03/17/05	592.3	591.73	2.50	12.50	8.54	7.51	1.03	584.10	7.63
	04/12/05	592.3	591.73	2.50	12.50	8.53	7.54	0.99	584.07	7.66
	05/31/05	592.3	591.73	2.50	12.50	8.58	7.50	1.08	584.10	7.63
	06/24/05	592.3	591.73	2.50	12.50	8.34	7.29	1.05	584.31	7.42
	08/12/05	592.3	591.73	2.50	12.50	8.28	7.26	1.02	584.35	7.38
	10/14/05	592.3	591.73	2.50	12.50	8.61	7.68	0.93	583.94	7.79
	11/08/05	592.3	591.73	2.50	12.50	8.70	7.72	0.98	583.89	7.84
	12/19/05	592.3	591.73	2.50	12.50	8.87	7.83	1.04	583.78	7.95
	01/31/06	592.3	591.73	2.50	12.50	8.58	7.46	1.12	584.14	7.59
	02/15/06	592.3	591.73	2.50	12.50	8.45	7.33	1.12	584.27	7.46
	03/13/06	592.3	591.73	2.50	12.50	8.14	7.16	0.98	584.45	7.28
	04/10/06	592.3	591.73	2.50	12.50	8.29	7.32	0.97	584.29	7.44
	05/22/06	592.3	591.73	2.50	12.50	8.41	7.39	1.02	584.22	7.51
	06/21/06	592.3	591.73	2.50	12.50	8.34	7.41	0.93	584.21	7.52
	07/11/06	592.3	591.73	2.50	12.50	8.16	7.12	1.04	584.49	7.24
	08/23/06	592.3	591.73	2.50	12.50	8.39	7.10	1.29	584.48	7.25
	09/26/06	592.3	591.73	2.50	12.50	8.09	7.11	0.98	584.50	7.23
	10/30/06	592.3	591.73	2.50	12.50	8.05	7.08	0.97	584.53	7.20
	11/27/06	592.3	591.73	2.50	12.50	8.08	7.19	0.89	584.43	7.30
	12/27/06	592.3	591.73	2.50	12.50	8.58	7.48	1.10	584.12	7.61
	01/15/07	592.3	591.73	2.50	12.50	8.07	7.29	0.78	584.35	7.38
	02/21/07	592.3	591.73	2.50	12.50	8.45	7.57	0.88	584.05	7.68
	03/23/07	592.3	591.73	2.50	12.50	8.32	7.56	0.76	584.08	7.65
	04/09/07	592.3	591.73	2.50	12.50	8.47	7.52	0.95	584.10	7.63
	05/15/07	592.3	591.73	2.50	12.50	8.42	7.51	0.91	584.11	7.62
	06/11/07	592.3	591.73	2.50	12.50	8.61	7.64	0.97	583.97	7.76
	07/11/07	592.3	591.73	2.50	12.50	8.67	7.61	1.06	583.99	7.74
	08/16/07	592.3	591.73	2.50	12.50	8.80	7.69	1.11	583.91	7.82
	09/17/07	592.3	591.73	2.50	12.50	8.62	7.54	1.08	584.06	7.67
	11/26/07	592.3	591.73	2.50	12.50	9.05	7.99	1.06	583.61	8.12
	12/12/07	592.3	591.73	2.50	12.50	9.15	8.09	1.06	583.51	8.22
	01/11/08	592.3	591.73	2.50	12.50	8.81	7.82	0.99	583.79	7.94
	02/05/08	592.3	591.73	2.50	12.50	8.69	7.64	1.05	583.96	7.77

Table 1
Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-04 (cont'd)	04/11/08	592.3	591.73	2.50	12.50	7.75	6.68	1.07	584.92	6.81
	05/16/08	592.3	591.73	2.50	12.50	7.82	6.81	1.01	584.80	6.93
	10/29/08	592.3	591.73	2.50	12.50	7.70	6.69	1.01	584.92	6.81
	01/21/09	592.3	591.73	2.50	12.50	7.35	6.61	0.74	585.03	6.70
	03/18/09	592.3	591.73	2.50	12.50	6.86	6.12	0.74	585.52	6.21
	10/17/09	592.3	591.73	2.50	12.50	7.76	6.85	0.91	584.77	6.96
	10/23/09	592.3	591.73	2.50	12.50	7.76	6.83	0.93	584.79	6.94
	06/09/10	592.3	591.73	2.50	12.50	6.23	5.65	0.58	586.01	5.72
	08/27/10	592.3	591.73	2.50	12.50	7.06	6.17	0.89	585.45	6.28
	09/17/10	592.3	591.73	2.50	12.50	5.61	5.02	0.59	586.64	5.09
	09/23/10	592.3	591.73	2.50	12.50	5.47	4.87	0.60	586.79	4.94
	10/15/10	592.3	591.73	2.50	12.50	6.03	5.20	0.83	586.43	5.30
	10/29/10	592.3	591.73	2.50	12.50	6.39	5.86	0.53	585.81	5.92
	03/18/11	592.3	591.73	2.50	12.50	5.16	4.20	0.96	587.41	4.32
	04/08/11	592.3	591.73	2.50	12.50	4.27	3.54	0.73	588.10	3.63
	05/09/11	592.3	591.73	2.50	12.50	4.60	3.64	0.96	587.97	3.76
	06/09/11	592.3	591.73	2.50	12.50	4.35	3.63	0.72	588.01	3.72
	07/05/11	592.3	591.73	2.50	12.50	4.84	3.87	0.97	587.74	3.99
	08/23/11	592.3	591.73	2.50	12.50	4.16	3.34	0.82	588.29	3.44
	03/20/12	592.3	591.73	2.50	12.50	5.21	2.78	2.43	588.66	3.07
	04/23/12	592.3	591.73	2.50	12.50	5.59	3.06	2.53	588.37	3.36
	06/11/12	592.3	591.73	2.50	12.50	5.85	3.16	2.69	588.25	3.48
	07/10/12	592.3	591.73	2.50	12.50	5.97	3.40	2.57	588.02	3.71
	08/29/12	592.3	591.73	2.50	12.50	5.32	2.99	2.33	588.46	3.27
	09/12/12	592.3	591.73	2.50	12.50	5.03	2.68	2.35	588.77	2.96
	10/01/12	592.3	591.73	2.50	12.50	5.80	3.31	2.49	588.12	3.61
	11/06/12	592.3	591.73	2.50	12.50	4.85	2.88	1.97	588.61	3.12
	12/05/12	592.3	591.73	2.50	12.50	5.49	3.50	1.99	587.99	3.74
	04/03/13	592.3	591.73	2.50	12.50	5.36	3.16	2.20	588.31	3.42
	07/18/13	592.3	591.73	2.50	12.50	4.74	2.48	2.26	588.98	2.75
	09/23/13	592.3	591.73	2.50	12.50	4.73	3.61	1.12	587.99	3.74
	04/25/14	592.3	591.73	2.50	12.50	3.16	1.73	1.43	589.83	1.90
	06/02/14	592.3	591.73	2.50	12.50	3.98	2.39	1.59	589.15	2.58
	07/09/14	593.3	592.73	2.50	12.50	2.74	1.61	1.13	590.98	1.75
	07/31/14	592.3	591.73	2.50	12.50	3.53	2.33	1.20	589.26	2.47
	09/16/14	591.3	590.73	2.50	12.50	4.00	2.10	1.90	588.40	2.33
	03/24/15	590.3	589.73	2.50	12.50	4.66	3.02	1.64	586.51	3.22
	06/17/15	589.3	588.73	2.50	12.50	3.51	2.05	1.46	586.50	2.23
	09/09/15	588.3	587.73	2.50	12.50	4.09	2.64	1.45	584.92	2.81
	12/04/15	587.3	586.73	2.50	12.50	5.56	3.51	2.05	582.97	3.76
	03/15/16	586.3	585.73	2.50	12.50	3.68	1.76	1.92	583.74	1.99
	06/17/16	585.3	584.73	2.50	12.50	2.27	2.16	0.11	582.56	2.17
	09/22/16	584.3	583.73	2.50	12.50	4.61	2.80	1.81	580.71	3.02
	09/27/16	ABANDONED								
QPTW-04R	09/06/17	594.96	594.46	2.00	12.00	5.61	4.75	0.86	589.61	4.85
	11/27/17	594.96	594.46	2.00	12.00	5.10	4.51	0.59	589.88	4.58
	02/27/18	594.96	594.46	2.00	12.00	3.62	3.58	0.04	590.88	3.58
	06/04/18	594.96	594.46	2.00	12.00	4.51	4.32	0.19	590.12	4.34
	10/05/18	594.96	594.46	2.00	12.00	5.01	4.85	0.16	589.59	4.87
	12/11/18	594.96	594.46	2.00	12.00	4.58	4.27	0.31	590.15	4.31
	03/12/19	594.96	594.46	2.00	12.00	4.20	3.86	0.34	590.56	3.90
	06/18/19	594.96	594.46	2.00	12.00	2.86	2.68	0.18	591.76	2.70
	09/16/19	594.96	594.46	2.00	12.00	6.40	5.00	1.40	589.29	5.17
	12/03/19	594.96	594.46	2.00	12.00	2.03	1.35	0.68	593.03	1.43
	03/12/20	594.96	594.46	2.00	12.00	3.37	3.30	0.07	591.15	3.31
	06/03/20	594.96	594.46	2.00	12.00	3.24	3.18	0.06	591.27	3.19
	09/09/20	594.96	594.46	2.00	12.00	6.31	5.16	1.15	589.16	5.30
	12/03/20	594.96	594.46	2.00	12.00	6.15	5.28	0.87	589.08	5.38
QPTW-05	03/17/05	592.4	592.13	2.70	12.70	8.94	7.67	1.27	584.31	7.82
	04/12/05	592.4	592.13	2.70	12.70	8.98	7.69	1.29	584.29	7.84
	05/31/05	592.4	592.13	2.70	12.70	9.10	7.73	1.37	584.24	7.89
	06/24/05	592.4	592.13	2.70	12.70	8.65	7.50	1.15	584.49	7.64
	08/12/05	592.4	592.13	2.70	12.70	8.76	7.68	1.08	584.32	7.81
	10/14/05	592.4	592.13	2.70	12.70	9.38	7.91	1.47	584.04	8.09
	11/08/05	592.4	592.13	2.70	12.70	9.55	7.99	1.56	583.95	8.18
	12/19/05	592.4	592.13	2.70	12.70	9.74	8.05	1.69	583.88	8.25
	01/31/06	592.4	592.13	2.70	12.70	8.84	7.68	1.16	584.31	7.82
	02/15/06	592.4	592.13	2.70	12.70	8.63	7.54	1.09	584.46	7.67
	03/13/06	592.4	592.13	2.70	12.70	8.20	7.33	0.87	584.70	7.43
	04/10/06	592.4	592.13	2.70	12.70	8.44	7.47	0.97	584.54	7.59
	05/22/06	592.4	592.13	2.70	12.70	8.65	7.58	1.07	584.42	7.71
	06/21/06	592.4	592.13	2.70	12.70	8.70	6.71	1.99	585.18	6.95
	07/11/06	592.4	592.13	2.70	12.70	8.35	7.38	0.97	584.63	7.50
	08/23/06	592.4	592.13	2.70	12.70	8.52	7.46	1.06	584.54	7.59
	09/26/06	592.4	592.13	2.70	12.70	8.46	7.45	1.01	584.56	7.57
	10/30/06	592.4	592.13	2.70	12.70	8.32	7.33	0.99	584.68	7.45
	11/27/06	592.4	592.13	2.70	12.70	8.50	7.44	1.06	584.56	7.57
	12/27/06	592.4	592.13	2.70	12.70	8.18	7.23	0.95	584.79	7.34

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RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-05 (cont'd)	01/15/07	592.4	592.13	2.70	12.70	8.55	7.49	1.06	584.51	7.62
	02/21/07	592.4	592.13	2.70	12.70	9.27	7.84	1.43	584.12	8.01
	03/23/07	592.4	592.13	2.70	12.70	9.19	7.81	1.38	584.15	7.98
	04/09/07	592.4	592.13	2.70	12.70	9.27	7.77	1.50	584.18	7.95
	05/15/07	592.4	592.13	2.70	12.70	9.11	7.74	1.37	584.23	7.90
	06/11/07	592.4	592.13	2.70	12.70	9.41	7.92	1.49	584.03	8.10
	07/11/07	592.4	592.13	2.70	12.70	9.52	7.96	1.56	583.98	8.15
	08/16/07	592.4	592.13	2.70	12.70	9.71	8.04	1.67	583.89	8.24
	09/17/07	592.4	592.13	2.70	12.70	9.25	7.82	1.43	584.14	7.99
	11/26/07	592.4	592.13	2.70	12.70	10.10	8.21	1.89	583.69	8.44
	12/12/07	592.4	592.13	2.70	12.70	10.31	8.30	2.01	583.59	8.54
	01/11/08	592.4	592.13	2.70	12.70	9.62	8.07	1.55	583.87	8.26
	02/05/08	592.4	592.13	2.70	12.70	9.05	7.90	1.15	584.09	8.04
	04/11/08	592.4	592.13	2.70	12.70	7.50	7.00	0.50	585.07	7.06
	05/16/08	592.4	592.13	2.70	12.70	7.67	7.12	0.55	584.94	7.19
	10/29/08	592.4	592.13	2.70	12.70	7.71	7.23	0.48	584.84	7.29
	01/21/09	592.4	592.13	2.70	12.70	7.43	6.87	0.56	585.19	6.94
	03/18/09	592.4	592.13	2.70	12.70	7.11	6.57	0.54	585.50	6.63
	10/17/09	592.4	592.13	2.70	12.70	7.98	7.18	0.80	584.85	7.28
	10/23/09	592.4	592.13	2.70	12.70	7.68	7.09	0.59	584.97	7.16
	06/09/10	592.4	592.13	2.70	12.70	7.07	6.23	0.84	585.80	6.33
	06/24/10	592.4	592.13	2.70	12.70	7.40	6.59	0.81	585.44	6.69
	07/29/10	592.4	592.13	2.70	12.70	7.34	6.14	1.20	585.85	6.28
	08/06/10	592.4	592.13	2.70	12.70	7.31	6.28	1.03	585.73	6.40
	08/13/10	592.4	592.13	2.70	12.70	6.08	5.57	0.51	586.50	5.63
	08/27/10	592.4	592.13	2.70	12.70	6.51	5.70	0.81	586.33	5.80
	09/17/10	592.4	592.13	2.70	12.70	6.36	5.83	0.53	586.24	5.89
	09/23/10	592.4	592.13	2.70	12.70	6.12	5.59	0.53	586.48	5.65
	10/15/10	592.4	592.13	2.70	12.70	6.31	6.01	0.30	586.08	6.05
	10/29/10	592.4	592.13	2.70	12.70	5.48	5.14	0.34	586.95	5.18
	12/07/10	592.4	592.13	2.70	12.70	6.46	5.72	0.74	586.32	5.81
	01/03/11	592.4	592.13	2.70	12.70	5.99	5.71	0.28	586.39	5.74
	03/18/11	592.4	592.13	2.70	12.70	5.43	5.11	0.32	586.98	5.15
	04/08/11	592.4	592.13	2.70	12.70	4.63	4.32	0.31	587.77	4.36
	05/09/11	592.4	592.13	2.70	12.70	4.55	4.31	0.24	587.79	4.34
	06/09/11	592.4	592.13	2.70	12.70	4.83	4.56	0.27	587.54	4.59
	07/05/11	592.4	592.13	2.70	12.70	5.11	4.64	0.47	587.43	4.70
	08/23/11	592.4	592.13	2.70	12.70	4.26	4.03	0.23	588.07	4.06
	10/14/11	592.4	592.13	2.70	12.70	5.28	4.94	0.34	587.15	4.98
	11/23/11	592.4	592.13	2.70	12.70	4.75	4.42	0.33	587.67	4.46
	01/24/12	592.4	592.13	2.70	12.70	3.73	3.58	0.15	588.53	3.60
	03/20/12	592.4	592.13	2.70	12.70	4.05	3.72	0.33	588.37	3.76
	04/23/12	592.4	592.13	2.70	12.70	4.10	3.74	0.36	588.35	3.78
	06/11/12	592.4	592.13	2.70	12.70	4.44	4.00	0.44	588.08	4.05
	07/10/12	592.4	592.13	2.70	12.70	5.17	4.52	0.65	587.53	4.60
	08/29/12	592.4	592.13	2.70	12.70	4.44	3.80	0.64	588.25	3.88
	09/12/12	592.4	592.13	2.70	12.70	4.39	3.63	0.76	588.41	3.72
	11/06/12	592.4	592.13	2.70	12.70	4.49	3.69	0.80	588.34	3.79
	12/05/12	592.4	592.13	2.70	12.70	5.28	4.31	0.97	587.70	4.43
	04/03/13	592.4	592.13	2.70	12.70	5.07	4.01	1.06	587.99	4.14
	07/18/13	592.4	592.13	2.70	12.70	4.80	3.10	1.70	588.83	3.30
	09/23/13	592.4	592.13	2.70	12.70	6.20	4.26	1.94	587.64	4.49
	04/25/14	592.4	592.13	2.70	12.70	4.87	2.36	2.51	589.47	2.66
	06/02/14	592.4	592.13	2.70	12.70	4.45	3.16	1.29	588.82	3.31
	07/09/14	592.4	592.13	2.70	12.70	3.66	2.19	1.47	589.76	2.37
	07/31/14	592.4	592.13	2.70	12.70	4.25	2.93	1.32	589.04	3.09
	09/16/14	592.4	592.13	2.70	12.70	4.77	2.99	1.78	588.93	3.20
	03/24/15	592.4	592.13	2.70	12.70	5.11	3.70	1.41	588.26	3.87
	06/17/15	592.4	592.13	2.70	12.70	4.77	2.59	2.18	589.28	2.85
	09/09/15	592.4	592.13	2.70	12.70	5.30	2.49	2.81	589.30	2.83
	12/04/15	592.4	592.13	2.70	12.70	6.38	4.10	2.28	587.76	4.37
	03/15/16	592.4	592.13	2.70	12.70	4.86	2.49	2.37	589.36	2.77
	06/17/16	592.4	592.13	2.70	12.70	4.14	1.99	2.15	589.88	2.25
	09/22/16	592.4	592.13	2.70	12.70	5.67	3.15	2.52	588.68	3.45
	09/27/16	ABANDONED								
QPTW-05R	09/06/17	595	594.28	2.00	12.00	5.64	4.98	0.66	589.22	5.06
	11/27/17	595	594.28	2.00	12.00	5.41	4.75	0.66	589.45	4.83
	02/27/18	595	594.28	2.00	12.00	4.21	4.07	0.14	590.19	4.09
	06/04/18	595	594.28	2.00	12.00	5.36	4.52	0.84	589.66	4.62
	10/05/18	595	594.28	2.00	12.00	5.38	5.05	0.33	589.19	5.09
	12/11/18	595	594.28	2.00	12.00	4.97	4.66	0.31	589.58	4.70
	03/12/19	595	594.28	2.00	12.00	4.67	4.08	0.59	590.13	4.15
	06/18/19	595	594.28	2.00	12.00	3.90	2.97	0.93	591.20	3.08
	09/16/19	595	594.28	2.00	12.00	5.58	5.12	0.46	589.10	5.18
	12/03/19	595	594.28	2.00	12.00	4.35	2.73	1.62	591.36	2.92
	03/12/20	595	594.28	2.00	12.00	5.28	3.57	1.71	590.50	3.78
	06/03/20	595	594.28	2.00	12.00	4.47	3.38	1.09	590.77	3.51
	09/09/20	595	594.28	2.00	12.00	6.91	5.25	1.66	588.83	5.45

Table 1
Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-05R	12/03/20	595	594.28	2.00	12.00	5.84	5.32	0.52	588.90	5.38
QPTW-10	03/17/05	592.4	592.15	2.60	12.60	9.83	7.58	2.25	584.30	7.85
	04/12/05	592.4	592.15	2.60	12.60	9.96	7.63	2.33	584.24	7.91
	05/31/05	592.4	592.15	2.60	12.60	10.29	7.83	2.46	584.02	8.13
	06/24/05	592.4	592.15	2.60	12.60	9.72	7.43	2.29	584.45	7.70
	08/12/05	592.4	592.15	2.60	12.60	9.79	7.58	2.21	584.30	7.85
	10/14/05	592.4	592.15	2.60	12.60	10.56	7.80	2.76	584.02	8.13
	11/08/05	592.4	592.15	2.60	12.60	10.82	7.88	2.94	583.92	8.23
	12/19/05	592.4	592.15	2.60	12.60	11.01	7.95	3.06	583.83	8.32
	01/31/06	592.4	592.15	2.60	12.60	9.79	7.54	2.25	584.34	7.81
	02/15/06	592.4	592.15	2.60	12.60	9.73	7.44	2.29	584.44	7.71
	03/13/06	592.4	592.15	2.60	12.60	9.22	7.23	1.99	584.68	7.47
	04/10/06	592.4	592.15	2.60	12.60	9.59	7.34	2.25	584.54	7.61
	05/22/06	592.4	592.15	2.60	12.60	9.95	7.43	2.52	584.42	7.73
	06/21/06	592.4	592.15	2.60	12.60	10.00	7.49	2.51	584.36	7.79
	07/11/06	592.4	592.15	2.60	12.60	9.69	7.30	2.39	584.56	7.59
	08/23/06	592.4	592.15	2.60	12.60	9.58	7.30	2.28	584.58	7.57
	09/26/06	592.4	592.15	2.60	12.60	9.85	7.33	2.52	584.52	7.63
	10/30/06	592.4	592.15	2.60	12.60	9.68	7.19	2.49	584.66	7.49
	11/27/06	592.4	592.15	2.60	12.60	9.91	7.33	2.58	584.51	7.64
	12/27/06	592.4	592.15	2.60	12.60	9.99	7.34	2.65	584.49	7.66
	01/15/07	592.4	592.15	2.60	12.60	9.90	7.37	2.53	584.48	7.67
	02/21/07	592.4	592.15	2.60	12.60	10.81	7.78	3.03	584.01	8.14
	03/23/07	592.4	592.15	2.60	12.60	10.71	7.72	2.99	584.07	8.08
	04/09/07	592.4	592.15	2.60	12.60	10.63	7.64	2.99	584.15	8.00
	05/15/07	592.4	592.15	2.60	12.60	10.38	7.46	2.92	584.34	7.81
	06/11/07	592.4	592.15	2.60	12.60	10.81	7.81	3.00	583.98	8.17
	07/11/07	592.4	592.15	2.60	12.60	11.05	7.86	3.19	583.91	8.24
	08/16/07	592.4	592.15	2.60	12.60	11.27	7.95	3.32	583.80	8.35
	09/17/07	592.4	592.15	2.60	12.60	10.54	7.73	2.81	584.08	8.07
	11/26/07	592.4	592.15	2.60	12.60	11.57	8.11	3.46	583.62	8.53
	12/12/07	592.4	592.15	2.60	12.60	11.80	8.18	3.62	583.54	8.61
	01/11/08	592.4	592.15	2.60	12.60	10.96	7.95	3.01	583.84	8.31
	02/05/08	592.4	592.15	2.60	12.60	10.21	7.78	2.43	584.08	8.07
	04/11/08	592.4	592.15	2.60	12.60	8.71	6.83	1.88	585.09	7.06
	05/16/08	592.4	592.15	2.60	12.60	8.91	6.95	1.96	584.96	7.19
	10/29/08	592.4	592.15	2.60	12.60	9.12	6.94	2.18	584.95	7.20
	01/21/09	592.4	592.15	2.60	12.60	7.96	6.68	1.28	585.32	6.83
	03/18/09	592.4	592.15	2.60	12.60	8.69	6.36	2.33	585.51	6.64
	10/17/09	592.4	592.15	2.60	12.60	9.10	7.04	2.06	584.86	7.29
	10/23/09	592.4	592.15	2.60	12.60	8.67	6.97	1.70	584.98	7.17
	06/09/10	592.4	592.15	2.60	12.60	8.42	6.23	2.19	585.66	6.49
	06/24/10	592.4	592.15	2.60	12.60	8.91	6.48	2.43	585.38	6.77
	07/29/10	592.4	592.15	2.60	12.60	9.37	6.51	2.86	585.30	6.85
	08/06/10	592.4	592.15	2.60	12.60	9.22	6.71	2.51	585.14	7.01
	08/13/10	592.4	592.15	2.60	12.60	8.06	5.73	2.33	586.14	6.01
	08/27/10	592.4	592.15	2.60	12.60	8.83	6.03	2.80	585.78	6.37
	09/17/10	592.4	592.15	2.60	12.60	8.68	5.72	2.96	586.07	6.08
	09/23/10	592.4	592.15	2.60	12.60	8.54	5.64	2.90	586.16	5.99
	10/15/10	592.4	592.15	2.60	12.60	8.92	5.82	3.10	585.96	6.19
	10/29/10	592.4	592.15	2.60	12.60	8.87	5.68	3.19	586.09	6.06
	03/18/11	592.4	592.15	2.60	12.60	8.03	4.92	3.11	586.86	5.29
	04/08/11	592.4	592.15	2.60	12.60	7.75	4.06	3.69	587.65	4.50
	05/09/11	592.4	592.15	2.60	12.60	8.24	3.95	4.29	587.69	4.46
	06/09/11	592.4	592.15	2.60	12.60	8.28	4.24	4.04	587.43	4.72
	07/05/11	592.4	592.15	2.60	12.60	8.75	4.38	4.37	587.25	4.90
	08/23/11	592.4	592.15	2.60	12.60	8.50	3.67	4.83	587.90	4.25
	10/14/11	592.4	592.15	2.60	12.60	8.64	4.58	4.06	587.08	5.07
	11/23/11	592.4	592.15	2.60	12.60	8.38	3.98	4.40	587.64	4.51
	04/23/12	592.4	592.15	2.60	12.60	4.13	3.78	0.35	588.33	3.82
	07/10/12	592.4	592.15	2.60	12.60	5.65	4.51	1.14	587.50	4.65
	11/12/14	592.4	592.15	2.60	12.60	4.83	3.91	0.92	588.13	4.02
	09/09/15	592.4	592.15	2.60	12.60	2.99	2.85	0.14	589.28	2.87
	03/15/16	592.4	592.15	2.60	12.60	3.37	2.77	0.60	589.31	2.84
	06/17/16	592.4	592.15	2.60	12.60	2.84	2.41	0.43	589.69	2.46
	09/22/16	592.4	592.15	2.60	12.60	5.60	3.27	2.33	588.60	3.55
	09/27/16	ABANDONED								
QPTW-10R	09/06/17	594.82	594.20	2.00	12.00	4.99	---	---	589.21	4.99
	11/27/17	594.82	594.20	2.00	12.00	4.77	---	---	589.43	4.77
	02/27/18	594.82	594.20	2.00	12.00	4.00	---	---	590.20	4.00
	06/04/18	594.82	594.20	2.00	12.00	4.56	---	---	589.64	4.56
	10/05/18	594.82	594.20	2.00	12.00	5.05	---	---	589.15	5.05
	12/11/18	594.82	594.20	2.00	12.00	4.61	---	---	589.59	4.61
	03/12/19	594.82	594.20	2.00	12.00	4.14	---	---	590.06	4.14
	06/18/19	594.82	594.20	2.00	12.00	3.05	---	---	591.15	3.05
	09/16/19	594.82	594.20	2.00	12.00	5.14	---	---	589.06	5.14
	12/03/19	594.82	594.20	2.00	12.00	2.66	---	---	591.54	2.66
	03/12/20	594.82	594.20	2.00	12.00	3.62	---	---	590.58	3.62

Table 1
Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QPTW-10R (cont'd)	06/03/20	594.82	594.20	2.00	12.00	3.45	---	---	590.75	3.45
	09/09/20	594.82	594.20	2.00	12.00	5.29	---	---	588.91	5.29
	12/03/20	594.82	594.20	2.00	12.00	5.35	---	---	588.85	5.35
QPTW-13	10/15/10	592.7	592.36	2.76	12.76	7.17	6.65	0.52	585.65	6.71
	10/29/10	592.7	592.36	2.76	12.76	6.77	6.49	0.28	585.84	6.52
	03/18/11	592.7	592.36	2.76	12.76	4.56	4.47	0.09	587.88	4.48
	05/09/11	592.7	592.36	2.76	12.76	4.59	4.56	0.03	587.80	4.56
	06/09/11	592.7	592.36	2.76	12.76	4.88	4.85	0.03	587.51	4.85
	07/05/11	592.7	592.36	2.76	12.76	5.08	5.02	0.06	587.33	5.03
	08/23/11	592.7	592.36	2.76	12.76	4.43	4.38	0.05	587.97	4.39
	10/14/11	592.7	592.36	2.76	12.76	5.12	5.03	0.09	587.32	5.04
	03/20/12	592.7	592.36	2.76	12.76	4.12	---	---	588.24	4.12
	04/23/12	592.7	592.36	2.76	12.76	4.16	4.15	0.01	588.21	4.15
	06/11/12	592.7	592.36	2.76	12.76	4.38	---	---	587.98	4.38
	07/10/12	592.7	592.36	2.76	12.76	5.06	4.84	0.22	587.49	4.87
	08/29/12	592.7	592.36	2.76	12.76	4.30	4.24	0.06	588.11	4.25
	09/12/12	592.7	592.36	2.76	12.76	4.13	4.09	0.04	588.27	4.09
	04/15/13	592.7	592.36	2.76	12.76	2.85	---	---	589.51	2.85
	07/18/13	592.7	592.36	2.76	12.76	3.54	---	---	588.82	3.54
	09/23/13	592.7	592.36	2.76	12.76	4.74	4.71	0.03	587.65	4.71
	04/25/14	592.7	592.36	2.76	12.76	2.98	---	---	589.38	2.98
	06/02/14	592.7	592.36	2.76	12.76	3.65	---	---	588.71	3.65
	07/09/14	592.7	592.36	2.76	12.76	2.73	---	---	589.63	2.73
	07/31/14	592.7	592.36	2.76	12.76	3.41	---	---	588.95	3.41
	09/16/14	592.7	592.36	2.76	12.76	3.48	---	---	588.88	3.48
	03/24/15	592.7	592.36	2.76	12.76	4.12	---	---	588.24	4.12
	06/17/15	592.7	592.36	2.76	12.76	3.17	---	---	589.19	3.17
	09/09/15	592.7	592.36	2.76	12.76	3.17	---	---	589.19	3.17
	03/15/16	592.7	592.36	2.76	12.76	3.11	---	---	589.25	3.11
	06/17/16	592.7	592.36	2.76	12.76	2.53	---	---	589.83	2.53
	09/22/16	592.7	592.36	2.76	12.76	3.72	---	---	588.64	3.72
	09/27/16	ABANDONED								
QPTW-13R	09/06/17	594.8	594.04	4	14	4.83	---	---	589.21	4.83
	11/27/17	594.8	594.04	4	14	4.61	---	---	589.43	4.61
	02/27/18	594.8	594.04	4	14	3.93	---	---	590.11	3.93
	06/04/18	594.8	594.04	4	14	4.40	---	---	589.64	4.40
	10/05/18	594.8	594.04	4	14	4.88	---	---	589.16	4.88
	12/11/18	594.8	594.04	4	14	4.54	---	---	589.50	4.54
	03/12/19	594.8	594.04	4	14	4.02	---	---	590.02	4.02
	06/18/19	594.8	594.04	4	14	3.00	---	---	591.04	3.00
	09/16/19	594.8	594.04	4	14	4.98	---	---	589.06	4.98
	12/03/19	594.8	594.04	4	14	1.68	---	---	592.36	1.68
	03/12/20	594.8	594.04	4	14	3.47	---	---	590.57	3.47
	06/03/20	594.8	594.04	4	14	3.36	---	---	590.68	3.36
	09/09/20	594.8	594.04	4	14	3.11	---	---	590.93	3.11
	12/03/20	594.8	594.04	4	14	5.20	---	---	588.84	5.20
QP-1	06/24/10	---	---	5	15	9.65	9.51	0.14	---	9.53
	07/22/10	---	---	5	15	12.22	12.14	0.08	---	12.15
	08/06/10	---	---	5	15	4.40	4.21	0.19	---	4.23
	08/13/10	---	---	5	15	1.63	1.56	0.07	---	1.57
	08/27/10	---	---	5	15	9.79	---	---	---	9.79
	09/17/10	---	---	5	15	8.64	---	---	---	8.64
	09/23/10	---	---	5	15	8.45	---	---	---	8.45
	10/15/10	---	---	5	15	8.91	---	---	---	8.91
	10/29/10	---	---	5	15	8.85	---	---	---	8.85
	12/07/10	---	---	5	15	9.22	---	---	---	9.22
	01/03/11	---	---	5	15	8.73	---	---	---	8.73
	03/18/11	---	---	5	15	8.83	---	---	---	8.83
	04/08/11	---	---	5	15	8.26	---	---	---	8.26
	05/09/11	---	---	5	15	8.19	---	---	---	8.19
	06/09/11	---	---	5	15	7.72	---	---	---	7.72
	07/05/11	---	---	5	15	8.54	---	---	---	8.54
	08/23/11	---	---	5	15	7.47	---	---	---	7.47
	10/14/11	---	---	5	15	8.82	---	---	---	8.82
	11/23/11	---	---	5	15	8.21	---	---	---	8.21
	01/24/12	---	---	5	15	6.58	---	---	---	6.58
	03/20/12	---	---	5	15	7.63	---	---	---	7.63
	04/23/12	---	---	5	15	7.15	---	---	---	7.15
	06/11/12	---	---	5	15	7.91	---	---	---	7.91
	07/10/12	---	---	5	15	8.54	---	---	---	8.54
	08/29/12	---	---	5	15	7.91	---	---	---	7.91
	09/12/12	---	---	5	15	7.66	---	---	---	7.66
	10/01/12	---	---	5	15	8.47	---	---	---	8.47
	11/06/12	---	---	5	15	7.66	---	---	---	7.66
	12/05/12	---	---	5	15	7.68	---	---	---	7.68
	04/03/13	---	---	5	15	7.93	---	---	---	7.93
	07/18/13	---	---	5	15	7.37	---	---	---	7.37
	09/23/13	---	---	5	15	8.55	---	---	---	8.55

Table 1

Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QP-1 (cont'd)	04/25/14	---	---	5	15	6.49	---	---	---	6.49
	06/02/14	---	---	5	15	7.17	---	---	---	7.17
	07/09/14	---	---	5	15	6.16	---	---	---	6.16
	07/31/14	---	---	5	15	6.48	---	---	---	6.48
	09/16/14	---	---	5	15	6.94	---	---	---	6.94
	03/24/15	---	---	5	15	7.55	---	---	---	7.55
	06/17/15	---	---	5	15	6.51	---	---	---	6.51
	09/09/15	---	---	5	15	6.12	---	---	---	6.12
	12/04/15	---	---	5	15	8.25	---	---	---	8.25
	03/15/16	---	---	5	15	6.88	---	---	---	6.88
	06/17/16	---	---	5	15	6.12	---	---	---	6.12
	09/22/16	---	---	5	15	7.45	---	---	---	7.45
	09/27/16	ABANDONED								
QP-1R	09/06/17	594.87	594.59	1.5	12	5.20	---	---	589.39	5.20
	11/27/17	594.87	594.59	1.5	12	5.11	---	---	589.48	5.11
	02/27/18	594.87	594.59	1.5	12	4.65	---	---	589.94	4.65
	06/04/18	594.87	594.59	1.5	12	4.68	---	---	589.91	4.68
	10/05/18	594.87	594.59	1.5	12	5.29	---	---	589.30	5.29
	12/11/18	594.87	594.59	1.5	12	4.63	---	---	589.96	4.63
	03/12/19	594.87	594.59	1.5	12	4.57	---	---	590.02	4.57
	06/18/19	594.87	594.59	1.5	12	2.96	---	---	591.63	2.96
	09/16/19	594.87	594.59	1.5	12	5.19	---	---	589.40	5.19
	12/03/19	594.87	594.59	1.5	12	2.61	---	---	591.98	2.61
	03/12/20	594.87	594.59	1.5	12	3.66	---	---	590.93	3.66
	06/03/20	594.87	594.59	1.5	12	3.48	---	---	591.11	3.48
	09/09/20	594.87	594.59	1.5	12	5.39	---	---	589.20	5.39
	12/03/20	594.87	594.59	1.5	12	5.64	---	---	588.95	5.64
QP-2	06/24/10	---	---	5	15	10.27	10.25	0.02	---	10.25
	06/28/10	---	---	5	15	9.49	9.45	0.04	---	9.45
	07/08/10	---	---	5	15	8.57	8.48	0.09	---	8.49
	07/22/10	---	---	5	15	8.31	8.22	0.09	---	8.23
	07/29/10	---	---	5	15	8.55	8.46	0.09	---	8.47
	08/06/10	---	---	5	15	8.88	8.74	0.14	---	8.76
	08/13/10	---	---	5	15	6.70	6.61	0.09	---	6.62
	08/27/10	---	---	5	15	7.76	7.66	0.10	---	7.67
	09/17/10	---	---	5	15	7.44	7.28	0.16	---	7.30
	09/23/10	---	---	5	15	7.14	6.98	0.16	---	7.00
	10/15/10	---	---	5	15	7.96	7.73	0.23	---	7.76
	10/29/10	---	---	5	15	7.74	7.48	0.26	---	7.51
	12/07/10	---	---	5	15	7.71	7.40	0.31	---	7.44
	01/03/11	---	---	5	15	7.62	7.31	0.31	---	7.35
	03/18/11	---	---	5	15	7.51	7.25	0.26	---	7.28
	04/08/11	---	---	5	15	7.03	6.73	0.30	---	6.77
	05/09/11	---	---	5	15	6.97	6.61	0.36	---	6.65
	06/09/11	---	---	5	15	7.36	6.93	0.43	---	6.98
	07/05/11	---	---	5	15	7.45	6.92	0.53	---	6.98
	08/23/11	---	---	5	15	7.13	6.42	0.71	---	6.51
	10/14/11	---	---	5	15	8.31	7.34	0.97	---	7.46
	11/23/11	---	---	5	15	7.99	7.07	0.92	---	7.18
	01/24/12	---	---	5	15	6.79	5.81	0.98	---	5.93
	03/20/12	---	---	5	15	7.25	6.29	0.96	---	6.41
	04/23/12	---	---	5	15	7.21	6.18	1.03	---	6.30
	06/11/12	---	---	5	15	7.20	6.48	0.72	---	6.57
	07/10/12	---	---	5	15	8.43	7.04	1.39	---	7.21
	08/29/12	---	---	5	15	8.00	6.44	1.56	---	6.63
	09/12/12	---	---	5	15	7.75	6.17	1.58	---	6.36
	10/01/12	---	---	5	15	8.66	6.81	1.85	---	7.03
	11/06/12	---	---	5	15	7.02	6.29	0.73	---	6.38
	12/05/12	---	---	5	15	7.59	6.86	0.73	---	6.95
	04/03/13	---	---	5	15	7.12	6.40	0.72	---	6.49
	07/18/13	---	---	5	15	6.91	5.86	1.05	---	5.99
	09/23/13	---	---	5	15	7.73	6.95	0.78	---	7.04
	04/25/14	---	---	5	15	5.86	5.40	0.46	---	5.46
	06/02/14	---	---	5	15	6.24	5.74	0.50	---	5.80
	07/09/14	---	---	5	15	5.86	5.29	0.57	---	5.36
	07/31/14	---	---	5	15	6.16	5.55	0.61	---	5.62
	09/16/14	---	---	5	15	5.93	5.76	0.17	---	5.78
	03/24/15	---	---	5	15	6.51	6.30	0.21	---	6.33
	06/17/15	---	---	5	15	5.79	5.53	0.26	---	5.56
	09/09/15	---	---	5	15	5.71	5.36	0.35	---	5.40
	12/04/15	---	---	5	15	7.35	6.88	0.47	---	6.94
	03/15/16	---	---	5	15	5.77	5.51	0.26	---	5.54
	06/17/16	---	---	5	15	5.53	5.22	0.31	---	5.26
	09/22/16	---	---	5	15	6.38	5.99	0.39	---	6.04
	09/27/16	ABANDONED								

Table 1

Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QP-2R	09/06/17	594.81	594.22	2	12	4.29	4.27	0.02	589.95	4.27
	11/27/17	594.81	594.22	2	12	4.36	4.35	0.01	589.87	4.35
	02/27/18	594.81	594.22	2	12	3.80	3.79	0.01	590.43	3.79
	06/04/18	594.81	594.22	2	12	3.86	3.85	0.01	590.37	3.85
	10/05/18	594.81	594.22	2	12	4.33	---	---	589.89	4.33
	12/11/18	594.81	594.22	2	12	3.69	---	---	590.53	3.69
	03/12/19	594.81	594.22	2	12	3.87	3.83	0.04	590.39	3.83
	06/18/19	594.81	594.22	2	12	2.54	2.47	0.07	591.74	2.48
	09/16/19	594.81	594.22	2	12	4.42	---	---	589.80	4.42
	12/03/19	594.81	594.22	2	12	2.06	---	---	592.16	2.06
	03/12/20	594.81	594.22	2	12	2.92	---	---	591.30	2.92
	06/03/20	594.81	594.22	2	12	2.56	---	---	591.66	2.56
	09/09/20	594.81	594.22	2	12	4.67	---	---	589.55	4.67
	12/03/20	594.81	594.22	2	12	4.92	---	---	589.30	4.92
QP-3	06/24/10	---	---	5	15	17.53	16.80	0.73	---	16.89
	06/28/10	---	---	5	15	12.56	12.53	0.03	---	12.53
	07/08/10	---	---	5	15	12.37	12.32	0.05	---	12.33
	07/29/10	---	---	5	15	12.47	12.35	0.12	---	12.36
	08/06/10	---	---	5	15	12.89	12.81	0.08	---	12.82
	08/13/10	---	---	5	15	11.69	11.62	0.07	---	11.63
	08/27/10	---	---	5	15	11.78	11.71	0.07	---	11.72
	09/17/10	---	---	5	15	11.78	11.69	0.09	---	11.70
	09/23/10	---	---	5	15	11.55	11.41	0.14	---	11.43
	10/15/10	---	---	5	15	8.19	8.03	0.16	---	8.05
	10/29/10	---	---	5	15	8.27	8.09	0.18	---	8.11
	12/07/10	---	---	5	15	7.92	7.82	0.10	---	7.83
	01/03/11	---	---	5	15	7.70	7.57	0.13	---	7.59
	03/18/11	---	---	5	15	7.69	7.59	0.10	---	7.60
	04/08/11	---	---	5	15	6.78	6.72	0.06	---	6.73
	05/09/11	---	---	5	15	7.08	7.02	0.06	---	7.03
	06/09/11	---	---	5	15	7.33	7.25	0.08	---	7.26
	07/05/11	---	---	5	15	7.26	7.18	0.08	---	7.19
	08/23/11	---	---	5	15	6.41	6.37	0.04	---	6.37
	10/14/11	---	---	5	15	7.44	7.35	0.09	---	7.36
	11/23/11	---	---	5	15	7.06	7.00	0.06	---	7.01
	01/24/12	---	---	5	15	5.63	5.60	0.03	---	5.60
	03/20/12	---	---	5	15	6.25	6.22	0.03	---	6.22
	04/23/12	---	---	5	15	6.02	6.00	0.02	---	6.00
	06/11/12	---	---	5	15	6.55	6.51	0.04	---	6.51
	07/10/12	---	---	5	15	7.21	7.11	0.10	---	7.12
	08/29/12	---	---	5	15	6.58	6.49	0.09	---	6.50
	09/12/12	---	---	5	15	6.16	6.10	0.06	---	6.11
	10/01/12	---	---	5	15	7.11	7.01	0.10	---	7.02
	11/06/12	---	---	5	15	7.07	7.01	0.06	---	7.02
	12/05/12	---	---	5	15	6.58	6.55	0.03	---	6.55
	04/03/13	---	---	5	15	6.57	6.54	0.03	---	6.54
	07/18/13	---	---	5	15	5.98	5.92	0.06	---	5.93
	09/23/13	---	---	5	15	7.01	6.91	0.10	---	6.92
	04/25/14	---	---	5	15	5.41	5.39	0.02	---	5.39
	06/02/14	---	---	5	15	5.74	5.71	0.03	---	5.71
	07/09/14	---	---	5	15	5.17	5.13	0.04	---	5.13
	07/31/14	---	---	5	15	5.25	5.24	0.01	---	5.24
	09/16/14	---	---	5	15	5.47	5.41	0.06	---	5.42
	03/24/15	---	---	5	15	6.36	6.34	0.02	---	6.34
	06/17/15	---	---	5	15	5.20	5.18	0.02	---	5.18
	09/09/15	---	---	5	15	5.12	5.09	0.03	---	5.09
	12/04/15	---	---	5	15	6.40	6.39	0.01	---	6.39
	03/15/16	---	---	5	15	5.40	5.39	0.01	---	5.39
	06/17/16	---	---	5	15	5.13	5.11	0.02	---	5.11
	09/22/16	---	---	5	15	5.72	5.68	0.04	---	5.68
	09/27/16	ABANDONED								

Table 1

Summary of Groundwater Gauging Data - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan

Well ID	Date	Ground Surface Elevation (ft amsl)	Top of Casing Elevation (ft amsl)	Top of Screen (ft btoc)	Total Depth (ft btoc)	Depth to Water (ft btoc)	Depth to Product (ft btoc)	LNAPL Thickness (ft)	Corrected Groundwater Elevation ¹ (ft amsl)	Corrected Water Table Depth ¹ (ft btoc)
QP-3R	09/06/17	594.8	594.41	2	12	4.17	4.08	0.09	590.32	4.09
	11/27/17	594.8	594.41	2	12	4.15	4.04	0.11	590.36	4.05
	02/27/18	594.8	594.41	2	12	3.79	3.71	0.08	590.69	3.72
	06/04/18	594.8	594.41	2	12	3.87	3.76	0.11	590.64	3.77
	10/05/18	594.8	594.41	2	12	4.24	4.08	0.16	590.31	4.10
	12/11/18	594.8	594.41	2	12	3.71	3.59	0.12	590.81	3.60
	03/12/19	594.8	594.41	2	12	4.02	3.88	0.14	590.51	3.90
	06/18/19	594.8	594.41	2	12	2.62	2.39	0.23	591.99	2.42
	09/16/19	594.8	594.41	2	12	4.40	4.26	0.14	590.13	4.28
	12/03/19	594.8	594.41	2	12	2.57	2.26	0.31	592.11	2.30
	03/12/20	594.8	594.41	2	12	2.90	2.85	0.05	591.55	2.86
	06/03/20	594.8	594.41	2	12	2.65	2.52	0.13	591.87	2.54
	09/09/20	594.8	594.41	2	12	4.56	4.46	0.10	589.94	4.47
	12/03/20	594.8	594.41	2	12	4.91	4.81	0.10	589.59	4.82

- Notes
- LNAPL

ft

ft amsl

ft btoc

¹
- Light Non-Aqueous Phase Liquid

Feet

Feet Above Mean Sea Level

Feet Below Top of Casing

No LNAPL measured

A specific gravity of 0.88 (quench/hydraulic oil) was used to calculate corrected groundwater levels

Table 2

**Summary of Manhole Inspections - Southwest LNAPL Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan**

Manhole Inspection Location	Inspection Date ⁽¹⁾	Depth to Water (ft btor)	Depth to Product (ft btor)	LNAPL Thickness (ft)	Observations
V3.6	03/24/15	4.99	---		none
	06/17/15	4.69	---		slight sheen
	09/09/15	5.13	---		none
	12/04/15	5.34	---		slight sheen
	03/15/16	4.27	---		very slight sheen
	06/17/16	3.77	---		slight sheen
	09/22/16	4.56	---		none
	02/27/18	4.07	---		slight sheen/scum
	06/04/18	4.19	---		very little debris
	07/26/18	5.03	---		very minor amount of sheen
	12/11/18	4.79	---		slight sheen
	03/12/19	4.05	---		very slight sheen
	06/18/19	2.93	---		very slight sheen
	09/16/19	4.71	---		none
	12/03/19	3.04	---		none
	03/12/20	3.09	---		little scum
	06/03/20	3.14	---		none
	09/09/20	4.84	---		none
	12/03/20	5.14	---		none
X5.9	03/24/15	4.47	---		none
	06/17/15	4.19	---		none
	09/09/15	4.62	---		none
	12/04/15	4.88	---		very slight sheen
	03/15/16	3.73	---		none
	06/17/16	3.24	---		none
	09/22/16	4.08	---		none
	02/27/18	N/a	---		none
	06/04/18	N/a	---		none
	07/26/18	4.52	---		none
	12/11/18	4.32	---		none
	03/12/19	N/a	---		covered in ice
	06/18/19	N/a	---		flooded-water on concrete
	09/16/19	4.22	---		a little scum
	12/03/19	N/a	---		flooded-water on concrete
	03/12/20	2.61	---		little scum
	06/03/20	2.65	---		none
	09/09/20	N/a	---		underwater
	12/03/20	4.51			little scum, little water

Table 2

**Summary of Manhole Inspections - Southwest LNAPL Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan**

Manhole Inspection Location	Inspection Date ⁽¹⁾	Depth to Water (ft btor)	Depth to Product (ft btor)	LNAPL Thickness (ft)	Observations
S5.6	03/24/15	4.63	---		none
	06/17/15	N/a	---		none
	09/09/15	6.30	---		none
	12/04/15	6.57	---		none
	03/15/16	5.44	---		none
	06/17/16	4.92	---		none
	09/22/16	5.78	---		none
	02/27/18	5.27	---		none
	06/04/18	5.36	---		none
	07/26/18	6.22	---		none
	12/11/18	5.99	---		none
	03/12/19	5.19	---		ice
	06/18/19	4.11	---		none
	09/16/19	5.91	---		none
	12/03/19	4.21	---		none
	03/12/20	4.31	---		none
	06/03/20	4.35	---		none
	09/09/20	6.05	---		none
	12/03/20	6.32	---		none
FV3.0	03/24/15	4.09	---		none
	06/17/15	3.15	---		slight sheen and a little scum
	09/09/15	3.55	---		floating scum (less than 1/16 ")
	12/04/15	4.49	---		oily scum - boom installed
	03/15/16	2.89	---		boom installed - very little scum
	06/17/16	2.66	---		very little scum - leave boom in
	09/22/16	3.58	---		a little scum; boom in
	02/27/18	2.83	---		very slight sheen
	06/04/18	3.36	---		very little debris
	07/26/18	4.14	---		a little oily scum
	12/11/18	3.70	---		slight sheen
	03/12/19	3.55	---		little sheen
	06/18/19	1.91	---		little sheen
	09/16/19	4.01	---		slight scum
	12/03/19	1.95	---		none
	03/12/20	2.37	---		slight sheen
	06/03/20	2.31	---		very slight sheen
	09/09/20	3.89	---		slight sheen, trace scum
	12/03/20	4.09	---		very slight sheen

Notes

(1) Inspections did not occur between September 22, 2019 and February 27, 2018 as a result of work being conducted on the concrete floor slab of the former plant including the removal PCB impacted flooring and installation of cover over the entire floor slab.

LNAPL Light Non-Aqueous Phase Liquid
ft Feet
ft btor Feet Below Top of Reference
--- No LNAPL measured

Table 3

**Summary of Transmissivity Testing - Quench Pit Area
RACER Trust - Saginaw Malleable Iron Industrial Land
Saginaw, Michigan**

Quench Pit Well Location	Date of Last Transmissivity Test	LNAPL Transmissivity - T _n (ft ³ /day)	LNAPL Thickness at Time of Transmissivity Testing (ft)	Range of LNAPL Thickness Since Well Re-Installation (ft)		
QPTW-01R*				0.02	-	0.03
QPTW-01	5/10/2016	0.05	1.3			
QPTW-03R2*	4/27/2018	0.30	0.54	0.18	-	0.97
QPTW-03R	4/28/2016	0.11	1.3			
QPTW-04R*	9/9/2017	0.21	0.82	0.04	-	1.40
QPTW-04	5/10/2016	0.08	0.97			
QPTW-05R*	9/9/2017	de minimis	0.6	0.14	-	1.71
QPTW-05	4/29/2016	0.31	2.18			
QPTW-05	10/30/2014	0.31	1.7			
QPTW-10R*				No Measurable Product		
QPTW-10	4/28/2016	0.00	0.23			
QPTW-10	9/30/2015	1.17	0.58			
QPTW-10	10/30/2014	1.58	2.56			

Notes

* Monitoring well re-installed between June and August 2017

Attachment A

Photographic Log – Cover Inspection



Photo 1 – Overview – 2020-06-03



Photo 2 – Overview – 2020-06-03



Site Photographs RACER – Malleable Iron Industrial Land Saginaw, Michigan



Photo 3 – Cap – 2020-06-03



Photo 4 – Cap Close-up – 2020-06-03



**Site Photographs
RACER – Malleable Iron Industrial Land
Saginaw, Michigan**



Photo 5 – Cap Edge – 2020-06-03



Photo 6 – Cap Edge – 2020-06-03



**Site Photographs
RACER – Malleable Iron Industrial Land
Saginaw, Michigan**

Attachment B
MDEQ (now EGLE) correspondence regarding
Quench Pit Area Monitoring Program

John Pardys

From: Pardys, John-Eric
Sent: Friday, September 2, 2016 9:34 AM
To: Armbruster, Amanda (DEQ)
Cc: Dave Favero; Rousseau, Matthew; Klann, Rhonda (DEQ)
Subject: RE: ~COR-007878~SMI - wells proposed for abandonment and re-installation

Amanda,

Thanks for the response.

We are willing to incorporate the changes and are moving forward with the construction plans.

John-Eric Pardys P. Eng.

GHD

T: 1 519 884 0510 x3554 | F: 1 519 884 0525 | E: john-eric.pardys@ghd.com | www.ghd.com
Mailing address: 651 Colby Drive Waterloo Ontario N2V 1C2 Canada
Office address: 40 Bathurst Drive Waterloo Ontario N2V 1V6 Canada

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From: Armbruster, Amanda (DEQ) [mailto:ARMBRUSTERA@michigan.gov]
Sent: Friday, September 02, 2016 9:13 AM
To: Pardys, John-Eric
Cc: Dave Favero; Rousseau, Matthew; Klann, Rhonda (DEQ)
Subject: RE: ~COR-007878~SMI - wells proposed for abandonment and re-installation

John-Eric,

Thank you for the detailed response. We are in agreement with the proposed work with a few exceptions. In addition to the 7 monitoring wells proposed for reinstallation, we would like QP-1 and QPTW-13 to be replaced. QP-1 had NAPL when it was installed and it is situated between two wells that exhibited greater than 2 feet of NAPL in 2015. QPTW-13 is located in the general downgradient direction of QPTW-10 and had NAPL detections as recent as 2013. The well screens are also submerged, so we believe reinstallation is warranted.

Quarterly NAPL monitoring for the replacement wells is acceptable, but only one year of monitoring cannot be approved at this time. If no NAPL is encountered at the completion of one year of monitoring a proposal can be made to discontinue or reduce monitoring. Supporting documentation will be needed to show the disappearance of NAPL was not influenced by fluctuating groundwater elevations or other factors. If NAPL is identified, recovery options need to be evaluated based on thicknesses identified and transmissivity of the wells, etc.

Our last comment is regarding the use of de minimus in relation to transmissivity levels less than 0.5 ft²/day. For clarification, NAPL is not considered de minimus at transmissivity values of 0.5 or less. Having transmissivity values below that level is a means of showing NAPL can no longer be recovered in a cost-effective and efficient manner (which is different than de minimus). De minimus arguments are more appropriate for evaluating the volume and impact of remaining contamination.

If you are willing to incorporate our changes, feel free to move forward with your construction plans. If you have any concerns, let me know so we can discuss.

Thank you,
Amanda Armbruster, Geologist
Michigan Department of Environmental Quality
Remediation and Redevelopment Division
Saginaw Bay District Office
989-894-6242 phone
989-894-6259 fax

From: Pardys, John-Eric [<mailto:John-Eric.Pardys@ghd.com>]
Sent: Monday, August 29, 2016 3:29 PM
To: Armbruster, Amanda (DEQ)
Cc: Dave Favero; Rousseau, Matthew; Klann, Rhonda (DEQ)
Subject: RE: ~COR-007878~SMI - wells proposed for abandonment and re-installation

Amanda,

We appreciate the prompt response to our request. See our responses following your comments below in **bold**.

Should you have any further questions, please do not hesitate to contact us.

Thanks

John-Eric Pardys P. Eng.

GHD

T: 1 519 884 0510 x3554 | F: 1 519 884 0525 | E: john-eric.pardys@ghd.com | www.ghd.com
Mailing address: 651 Colby Drive Waterloo Ontario N2V 1C2 Canada
Office address: 40 Bathurst Drive Waterloo Ontario N2V 1V6 Canada

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From: Armbruster, Amanda (DEQ) [<mailto:ARMBRUSTERA@michigan.gov>]
Sent: Thursday, August 25, 2016 11:24 AM
To: Pardys, John-Eric
Cc: Dave Favero; Rousseau, Matthew; Klann, Rhonda (DEQ)
Subject: RE: ~COR-007878~SMI - wells proposed for abandonment and re-installation

John-Eric,

I took a look at the wells proposed for abandonment. It looks like you are proposing to replace everything you had NAPL detections in last year, but I have a few questions:

See below for details on when or if LNAPL was observed in the wells we are not planning to re-install.

QPTW-02 – No LNAPL since '08 (and historically only had minor amounts of product)

QPTW-06 – No LNAPL historically or currently

QPTW-07 – No LNAPL historically (based on 1 reading in '97) or currently

QPTW-08 - No LNAPL currently (unable to find any historical readings)

QPTW-09 – No LNAPL historically (based on 1 reading in '97) or currently

QPTW-11 – No LNAPL historically (based on 2 readings one in '97 and one in '08) or currently

QPTW-12 – No LNAPL historically or currently

QPTW-13 – No LNAPL historically (based on 2 readings one in '97 and one in '07), evidence of product between 2010 and 2013, no LNAPL since September 23, 2013

QP-1 - At installation (June 2010) there was evidence of product, but product has not been measured in the well since August 2010.

Do all of these well currently straddle the water table?

All the monitoring wells proposed for abandonment were installed prior to or during the demolition (when the water table was lower). With the completion of the demolition the water level has come up and as such the top of screens for the Quench Pit monitoring wells proposed for abandonment are all at or below the water level (ie. screen is submerged).

What is the current construction? How will the new wells be constructed (diameter, screen length, etc.)?

The current construction of the majority of the wells is 2" diameter PVC, with the exception of the three wells installed in each of the former quench pits (QP1, QP2, QP3). Two of those wells were constructed of steel and are 16" in diameter and the other well was constructed of steel and is 4" in diameter. These wells were installed during the demolition of the quench pits and were intended to be LNAPL recovery wells.

The new wells would be constructed of PVC and be 2" diameter with 10ft screens straddling the water table with the exception of the replacement wells for QP-2 and QP-3 which would be constructed of PVC and be 4" diameter with 10ft screens straddling the water table. See below for levels of product in the QP recovery wells.

QP-1 - At installation (June 2010) there was evidence of product, but product has not been measured in the well since August 2010.

QP-2 – presence of product since installation (0.02 to 1.85 ft)

QP-3 – presence of product since installation (0.01 to 0.73 ft)

Is chemical analysis being done on any of the wells proposed for abandonment?

The current MDEQ approved monitoring program for this area does not include sampling or chemical analysis for any of these wells. We do not propose to complete sampling and chemical analysis on the wells being proposed for abandonment or the wells proposed for re-installation.

What is the plan for the treatment building/skimmer pump in QPTW-10?

The Plan is to move the treatment building/skimmer pump off of the work to allow for concrete removal and installing the soil cover. After the proposed wells are re-installed we propose to complete a transmissivity evaluation of all the re-installed wells. If the transmissivity level is less than the de minimus (0.5), we would propose no further active recovery be completed. If the transmissivity levels in one or more wells is above the de minimus, we would assess the value of continuing LNAPL recovery at that time based on the reasonably expected impact (risk reduction), of recovery on the residual LNAPL body. The building and skimmer pump will remain on-site as long as quarterly monitoring continues until MDEQ approve their complete removal from the Site.

Can the wells you are proposing to abandon be extended instead of replaced?

As the screens of the Quench Pit wells we are proposing to abandon are all at or below the water table we do not believe it is appropriate to try to extend the wells and based on experience it is very difficult to keep wells from being damaged during construction activity as is planned for the well locations.

I suspect it may take a while before NAPL starts to accumulate in any new wells. If NAPL doesn't show up right away, how long do you anticipate checking the new wells before you determine no NAPL is present?

We propose conducting quarterly level monitoring (consistent with the current program) and if no NAPL is present after 4 consecutive rounds of monitoring it can be concluded that LNAPL mobility/recoverability is de minimis by default and that no further action is needed to address the residual LNAPL and that monitoring can be discontinued.

I think what you are proposing to do is fine, but because of my lack of history with the site I'd feel better having some of the above information before we abandon the wells.

Thank you,
Amanda Armbruster, Geologist
Michigan Department of Environmental Quality
Remediation and Redevelopment Division
Saginaw Bay District Office
989-894-6242 phone
989-894-6259 fax

From: Pardys, John-Eric [<mailto:John-Eric.Pardys@ghd.com>]
Sent: Monday, August 22, 2016 9:56 AM
To: Armbruster, Amanda (DEQ)
Cc: Dave Favero; Rousseau, Matthew
Subject: RE: ~COR-007878~SMI - wells proposed for abandonment and re-installation

Thank you.

JE

From: Armbruster, Amanda (DEQ) [<mailto:ARMBRUSTERA@michigan.gov>]
Sent: Monday, August 22, 2016 9:56 AM
To: Pardys, John-Eric
Cc: Dave Favero; Rousseau, Matthew
Subject: RE: ~COR-007878~SMI - wells proposed for abandonment and re-installation

John-Eric,
I didn't see this come through last week, so I'm glad you resent it. I'll take a look at it this week and let you know if I have any concerns.

Amanda Armbruster, Geologist
Michigan Department of Environmental Quality
Remediation and Redevelopment Division
Saginaw Bay District Office
989-894-6242 phone
989-894-6259 fax

From: Pardys, John-Eric [<mailto:John-Eric.Pardys@ghd.com>]
Sent: Monday, August 22, 2016 8:39 AM
To: Armbruster, Amanda (DEQ)
Cc: Dave Favero; Rousseau, Matthew
Subject: ~COR-007878~SMI - wells proposed for abandonment and re-installation

Amanda,

GHD was having some difficulty sending emails last week, so I am sending this email again in the event you did not receive it. Thanks.

In preparation for the upcoming PCB work to be completed at RACER's Malleable Iron Industrial Land Site (former SMI facility) in Saginaw, MI, RACER/GHD is proposing to abandon monitoring wells on and nearby the concrete floor slab since the upcoming work includes the installation of- a 1-ft cover over the entire concrete floor slab. Following the installation of the cover and subject to acceptable weather, a sub-set of the monitoring wells would be re-installed to continue evaluation of LNAPL in the Quench Pit Area.

Please see the attached figure which identifies those wells proposed for abandonment (highlighted in yellow) and those monitoring wells proposed for abandonment and re-installation (highlighted in blue). The monitoring wells selected to be re-installed have had historical and/or current presence of LNAPL. At this time, we do not believe re-installation of wells for delineation or verifying no migration is necessary, since NAPL was deemed "effectively immobile, unrecoverable, and stable/non-migrating overall in the bulk of the soil matrix" (November 2014 NAPL presentation). In total there are 23 monitoring wells that would be abandoned and 7 monitoring wells that would be re-installed.

We have tentatively scheduled the abandonment of the monitoring wells for the end of the month.

Should you have any questions or require additional information, please do not hesitate to contact us.

Thanks

John-Eric Pardys P. Eng.

GHD

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Mailing address: 651 Colby Drive Waterloo Ontario N2V 1C2 Canada

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Attachment C

Inspection Forms

SAGINAW MALLEABLE INDUSTRIAL LAND - SITE INSPECTIONOn-Site Personnel: Steve HoevemeyerCompleted Date: 3/12/2020Completed By: SH**1. INSPECTIONS COMPLETED**☒ Southwest Plant LNAPL Area☒ Quench Pit LNAPL AreaWeather cloudy, wind 15-10Temperature high 30s**2. SOUTHWEST PLANT LNAPL AREA**☒ Is there LNAPL present at the ground surface in the Southwest Plant LNAPL area?☒ Is there LNAPL present at the stormwater pond?☒ Is there LNAPL present at the secondary pond?

☒ LNAPL Gauging	LNAPL Reading	Water Reading	Amount of Product	Comments (amount bailed, date absorber sock installed, % sock saturated)
Manhole	(ft bgs)	(ft bgs)	(feet)	
V3.6	—	3.09	—	little scum
X5.9	—	2.61	—	
S5.6	—	4.31	—	
FV3.0	—	2.37	—	slight sheen

3. QUENCH PIT AREA☒ Is there LNAPL present at the ground surface in the Quench Pit area?☒ Is the LNAPL building secure?

☒ LNAPL Gauging	LNAPL Reading	Water Reading	Amount of Product	Comments
Monitoring Well	(ft bgs)	(ft bgs)	(feet)	(amount bailed, absorbent sock installed)
QP2R	—	2.92	—	LNAPL drops on probe
QP3R	2.85	2.90	0.05	
QPTW3R2	—	3.71	—	
QPTW4	3.30	3.37	0.07	
QPTW5	3.57	5.28	1.71	
QP1	—	3.66	—	
QPTW1R	—	2.87	—	
QPTW10R	—	3.62	—	
QPTW13R	—	3.47	—	

Notessoil cap - minor erosion at edge along eastern side

SAGINAW MALLEABLE INDUSTRIAL LAND - SITE INSPECTION

On-Site Personnel: Steve Hoevermeyer

Completed Date: 6/3/2020

Completed By: SH

1. INSPECTIONS COMPLETED

- ☒ Southwest Plant LNAPL Area
☒ Quench Pit LNAPL Area

Weather cloudy, wind 10-15
Temperature 70s

2. SOUTHWEST PLANT LNAPL AREA

- ☒ Is there LNAPL present at the ground surface in the Southwest Plant LNAPL area?
☐ Is there LNAPL present at the stormwater pond?
☐ Is there LNAPL present at the secondary pond?

☒ LNAPL Gauging	LNAPL Reading	Water Reading	Amount of Product	Comments (amount bailed, date absorber sock installed, % sock saturated)
<u>Manhole</u>	<u>(ft bgs)</u>	<u>(ft bgs)</u>	<u>(feet)</u>	
V3.6		3.14		
X5.9		2.65		
S5.6		4.35		
FV3.0		2.31		very slight sheen

3. QUENCH PIT AREA

- ☒ Is there LNAPL present at the ground surface in the Quench Pit area?
☒ Is the LNAPL building secure?

☒ LNAPL Gauging	LNAPL Reading	Water Reading	Amount of Product	Comments
<u>Monitoring Well</u>	<u>(ft bgs)</u>	<u>(ft bgs)</u>	<u>(feet)</u>	<u>(amount bailed, absorbent sock installed)</u>
QP2R		2.56		LNAPL drops on probe
QP3R	2.52	2.65	0.13	
QPTW3R2		3.49		
QPTW4	3.18	3.24	0.06	
QPTW5	3.38	4.47	1.09	
QP1		3.48		
QPTW1R		2.54		LNAPL drops on probe
QPTW10R		3.45		
QPTW13R		3.36		

Notes

- vegetation on cap looks good
- very minor erosion along edges of cap

SAGINAW MALLEABLE INDUSTRIAL LAND - SITE INSPECTION

On-Site Personnel: Steve Hoevermeyer

Completed Date: 9/9/2020

Completed By: SH

1. INSPECTIONS COMPLETED

- ☒ Southwest Plant LNAPL Area
☒ Quench Pit LNAPL Area

Weather light rain, wind 10-15
 Temperature mid 60s

2. SOUTHWEST PLANT LNAPL AREA

- ☒ Is there LNAPL present at the ground surface in the Southwest Plant LNAPL area?
☒ Is there LNAPL present at the stormwater pond?
☒ Is there LNAPL present at the secondary pond?

LNAPL Gauging	LNAPL Reading (ft bgs)	Water Reading (ft bgs)	Amount of Product (feet)	Comments (amount bailed, date absorber sock installed, % sock saturated)
<u>Manhole</u>				
V3.6		<u>4.84</u>		
X5.9				<u>under water</u>
S5.6		<u>6.05</u>		
FV3.0		<u>3.89</u>		<u>slight sheen; trace seen</u>

3. QUENCH PIT AREA

- ☒ Is there LNAPL present at the ground surface in the Quench Pit area?
☒ Is the LNAPL building secure?

LNAPL Gauging	LNAPL Reading (ft bgs)	Water Reading (ft bgs)	Amount of Product (feet)	Comments (amount bailed, absorbent sock installed)
<u>Monitoring Well</u>				
QP2R	<u>4.46</u>	<u>4.67</u>		<u>LNAPL drops on probe</u>
QP3R	<u>4.46</u>	<u>4.56</u>	<u>0.10</u>	
QPTW3R2	<u>5.59</u>	<u>5.78</u>	<u>0.19</u>	
QPTW4	<u>5.16</u>	<u>6.31</u>	<u>1.15</u>	
QPTW5	<u>5.25</u>	<u>6.91</u>	<u>1.66</u>	
QP1		<u>5.39</u>		
QPTW1R	<u>4.60</u>	<u>4.62</u>	<u>0.02</u>	
QPTW10R		<u>5.29</u>		
QPTW13R		<u>3.11</u>		

Notes

lots of recent rains; standing H₂O along edge of cap; very minor
 erosion on cap edges - no repairs necessary; collected photos of site

SAGINAW MALLEABLE INDUSTRIAL LAND - SITE INSPECTION

On-Site Personnel: Steve Hoevermeyer

Completed Date: 12/3/2020

Completed By: SH SH

1. INSPECTIONS COMPLETED

- ☒ Southwest Plant LNAPL Area
☒ Quench Pit LNAPL Area

Weather overcast, wind 10
 Temperature high 30s

2. SOUTHWEST PLANT LNAPL AREA

- ☒ Is there LNAPL present at the ground surface in the Southwest Plant LNAPL area?
☒ Is there LNAPL present at the stormwater pond?
☒ Is there LNAPL present at the secondary pond?

LNAPL Gauging	LNAPL Reading (ft bgs)	Water Reading (ft bgs)	Amount of Product (feet)	Comments (amount bailed, date absorber sock installed, % sock saturated)
<u>Manhole</u>				
V3.6	—	5.14		
X5.9	—	4.51		little scum, very little H ₂ O in MH
S5.6	—	6.32		
FV3.0	—	4.09		very slight sheen

3. QUENCH PIT AREA

- ☒ Is there LNAPL present at the ground surface in the Quench Pit area?
☒ Is the LNAPL building secure?

LNAPL Gauging	LNAPL Reading (ft bgs)	Water Reading (ft bgs)	Amount of Product (feet)	Comments (amount bailed, absorbent sock installed)
<u>Monitoring Well</u>				
QP2R	—	4.92		LNAPL drops on probe
QP3R	4.81	4.91	0.1	
QPTW3R2	5.86	6.16	0.3	
QPTW4	5.28	6.15	0.87	
QPTW5	5.32	5.84	0.52	
QP1	—	5.64		
QPTW1R	—	4.86		
QPTW10R	—	5.35		
QPTW13R	—	5.20		

Notes

cap - very minor erosion along edges - no repairs necessary
 - very minor bare spots - not much vegetation growth
 - no standing H₂O along edges