January 15, 2021 Reference No. 11208058

Ms. Amanda Armbruster
Michigan Department of Environment, Great Lakes, and Energy
Remediation and Redevelopment Division
Saginaw Bay District Office
401 Ketchum Street, Suite B
Bay City, Michigan
U.S.A. 48708

Dear Ms. Armbruster:

Re: 2020 Annual Technical Progress Report Submittal
RACER Trust Bay City Powertrain Industrial Lands

GHD has prepared this 2020 Annual Technical Progress Report (Annual Report) for the Revitalizing Auto Communities Environmental Response Trust (RACER) Bay City Powertrain Industrial Land (Site) located in Bay City, Michigan.

This Annual Report covers the RACER Site for the period from November 16, 2019 through November 15, 2020, unless otherwise noted in the report. Included as part of this submittal, as applicable, are descriptions of actions related to the implementation of the Feasibility Study/Remedial Action Plan (FS/RAP), supplemental response actions and operation, maintenance, and monitoring activities. This annual report summarizes activities related to these action plans, outlines project status, and details any difficulties encountered during the implementation of the action plans.

1. Summary of On-Going Activities and Project Status

The following sections summarize the activities performed related to implementation of the RAP, supplemental response actions, and operation, maintenance, and monitoring, and details any difficulties encountered during the implementation of the action plans.

1.1 Remedial Action Plan

RAP operation and maintenance activities are being implemented for the Site.

A groundwater treatment system has been designed to provide operational independence from the treatment system at the neighboring General Motors LLC facility which previously treated groundwater and stormwater from the RACER Site. The need for this system resulted from the outcome of the General Motors Corporation (GMC) June 2009 bankruptcy (i.e., RACER received ownership of the Site and GM

LLC obtained ownership of the adjacent operating facility). The construction of the system was initiated in November 2012 and was fully commissioned in April 2015. New groundwater extraction pumps and associated well upgrades were completed as part of the new groundwater treatment system construction.

1.1.1 Operation and Maintenance Activities

An initial Monitoring, Operation, and Maintenance Plan (O&M Plan) was submitted on behalf of GMC in November 2000 to MDEQ. Revised O&M Plan sections were submitted on behalf of GMC to MDEQ in June 2001, conditionally approved by MDEQ on November 27, 2001, and the final O&M Plan was submitted on behalf of GMC in January 2002 and subsequently approved by MDEQ. Specific O&M activities for the new RACER groundwater treatment system were added to the existing O&M Plan after the commissioning of the treatment system in April 2015 and a revised Operation, Maintenance, and Monitoring Plan manual was submitted on behalf of RACER to MDEQ on November 14, 2016.

1.1.2 Operation and Maintenance Activities–Groundwater Extraction System

Extraction well details and water elevations are presented in Table 1. Groundwater Monitoring well details and annual water elevations are presented in Table 2. Monthly maintenance activity checklists are presented in Attachment A.

The groundwater treatment system operated regularly during the 12-month period covered by this report, except when it was down for maintenance. Recently the treatment system has had difficulty keeping up with the amount of water in the Crotty Street Channel, due to high groundwater levels. The feed pump was operating at 100% capacity and was discharging at 0.4 gallons per minute (gpm). The system is designed to operate up to 2 gpm, therefore, GHD reviewed alternatives for a replacement pump. A new pump was selected and installed in October 2020. The new pump has been operating at approximately 2 gpm since installation. Groundwater levels in the entire Crotty Street Channel (CSC) are lowered through the operation of a pump in CSC extraction well EW-15, since the entire CSC is hydraulically well connected due to the porous nature of the soils (backfill was pea gravel and sand) in the CSC. In addition, groundwater levels in the Machine Storage Area (MSA) are lowered through the operation of pumps in MSA extraction wells EW-6, EW-8, and EW12, which discharge to EW-15. The pump in EW-15 directs water to the RACER groundwater treatment system where the extracted water is treated before being discharged to the City of Bay City sanitary sewer system.

1.1.3 Operation and Maintenance Activities – Groundwater Treatment System

From February 2015, when the groundwater treatment system was fully commissioned, through November 15, 2020 approximately 986,403 gallons of groundwater were treated and discharged to the City of Bay City under Industrial User Discharge Permit (120807). Semi-annual discharge compliance

sampling was completed on January 20, 2020 and May 29, 2020. There were no exceedances of permit discharge standards observed, as presented in Table 3.

1.1.4 Saginaw River Levels at Essexville, Michigan

Saginaw River water levels have been recorded downstream from the RACER Property at Essexville by the National Oceanic and Atmospheric Administration (NOAA) from 1977 until 2005. Due to the unavailability of the data from the NOAA website, data was obtained from USGS station (04157065 Saginaw River at Weadock Road at Essexville, MI) and used for water elevation data of the Saginaw River, as of November 1, 2005. On December 4, 2013 USGS station 04157065 was removed from service so data was obtained from USGS station (04157060 Saginaw River at Midland Road at Bay City, MI) and used for water elevation data of the Saginaw River, as of November 16, 2013. On September 3, 2017 USGS station 04157060 was destroyed. GHD is currently exploring other options for measuring the Saginaw River water levels, and will include manual measurements from the top of the sheetpile wall (SG-6) in their monthly inspections going forward until another USGS station is installed or another source of Saginaw River water levels is identified.

Based on the combined NOAA and USGS data from 1977 to September 2, 2017, the average Saginaw River water level is approximately 578.89 feet (ft) above mean sea level (AMSL). Recent water levels were above the average, as the current water level measured at SG-6 on October 3, 2020 was 581.26 ft AMSL.

1.1.5 Extraction System/Groundwater Monitoring Activities

Table 4 presents the sample results for the extraction system discharge samples (i.e., the groundwater treatment system influent). The 20th annual groundwater sampling event (August 2020) was also conducted during this reporting period. Table 5 presents the 20th annual groundwater sampling event analytical results summary. Table 3 presents the analytical results for the semi-annual samples collected from the groundwater treatment system effluent. Figure 1 presents the locations sampled for chemical analysis. Figure 2 presents the location where depth-to-water measurements for groundwater are monitored. Groundwater elevations, based on depth-to-water measurements are presented in Tables 1 and 2 for extraction wells and monitoring wells, respectively. Groundwater elevations, based on the depth-to-water measurements collected on August 3, 2020 are presented on Figure 3.

A summary of the last 10 years of analytical groundwater data is presented in Attachment B. The laboratory data reports for all chemical analysis conducted in the reporting period (November 16, 2019 to November 15, 2020) and data validation for the 2020 annual sampling event are presented in Attachment C.

A review of past 10 years of groundwater sample results reveals that only two monitoring well locations (LMW13S for the past 10 years and MW102D2 in 2020) had reported concentrations above the MDEQ Part 201 Residential and Non-Residential Drinking Water Criteria for PCBs of 0.5 (parts per billion) ppb and groundwater results were reported above the MDEQ Part 201 Groundwater Surface Water Interface Criteria for PCBs of 0.2 ppb at MW102D1 (various times over the past 10 years), at MW102D2 (in 2017 and 2020), at MW300S (in 2011), at LMW13S (for the past 10 years), and at LMW15D (once in 2018).

1.2 Supplemental Response Actions

A Declaration of Restrictive Covenant for the Site was recorded with the Bay County Register of Deeds on November 17, 2015. The location and content of permanent markers were reviewed and approved by the MDEQ on November 4, 2015.

A Corrective Measures Remedial Action Plan Completion Report was prepared and submitted to the MDEQ for review on September 23, 2016. MDEQ approved RCRA Corrective Action Complete with Controls (RCRA Corrective Action Event Code CA900CR) on September 28, 2016.

Modifications to stormwater management at the Site are necessary as a result of the GMC bankruptcy process. The needed stormwater work and other recent information affect completed corrective measures and the affects will be addressed with EGLE.

2. Proposed Modifications to the Monitoring Program

No modifications are proposed at this time.

3. Schedule

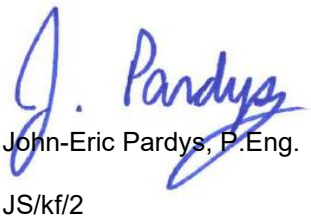
All activities have been completed within the required time frames.

As part of the 2021 monitoring program, RACER will continue to perform monthly extraction and treatment system inspections and regular pump maintenance, as necessary. RACER will also collect semi-annual groundwater treatment system influent samples (to be completed in April and August 2021) and semi-annual effluent samples. The 2021 annual groundwater monitoring event will be completed in August 2021.

Should you have any questions on the above, please do not hesitate to contact us.

Sincerely,

GHD



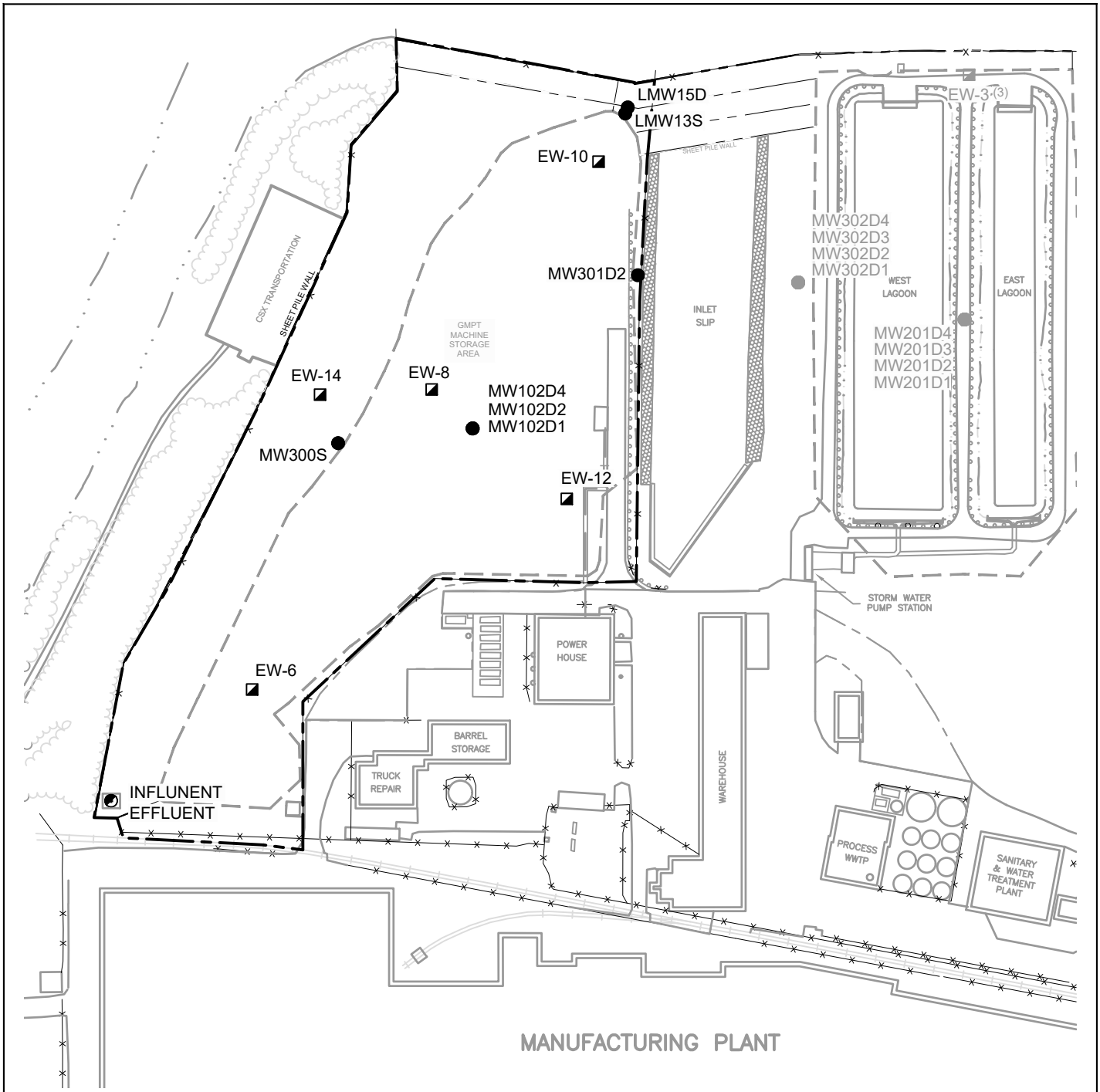
John-Eric Pardys, P.Eng.

JS/kf/2

Encl.

Figure 1	Chemical Analysis Monitoring Locations
Figure 2	Water Elevation Monitoring Locations
Figure 3	Shallow Groundwater Elevations – August 3, 2020
Table 1	Groundwater Extraction System Water Elevations
Table 2	Monitoring Well Completion Details and Groundwater Elevations
Table 3	Analytical Results Summary–Groundwater Treatment System Effluent Sampling
Table 4	Analytical Results Summary–Extraction System Sampling
Table 5	Analytical Results Summary–Annual Sampling
Table 6	Summary of Long-Term Groundwater and Stormwater Monitoring Activities
Attachment A	Maintenance Activity Checklists
Attachment B	Analytical Results Summary (2009 to 2020)
Attachment C	Laboratory Reports and Data Validation Memorandums

cc: Richard Finn, City of Bay City
Jill Edelbrock, MDEQ
Grant Trigger, RACER Trust
Dave Favero, RACER Trust
Michael Tomka, GHD



LEGEND

- FENCE
- GUARDRAIL
- RAILROAD
- TREELINE
- SHORELINE
- DEEP SOIL MIXING WALL
- SHEET PILE WALL
- APPROXIMATE RACER PROPERTY BOUNDARY

MW403S ● MONITORING WELL LOCATION

EW-6 ◪ GROUNDWATER EXTRACTION WELL LOCATION

◐ GROUNDWATER TREATMENT SYSTEM SAMPLE LOCATION

0 100 200 ft

N

GHD

RACER TRUST - BAY CITY INDUSTRIAL LAND
BAY CITY, MICHIGAN

Project No. **11208058**
Date **December 2020**

CHEMICAL ANALYSIS MONITORING LOCATIONS

FIGURE 1

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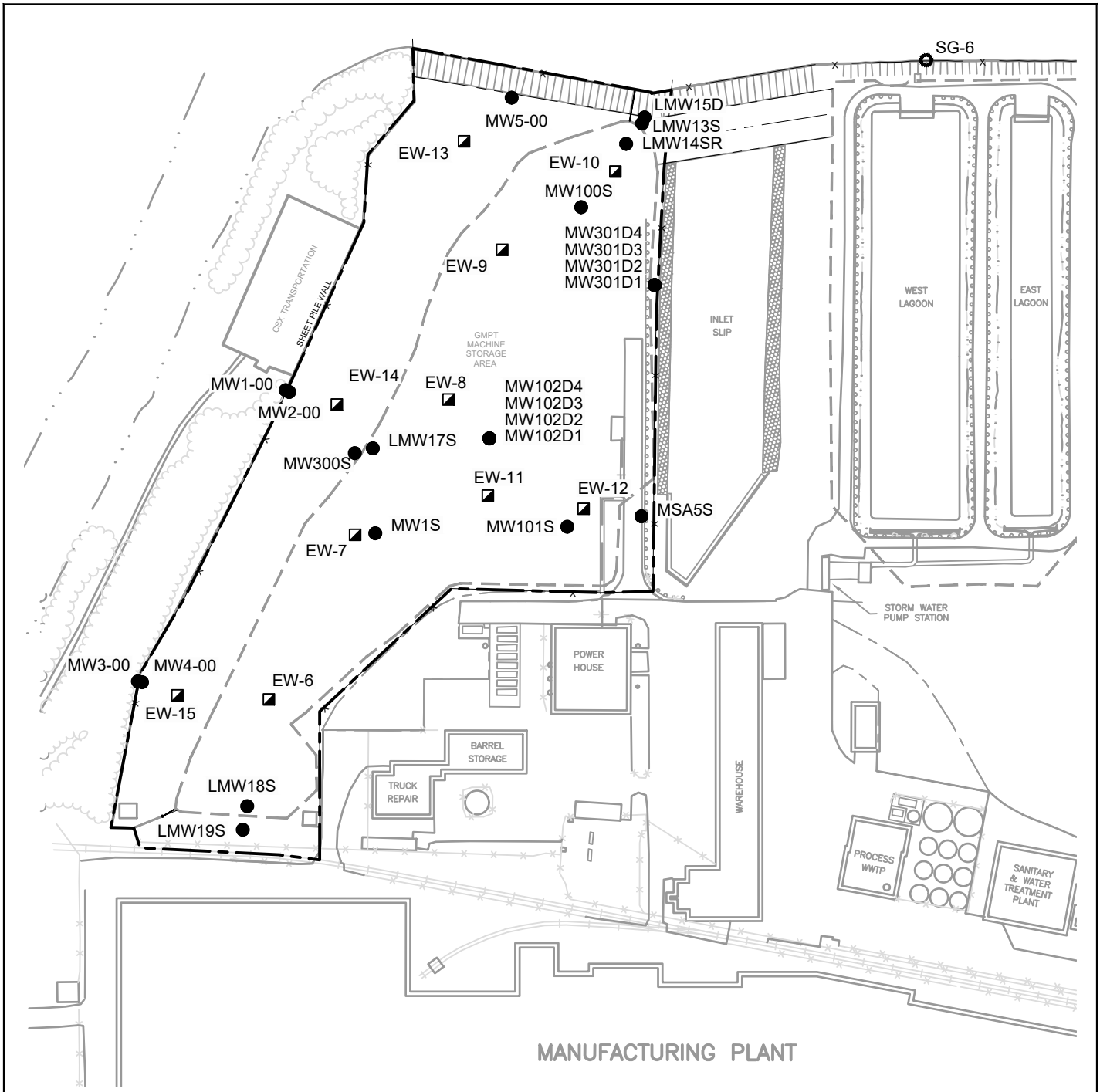

LEGEND

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MW403S ● MONITORING WELL LOCATION
EW-6 ◪ GROUNDWATER EXTRACTION WELL LOCATION
SG-6 ○ STAFF GAGE LOCATION

0 100 200 ft

N

GHD

RACER TRUST - BAY CITY INDUSTRIAL LAND
BAY CITY, MICHIGAN

Project No. **11208058**
Date **December 2020**

WATER ELEVATION MONITORING LOCATIONS

FIGURE 2

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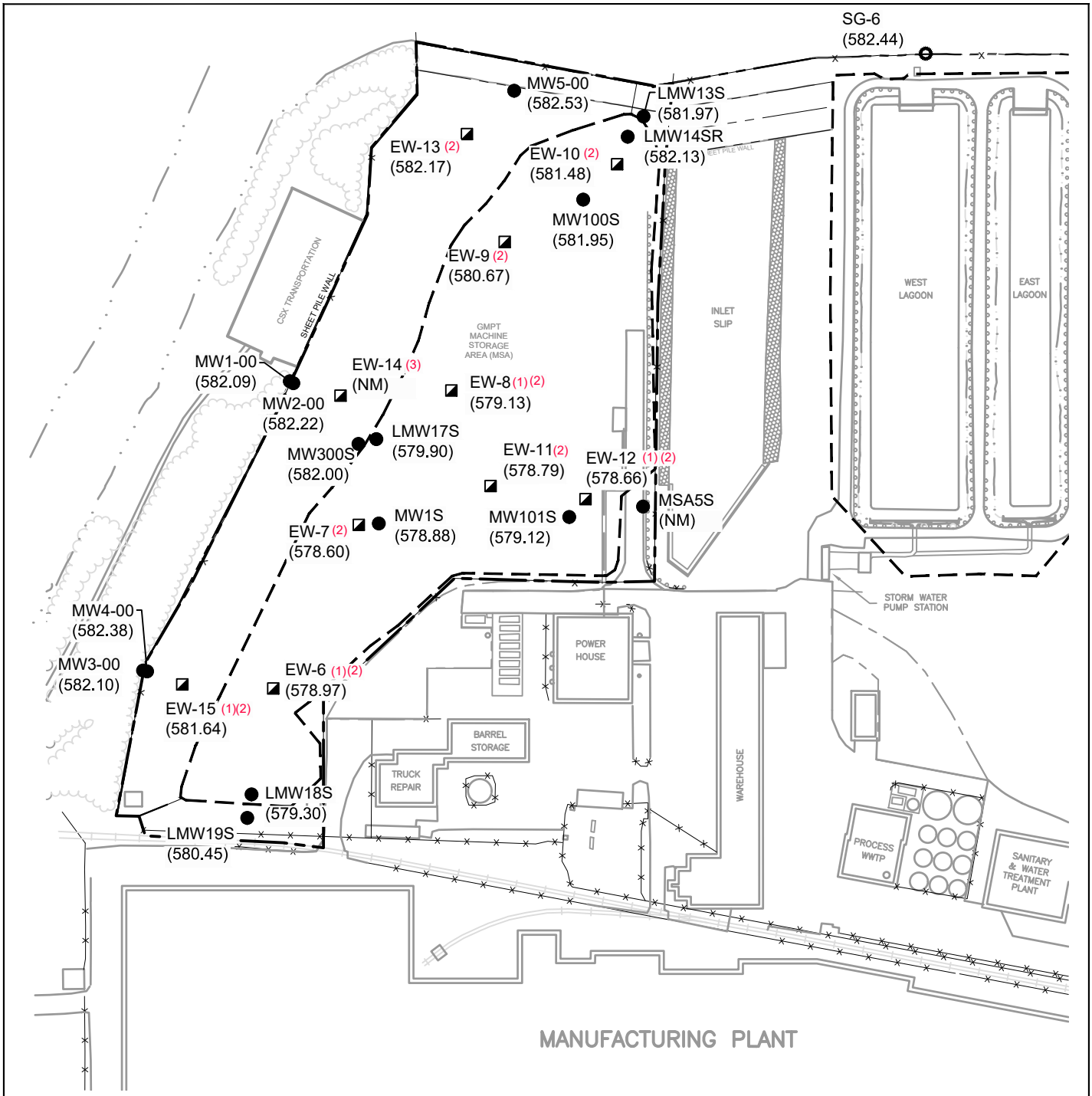

LEGEND

- FENCE
- GUARDRAIL
- RAILROAD
- TREELINE
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MW403S ●	MONITORING WELL LOCATION (WATER LEVELS MONITORED ANNUALLY)
SG-1 ○	STAFF GAGE LOCATION
EW-6 ◪	GROUNDWATER EXTRACTION WELL LOCATION (WATER LEVELS MONITORED MONTHLY)
(578.44)	GROUNDWATER ELEVATION (ft. AMSL)
(NM)	NOT MEASURED
(1)	PUMP LOCATION
(2)	WATER LEVEL MEASURED ON AUGUST 25, 2020
(3)	WATER LEVEL ABOVE REFERENCE ELEVATION

0 100 200 ft

N

GHD

RACER TRUST - BAY CITY INDUSTRIAL LAND
BAY CITY, MICHIGAN

Project No. **11208058**
Date **January 2021**

SHALLOW GROUNDWATER ELEVATIONS AUGUST 3, 2020

FIGURE 3

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Table 1

Groundwater Extraction System Water Elevations
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Location	Reference Elevation	Bottom of Well Elevation (ft AMSL)	Top ICU Top ICU (ft AMSL)	Water Elevation (ft AMSL) Jan. 27, 2020	Water Elevation (ft AMSL) Feb. 20, 2020	Water Elevation (ft AMSL) Mar. 25, 2020	Water Elevation (ft AMSL) Apr. 28, 2020	Water Elevation (ft AMSL) May 28, 2020	Water Elevation (ft AMSL) Jun. 22, 2020
Machine Storage Area									
EW-6	589.74	570.39	572.39	578.6 (1)	578.39 (1)	578.59 (1)	578.61	578.78	578.86 (1)
EW-7	587.99	571.14	571.64	578.7	578.63	578.72	578.66	578.6	578.60
EW-8	588.34	572.29	573.29	579.27	578.95	579.25	579.25	579.35	579.28
EW-9	588.04	572.19	573.69	580.43	580.15	580.43	580.45	580.61	580.71
EW-10	587.77	570.82	572.32	581.32	580.83	581.33	581.41	581.82	581.92
EW-11	591.51	571.91	572.56	578.98 (1)	578.89 (1)	NM	578.94 (1)	579.06 (1)	578.96 (1)
EW-12	586.42	571.57	573.07	579.67 (1)	579.15 (1)	579.49 (1)	579.4 (1)	579.75 (1)	579.25 (1)
Crotty Street Channel Containment Area									
EW-13	584.33	571.86	NA	(2)	581.74	582.58	582.26	582.80	582.64
EW-14	582.42	569.92	NA	(2)	(2)	(2)	(2)	(2)	(2)
EW-15	583.71	571.61	NA	(2)	(2)	582.1	(2)	582.3	582.2
Saginaw River									
SG-6	587.16	NA	NA	581.89	--	--	581.73	582.23	--

Notes:

ICU Intermediate Confining Unit
-- No Level recorded
-- Not applicable
(1) Product identified in well
(2) Water level above reference elevation

Table 1

Groundwater Extraction System Water Elevations
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Location	Reference Elevation	Bottom of Well Elevation (ft AMSL)	Top ICU Top ICU (ft AMSL)	Water Elevation (ft AMSL) Jul. 22, 2020		Water Elevation (ft AMSL) Aug. 25, 2020		Water Elevation (ft AMSL) Sept. 10, 2020		Water Elevation (ft AMSL) Oct. 2, 2020	
Machine Storage Area											
EW-6	589.74	570.39	572.39	578.86	(1)	578.97	(1)	578.81	(1)	578.84	(1)
EW-7	587.99	571.14	571.64	578.66		578.6		578.55		578.6	
EW-8	588.34	572.29	573.29	579.24		579.13		579.05		579.07	
EW-9	588.04	572.19	573.69	580.78		580.67		580.55		580.5	
EW-10	587.77	570.82	572.32	581.82		581.48		581.24		581.22	
EW-11	591.51	571.91	572.56	578.91	(1)	578.79	(1)	580.14	(1)	578.82	(1)
EW-12	586.42	571.57	573.07	579.06	(1)	578.66	(1)	578.71	(1)	578.73	
Crotty Street Channel Containment Area											
EW-13	584.33	571.86	NA	582.56		582.17		582.1		582	
EW-14	582.42	569.92	NA	(2)		(2)		(2)		(2)	
EW-15	583.71	571.61	NA	582.10		581.64		581.92		581.82	
Saginaw River											
SG-6	587.16	NA	NA	580.81		582.31		582.33		581.26	

Notes:

ICU Intermediate Confining Unit
-- No Level recorded
-- Not applicable
(1) Product identified in well
(2) Water level above reference elevation

Table 2

Monitoring Well Completion Details And Groundwater Elevations
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Well Location	Top of Riser Elevation (ft AMSL)	Depth of Well (feet)	Screen Length (feet)	Screen Type	Riser Type	Diameter of Screen (inches)	Groundwater Elevation (feet AMSL)										
							8/3/2020	12/12/2019	12/19/2018	8/23/2017	12/8/2016	8/24/2015	8/6/2014	8/6/2013	8/7/2012	8/22/2011	8/16/2010
Machine Storage Area (MSA)																	
LMW13S	589.40	19.22	10	SS	PVC	2	581.97	581.94	580.46	580.72	580.01	580.10	579.43	578.61	578.19	578.03	578.71
LMW17S	589.31	19.83	10	SS	PVC	2	579.90	579.42	579.13	579.17	578.79	579.13	578.96	578.87	578.85	578.80	578.83
LMW18S	592.33	22.52	10	SS	PVC	2	579.30	578.85	578.64	578.48	578.17	578.62	578.27	577.93	577.82	577.61	577.66
LMW19S	588.61	19.32	10	SS	PVC	2	580.45	580.13	579.10	578.99	578.91	579.55	579.32	578.44	578.58	578.34	578.25
MW1S	591.08	12.95	2	SS	SS	2	578.88	578.77	578.79	578.76	578.77	578.73	578.71	578.80	578.65	578.65	578.68
MW100S	591.97	14.44	10	SS	SS	2	581.95	581.12	580.58	580.69	579.80	580.19	579.32	578.81	578.49	578.18	578.86
MW101S	593.34	19.22	10	SS	SS	2	579.12	579.48	579.44	578.99	579.17	579.12	579.01	579.10	578.94	578.80	578.93
MW102D1	594.86	30.99	10	SS	SS	2	582.13	581.55	580.18	580.86	579.30	579.88	579.39	578.34	577.90	578.71	578.39
MW102D2	594.93	36.21	10	SS	SS	2	582.12	581.53	580.15	580.85	579.37	579.86	579.38	578.31	577.89	578.69	578.37
MW102D3	594.91	46.74	10	SS	SS	2	582.09	581.52	580.15	580.78	579.25	579.83	579.35	578.27	577.84	578.67	579.34
MW102D4 (replacement)	594.90	56.85	10	SS	SS	2	582.03	581.44	580.08	580.74	579.19	579.77	579.30	578.24	577.79	578.63	578.29
MW300S	587.12	15.06	10	SS	SS	2	582.00	581.36	580.86	579.97	577.19	577.90	577.03	577.17	577.69	577.03	577.18
LMW14SR (Replaced LMW14S Jan/00)	589.01	13.00	7	SS	SS	2	582.13	581.28	580.54	580.69	579.63	580.02	579.22	578.55	578.14	577.47	578.60
Perimeter Banks (PB)																	
LMW15D	588.34	32..8	10	SS	PVC	2	582.33	581.63	580.16	580.93	579.16	579.68	579.37	578.02	577.56	578.65	578.21
MW301D1	589.54	27.50	10	SS	SS	2	580.48	579.88	578.51	579.24	577.60	578.15	577.70	576.56	578.38	579.39	578.96
MW301D2	589.16	37.24	10	SS	SS	2	580.59	579.97	578.56	579.31	577.67	578.22	577.78	576.62	577.99	579.00	578.60
MW301D3	589.22	44.04	10	SS	SS	2	580.46	579.82	578.43	579.17	577.53	578.06	577.64	576.46	577.87	578.87	578.47
MW301D4	589.33	55.95	10	SS	SS	2	580.56	579.92	578.52	579.25	577.61	578.14	577.96	576.54	578.15	579.16	578.74
Support Facilities Area (SFA)																	
MSA5S	588.60	18.98			SS	2	n/a	n/a	588.60	579.97	579.91	580.26	579.67	580.22	578.58	578.67	579.10
Crotty Street Channel																	
MW1-00	588.26	12.00	7	SS	SS	2	582.09	582.09	580.55	579.67	579.16	579.79	579.35	577.71	576.44	577.17	577.13
MW2-00	589.29	18.00	7	SS	SS	2	582.22	582.22	580.65	581.58	578.84	579.35	578.75	577.79	576.62	577.29	577.26
MW3-00	588.40	12.50	7	SS	SS	2	582.10	582.10	580.48	580.60	579.15	579.76	579.38	577.67	576.47	577.25	577.14
MW4-00	589.65	19.00	7	SS	SS	2	582.38	582.38	580.81	580.87	579.03	579.54	578.91	577.90	576.76	577.41	577.38
MW5-00	588.89	13.00	7	SS	SS	2	582.53	582.53	581.31	580.15	577.22	577.70	576.99	577.00	576.73	576.77	576.95
SG-1	580.00	- -	- -	- -	- -	- -	n/a	n/a	n/a	n/a	n/a	n/a	581.06	n/a	n/a	n/a	n/a
Saginaw River Elevation [6]							582.44	581.48	580.05	580.79	579.07	579.66	579.32	577.02	576.71	577.53	577.41

Notes:

(1) Approximate value
(2) Lock Needs Replacing
(3) Gage needs to be relocated
(4) Could not open due to liner attachment
(5) Could not read due to accumulation of snow and ice
(6) Source of Saginaw River Elevation is: NOAA (Essexville, MI) for prior to November 1, 2005, USGS Station (04157065) for November 1, 2005 to December 4, 2013 and USGS Station (04157060) for December 4, 2013 to 2018, and measured at the sheet pile wall (SG-6) from 2018 to present.
(7) Could not read due to well being covered with equipment
n/a Water elevation not available

Table 2

Monitoring Well Completion Details And Groundwater Elevations
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Well Location	Top of Riser Elevation (ft AMSL)	Depth of Well (feet)	Screen Length (feet)	Screen Type	Riser Type	Diameter of Screen (inches)	Groundwater Elevation (feet AMSL)											
							8/27/2009	8/19/2008	8/20/2007	8/16/2006	8/29/2005	8/24/2004	7/28/2003	8/26/2002	8/13/2001	3/19/2001	2/23/2001	1/24/2001	12/15/2000
Machine Storage Area (MSA)																			
LMW13S	589.40	19.22	10	SS	PVC	2	579.31	578.21	577.67	578.23	578.14	579.40	578.45	582.05	578.68	577.85	578.17	578.19	578.06
LMW17S	589.31	19.83	10	SS	PVC	2	578.81	578.58	577.58	578.63	578.31	578.80	582.73	578.91	578.68	578.74	578.83	579.06	578.79
LMW18S	592.33	22.52	10	SS	PVC	2	577.99	577.62	578.13	578.00	578.23	578.45	578.35	578.85	578.10	578.22	578.61	578.39	578.18
LMW19S	588.61	19.32	10	SS	PVC	2	578.53	578.45	579.71	578.45	578.85	579.21	579.24	579.93	578.79	579.56	579.96	579.59	(5)
MW1S	591.08	12.95	2	SS	SS	2	579.71	580.93	578.48	n/a	577.58	578.63	578.56	578.48	578.51	578.41	(5)	578.44	578.36
MW100S	591.97	14.44	10	SS	SS	2	579.27	578.40	578.01	578.38	578.57	579.15	577.27	578.91	578.93	578.36	578.64	578.87	578.65
MW101S	593.34	19.22	10	SS	SS	2	578.78	578.49	578.39	578.31	577.95	578.82	578.87	579.12	578.76	578.84	578.96	579.18	578.84
MW102D1	594.86	30.99	10	SS	SS	2	579.42	578.83	578.04	578.30	578.30	579.02	578.25	578.98	578.18	577.61	577.40	577.47	577.62
MW102D2	594.93	36.21	10	SS	SS	2	579.40	578.93	578.03	578.25	578.33	579.01	578.24	578.95	578.15	577.60	577.39	577.45	577.61
MW102D3	594.91	46.74	10	SS	SS	2	579.41	578.89	577.98	578.25	578.31	578.98	578.20	578.93	578.11	577.56	577.34	577.40	577.56
MW102D4 (replacement)	594.90	56.85	10	SS	SS	2	579.33	578.76	577.98	578.22	578.25	578.94	578.16	578.86	578.03	577.49	577.27	577.33	577.47
MW300S	587.12	15.06	10	SS	SS	2	578.22	579.26	576.30	576.81	578.34	577.05	577.77	578.53	577.00	578.84	578.67	578.99	578.07
LMW14SR (Replaced LMW14S Jan/00)	589.01	13.00	7	SS	SS	2	579.19	577.96	576.98	577.97	577.50	576.94	578.13	578.45	578.23	577.38	577.77	577.88	577.54
Perimeter Banks (PB)																			
LMW15D	588.34	32..8	10	SS	PVC	2	579.45	578.12	577.89	578.22	578.24	579.34	578.04	578.83	578.06	577.37	577.12	577.22	577.33
MW301D1	589.54	27.50	10	SS	SS	2	579.96	579.03	578.72	578.94	579.05	580.02	578.90	579.66	578.89	578.28	578.03	578.09	578.25
MW301D2	589.16	37.24	10	SS	SS	2	579.56	578.64	578.33	578.55	578.62	579.59	578.49	579.25	578.48	577.86	577.62	577.67	577.81
MW301D3	589.22	44.04	10	SS	SS	2	579.44	578.41	578.20	578.44	578.52	579.47	578.36	579.10	578.53	577.72	577.59	577.52	577.67
MW301D4	589.33	55.95	10	SS	SS	2	579.70	578.75	578.48	578.69	578.80	579.71	578.57	579.28	578.48	577.86	577.63	577.68	577.82
Support Facilities Area (SFA)																			
MSA5S	588.60	18.98			SS	2	580.10	578.04	580.10	579.28	579.76	580.57	580.55	580.65	579.74	580.65	580.42	580.62	580.46
Crotty Street Channel																			
MW1-00	588.26	12.00	7	SS	SS	2	578.95	578.74	577.11	576.92	577.09	578.37	577.78	578.44	576.72	578.61	578.14	577.81	577.49
MW2-00	589.29	18.00	7	SS	SS	2	578.40	578.83	577.09	576.97	577.23	577.50	577.60	578.03	576.76	578.69	578.26	577.82	577.51
MW3-00	588.40	12.50	7	SS	SS	2	579.01	578.74	577.19	576.94	577.13	578.51	577.77	578.38	576.70	578.62	578.26	577.79	577.48
MW4-00	589.65	19.00	7	SS	SS	2	578.55	578.95	577.21	577.07	577.34	577.59	577.68	578.07	576.79	578.67	578.30	577.84	577.51
MW5-00	588.89	13.00	7	SS	SS	2	578.04	578.82	576.55	576.72	577.85	576.91	576.28	576.72	577.02	577.06	577.86	576.97	576.91
SG-1	580.00	- -	- -	- -	- -	- -	n/a	578.55	577.83	578.33	578.43	579.63	577.93	578.73	578.12	(5)	(5)	(5)	(5)
Saginaw River Elevation [6]							578.34	577.97	577.09	577.41	578.32	578.52	576.83	578.50	577.91	576.80	576.74	576.77	576.78

Notes:

(1) Approximate value
(2) Lock Needs Replacing
(3) Gage needs to be relocated
(4) Could not open due to liner attachment
(5) Could not read due to accumulation of snow and ice
(6) Source of Saginaw River Elevation is: NOAA (Essexville, MI) for prior to November 1, 2005, USGS Station (04157065) for November 1, 2005 to December 4, 2013 and USGS Station (04157060) for December 4, 2013 to 2018, and measured at the sheet pile wall (SG-6) from 2018 to present.
(7) Could not read due to well being covered with equipment
n/a Water elevation not available

Table 2

Monitoring Well Completion Details And Groundwater Elevations
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Well Location	Top of Riser Elevation (ft AMSL)	Depth of Well (feet)	Screen Length (feet)	Screen Type	Riser Type	Diameter of Screen (inches)	Groundwater Elevation (feet AMSL)												
							11/30/2000	10/31/2000	9/11/2000	8/29/2000	7/18/2000	6/30/2000	5/30/2000	4/26/2000	3/29/2000	2/28/2000	2/2/2000	1/4/2000	11/24/1999
Machine Storage Area (MSA)																			
LMW13S	589.40	19.22	10	SS	PVC	2	578.35	578.63	578.90	578.90	580.11	580.62	581.63	581.81	581.27	581.74	579.27	580.08	580.68
LMW17S	589.31	19.83	10	SS	PVC	2	579.17	578.93	579.24	579.20	579.09	579.85	580.06	580.19	579.91	579.96	579.08	579.47	579.71
LMW18S	592.33	22.52	10	SS	PVC	2	578.29	578.52	578.67	579.03	578.52	577.80	578.10	578.09	577.66	577.80	577.09	577.37	577.32
LMW19S	588.61	19.32	10	SS	PVC	2	579.56	579.38	579.34	580.13	579.45	580.56	580.96	581.25	580.73	581.39	579.70	580.30	579.58
MW1S	591.08	12.95	2	SS	SS	2	578.40	578.57	578.43	578.38	578.34	579.31	579.26	579.29	579.28	579.18	579.05	579.07	579.15
MW100S	591.97	14.44	10	SS	SS	2	579.05	579.33	579.57	579.66	579.85	578.03	577.79	577.07	576.87	576.69	577.09	577.49	578.09
MW101S	593.34	19.22	10	SS	SS	2	579.03	578.91	578.99	579.04	579.02	580.22	580.39	580.14	579.21	579.86	579.61	579.61	579.65
MW102D1	594.86	30.99	10	SS	SS	2	577.67	577.87	578.16	578.15	578.71	577.62	577.70	577.60	577.25	577.23	576.81	576.80	576.38
MW102D2	594.93	36.21	10	SS	SS	2	577.65	577.85	578.13	578.13	578.67	577.48	577.58	577.44	577.12	577.08	576.80	576.67	576.24
MW102D3	594.91	46.74	10	SS	SS	2	577.60	577.80	578.08	578.09	578.63	577.52	577.59	577.47	577.16	577.12	576.88	576.71	576.26
MW102D4 (replacement)	594.90	56.85	10	SS	SS	2	577.53	577.73	578.00	578.02	578.55	577.38	577.45	577.34	577.01	576.98	575.70	576.56	576.12
MW300S	587.12	15.06	10	SS	SS	2	578.84	578.27	578.16	578.24	n/a (2)	n/a (4)	579.89	580.18	579.73	No Access	578.55	579.27	579.91
LMW14SR (Replaced LMW14S Jan/00)	589.01	13.00	7	SS	SS	2	578.04	578.13	578.16	578.21	579.19	579.32	579.22	578.91	578.99	578.55	578.58	Damaged	Damaged
Perimeter Banks (PB)																			
LMW15D	588.34	32..8	10	SS	PVC	2	577.48	577.63	577.94	578.03	578.43	n/a (4)	578.88	578.74	578.56	578.56	578.23	577.95	577.18
MW301D1	589.54	27.50	10	SS	SS	2	578.34	(5)	(5)	578.88	578.65	579.37	578.80	578.85	578.59	578.56	578.28	578.05	577.42
MW301D2	589.16	37.24	10	SS	SS	2	577.92	(5)	(5)	578.47	578.56	578.80	578.89	578.77	578.54	578.51	578.22	577.99	577.35
MW301D3	589.22	44.04	10	SS	SS	2	577.78	(5)	(5)	578.32	578.56	578.80	578.85	578.74	578.49	578.48	578.18	577.96	577.32
MW301D4	589.33	55.95	10	SS	SS	2	577.93	(5)	(5)	578.48	578.48	578.78	578.76	578.69	578.45	578.43	578.14	577.90	577.27
Support Facilities Area (SFA)																			
MSA5S	588.60	18.98			SS	2	580.65	580.34	580.56	580.41	581.32	581.17	582.22	582.37	580.62	582.13	580.96	581.42	581.70
Crotty Street Channel																			
MW1-00	588.26	12.00	7	SS	SS	2	577.75	577.45	577.36	577.60	577.71	579.57	578.68	578.42	578.04	578.89	577.89	n/a	n/a
MW2-00	589.29	18.00	7	SS	SS	2	577.77	577.45	577.36	577.59	577.65	578.67	Not Accessible	577.65	577.26	578.11	579.11	n/a	n/a
MW3-00	588.40	12.50	7	SS	SS	2	577.74	577.45	577.37	577.60	578.68	578.46	579.05	578.79	578.40	579.25	578.27	n/a	n/a
MW4-00	589.65	19.00	7	SS	SS	2	577.78	577.47	577.34	577.57	577.62	578.87	Not Accessible	577.60	577.18	578.03	577.03	n/a	n/a
MW5-00	588.89	13.00	7	SS	SS	2	576.90	577.31	577.91	578.01	n/a (4)	n/a (4)	579.12	578.86	578.66	578.36	577.63	n/a	n/a
SG-1	580.00	- -	- -	- -	- -	- -	577.33	577.43	577.93	578.05	Destroyed (3)	Destroyed (3)	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
Saginaw River Elevation [6]							577.02	577.23	577.49	577.76	578.27	577.81	577.48	577.42	577.37	577.24	577.14	577.15	576.54

Notes:

(1) Approximate value
(2) Lock Needs Replacing
(3) Gage needs to be relocated
(4) Could not open due to liner attachment
(5) Could not read due to accumulation of snow and ice
(6) Source of Saginaw River Elevation is: NOAA (Essexville, MI) for prior to November 1, 2005, USGS Station (04157065) for November 1, 2005 to December 4, 2013 and USGS Station (04157060) for December 4, 2013 to 2018, and measured at the sheet pile wall (SG-6) from 2018 to present.
(7) Could not read due to well being covered with equipment
n/a Water elevation not available

Table 2

Monitoring Well Completion Details And Groundwater Elevations
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Well Location	Top of Riser Elevation (ft AMSL)	Depth of Well (feet)	Screen Length (feet)	Screen Type	Riser Type	Diameter of Screen (inches)	Groundwater Elevation (feet AMSL)								
							10/25/1999	9/27/1999	9/7/1999	7/20/1999	6/22/1999	5/20/1999	4/20/1999	3/19/1999	3/8/1999
Machine Storage Area (MSA)															
LMW13S	589.40	19.22	10	SS	PVC	2	581.26	580.55	580.02	579.68	579.23	581.42	582.65	583.17	582.56
LMW17S	589.31	19.83	10	SS	PVC	2	579.69	578.98	579.19	579.43	579.65	579.77	580.25	581.57	581.58
LMW18S	592.33	22.52	10	SS	PVC	2	577.62	577.51	577.89	579.57	579.45	579.39	579.78	579.44	579.44
LMW19S	588.61	19.32	10	SS	PVC	2	579.95	579.53	580.01	580.42	580.52	580.51	580.94	580.90	580.66
MW1S	591.08	12.95	2	SS	SS	2	579.11	578.51	578.58	--	578.64	579.29	579.49	584.35	584.12
MW100S	591.97	14.44	10	SS	SS	2	578.77	578.57	--	579.33	579.07	579.30	579.96	582.53	582.71
MW101S	593.34	19.22	10	SS	SS	2	579.81	579.04	579.18	578.83	578.71	579.19	580.44	586.50	586.44
MW102D1	594.86	30.99	10	SS	SS	2	577.47	577.64	578.29	579.69	576.82	579.27	579.34	582.38	582.32
MW102D2	594.93	36.21	10	SS	SS	2	577.33	577.50	578.15	579.68	576.78	579.34	579.39	582.03	581.93
MW102D3	594.91	46.74	10	SS	SS	2	577.35	577.55	578.20	579.66	576.80	579.25	579.35	581.92	581.84
MW102D4 (replacement)	594.90	56.85	10	SS	SS	2	577.21	577.40	578.05	579.56	576.70	579.13	579.21	581.54	581.45
MW300S	587.12	15.06	10	SS	SS	2	578.87	578.90	579.33	579.69	579.95	579.51	579.86	579.37	579.51
LMW14SR (Replaced LMW14S Jan/00)	589.01	13.00	7	SS	SS	2	578.58	578.30	578.88	579.97	578.55	580.40	581.12	582.10	582.11
Perimeter Banks (PB)															
LMW15D	588.34	32..8	10	SS	PVC	2	578.49	578.93	579.81	579.68	577.88	579.21	579.23	579.86	579.71
MW301D1	589.54	27.50	10	SS	SS	2	578.63	578.99	579.67	579.73	575.75	579.22	579.32	579.40	579.29
MW301D2	589.16	37.24	10	SS	SS	2	578.57	578.93	579.62	579.69	576.11	579.19	579.28	579.35	579.23
MW301D3	589.22	44.04	10	SS	SS	2	578.54	578.90	579.59	579.65	576.13	579.18	579.25	579.38	579.23
MW301D4	589.33	55.95	10	SS	SS	2	578.47	578.85	579.52	579.62	576.08	579.17	579.26	579.37	579.18
Support Facilities Area (SFA)															
MSA5S	588.60	18.98			SS	2	581.77	581.74	581.84	579.38	577.24	579.71	580.83	580.33	580.54
Crotty Street Channel															
MW1-00	588.26	12.00	7	SS	SS	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MW2-00	589.29	18.00	7	SS	SS	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MW3-00	588.40	12.50	7	SS	SS	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MW4-00	589.65	19.00	7	SS	SS	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
MW5-00	588.89	13.00	7	SS	SS	2	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
SG-1	580.00	- -	- -	- -	- -	- -	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed	Destroyed
Saginaw River Elevation [6]							577.35	578.04	578.59	578.87	578.51	578.37	578.32	578.55	578.34

Notes:

(1) Approximate value
(2) Lock Needs Replacing
(3) Gage needs to be relocated
(4) Could not open due to liner attachment
(5) Could not read due to accumulation of snow and ice
(6) Source of Saginaw River Elevation is: NOAA (Essexville, MI) for prior to November 1, 2005, USGS Station (04157065) for November 1, 2005 to December 4, 2013 and USGS Station (04157060) for December 4, 2013 to 2018, and measured at the sheet pile wall (SG-6) from 2018 to present.
(7) Could not read due to well being covered with equipment
n/a Water elevation not available

Table 3

Analytical Results Summary
Groundwater Treatment System Effluent Sampling
Racer Trust - Bay City Industrial Land
Bay City, Michigan

Sample Location:			**effluent-GWTS**	**effluent-GWTS**
Sample ID:			**W-12610-012020-SSH-00120**	**W-12610-052920-SSH-2002**
Sample Date:			**1/20/2020**	**5/29/20**
Parameters	**Units**	**Daily Maximum[(1)]**		
VOAs				
Vinyl chloride	mg/L	0.002	0.001 U	0.001 U
Metals				
Cadmium	mg/L	0.057	0.002 U	0.002 U
Chromium	mg/L	6.812	0.0012 J	0.005 U
Copper	mg/L	1.476	0.0074 J	0.01 J
Iron	mg/L	--	0.028 J	0.058 J
Lead	mg/L	0.632	0.003 U	0.003 U
Mercury	mg/L	ND	0.0002 U	0.0002 U
Nickel	mg/L	2.548	0.0025 J	0.0072 J
Silver	mg/L	0.2	0.005 U	0.005 U
Pesticides				
Aroclor-1016 (PCB-1016)	mg/L	ND	0.000096 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	ND	0.000096 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	ND	0.000096 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	ND	0.000096 U	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	ND	0.000096 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	ND	0.000096 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	ND	0.000096 U	0.000095 U
Wet				
Ammonia	mg/L	30	0.20 U	0.20 U
Biochemical oxygen demand (BOD)	mg/L	835	2.0 U H	2.0 U
Chemical oxygen demand (COD)	mg/L	1670	10 U	6.7 J
Oil and grease (HEM), polar	mg/L	100	4.8 U	5.8 U
pH, lab	s.u.	6.5 to 11.0	8.0 HF	7.7 HF
Phosphorus	mg/L	13.8	0.10 U	0.10 U
Total suspended solids (TSS)	mg/L	1336	4.0 U	4.0 U

Notes:

HF Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
U Not detected at the associated reporting limit.
H Sample was prepped or analyzed beyond the specified holding time.
(1) Bay City Industrial User Discharge Permit (120807)

Table 4

Analytical Results Summary
Extraction System Sampling
Racer Trust - Bay City Industrial Land
Bay City, Michigan

AOI:			**Treatment System**	**Treatment System**
Sample Location:			**Influent**	**Influent**
Sample ID:			**GW-12610-040320-SSH-2001**	**GW-11208058-081020-SSH-2007**
Sample Date:			**4/3/2020**	**8/10/2020**
Parameters:	**Units**	**Michigan Residential Drinking water criteria[1]**		
Polychlorinated Biphenyls				
Aroclor-1016 (PCB-1016)	mg/L	0.0005	0.000095 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.0005	0.000095 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.0005	0.000095 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	0.0005	0.000095 U	**0.001 J**
Aroclor-1248 (PCB-1248)	mg/L	0.0005	0.00035	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.0005	0.000095 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.0005	0.000095 U	0.000095 U

Notes:

J Estimated concentration
U Not present at or above the associated value
1.0 Exceedance of criteria
(1) Michigan Part 201 Generic Cleanup Criteria and Screening Level - December 13, 2013

Table 5

Analytical Results Summary
Annual Sampling
Racer Trust - Bay City Industrial Land
Bay City, Michigan

AOI:			Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:			MW102D1	MW102D2	MW102D2	MW102D4
Sample ID:			GW-11208058-081020-SSH-2006	GW-11208058-081020-SSH-2004	GW-11208058-081020-SSH-2005	GW-11208058-081020-SSH-2003
Sample Date:			08/10/2020	08/10/2020	08/10/2020 Duplicate	08/10/2020
Parameters:	**Units**	**Michigan Residential Drinking water criteria[1]**				
Polychlorinated Biphenyls						
Aroclor-1016 (PCB-1016)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	0.0005	0.00024 J	0.00009 J	**0.00079 J**	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U

Notes:

J Estimated concentration.
U Not present at or above the associated value.
R Rejected
1.0 Exceedance of criteria
(1) Michigan Part 201 Generic Cleanup Criteria and Screening Level - December 13, 2013

Table 5

Analytical Results Summary
Annual Sampling
Racer Trust - Bay City Industrial Land
Bay City, Michigan

AOI:			Machine Storage Area	Perimeter Banks	Perimeter Banks	Perimeter Banks
Sample Location:			MW300S	LMW13S	LMW15D	MW301D2
Sample ID:			GW-11208058-081120-SSH-2009	GW-11208058-081120-SSH-2011	GW-11208058-081120-SSH-2010	GW-11208058-081020-SSH-2008
Sample Date:			08/11/2020	08/11/2020	08/11/2020	08/10/2020
Parameters:	**Units**	**Michigan Residential Drinking water criteria[1]**				
Polychlorinated Biphenyls						
Aroclor-1016 (PCB-1016)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	0.0005	0.000095 J	**0.00095 J**	0.00016 J	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.0005	0.000095 U	0.000095 U	0.000095 U	0.000095 U

Notes:

J Estimated concentration.
U Not present at or above the associated value.
R Rejected
1.0 Exceedance of criteria
(1) Michigan Part 201 Generic Cleanup Criteria and Screening l

Table 6

Summary of Long-Term Groundwater and Stormwater Monitoring Activities
Racer Trust - Bay City Site
Bay City, Michigan

		Original Program (1) 2001 - 2010			Revised 2011 - 2014			Revised 2015-2016			Revised 2017-2020		
		Groundwater Quality Monitoring		Static Water Level Monitoring (2)	Groundwater Quality Monitoring		Static Water Level Monitoring (2)	Groundwater Quality Monitoring		Static Water Level Monitoring (2)	Groundwater Quality Monitoring		Static Water Level Monitoring (2)
Plant Area	**Location**	**Parameters**	**Frequency**	**Frequency**	**Parameters**	**Frequency**	**Frequency**	**Parameters**	**Frequency**	**Frequency**	**Parameters**	**Frequency**	**Frequency**
Machine Storage Area (MSA)													
MSA	LMW17S	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	LMW18S (4)	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	LMW19S	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	MW1S (4)	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	MW100S (4)	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	MW101S (4)	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	MW102D1	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
MSA	MW102D2	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
MSA	MW102D3	PCBs	annually	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
MSA	MW102D4	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
MSA	MW300S	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
MSA	LMW14S	--	--	annually	--	--	annually	--	--	annually	--	--	annually
Perimeter Banks (PB)													
PB	LMW13S	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
PB	LMW15D	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
PB	MW301D1	PCBs	annually	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
PB	MW301D2	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually	PCBs	annually	annually
PB	MW301D3	PCBs	annually	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
PB	MW301D4	PCBs	annually	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
Crotty Street Channel (CSC)													
CSC	MW1	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
CSC	MW2	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
CSC	MW3	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
CSC	MW4	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
CSC	MW5	- -	- -	annually	- -	- -	annually	- -	- -	annually	- -	- -	annually
CSC	SG-1 (3) (7)	- -	- -	annually	- -	- -	annually	- -	- -	--	- -	- -	--
Stormwater System(3)													
MSA(5)	Extraction System	PCBs	Semi-annually	- -	PCBs	Semi-annually	- -	PCBs	Semi-annually	- -	- -	- -	- -
CSC(5)	Extraction System	PCBs	Semi-annually	- -	PCBs	Semi-annually	- -	PCBs	Semi-annually	- -	- -	- -	- -
CSC(5)	CB2	PCBs	Semi-annually	- -	- -	- -	- -	- -	- -	- -	- -	- -	- -
Treatment System	Influent							- -	- -	- -	PCBs	Semi-annually	- -
Treatment System	Effluent							(6)	Semi-annually	- -	(6)	Semi-annually	- -

Notes:

(1) The program presented is a subset of the original program. Locations no longer included in this long-term groundwater and stormwater monitoring program are not presented.
(2) Static water level monitoring refers to independent monitoring program to evaluate containment. Static water level measurements will also be collected at all groundwater quality monitoring wells to evaluate groundwater flow directions.
(3) Staff gauge.
(4) Extraction system monitoring.
(5) To be sampled by company who maintains the extraction system.
(6) Sampling in accordance with the Industrial User Discharge Permit with the City of Bay City (120807). Parameters include: TSS, pH, grease/oil, phosphorous, COD, BOD, cadmium,
(7) SG-1 is damaged, and Saginaw River levels are now measured from SG-6, located at the General Motors Site.

Attachment A
Maintenance Activity Checklists

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 1/27/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [ ] Response to Alarm (list type and/or PLC outputs)
- [ ] Other task:

Weather: cloudy, wind 2-10

Temperature: high 30s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	no excavations
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion along wall
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

[N] Forcemain tubing requires replacement? replace tubing as necessary

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	11.14	N	Y	LNAPL
EW-8	11.34	9.07	N	Y	
EW-12	9.42	6.75	N	Y	thick LNAPL
EW-15	6.71	flooded	Y-10%	Y/N	hard to turn heat "off"

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.29	7.61	6.45	12.53 LNAPL	flooded	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
[X] Check piping for leaks	none
[X] Check Bag filters	1.5 psi
[X] check GACs for leaks	none
[X] Check PLC	
[X] check aerator	
[X] check sludge pump	not operating
[X] check inspection drum	some iron bacteria
[X] check aeration tank	
[X] check settling chamber	
[X] check clear well	
[X] check floats in clearwell	

	Comments
[X] check feed pump	100%
Flow Reading	0.4 (gpm)
Totalized Flow Reading	220,321 (gal)
[X] heater on?	yes
[X] check sludge tank	2-3"
sludge thickness	(in)

Collect Samples

	Date Initials Sample Numbe	Time
[ ] Sample Groundwater Treatment System Influent	W-12610-	
[ ] Sample Groundwater Treatment System effluent	W-12610-	

Notes

TOW 587.16 − 5.27 = 581.89

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 2/20/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [ ] Response to Alarm (list type and/or PLC outputs)
- [ ] Other task:

Weather: Sun, wind ~10

Temperature: 9°F

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	no excavations
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

- [N] Forcemain tubing requires replacement? — replace tubing as necessary

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	11.35	N	Y	LNAPL - thick
EW-8	11.34	9.39	N	Y	
EW-12	9.42	7.27	N	Y	thick LNAPL
EW-15	6.71	2.62	Y - 12.5%	Y	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.36	7.89	6.94	12.62 LNAPL	2.59	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
☑ Check piping for leaks	none
☑ Check Bag filters	1 psi
☑ check GACs for leaks	none
☑ Check PLC	
☑ check aerator	
☑ check sludge pump	not operating
☑ check inspection drum	
☑ check aeration tank	
☑ check settling chamber	
☑ check clear well	
☑ check floats in clearwell	

	Comments
☑ check feed pump	100%
Flow Reading	0.5 (gpm)
Totalized Flow Reading	227,965 (gal)
☑ heater on?	yes
☑ check sludge tank	2-3"
sludge thickness	(in)

Collect Samples

	Date Initials Sample Numbe	Time
☐ Sample Groundwater Treatment System Influent	W-12610-	
☐ Sample Groundwater Treatment System effluent	W-12610-	

Notes

turned EW15 to 15%

site is snow covered

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 3/25/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [x] Routine Monthly Inspection
- [ ] Response to Alarm (list type and/or PLC outputs)
- [ ] Other task:

Weather: sun, wind ≈ 5mph

Temperature: high 30s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	no excavations
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion along sheet pile; poor vegetation
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

N Forcemain tubing requires replacement? replace as necessary

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	11.15	N	Y	LNAPL drops
EW-8	11.34	9.09	N	Y	
EW-12	9.42	6.93	N	Y	thick LNAPL
EW-15	6.71	1.61	Y-15%	Y	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.27	7.61	6.44		1.75	vault flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
☑ Check piping for leaks	
☑ Check Bag filters	1 psi
☑ check GACs for leaks	1 psi
☑ Check PLC	OK
☑ check aerator	4.5 psi
☑ check sludge pump	not operating
☑ check inspection drum	iron bacteria - little
☑ check aeration tank	
☑ check settling chamber	
☑ check clear well	check screen 3/19
☑ check floats in clearwell	Adjusted on 3/19

	Comments
☑ check feed pump	100%
Flow Reading	0.5 (gpm)
Totalized Flow Reading	248,006 (gal)
☑ heater on?	yes
☑ check sludge tank	
sludge thickness	2-3" (in)

Collect Samples

	Date Initials Sample Numbe	Time
☐ Sample Groundwater Treatment System Influent	W-12610-	
☐ Sample Groundwater Treatment System effluent	W-12610-	

Notes

confined space entry on 3/19 into clear well to clean screen & adjust floats

SH

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 4/28/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [X] Response to Alarm (list type and/or PLC outputs): high fuel tank
- [X] Other task: O+M

Weather: sun, wind 2 10-15

Temperature: 40s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
Y	Exposure Barrier (signs of trespassing, impairment of pavement)	minor erosion
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor damage to cap from erosion
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks to welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

- [N] Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	11.13	N	Y	drops of LNAPL on probe
EW-8	11.34	9.09	N	Y	
EW-12	9.42	7.02	N	Y	thick LNAPL
EW-15	6.71	1.61	Y-12.5	Y	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.33	7.59	6.36	12.57 (LNAPL)	2.07	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
[X] Check piping for leaks	OK
[X] Check Bag filters	replaced - new
[X] check GACs for leaks	backwashed
[X] Check PLC	
[X] check aerator	4.5 psi
[X] check sludge pump	not working
[X] check inspection drum	Fe+ bacteria
[X] check aeration tank	OK
[X] check settling chamber	OK
[X] check clear well	pump out - floats OK
[X] check floats in clearwell	

	Comments
[X] check feed pump	100%
Flow Reading	0.4 (gpm)
Totalized Flow Reading	263,922 (gal)
[X] heater on?	yes
[X] check sludge tank	
sludge thickness	2-3" (in)

Collect Samples

	Date	Initials	Sample Numbe	Time
☐ Sample Groundwater Treatment System Influent			W-12610-	
☐ Sample Groundwater Treatment System effluent			W-12610-	

Notes

river - 587.16 - 5.43 = 581.73

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 5/28/2020

Completed By: SH

1. DETAILS OF INSPECTION

[X] Routine Monthly Inspection

[ ] Response to Alarm (list type and/or PLC outputs)

[X] Other task: semi-annual sample

Weather: light rain, overcast

Temperature: 70s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

[N] Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	10.96	N	N	
EW-8	11.34	8.99	N	N	
EW-12	9.42	6.67	N	N	LNAPL
EW-15	6.71	1.41	Y-12.5%	N	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.39	7.43	5.95	12.45 (LNAPL)	1.53	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
[X] Check piping for leaks	none
[X] Check Bag filters	1.0 psi
[X] check GACs for leaks	none
[X] Check PLC	
[X] check aerator	4.5 psi
[X] check sludge pump	not working
[X] check inspection drum	Fe bacteria
[X] check aeration tank	
[X] check settling chamber	
[X] check clear well	
[X] check floats in clearwell	floats OK

	Comments
[X] check feed pump	100%
Flow Reading	0.4 (gpm)
Totalized Flow Reading	268,089 (gal)
[X] heater on?	yes
[X] check sludge tank	
sludge thickness	2-3" (in)

Collect Samples

	Date Initials Sample Numbe	Time
[ ] Sample Groundwater Treatment System Influent	W-12610-	
[X] Sample Groundwater Treatment System effluent	W-12610-052920-SSH-2002	0915

Notes

river 587.16 − 4.93 = 582.23

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 6/22/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [X] Response to Alarm (list type and/or PLC outputs) high feed tank
- [ ] Other task:

Weather: sun, wind 5 mph

Temperature: 70s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	Minor erosion
Y	Containment System (signs of deterioration of sheet pile, leaking)	cracks on welds of sheetpile cap

3. GROUNDWATER EXTRACTION SYSTEM

N Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	10.88	N	N	LNAPL drops
EW-8	11.34	9.06	N	N	
EW-12	9.42	7.17	N	N	LNAPL
EW-15	6.71	1.51	Y-10.5%	N	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW (ft)	9.39	7.33	5.85	12.55 (LNAPL)	1.69	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
X Check piping for leaks	none
X Check Bag filters	1.0 psi
X check GACs for leaks	none
X Check PLC	OK
X check aerator	4.5 psi
X check sludge pump	not operating
X check inspection drum	some Fe+ bacteria
X check aeration tank	OK
X check settling chamber	OK
X check clear well	OK
X check floats in clearwell	high high level

	Comments
X check feed pump	
Flow Reading	0.5 (gpm)
Totalized Flow Reading	270,975 (gal)
X heater on?	NO
X check sludge tank	
sludge thickness	2-3 (in)
	not shutting off EW15

Collect Samples

	Date Initials Sample Numbe	Time
☐ Sample Groundwater Treatment System Influent	W-12610-	
☐ Sample Groundwater Treatment System effluent	W-12610-	

Notes

water level in river 587.16 − 5.04 = 582.12

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 7/22/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [ ] Response to Alarm (list type and/or PLC outputs)
- [ ] Other task:

Weather: mostly cloudy, low 70s

Temperature: wind = 10

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
Y	Exposure Barrier (signs of trespassing, impairment of pavement)	
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion
Y	Containment System (signs of deterioration of sheet pile, leaking)	Minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

N Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	10.88	N	N	LNAPL
EW-8	11.34	9.10	N	N	
EW-12	9.42	7.36	N	N	LNAPL
EW-15	6.71	1.61	12.5%	N	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.33	7.26	5.95	12.60 (LNAPL)	1.77	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
X Check piping for leaks	none
X Check Bag filters	OK
X check GACs for leaks	none
X Check PLC	OK
X check aerator	4.5 psi
X check sludge pump	non-operable
X check inspection drum	some Fe+ bacteria
X check aeration tank	OK
X check settling chamber	OK
X check clear well	OK
X check floats in clearwell	

	Comments
X check feed pump	
Flow Reading	0.5 (gpm)
Totalized Flow Reading	274,190 (gal)
X heater on?	No
X check sludge tank	
sludge thickness	2-3" (in)

Collect Samples	Date	Initials	Sample Numbe	Time
☐ Sample Groundwater Treatment System Influent			W-12610-	
☐ Sample Groundwater Treatment System effluent			W-12610-	

Notes

river 587.16 − 4.97 = 582.19

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 8/25/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [X] Response to Alarm (list type and/or PLC outputs) high feed tank
- [ ] Other task:

Weather: sun, wind ~10

Temperature: low 80s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion & bare areas
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

- [N] Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	10.77	N	N	LNAPL
EW-8	11.34	9.21	N	N	
EW-12	9.42	7.76		N	LNAPL
EW-15	6.71	2.07	4-10%	N	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.39	7.37	6.29	12.72 (LNAPL)	2.16	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
[X] Check piping for leaks	none
[X] Check Bag filters	OK - 1.0 psi
[X] check GACs for leaks	OK - 1.0 psi
[X] Check PLC	OK
[X] check aerator	4.5 psi
[X] check sludge pump	non-operational
[X] check inspection drum	minor Fe+ bacteria
[X] check aeration tank	OK
[X] check settling chamber	OK
[X] check clear well	OK
[X] check floats in clearwell	OK

	Comments	
[X] check feed pump		
Flow Reading	0.4	(gpm)
Totalized Flow Reading	277,020	(gal)
[X] heater on?	No	
[X] check sludge tank		
sludge thickness	2-3	(in)

Collect Samples

	Date	Initials	Sample Numbe	Time
[ ] Sample Groundwater Treatment System Influent			W-12610-	
[ ] Sample Groundwater Treatment System effluent			W-12610-	

Notes

river 587.16 − 4.85 = 582.31

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 9/10/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [ ] Response to Alarm (list type and/or PLC outputs)
- [ ] Other task:

Weather: cloudy, wind ~15

Temperature: low 60s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
N	Exposure Barrier (signs of trespassing, impairment of pavement)	
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion + stressed vegetation
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at weld on cap

3. GROUNDWATER EXTRACTION SYSTEM

- [X] Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	10.93	N	N	LNAPL
EW-8	11.34	9.29	N	N	
EW-12	9.42	7.71	N	N	LNAPL
EW-15	6.71	1.79	4-10%	N	

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.44	7.49	6.53	11.37 (LNAPL)	2.23	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
[X] Check piping for leaks	None
[X] Check Bag filters	OK - 1.5 psi
[X] check GACs for leaks	OK - 1.0 psi
[X] Check PLC	OK
[X] check aerator	OK - 4.5 psi
[X] check sludge pump	non-operational
[X] check inspection drum	Fe+ bacteria
[X] check aeration tank	OK
[X] check settling chamber	OK
[X] check clear well	OK
[X] check floats in clearwell	watch high high

	Comments
[X] check feed pump	
Flow Reading	0.5 (gpm)
Totalized Flow Reading	277,899 (gal)
[X] heater on?	No
[X] check sludge tank	
sludge thickness	2-3 (in)

Collect Samples

	Date	Initials	Sample Numbe	Time
[ ] Sample Groundwater Treatment System Influent			W-12610-	
[ ] Sample Groundwater Treatment System effluent			W-12610-	

Notes

river — 587.16 - 4.83 = 582.33

BAY CITY INDUSTRIAL LAND - MONTHLY SITE INSPECTION

Project: 12610

On-Site Personnel: Steve Hoevemeyer

Completed Date: 10/13/2020

Completed By: SH

1. DETAILS OF INSPECTION

- [X] Routine Monthly Inspection
- [ ] Response to Alarm (list type and/or PLC outputs)
- [ ] Other task:

Weather: mostly sun wind ~5-10

Temperature: low 50s

2. SITE INSPECTION

(Y/N)		If yes indicate nature of maintenance/repairs required
Y	Exposure Barrier (signs of trespassing, impairment of pavement)	none at this time
Y	Multi-layer Cap (evidence of settlement, erosion, disturbance)	minor erosion by sheetpile wall
Y	Containment System (signs of deterioration of sheet pile, leaking)	minor cracks at welds on cap

3. GROUNDWATER EXTRACTION SYSTEM

N Forcemain tubing requires replacement?

EW (pump)	Target Depth (feet)	DTW (feet)	Pump Operating? (Y/N) What speed?	Heater On? (Y/N)	Comments (product evident, tubing replaced, iron bacteria)
EW-6	12.74	10.90	N	N	LNAPL present
EW-8	11.34	9.27	N	N	
EW-12	9.42	7.69	N	N	
EW-15	6.71	1.89	N	N	waiting new feed pump

EW (no pump)	EW-7	EW-9	EW-10	EW-11	EW-13	EW-14
Target Depth	11.00	11.04	10.77	14.51	7.33	5.42
DTW	9.39	7.54	6.55	12.69 (LNAPL)	2.33	flooded

4. GROUNDWATER TREATMENT SYSTEM

	Comments
X Check piping for leaks	none
X Check Bag filters	OK
X check GACs for leaks	none
X Check PLC	OK
X check aerator	4-5 psi
X check sludge pump	unoperational
X check inspection drum	Fe+ bacteria
X check aeration tank	OK
X check settling chamber	Fe+ bacteria
X check clear well	OK
X check floats in clearwell	OK

	Comments
X check feed pump	off - waiting on new
Flow Reading	(gpm)
Totalized Flow Reading	278,099 (gal)
X heater on?	NO
X check sludge tank	full of H_2O
sludge thickness	2-3 (in)

Collect Samples

	Date Initials Sample Numbe	Time
☐ Sample Groundwater Treatment System Influent	W-12610-	
☐ Sample Groundwater Treatment System effluent	W-12610-	

Notes

river 587.16 - 5.90 = 581.26

Attachment B
Analytical Results Summary (2009 to 2020)

Attachment B

Analytical Results Summary
Sampling

AOI:												
Sample Location:			effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS
Sample ID:			W-12610-021214-SSH-1401	W-12610-022614-SSH-1403	W-12610-090514-SSH-1411	W-12610-031615-SSH-1501	W-12610-121015-SSH-1115	W-12610-050916-SSH-1601	W-12610-061416-SSH-1603	W-12610-011617-SSH-1701	WT-12610-050917-SSH-01-17	WT-12610-113017-SSH-02-17	W-12610-121318-SSH-18112
Sample Date:			02/12/2014	02/26/2014	09/05/2014	03/16/2015	12/10/2015	05/09/2016	06/14/2016	01/16/2017	05/09/2017	11/30/2017	12/13/2018
Parameters	**Units**	**Michigan Residential Drinking water criteria**											
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/L	0.0005	-	-	-	-	-	0.00019 U	-	-	-	-	-
Wet													
Alkalinity, total (as CaCO3)	mg/L		-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	10	33	4.4	2.0 U	6.8	-	-	-	-	-	-	-
Ammonia-N	mg/L		-	-	-	-	3.4	-	2.0 U	2.2	2.0 U	0.20	0.20 U
Biochemical oxygen demand (BOD)	mg/L		17	2.3	2.0 U	2.3	9.3	-	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
Chemical oxygen demand (COD)	mg/L		20 U	10 U	10 U	10 U	10 U	-	18	24	21	13	10 U
Hardness, carbonate	mg/L		-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L		4.8 U	1.7 JB	4.9 U	4.7 U	4.8 U	-	4.7 U	4.7 U	1.2 J	-	-
Oil and grease (HEM), total	mg/L		-	-	-	-	-	-	-	-	-	4.7 U	4.8 U
pH, lab	s.u.	6.5 - 8.5	8.00 HF	8.09 HF	7.98 HF	7.69 HF	7.75 HF	-	7.54 HF	7.7 HF	7.9 HF	7.2 HF	7.9 HF
Phosphate, total	mg/L		-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	63	0.22	0.20	0.10 U	0.10 U	0.10 U	-	0.10 U	0.10 U	0.10 U	0.10 U	0.10 U
Total dissolved solids (TDS)	mg/L	500	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL		-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L		-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L		4.0 U	4.0	4.0 U	4.0 U	4.0 U	-	4.0 U	4.0 U	4.0 U	4.0 U	3.0 J
FPARAM													
Dissolved oxygen (DO), field	mg/L		-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	6.5 - 8.5	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C		-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU		-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting limit.
J Estimated concentration.
UJ Not detected; associated reporting limit is estimated.
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:												
Sample Location:		**effluent-GWTS**	**effluent-GWTS**	**effluent-GWTS**	**influent-GWTS**	**influent-GWTS**	**influent-GWTS**	**influent-GWTS**	**influent-GWTS**	**influent-GWTS**	**influent-GWTS**	**influent-GWTS**
Sample ID:		**W-12610-053119-SSH-00319**	**W-12610-012020-SSH-00120**	**W-12610-052920-SSH-2002**	**W-12610-022614-SSH-1402**	**GW-12610-082117-SSH-08-17**	**W-12610-043018-SSH-0118**	**W-12610-060118-SSH-18101**	**W-12610-060118-SSH-18102**	**GW-12610A-082018-SSH-18109**	**W-12610-082819-SSH-01119**	**W-12610-040320-SSH-2001**
Sample Date:		**05/31/2019**	**01/20/2020**	**05/29/2020**	**02/26/2014**	**08/21/2017**	**04/30/2018**	**06/01/2018**	**06/01/2018 (Duplicate)**	**08/20/2018**	**08/28/2019**	**04/03/2020**
Parameters	**Units**											
PCBs												
Aroclor-1016 (PCB-1016)	mg/L	-	-	-	-	0.0019 U	0.0002 U	-	-	0.00095 U	0.000096 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	-	-	-	-	0.0019 U	0.0002 U	-	-	0.00095 U	0.000096 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	-	-	-	-	0.0019 U	0.0002 U	-	-	0.00095 U	0.000096 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	-	-	-	-	**0.0054**	**0.0013**	-	-	**0.0025**	0.000096 U	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	-	-	-	-	0.0019 U	0.0002 U	-	-	0.00095 U	0.000096 U	0.00035
Aroclor-1254 (PCB-1254)	mg/L	-	-	-	-	0.0019 U	0.0002 U	-	-	0.00095 U	0.000096 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	-	-	-	-	0.0019 U	0.0002 U	-	-	0.00095 U	0.000096 U	0.000095 U
Wet												
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	6.7	-	-	-	-	-	-	-
Ammonia-N	mg/L	0.20 U	0.20 U	0.20 U	-	-	-	0.30	0.28	-	-	-
Biochemical oxygen demand (BOD)	mg/L	2.0 U	2.0 UH	2.0 U	-	-	-	2.0 U	2.0 U	-	-	-
Chemical oxygen demand (COD)	mg/L	10 U	10 U	6.7 J	-	-	-	10 U	10 U	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	4.8 U	4.8 U	5.8 U	-	-	-	4.8 U	4.9 U	-	-	-
pH, lab	s.u.	7.5 HF	8.0 HF	7.7 HF	-	-	-	7.6	7.6	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	0.10 U	0.10 U	0.10 U	-	-	-	0.10 U	0.10 U	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	4.0 U	4.0 U	4.0 U	-	-	-	4.0 U	4.0 U	-	-	-
FPARAM												
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:												
Sample Location:		**influent-GWTS**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**	**Crotty Street Channel CB-2**
Sample ID:		**GW-11208058-081020-SSH-2007**	**W-040506-SSH-CB04**	**W-031307-SSH-CB07-4**	**CB2_8/27/07**	**CB2-(06/11/08)**	**CB2_(08/19/08)**	**CB-2_(03/12/09)**	**W-12610-032410-SSH-CB10-1**	**W-12610-040611-SSH-11103**	**W-12610-040611-SSH-11104**	**W-12610-102511-SSH-027**	**W-12610-041712-SSH-SA1202**
Sample Date:		**08/10/2020**	**04/05/2006**	**03/13/2007**	**08/27/2007**	**06/11/2008**	**08/19/2008**	**03/12/2009**	**03/24/2010**	**04/06/2011**	**04/06/2011 (Duplicate)**	**10/25/2011**	**04/17/2012**
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Aroclor-1221 (PCB-1221)	mg/L	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Aroclor-1232 (PCB-1232)	mg/L	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Aroclor-1242 (PCB-1242)	mg/L	**0.001 J**	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Aroclor-1248 (PCB-1248)	mg/L	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Aroclor-1254 (PCB-1254)	mg/L	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Aroclor-1260 (PCB-1260)	mg/L	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000095 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	200 B	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	0.069 J	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	2.0 U	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	20	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	220	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	1.1 J	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	7.39 HF	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	0.10 U	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	260	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	9.4	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	4.0 U	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**	**Crotty Street Channel**
Sample Location:		**CB-2**	**CB-2**	**CB-2**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**	**CSA GW Ext. Sys. Discharge**
Sample ID:		**GW-12610-080712-SSH-001**	**W-12610-040913-SSH-CB1213**	**W-12610-122914-SSH-1421**	**W-040506-SSH-C03**	**GW-081606-SSH-0601**	**W-031307-SSH-C07-3**	**CSC**	**CSC-(06/11/08)**	**DUP-(06/11/08)**	**CSC_(08/19/08)**	**CSC_(03/12/09)**
Sample Date:		**08/07/2012**	**04/09/2013**	**12/29/2014**	**04/05/2006**	**08/16/2006**	**03/13/2007**	**08/23/2007**	**06/11/2008**	**06/11/2008 (Duplicate)**	**08/19/2008**	**03/12/2009**
Parameters	**Units**											
PCBs												
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00036	0.00047	0.00023 J	**0.00051**	0.000074 J	0.000077 J	0.00038	0.00014 J
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet												
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
FPARAM												
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI: **Sample Location:** **Sample ID:** **Sample Date:**		**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **CSC** **08/27/2009**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **W-12610-043010-SSH-CSC-4** **04/30/2010**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **GW-12610-081910-SSH-026** **08/19/2010**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **GW-12610-081910-SSH-027** **08/19/2010** **(Duplicate)**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **W-12610-040611-SSH-11102** **04/06/2011**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **GW-12610-082211-JY-002** **08/22/2011**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **W-12610-041712-SSH-SA1201** **04/17/2012**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **GW-12610-080712-SSH-002** **08/07/2012**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **GW-12610-080514-SSH-1402** **08/05/2014**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **W-12610-122914-SSH-1420** **12/29/2014**	**Crotty Street Channel** **CSA GW Ext. Sys. Discharge** **W-12610-040915-SSH-1502** **04/09/2015**
Parameters	**Units**											
PCBs												
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000097 U	0.0002 U	0.00019 U	0.0002 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000097 U	0.0002 U	0.00019 U	0.0002 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000097 U	0.0002 U	0.00019 U	0.0002 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	**0.00075**	**0.00059 J**	**0.00062**	**0.00063**	0.0002 U	**0.00096**	**0.00062**	**0.00086**	**0.00068 J**	0.00022	0.00019 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000097 U	0.0002 U	0.00019 U	0.0002 U	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.000097 U	0.0002 U	0.00019 U	0.0002 U	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.000044 J	0.000097 U	0.0002 U	0.00019 U	0.0002 U	0.00019 U
Wet												
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
FPARAM												
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Crotty Street Channel	Crotty Street Channel	Crotty Street Channel	Crotty Street Channel	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		CSA GW Ext. Sys. Discharge	CSA GW Ext. Sys. Discharge	CSA GW Ext. Sys. Discharge	EW14	EW6	EW7	EW8	EW9	EW10	EW11	EW12
Sample ID:		GW-12610-082515-SSH-0115	W-12610-050916-SSH-1602	W-12610-082516-SSH-1606	GW-12610-071811-SH-004	GW-12610-072011-SH-016	GW-12610-071811-SH-001(C)	GW-12610-071911-SH-009C	GW-12610-071811-SH-002(C)	GW-12610-072011-SH-017	GW-12610-071911-SH-008C	GW-12610-072011-SH-015
Sample Date:		08/25/2015	05/09/2016	08/25/2016	07/18/2011	07/20/2011	07/18/2011	07/19/2011	07/18/2011	07/20/2011	07/19/2011	07/20/2011
Parameters	**Units**											
PCBs												
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	-	-	-	-	-	-	-
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	-	-	-	-	-	-	-
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	-	-	-	-	-	-	-
Aroclor-1242 (PCB-1242)	mg/L	**0.00056**	0.00019	0.00019 U	**0.00054**	-	-	-	-	-	-	-
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	-	-	-	-	-	-	-
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	R	0.00019 U	-	-	-	-	-	-	-
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	R	0.00019 U	-	-	-	-	-	-	-
Wet												
Alkalinity, total (as CaCO3)	mg/L	-	-	-	570	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	**12**	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	2.0 UJ	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	85	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	550	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	1.4 J	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	6.88 J	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	0.14	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	**690**	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	105	4240	9400	1920	9360	19800	7140	3800
Total organic carbon (TOC)	mg/L	-	-	-	31	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	99	-	-	-	-	-	-	-
FPARAM												
Dissolved oxygen (DO), field	mg/L	-	-	-	0.17	4.57	6.19	0.12	0.18	0.33	-	0.07
pH, field	s.u.	-	-	-	6.69	8.30	8.07	6.90	6.69	6.63	-	6.94
Temperature, field	Deg C	-	-	-	19.75	18.05	19.74	18.45	17.89	14.02	-	17.13
Turbidity, field	NTU	-	-	-	18.4	66.9	50.8	34.1	12.0	49.3	-	113

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**
Sample Location:		**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**
Sample ID:		**W-040506-SSH-M02**	**GW-081606-SSH-0602**	**W-031307-SSH-M07-2**	**MSA**	**MSA-(06/11/08)**	**MSA_(08/19/08)**	**DUP_(03/12/09)**	**MSA_(03/12/09)**	**MSA**	**W-12610-032410-SSH-MSA10-2**
Sample Date:		**04/05/2006**	**08/16/2006**	**03/13/2007**	**08/23/2007**	**06/11/2008**	**08/19/2008**	**03/12/2009 (Duplicate)**	**03/12/2009**	**08/27/2009**	**03/24/2010**
Parameters	**Units**										
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	**0.00062**	0.001 U	0.0002 U	0.0002 U	0.00025	0.0002 U	**0.0021**	**0.0013**	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002	0.0002 U	0.001 U	0.0003	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.001 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00018 J	0.00024	0.001 U	0.00026	0.0002 U	0.00028	0.0002 U	0.0002	0.0002 U	0.0002 U
Wet											
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-
FPARAM											
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**	**Machine Storage Area**
Sample Location:		**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**	**MSA GW Ext. Sys. Discharge**
Sample ID:		**GW-12610-081910-SSH-028**	**W-12610-040611-SSH-11101**	**GW-12610-082211-JY-001**	**W-12610-041712-SSH-SA1203**	**GW-12610-080712-SSH-003**	**W-12610-040913-SSH-MSA1313**	**W-12610-120913-SSH-010**	**GW-12610-080514-SSH-1401**	**W-12610-122914-SSH-1422**	**GW-12610-082515-SSH-0215**
Sample Date:		**08/19/2010**	**04/06/2011**	**08/22/2011**	**04/17/2012**	**08/07/2012**	**04/09/2013**	**12/09/2013**	**08/05/2014**	**12/29/2014**	**08/25/2015**
Parameters	**Units**										
PCBs											
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.00019 U	0.000096 U	0.00019 U	0.0019 U	0.0002 U	0.00019 U	0.00019 UH	0.00038 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.00019 U	0.000096 U	0.00019 U	0.0019 U	0.0002 U	0.00019 U	0.00019 UH	0.00038 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.00019 U	0.000096 U	0.00019 U	0.0019 U	0.0002 U	0.00019 U	0.00019 UH	0.00038 U
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	0.00013 J	0.00019 U	0.000096 U	0.00019 U	0.0019 U	0.0002 U	0.00019 U	0.00019 UH	0.00038 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 U	0.00019 U	0.0004	0.00019 U	0.0019 U	0.0002 U	0.00019 U	0.00019 UH	0.00038 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.00019 U	0.000096 U	0.00019 U	0.0019 U	0.0002 U	R	0.00019 UH	0.00038 U
Aroclor-1260 (PCB-1260)	mg/L	0.00017 J	0.0002 U	0.00019 U	0.00018	0.00019 U	**0.0086**	0.0002 U	R	0.00019 UH	0.00019 J
Wet											
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-
FPARAM											
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is e
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		**MSA GW Ext. Sys. Discharge**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**	**MW102D1**
Sample ID:		**W-12610-082516-SSH-1607**	**GW-081606-SSH-0604**	**MW102D1**	**MW102D1_(08/19/08)**	**MW102D1**	**GW-12610-081710-JY-001**	**GW-12610-082311-JY-010**	**GW-12610-080912-SSH-012**	**GW-12610-080713-JY-004**	**GW-12610-080614-SSH-1403**	**GW-12610-082615-SSH-0715**	**GW-12610-082615-SSH-0815**
Sample Date:		**08/25/2016**	**08/16/2006**	**08/21/2007**	**08/19/2008**	**08/26/2009**	**08/17/2010**	**08/23/2011**	**08/09/2012**	**08/07/2013**	**08/06/2014**	**08/26/2015**	**08/26/2015 (Duplicate)**
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.0019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.0019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.0019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	0.0019 U	0.00019 J	0.00044	0.0002 U	0.0004 J	0.00031	0.00028	0.00043	0.00019 U	0.00041 J	0.00034	0.00034
Aroclor-1248 (PCB-1248)	mg/L	0.0019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.0019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	R	0.00019 U	0.00019 U	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.0019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.000046 J	0.00019 U	R	0.00019 U	0.00019 U	0.00019 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is e
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		MW102D1	MW102D1	MW102D1	MW102D1	MW102D1	MW102D1	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2
Sample ID:		GW-12610-082716-SSH-1613	GW-12610-082716-SSH-1614	GW-12610-082117-SSH-02-17	GW-12610A-082118-SSH-18111	GW-12610-082919-SSH-01219	GW-11208058-081020-SSH-2006	GW-081606-SSH-0606	MW102D2	MW102D2_(08/19/08)	MW102D2	GW-12610-081710-JY-002	GW-12610-082311-JY-011
Sample Date:		08/27/2016	08/27/2016 (Duplicate)	08/21/2017	08/21/2018	08/29/2019	08/10/2020	08/16/2006	08/21/2007	08/19/2008	08/26/2009	08/17/2010	08/23/2011
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.00019 U	0.00019 U	0.00026	0.00032	0.00037 J	0.00024 J	0.0002 U	0.0002 U	0.0002 U	0.000073 J	0.00013 J	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D2	MW102D3
Sample ID:		GW-12610-080912-SSH-011	GW-12610-080713-JY-005	GW-12610-080614-SSH-1404	GW-12610-082615-SSH-0915	GW-12610-082616-SSH-1612	GW-12610-082117-SSH-03-17	GW-12610A-082118-SSH-18110	GW-12610-082919-SSH-01319	GW-11208058-081020-SSH-2004	GW-11208058-081020-SSH-2005	GW-081606-SSH-0607
Sample Date:		08/09/2012	08/07/2013	08/06/2014	08/26/2015	08/26/2016	08/21/2017	08/21/2018	08/29/2019	08/10/2020	08/10/2020 (Duplicate)	08/16/2006
Parameters	**Units**											
PCBs												
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.000095 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.000095 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.000095 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.00019 U	0.00019 U	0.00013 J	0.00019 U	0.00015 J	0.00048	0.00019 U	0.00009 J	0.00009 J	**0.00079 J**	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.00013 J	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.000095 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000045 J	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.000095 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.0002 U	0.00019 U	0.00019 U	0.000097 U	0.000095 U	0.000095 U	0.0002 U
Wet												
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
FPARAM												
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		**MW102D3**	**MW102D3**	**MW102D3**	**MW102D3**	**MW102D4**	**MW102D4**	**MW102D4**	**MW102D4**	**MW102D4**	**MW102D4**	**MW102D4**	**MW102D4**	**MW102D4**
Sample ID:		**MW102D3**	**MW102D3_(08/19/08)**	**MW102D3**	**GW-12610-081710-JY-003**	**GW-081606-SSH-0605**	**MW102D4**	**MW102D4_(08/19/08)**	**MW102D4**	**GW-12610-081710-JY-004**	**GW-12610-082311-JY-012**	**GW-12610-080912-SSH-010**	**GW-12610-080713-JY-006**	**GW-12610-080614-SSH-1405**
Sample Date:		**08/21/2007**	**08/19/2008**	**08/26/2009**	**08/17/2010**	**08/16/2006**	**08/21/2007**	**08/19/2008**	**08/26/2009**	**08/17/2010**	**08/23/2011**	**08/09/2012**	**08/07/2013**	**08/06/2014**
Parameters	**Units**													
PCBs														
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.000084 J	0.000082 J	0.00019 U	0.00019	0.00019 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.00019 U	0.00019 U
Wet														
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM														
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		MW102D4	MW102D4	MW102D4	MW102D4	MW102D4	MW102D4	MW102D4	MW102D4	MW300S	MW300S	MW300S	MW300S
Sample ID:		GW-12610-080614-SSH-1406	GW-12610-082615-SSH-1015	GW-12610-082616-SSH-1611	GW-12610-082117-SSH-04-17	GW-12610-082117-SSH-05-17	GW-12610A-082018-SSH-18108	GW-12610-082919-SSH-01419	GW-11208058-081020-SSH-2003	GW-081706-SSH-0608	GW-081706-SSH-0609	MW300S	MW300S_(08/19/08)
Sample Date:		08/06/2014 (Duplicate)	08/26/2015	08/26/2016	08/21/2017	08/21/2017 (Duplicate)	08/20/2018	08/29/2019	08/10/2020	08/17/2006	08/17/2006 (Duplicate)	08/21/2007	08/19/2008
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000078 J	0.00019 U	0.000096 U	0.000095 U	0.00011 J	0.000095 J	0.00024	0.00021
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area
Sample Location:		MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S
Sample ID:		DUP 4	MW300S	GW-12610-081810-JY-011	GW-12610-081810-JY-012	GW-12610-071911-SH-014	GW-12610-082311-JY-004	GW-12610-082311-JY-005	GW-12610-080912-SSH-007	GW-12610-080912-SSH-008	GW-12610-080713-JY-001	GW-12610-080713-JY-002	GW-12610-080614-SSH-1407
Sample Date:		08/26/2009 (Duplicate)	08/26/2009	08/18/2010	08/18/2010 (Duplicate)	07/19/2011	08/23/2011	08/23/2011 (Duplicate)	08/09/2012	08/09/2012 (Duplicate)	08/07/2013	08/07/2013 (Duplicate)	08/06/2014
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.0002 UJ	0.0002 UJ	0.0002 U	0.0002 U	-	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 UJ	0.0002 UJ	0.0002 U	0.0002 U	-	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 UJ	0.0002 UJ	0.0002 U	0.0002 U	-	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	0.0004 J	0.00039 J	0.00014 J	0.00016 J	-	0.00023	0.00024	0.00019 U	0.000083 J	0.00019 U	0.00019 U	0.0001 J
Aroclor-1248 (PCB-1248)	mg/L	0.0002 UJ	0.0002 UJ	0.0002 U	0.0002 U	-	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 UJ	0.0002 UJ	0.0002 U	0.0002 U	-	0.0002 U	0.00019 U	0.00019 U	0.00019 U	R	R	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 UJ	0.0002 UJ	0.0002 U	0.0002 U	-	0.0002 U	0.00019 U	0.00019 U	0.00019 U	R	R	0.00019 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	2960	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	0.14	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	7.28	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	16.78	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	4.92	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Machine Storage Area	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks
Sample Location:		MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	MW300S	LMW13S	LMW13S	LMW13S	LMW13S	LMW13S
Sample ID:		GW-12610-082615-SSH-0615	GW-12610-082616-SSH-1610	GW-12610-082117-SSH-07-17	GW-12610A-082018-SSH-18107	GW-12610-082819-SSH-00919	GW-12610-082819-SSH-01019	GW-11208058-081120-SSH-2009	GW-081706-SSH-0610	LMW13S	LMW13S_(08/18/08)	GW-12610-081710-JY-009	GW-12610-082311-JY-006
Sample Date:		08/26/2015	08/26/2016	08/21/2017	08/20/2018	08/28/2019	08/28/2019	08/11/2020	08/17/2006	08/21/2007	08/18/2008	08/17/2010	08/23/2011
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	0.000095 J	0.00019 U	0.000084 J	0.00019 U	0.00011 J	0.000096 J	0.000095 J	0.0002 U	**0.001**	0.0002 U	0.0002 U	**0.00072**
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000097 U	0.000096 U	0.000095 U	**0.0012**	0.0002 U	**0.0016**	**0.0011**	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	R	0.00019 U	0.00019 U	0.000097 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	R	0.00019 U	0.00019 U	0.000097 U	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Analytical Results Summary
Sampling

AOI:		Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks
Sample Location:		**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW13S**	**LMW15D**	**LMW15D**
Sample ID:		**GW-12610-080812-SSH-004**	**GW-12610-080812-SSH-005**	**GW-12610-080813-JY-008**	**GW-12610-080614-SSH-1408**	**GW-12610-082615-SSH-0315**	**GW-12610-082616-SSH-1609**	**GW-12610-082217-SSH-09-17**	**GW-12610A-082018-SSH-18103**	**GW-12610-082819-SSH-00719**	**GW-11208058-081120-SSH-2011**	**GW-081706-SSH-0611**	**LMW15D**
Sample Date:		**08/08/2012**	**08/08/2012 (Duplicate)**	**08/08/2013**	**08/06/2014**	**08/26/2015**	**08/26/2016**	**08/22/2017**	**08/20/2018**	**08/28/2019**	**08/11/2020**	**08/17/2006**	**08/21/2007**
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00019 UJ	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00019 UJ	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00019 UJ	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	**0.00079**	**0.00085**	0.00019 UJ	0.00019 U	0.00019 U	0.00019 U	**0.00057**	**0.00056**	**0.0011 J**	**0.00095 J**	0.0002 U	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	**0.001 J**	**0.001**	**0.00098**	**0.00058**	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

AOI:		Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks
Sample Location:		**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**	**LMW15D**
Sample ID:		**LMW15D_(08/18/08)**	**MW15D**	**GW-12610-081710-JY-010**	**GW-12610-082311-JY-007**	**GW-12610-080812-SSH-006**	**GW-12610-080813-JY-009**	**GW-12610-080614-SSH-1409**	**GW-12610-082615-SSH-0415**	**GW-12610-082616-SSH-1608**	**GW-12610-082217-SSH-10-17**	**GW-12610A-082018-SSH-18104**	**GW-12610A-082018-SSH-18105**
Sample Date:		**08/18/2008**	**08/26/2009**	**08/17/2010**	**08/23/2011**	**08/08/2012**	**08/08/2013**	**08/06/2014**	**08/26/2015**	**08/26/2016**	**08/22/2017**	**08/20/2018**	**08/20/2018 (Duplicate)**
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	0.00019 J	0.000073 J	0.0002 U	0.00006 J	0.00013 J	0.00014 J	0.000065 J	0.00019 U	0.00019 U	0.00019 U	0.00021	0.00019 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 UJ	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U	0.00019 UJ	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U	0.00019 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is e
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks
Sample Location:		LMW15D	LMW15D	MW301D1	MW301D1	MW301D1	MW301D1	MW301D1	MW301D1	MW301D2	MW301D2	MW301D2	MW301D2	MW301D2	MW301D2
Sample ID:		GW-12610-082819-SSH-00819	GW-11208058-081120-SSH-2010	GW-081706-SSH-0612	MW301D1	MW301D1_(08/19/08)	MW301D1	GW-12610-081710-JY-005	GW-081706-SSH-0615	MW301D2	MW301D2_(08/19/08)	MW301D2	GW-12610-081710-JY-006	GW-12610-082311-JY-008	GW-12610-080912-SSH-009
Sample Date:		08/28/2019	08/11/2020	08/17/2006	08/21/2007	08/19/2008	08/26/2009	08/17/2010	08/17/2006	08/21/2007	08/19/2008	08/26/2009	08/17/2010	08/23/2011	08/09/2012
Parameters	**Units**														
PCBs															
Aroclor-1016 (PCB-1016)	mg/L	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U
Aroclor-1221 (PCB-1221)	mg/L	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U
Aroclor-1232 (PCB-1232)	mg/L	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U
Aroclor-1242 (PCB-1242)	mg/L	0.000096 U	0.00016 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.000085 J	0.0002 U	0.00019 U	0.00019 U
Aroclor-1248 (PCB-1248)	mg/L	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U
Aroclor-1254 (PCB-1254)	mg/L	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U
Aroclor-1260 (PCB-1260)	mg/L	0.000096 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U	0.00019 U	0.00019 U
Wet															
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM															
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks
Sample Location:		MW301D2	MW301D2	MW301D2	MW301D2	MW301D2	MW301D2	MW301D2	MW301D2	MW301D3	MW301D3	MW301D3	MW301D3
Sample ID:		GW-12610-080713-JY-007	GW-12610-080614-SSH-1410	GW-12610-082615-SSH-0515	GW-12610-121416-SSH-1615	GW-12610-082117-SSH-06-17	GW-12610A-082018-SSH-18106	GW-12610-082819-SSH-00619	GW-11208058-081020-SSH-2008	GW-081706-SSH-0614	MW301D3	MW301D3_(08/19/08)	MW301D3
Sample Date:		08/07/2013	08/06/2014	08/26/2015	12/14/2016	08/21/2017	08/20/2018	08/28/2019	08/10/2020	08/17/2006	08/21/2007	08/19/2008	08/26/2009
Parameters	**Units**												
PCBs													
Aroclor-1016 (PCB-1016)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.00019 U	0.00019 U	0.00038 U	0.00019 U	0.00019 U	0.00019 U	0.000095 U	0.000095 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet													
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM													
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Perimeter Banks	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area
Sample Location:		MW301D3	MW301D4	MW301D4	MW301D4	MW301D4	MW301D4	MW301D4	MW301D4	MW10S	MW10S	MW10S	MW10S	MW10S	MW10S	MW501D
Sample ID:		GW-12610-081710-JY-007	GW-081706-SSH-0613	MW301D4	DUP3_(08/19/08)	MW301D4_(08/19/08)	MW301D4	GW-12610-081710-JY-008	GW-12610-082311-JY-009	GW-082106-SSH-0640	MW10S	MW10S_(08/20/08)	MW10S	GW-12610-083010-SSH-038	GW-12610-082411-JY-016	GW-082106-SSH-0641
Sample Date:		08/17/2010	08/17/2006	08/21/2007	08/19/2008 (Duplicate)	08/19/2008	08/26/2009	08/17/2010	08/23/2011	08/21/2006	08/23/2007	08/20/2008	08/25/2009	08/30/2010	08/24/2011	08/21/2006
Parameters	**Units**															
PCBs																
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0004 U	0.001 U	0.001 U	0.00039 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0004 U	0.001 U	0.001 U	0.00039 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0004 U	0.001 U	0.001 U	0.00039 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	0.0002 U	0.00012 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	**0.0031**	**0.0014**	**0.0013 J**	**0.0033**	**0.0037**	0.00039 U	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0004 U	0.001 U	0.001 U	0.00039 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0004 U	0.001 U	0.001 U	0.00039 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0004 U	0.001 U	0.001 U	0.00039 U	0.0002 U
Wet																
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM																
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

AOI:		Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area
Sample Location:		**MW501D**	**MW501D**	**MW501D**	**MW501D**	**MW501D**	**MW501S**	**MW501S**	**MW501S**	**MW501S**	**MW501S**	**MW501S**	**MW502D**	**MW502D**	**MW502D**	**MW502D**
Sample ID:		**MW501D**	**MW501D_(08/20/08)**	**MW501D**	**GW-12610-083110-SSH-043**	**GW-12610-082411-JY-018**	**GW-082106-SSH-0637**	**MW501S**	**MW501S_(08/20/08)**	**MW501S**	**GW-12610-083110-SSH-042**	**GW-082106-SSH-0638**	**GW-082106-SSH-0639**	**MW502D**	**MW502D_(08/19/08)**	**MW502D**
Sample Date:		**08/22/2007**	**08/20/2008**	**08/25/2009**	**08/31/2010**	**08/24/2011**	**08/21/2006**	**08/22/2007**	**08/20/2008**	**08/25/2009**	**08/31/2010**	**08/21/2006**	**08/21/2006 (Duplicate)**	**08/22/2007**	**08/19/2008**	**08/25/2009**
Parameters	**Units**															
PCBs																
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	0.00015 J	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.000084 J	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.001 U	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet																
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM																
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Analytical Results Summary
Sampling

AOI:		Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area
Sample Location:		MW502D	MW502D	MW503D	MW503D	MW503D	MW503D	MW503D	MW503D	MW503S	MW503S	MW503S	MW503S	MW503S	MW504S
Sample ID:		GW-12610-083010-SSH-039	GW-12610-082411-JY-015	GW-081806-SSH-0629	DUP3	MW503D	MW503D_(08/19/08)	MW503D	GW-12610-083010-SSH-037	GW-081806-SSH-0628	MW503S	MW503S_(08/19/08)	MW503S	GW-12610-083010-SSH-036	GW-082106-SSH-0642
Sample Date:		08/30/2010	08/24/2011	08/18/2006	08/21/2007 (Duplicate)	08/21/2007	08/19/2008	08/26/2009	08/30/2010	08/18/2006	08/21/2007	08/19/2008	08/26/2009	08/30/2010	08/21/2006
Parameters	**Units**														
PCBs															
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.000087 J
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet															
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FPARAM															
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment B

Analytical Results Summary
Sampling

AOI:		Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area	Undeveloped Area
Sample Location:		**MW504S**	**MW504S**	**MW504S**	**MW504S**	**MW504S**	**MW506S**	**MW506S**	**MW506S**	**MW506S**	**MW506S**	**MW506S**
Sample ID:		**MW504S**	**MW504S_(08/20/08)**	**MW504S**	**GW-12610-083110-SSH-041**	**GW-12610-082411-JY-017**	**GW-081806-SSH-0627**	**DUP4**	**MW506S**	**MW506S_(08/20/08)**	**MW506S**	**GW-12610-083010-SSH-040**
Sample Date:		**08/22/2007**	**08/20/2008**	**08/25/2009**	**08/31/2010**	**08/24/2011**	**08/18/2006**	**08/22/2007 (Duplicate)**	**08/22/2007**	**08/20/2008**	**08/27/2009**	**08/30/2010**
Parameters	**Units**											
PCBs												
Aroclor-1016 (PCB-1016)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1221 (PCB-1221)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1232 (PCB-1232)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1242 (PCB-1242)	mg/L	0.0002 U	0.000065 J	0.00015 J	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1248 (PCB-1248)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1254 (PCB-1254)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Aroclor-1260 (PCB-1260)	mg/L	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.00019 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Wet												
Alkalinity, total (as CaCO3)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia	mg/L	-	-	-	-	-	-	-	-	-	-	-
Ammonia-N	mg/L	-	-	-	-	-	-	-	-	-	-	-
Biochemical oxygen demand (BOD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chemical oxygen demand (COD)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hardness, carbonate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), polar	mg/L	-	-	-	-	-	-	-	-	-	-	-
Oil and grease (HEM), total	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, lab	s.u.	-	-	-	-	-	-	-	-	-	-	-
Phosphate, total	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phosphorus	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total dissolved solids (TDS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total microbial population	cfu/mL	-	-	-	-	-	-	-	-	-	-	-
Total organic carbon (TOC)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Total suspended solids (TSS)	mg/L	-	-	-	-	-	-	-	-	-	-	-
FPARAM												
Dissolved oxygen (DO), field	mg/L	-	-	-	-	-	-	-	-	-	-	-
pH, field	s.u.	-	-	-	-	-	-	-	-	-	-	-
Temperature, field	Deg C	-	-	-	-	-	-	-	-	-	-	-
Turbidity, field	NTU	-	-	-	-	-	-	-	-	-	-	-

Footnotes:
U Not detected at the associated reporting lin
J Estimated concentration.
UJ Not detected; associated reporting limit is
R Rejected.

Attachment C
Laboratory Reports and Data Validation Memorandums

Memorandum

September 11, 2020

To:	John-Eric Pardys	Ref. No.:	11208058-A04
From:	Ruth Mickle	Tel:	612-524-6872

Subject: **Analytical Results and Reduced Validation**
2020 Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

1. Introduction

This document details a reduced validation of analytical results for groundwater samples collected in support of the 2020 Semi-Annual Groundwater Sampling at the RACER Bay City Site during August 2020. Samples were submitted to Eurofins TestAmerica (TestAmerica), located in North Canton, Ohio. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, duplicate data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS) and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "National Functional Guidelines for Organic Superfund Methods Data Review", EPA 540-R-2017-002, January 2017.

Item i) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

3. Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for polychlorinated biphenyl (PCB) determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and analysis.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries were within control limits.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained the compounds specified in the method. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the preparation process, measurement procedures and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with the compounds specified in the method. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

7. Field QA/QC Samples

The field QA/QC consisted of one field duplicate sample set.

Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value for water samples.

The field duplicate results yielded non-comparable results for one PCB aroclor. The associated sample data were qualified estimated, as noted in Table 4. The remaining field duplicate data were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

9. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and pattern recognition were evaluated according to identification criteria established by the method. The laboratory reported that the samples yielded aroclor detections that were a poor match with standards, resulting in quantitative and qualitative uncertainty. The laboratory noted that the poor match may be attributed to excessive sample weathering. Based on this, the associated PCB data were qualified estimated (J), as noted in Table 5.

10. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the qualifications noted.

Table 1

Sample Collection and Analysis Summary
Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters: PCBs	Comments
Eurofins TestAmerica SDG No.: 240-134837-1						
GW-11208058-081020-SSH-2003	MW102D4	water	08/10/2020	08:36	X	
GW-11208058-081020-SSH-2004	MW102D2	water	08/10/2020	09:21	X	
GW-11208058-081020-SSH-2005	MW102D2	water	08/10/2020	09:31	X	Field Duplicate of -SSH-2004
GW-11208058-081020-SSH-2006	MW102D1	water	08/10/2020	10:16	X	
GW-11208058-081020-SSH-2007	influent-GWTS	water	08/10/2020	11:15	X	
GW-11208058-081020-SSH-2008	MW301D2	water	08/10/2020	13:16	X	
GW-11208058-081120-SSH-2009	MW300S	water	08/11/2020	09:11	X	
GW-11208058-081120-SSH-2010	LMW15D	water	08/11/2020	10:21	X	MS/MSD
GW-11208058-081120-SSH-2011	LMW13S	water	08/11/2020	11:31	X	

Notes:

MS/MSD - Matrix Spike/Matrix Spike Duplicate
PCBs - Polychlorinated Biphenyls
SDG - Sample Delivery Group

Table 2

Validated Analytical Summary Results
Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

Location ID:		**influent-GWTS**	**LMW13S**	**LMW15D**	**MW102D1**	**MW102D2**
Sample Name:		**GW-11208058-081020-SSH-2007**	**GW-11208058-081120-SSH-2011**	**GW-11208058-081120-SSH-2010**	**GW-11208058-081020-SSH-2006**	**GW-11208058-081020-SSH-2004**
Sample Date:		**08/10/2020**	**08/11/2020**	**08/11/2020**	**08/10/2020**	**08/10/2020**
Parameters	**Unit**					
PCBs						
Aroclor-1016 (PCB-1016)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1221 (PCB-1221)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1232 (PCB-1232)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1242 (PCB-1242)	µg/L	1.0 J	0.95 J	0.16 J	0.24 J	0.090 J
Aroclor-1248 (PCB-1248)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1254 (PCB-1254)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1260 (PCB-1260)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U	0.095 U

Notes:

PCBs- Polychlorinated Biphenyls
U - Not detected at the associated reporting limit
J - Estimated concentration

Table 2

Validated Analytical Summary Results
Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

Location ID:		**MW102D2**	**MW102D4**	**MW300S**	**MW301D2**
Sample Name:		**GW-11208058-081020-SSH-2005**	**GW-11208058-081020-SSH-2003**	**GW-11208058-081120-SSH-2009**	**GW-11208058-081020-SSH-2008**
Sample Date:		**08/10/2020**	**08/10/2020**	**08/11/2020**	**08/10/2020**
		Duplicate			
Parameters	**Unit**				
PCBs					
Aroclor-1016 (PCB-1016)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1221 (PCB-1221)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1232 (PCB-1232)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1242 (PCB-1242)	µg/L	0.79 J	0.095 U	0.095 J	0.095 U
Aroclor-1248 (PCB-1248)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1254 (PCB-1254)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U
Aroclor-1260 (PCB-1260)	µg/L	0.095 U	0.095 U	0.095 U	0.095 U

Notes:

PCBs- Polychlorinated Biphenyls
U - Not detected at the associated reporting
J - Estimated concentration

Table 3

Analytical Method
Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

Parameter	Method	Matrix	Preservation	Holding Time	
				Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Polychlorinated Biphenyls (PCBs)	SW-846 8082A	Water	Iced, 0-6° C	7	40

Notes:

Method Reference:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

Qualified Sample Data Due to Variability in Field Duplicate Results
Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

Parameter	Analyte	RPD/Diff	Sample ID	Qualified Result	Field Duplicate Sample ID	Qualified Result	Units
PCBs	Aroclor-1242 (PCB-1242)	Diff=0.7	GW-11208058-081020-SSH-2004	0.09 J	GW-11208058-081020-SSH-2005	0.79 J	µg/L

Notes:
Diff - Difference (i.e., >1X RL)
RPD - Relative Percent Difference
PCBs - Polychlorinated Biphenyls
J - Estimated concentration

Table 5

Summary of Qualified Sample Data Due To Poor Chromatographic Match To Analytical Standard
Semi-Annual Groundwater Sampling
RACER Bay City Site
Bay City, Michigan
August 2020

Parameter	Sample ID	Analyte	Qualified Result	Units
PCBs	GW-11208058-081020-SSH-2004	Aroclor-1242 (PCB-1242)	0.090 J	µg/L
	GW-11208058-081020-SSH-2005	Aroclor-1242 (PCB-1242)	0.79 J	µg/L
	GW-11208058-081020-SSH-2006	Aroclor-1242 (PCB-1242)	0.24 J	µg/L
	GW-11208058-081020-SSH-2007	Aroclor-1242 (PCB-1242)	1.0 J	µg/L
	GW-11208058-081120-SSH-2009	Aroclor-1242 (PCB-1242)	0.095 J	µg/L
	GW-11208058-081120-SSH-2010	Aroclor-1242 (PCB-1242)	0.16 J	µg/L
	GW-11208058-081120-SSH-2011	Aroclor-1242 (PCB-1242)	0.95 J	µg/L

Notes:
J - Estimated concentration.
PCBs - Polychlorinated Biphenyls

eurofins | Environment Testing TestAmerica

ANALYTICAL REPORT

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

Laboratory Job ID: 240-125232-1
Client Project/Site: 11208058, RACER Bay City

For:
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
1/29/2020 12:35:35 PM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

Table of Contents

Job ID: 240-125232-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-125232-1

Comments
No additional comments.

Receipt
The samples were received on 1/22/2020 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0º C.

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

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

Metals
Methods 200.7: Some requested practical quantitation limits (PQLs) fall below the laboratory's verified standard quantitation limit. 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.

General Chemistry
Method SM 5210B: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: W-12610-012020-SSH-00120 (240-125232-1).

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

Organic Prep
Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-419990.

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

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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
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
H	Sample was prepped or analyzed beyond the specified holding time
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Sample Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-125232-1	W-12610-012020-SSH-00120	Water	01/20/20 13:35	01/22/20 09:30	
240-125232-2	W-12610-012020-SSH-00220	Water	01/20/20 13:30	01/22/20 09:30	
240-125232-3	W-12610-012020-SSH-00320	Water	01/20/20 13:40	01/22/20 09:30	

Detection Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Client Sample ID: W-12610-012020-SSH-00120 — Lab Sample ID: 240-125232-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1.2	J	5.0	0.63	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	7.4	J	20	3.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	28	J	100	26	ug/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	2.5	J	20	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
pH	8.0	HF	0.1	0.1	SU	1		4500 H+ B-2000	Total/NA

Client Sample ID: W-12610-012020-SSH-00220 — Lab Sample ID: 240-125232-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.20		0.096	0.073	ug/L	1		608	Total/NA

Client Sample ID: W-12610-012020-SSH-00320 — Lab Sample ID: 240-125232-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL CAN
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
410.4	COD	MCAWW	TAL CAN
4500 H+ B-2000	pH	SM	TAL CAN
4500 NH3 D-2011	Ammonia	SM	TAL CAN
5210B-2001	BOD, 5-Day	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM4500 P E-1999	Phosphorus	SM	TAL CAN
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL CAN

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

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"

Laboratory References:

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

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Client Sample ID: W-12610-012020-SSH-00120
Date Collected: 01/20/20 13:35
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/25/20 01:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*47 - 134*		*01/25/20 01:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*91*		*75 - 130*		*01/25/20 01:09*	*1*
Toluene-d8 (Surr)	*94*		*69 - 122*		*01/25/20 01:09*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Client Sample ID: W-12610-012020-SSH-00320
Date Collected: 01/20/20 13:40
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/25/20 01:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*93*		*47 - 134*		*01/25/20 01:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 130*		*01/25/20 01:32*	*1*
Toluene-d8 (Surr)	*95*		*69 - 122*		*01/25/20 01:32*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: W-12610-012020-SSH-00120
Date Collected: 01/20/20 13:35
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	0.054	ug/L		01/23/20 07:00	01/24/20 12:21	1
Aroclor-1221	0.096	U	0.096	0.055	ug/L		01/23/20 07:00	01/24/20 12:21	1
Aroclor-1232	0.096	U	0.096	0.071	ug/L		01/23/20 07:00	01/24/20 12:21	1
Aroclor-1242	0.096	U	0.096	0.073	ug/L		01/23/20 07:00	01/24/20 12:21	1
Aroclor-1248	0.096	U	0.096	0.048	ug/L		01/23/20 07:00	01/24/20 12:21	1
Aroclor-1254	0.096	U	0.096	0.038	ug/L		01/23/20 07:00	01/24/20 12:21	1
Aroclor-1260	0.096	U	0.096	0.044	ug/L		01/23/20 07:00	01/24/20 12:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*91*		*10 - 114*	*01/23/20 07:00*	*01/24/20 12:21*	*1*
Tetrachloro-m-xylene	*81*		*15 - 131*	*01/23/20 07:00*	*01/24/20 12:21*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: W-12610-012020-SSH-00220
Date Collected: 01/20/20 13:30
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	0.054	ug/L		01/23/20 07:00	01/24/20 12:42	1
Aroclor-1221	0.096	U	0.096	0.055	ug/L		01/23/20 07:00	01/24/20 12:42	1
Aroclor-1232	0.096	U	0.096	0.071	ug/L		01/23/20 07:00	01/24/20 12:42	1
Aroclor-1242	**0.20**		0.096	0.073	ug/L		01/23/20 07:00	01/24/20 12:42	1
Aroclor-1248	0.096	U	0.096	0.048	ug/L		01/23/20 07:00	01/24/20 12:42	1
Aroclor-1254	0.096	U	0.096	0.038	ug/L		01/23/20 07:00	01/24/20 12:42	1
Aroclor-1260	0.096	U	0.096	0.044	ug/L		01/23/20 07:00	01/24/20 12:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*10 - 114*	*01/23/20 07:00*	*01/24/20 12:42*	*1*
Tetrachloro-m-xylene	*83*		*15 - 131*	*01/23/20 07:00*	*01/24/20 12:42*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: W-12610-012020-SSH-00120
Date Collected: 01/20/20 13:35
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		01/23/20 14:00	01/24/20 12:35	1
Cadmium	2.0	U	2.0	0.20	ug/L		01/23/20 14:00	01/24/20 12:35	1
Chromium	**1.2**	**J**	5.0	0.63	ug/L		01/23/20 14:00	01/24/20 12:35	1
Copper	**7.4**	**J**	20	3.5	ug/L		01/23/20 14:00	01/24/20 12:35	1
Iron	**28**	**J**	100	26	ug/L		01/23/20 14:00	01/24/20 12:35	1
Nickel	**2.5**	**J**	20	2.2	ug/L		01/23/20 14:00	01/24/20 12:35	1
Lead	3.0	U	3.0	2.8	ug/L		01/23/20 14:00	01/24/20 12:35	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: W-12610-012020-SSH-00120
Date Collected: 01/20/20 13:35
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		01/23/20 12:00	01/23/20 15:17	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

General Chemistry

Client Sample ID: W-12610-012020-SSH-00120
Date Collected: 01/20/20 13:35
Date Received: 01/22/20 09:30

Lab Sample ID: 240-125232-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	0.98	mg/L			01/29/20 08:23	1
Chemical Oxygen Demand	10	U	10	4.1	mg/L			01/28/20 06:30	1
pH	**8.0**	**HF**	0.1	0.1	SU			01/22/20 11:29	1
Ammonia	0.20	U	0.20	0.093	mg/L			01/28/20 15:30	1
Biochemical Oxygen Demand	2.0	U H	2.0	1.2	mg/L			01/22/20 15:11	1
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			01/24/20 10:19	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			01/27/20 08:38	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

GC/MS VOA

Analysis Batch: 420227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	624	
240-125232-3	W-12610-012020-SSH-00320	Total/NA	Water	624	
MB 240-420227/8	Method Blank	Total/NA	Water	624	
LCS 240-420227/5	Lab Control Sample	Total/NA	Water	624	

GC Semi VOA

Prep Batch: 419990

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	608	
240-125232-2	W-12610-012020-SSH-00220	Total/NA	Water	608	
MB 240-419990/4-A	Method Blank	Total/NA	Water	608	
LCS 240-419990/5-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 420113

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	608	419990
240-125232-2	W-12610-012020-SSH-00220	Total/NA	Water	608	419990
MB 240-419990/4-A	Method Blank	Total/NA	Water	608	419990
LCS 240-419990/5-A	Lab Control Sample	Total/NA	Water	608	419990

Metals

Prep Batch: 420006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total Recoverable	Water	200.7	
MB 240-420006/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-420006/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 420023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	245.1	
MB 240-420023/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-420023/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 420138

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	245.1	420023
MB 240-420023/1-A	Method Blank	Total/NA	Water	245.1	420023
LCS 240-420023/2-A	Lab Control Sample	Total/NA	Water	245.1	420023

Analysis Batch: 420280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total Recoverable	Water	200.7 Rev 4.4	420006
MB 240-420006/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	420006
LCS 240-420006/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	420006

General Chemistry

Analysis Batch: 419883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	4500 H+ B-2000	

General Chemistry (Continued)

Analysis Batch: 419883 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-419883/2	Lab Control Sample	Total/NA	Water	4500 H+ B-2000	

Analysis Batch: 419936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	5210B-2001	
SCB 240-419936/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-419936/1	Method Blank	Total/NA	Water	5210B-2001	
LCS 240-419936/3	Lab Control Sample	Total/NA	Water	5210B-2001	

Analysis Batch: 420180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	SM 2540D	
MB 240-420180/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-420180/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 420279

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	SM4500 P E-1999	
MB 240-420279/3	Method Blank	Total/NA	Water	SM4500 P E-1999	
LCS 240-420279/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	

Analysis Batch: 420454

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	410.4	
MB 240-420454/9	Method Blank	Total/NA	Water	410.4	
LCS 240-420454/10	Lab Control Sample	Total/NA	Water	410.4	
240-125232-1 MS	W-12610-012020-SSH-00120	Total/NA	Water	410.4	
240-125232-1 MSD	W-12610-012020-SSH-00120	Total/NA	Water	410.4	

Analysis Batch: 420585

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	4500 NH3 D-2011	
MB 240-420585/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	
LCS 240-420585/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	

Analysis Batch: 420638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-125232-1	W-12610-012020-SSH-00120	Total/NA	Water	1664A	
MB 240-420638/1	Method Blank	Total/NA	Water	1664A	
LCS 240-420638/2	Lab Control Sample	Total/NA	Water	1664A	
240-125232-1 MS	W-12610-012020-SSH-00120	Total/NA	Water	1664A	

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-420227/8
Matrix: Water
Analysis Batch: 420227

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			01/24/20 18:21	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*47 - 134*		*01/24/20 18:21*	*1*
1,2-Dichloroethane-d4 (Surr)	*87*		*75 - 130*		*01/24/20 18:21*	*1*
Toluene-d8 (Surr)	*94*		*69 - 122*		*01/24/20 18:21*	*1*

Lab Sample ID: LCS 240-420227/5
Matrix: Water
Analysis Batch: 420227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	20.0	20.5		ug/L		103	10 - 251

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*95*		*47 - 134*
1,2-Dichloroethane-d4 (Surr)	*89*		*75 - 130*
Toluene-d8 (Surr)	*96*		*69 - 122*

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-419990/4-A
Matrix: Water
Analysis Batch: 420113

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 419990

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		01/23/20 07:00	01/24/20 11:17	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		01/23/20 07:00	01/24/20 11:17	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		01/23/20 07:00	01/24/20 11:17	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		01/23/20 07:00	01/24/20 11:17	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		01/23/20 07:00	01/24/20 11:17	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		01/23/20 07:00	01/24/20 11:17	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		01/23/20 07:00	01/24/20 11:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*98*		*10 - 114*	*01/23/20 07:00*	*01/24/20 11:17*	*1*
Tetrachloro-m-xylene	*77*		*15 - 131*	*01/23/20 07:00*	*01/24/20 11:17*	*1*

Lab Sample ID: LCS 240-419990/5-A
Matrix: Water
Analysis Batch: 420113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419990

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.67		ug/L		67	50 - 114
Aroclor-1260	2.50	1.66		ug/L		66	8 - 127

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: LCS 240-419990/5-A
Matrix: Water
Analysis Batch: 420113

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 419990

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	75		10 - 114
Tetrachloro-m-xylene	69		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-420006/1-A
Matrix: Water
Analysis Batch: 420280

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 420006

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		01/23/20 14:00	01/24/20 11:40	1
Cadmium	2.0	U	2.0	0.20	ug/L		01/23/20 14:00	01/24/20 11:40	1
Chromium	5.0	U	5.0	0.63	ug/L		01/23/20 14:00	01/24/20 11:40	1
Copper	20	U	20	3.5	ug/L		01/23/20 14:00	01/24/20 11:40	1
Iron	100	U	100	26	ug/L		01/23/20 14:00	01/24/20 11:40	1
Nickel	20	U	20	2.2	ug/L		01/23/20 14:00	01/24/20 11:40	1
Lead	3.0	U	3.0	2.8	ug/L		01/23/20 14:00	01/24/20 11:40	1

Lab Sample ID: LCS 240-420006/2-A
Matrix: Water
Analysis Batch: 420280

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 420006

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	100	101		ug/L		101	85 - 115
Cadmium	1000	1030		ug/L		103	85 - 115
Chromium	1000	1050		ug/L		105	85 - 115
Copper	1000	1010		ug/L		101	85 - 115
Iron	10000	10000		ug/L		100	85 - 115
Nickel	1000	1040		ug/L		104	85 - 115
Lead	1000	1010		ug/L		101	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-420023/1-A
Matrix: Water
Analysis Batch: 420138

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 420023

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		01/23/20 12:00	01/23/20 15:02	1

Lab Sample ID: LCS 240-420023/2-A
Matrix: Water
Analysis Batch: 420138

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 420023

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.03		ug/L		101	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-420638/1
Matrix: Water
Analysis Batch: 420638

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	1.10	J	5.0	1.0	mg/L			01/29/20 08:23	1

Lab Sample ID: LCS 240-420638/2
Matrix: Water
Analysis Batch: 420638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM			40.0	37.50		mg/L		94	78 - 114		

Lab Sample ID: 240-125232-1 MS
Matrix: Water
Analysis Batch: 420638

Client Sample ID: W-12610-012020-SSH-00120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM	4.8	U	38.3	36.69		mg/L		96	78 - 114		

Method: 410.4 - COD

Lab Sample ID: MB 240-420454/9
Matrix: Water
Analysis Batch: 420454

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	U	10	4.1	mg/L			01/28/20 06:30	1

Lab Sample ID: LCS 240-420454/10
Matrix: Water
Analysis Batch: 420454

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand			68.4	67.1		mg/L		98	90 - 110		

Lab Sample ID: 240-125232-1 MS
Matrix: Water
Analysis Batch: 420454

Client Sample ID: W-12610-012020-SSH-00120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chemical Oxygen Demand	10	U	50.0	46.3		mg/L		93	90 - 110		

Lab Sample ID: 240-125232-1 MSD
Matrix: Water
Analysis Batch: 420454

Client Sample ID: W-12610-012020-SSH-00120
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	10	U	50.0	49.5		mg/L		99	90 - 110	7	20

Method: 4500 H+ B-2000 - pH

Lab Sample ID: LCS 240-419883/2
Matrix: Water
Analysis Batch: 419883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	6.0		SU		101	97 - 103

Method: 4500 NH3 D-2011 - Ammonia

Lab Sample ID: MB 240-420585/7
Matrix: Water
Analysis Batch: 420585

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			01/28/20 11:31	1

Lab Sample ID: LCS 240-420585/8
Matrix: Water
Analysis Batch: 420585

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	15.2	14.6		mg/L		96	85 - 114

Method: 5210B-2001 - BOD, 5-Day

Lab Sample ID: SCB 240-419936/2
Matrix: Water
Analysis Batch: 419936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			01/22/20 14:19	1

Lab Sample ID: USB 240-419936/1
Matrix: Water
Analysis Batch: 419936

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			01/22/20 14:18	1

Lab Sample ID: LCS 240-419936/3
Matrix: Water
Analysis Batch: 419936

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	168		mg/L		85	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-420180/1
Matrix: Water
Analysis Batch: 420180

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			01/24/20 10:19	1

Method: SM 2540D - Solids, Total Suspended (TSS) (Continued)

Lab Sample ID: LCS 240-420180/2
Matrix: Water
Analysis Batch: 420180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	44.1	41.0		mg/L		93	64 - 120

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-420279/3
Matrix: Water
Analysis Batch: 420279

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			01/27/20 07:54	1

Lab Sample ID: LCS 240-420279/4
Matrix: Water
Analysis Batch: 420279

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	0.405	0.384		mg/L		95	77 - 120

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DCA	TOL
Lab Sample ID	Client Sample ID	(47-134)	(75-130)	(69-122)
240-125232-1	W-12610-012020-SSH-00120	95	91	94
240-125232-3	W-12610-012020-SSH-00320	93	89	95
LCS 240-420227/5	Lab Control Sample	95	89	96
MB 240-420227/8	Method Blank	94	87	94

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP1	TCX1
Lab Sample ID	Client Sample ID	(10-114)	(15-131)
240-125232-1	W-12610-012020-SSH-00120	91	81
240-125232-2	W-12610-012020-SSH-00220	90	83
LCS 240-419990/5-A	Lab Control Sample	75	69
MB 240-419990/4-A	Method Blank	98	77

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-125232-1

Client Sample ID: W-12610-012020-SSH-00120

Lab Sample ID: 240-125232-1
Date Collected: 01/20/20 13:35
Matrix: Water
Date Received: 01/22/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	420227	01/25/20 01:09	TJL1	TAL CAN
Total/NA	Prep	608			419990	01/23/20 07:00	SDE	TAL CAN
Total/NA	Analysis	608		1	420113	01/24/20 12:21	CSC	TAL CAN
Total Recoverable	Prep	200.7			420006	01/23/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	420280	01/24/20 12:35	WKD	TAL CAN
Total/NA	Prep	245.1			420023	01/23/20 12:00	MRL	TAL CAN
Total/NA	Analysis	245.1		1	420138	01/23/20 15:17	SLD	TAL CAN
Total/NA	Analysis	1664A		1	420638	01/29/20 08:23	BLW	TAL CAN
Total/NA	Analysis	410.4		1	420454	01/28/20 06:30	TPH	TAL CAN
Total/NA	Analysis	4500 H+ B-2000		1	419883	01/22/20 11:29	AMT	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	420585	01/28/20 15:30	JMB	TAL CAN
Total/NA	Analysis	5210B-2001		1	419936	01/22/20 15:11	JR	TAL CAN
Total/NA	Analysis	SM 2540D		1	420180	01/24/20 10:19	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-1999		1	420279	01/27/20 08:38	TPH	TAL CAN

Client Sample ID: W-12610-012020-SSH-00220

Lab Sample ID: 240-125232-2
Date Collected: 01/20/20 13:30
Matrix: Water
Date Received: 01/22/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			419990	01/23/20 07:00	SDE	TAL CAN
Total/NA	Analysis	608		1	420113	01/24/20 12:42	CSC	TAL CAN

Client Sample ID: W-12610-012020-SSH-00320

Lab Sample ID: 240-125232-3
Date Collected: 01/20/20 13:40
Matrix: Water
Date Received: 01/22/20 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	420227	01/25/20 01:32	TJL1	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: GHD Services Inc.
Job ID: 240-125232-1
Project/Site: 11208058, RACER Bay City

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	02-23-20
Connecticut	State	PH-0590	12-31-19 *
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-20
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-20
Kansas	NELAP	E-10336	04-30-20
Kentucky (UST)	State	112225	02-23-20
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State Program	3506	07-31-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-20
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-23-20
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-16-00404	12-28-19 *
Virginia	NELAP	010101	09-14-20
West Virginia DEP	State	210	12-31-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

3.5/4.0

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

MICHIGAN 190

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Client Information	Sampler: S. Hoevemeyer	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-68313-28189.1
Client Contact: Ms. Ruth Mickle	Phone: 616 437 7734	E-Mail: denise.heckler@testamericainc.com		Page: Page 1 of 1
Company: GHD Services Inc.		Analysis Requested		Job #:
Address: 26850 Haggerty Rd.	Due Date Requested: 1/28/2020			Preservation Codes:
City: Farmington Hills	TAT Requested (days): 1 week			A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
State, Zip: MI, 48331	PO #: Purchase Order Requested			
Phone:	WO #: 12610			Other:
Email: ruth.mickle@ghd.com	Project #: 24006288			
Project Name: 12610-, RACER Bay City	SSOW#: 12610A-2019-01			
Site:				

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - Select Metals	410.4, 4500_P_E; SM4500NH3_D	624_LL - Vinyl chloride	608_PCB - PCBs	5210B - BOD	2540D, SM4500_H+	1664A_NP - HEM	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	S	A	N	N	N	S		
W-12610-012020-SSH-00120	1/20/20	1335	C, G	Water	NN		X	X	X	X	X	X	X		
W-12610-012020-SSH-00220	1/20/20	1330	C, G	Water	NN					X					
W-12610-012020-SSH-00320	1/20/20	1340	G	Water	NN				X						
				Water											

240-125232 Chain of Custody

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1				Adam Gemmett	1-22-20 0930	ETA
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

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1/29/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 125232**
Canton Facility

Client CHD Site Name _____ Cooler unpacked by: Adam Garnett

Cooler Received on 1-22-20 Opened on 1-22-20

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 14 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. 3.3 °C Corrected Cooler Temp. 4.0 °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# **HC995364**
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: _____

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
W-12610-012020-SSH-00120	240-125232-E-1	Plastic 500ml - with Sulfuric Acid	<2			
W-12610-012020-SSH-00120	240-125232-F-1	Plastic 500ml - with Nitric Acid	<2			
W-12610-012020-SSH-00120	240-125232-J-1	Amber Glass 1 liter - Sulfuric Acid				
W-12610-012020-SSH-00120	240-125232-K-1	Amber Glass 1 liter - Sulfuric Acid				

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ANALYTICAL REPORT

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

Laboratory Job ID: 240-131038-1
Client Project/Site: 11208058, RACER Bay City

For:
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
6/15/2020 11:31:14 AM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

Table of Contents

Case Narrative

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Job ID: 240-131038-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-131038-1

Comments
No additional comments.

Receipt
The sample was received on 5/30/2020 10:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 5.6º C.

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

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

Metals
Method 200.7 Rev 4.4: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: W-12610-052920-SSH-2002 (240-131038-1). 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.

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

Organic Prep
Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-436860.

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

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
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
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
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
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
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)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
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)

Sample Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-131038-1	W-12610-052920-SSH-2002	Water	05/29/20 09:15	05/30/20 10:20	

Detection Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Client Sample ID: W-12610-052920-SSH-2002

Lab Sample ID: 240-131038-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	10	J	20	3.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	58	J	100	26	ug/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	7.2	J	20	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Chemical Oxygen Demand	6.7	J	10	4.1	mg/L	1		410.4	Total/NA
pH	7.7	HF	0.1	0.1	SU	1		4500 H+ B-2000	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL CAN
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL BUF
410.4	COD	MCAWW	TAL CAN
4500 H+ B-2000	pH	SM	TAL CAN
4500 NH3 D-2011	Ammonia	SM	TAL CAN
5210B-2001	BOD, 5-Day	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
SM4500 P E-1999	Phosphorus	SM	TAL CAN
1664A	HEM and SGT-HEM (SPE)	1664A	TAL BUF
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL CAN

Protocol References:

1664A = EPA-821-98-002

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

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"

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Client Sample ID: W-12610-052920-SSH-2002
Date Collected: 05/29/20 09:15
Date Received: 05/30/20 10:20

Lab Sample ID: 240-131038-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/03/20 01:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*47 - 134*		*06/03/20 01:02*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*75 - 130*		*06/03/20 01:02*	*1*
Toluene-d8 (Surr)	*92*		*69 - 122*		*06/03/20 01:02*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Client Sample ID: W-12610-052920-SSH-2002
Date Collected: 05/29/20 09:15
Date Received: 05/30/20 10:20

Lab Sample ID: 240-131038-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		06/04/20 08:07	06/08/20 10:37	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		06/04/20 08:07	06/08/20 10:37	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		06/04/20 08:07	06/08/20 10:37	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		06/04/20 08:07	06/08/20 10:37	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		06/04/20 08:07	06/08/20 10:37	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		06/04/20 08:07	06/08/20 10:37	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		06/04/20 08:07	06/08/20 10:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*90*		*10 - 114*	*06/04/20 08:07*	*06/08/20 10:37*	*1*
Tetrachloro-m-xylene	*88*		*15 - 131*	*06/04/20 08:07*	*06/08/20 10:37*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Client Sample ID: W-12610-052920-SSH-2002
Date Collected: 05/29/20 09:15
Date Received: 05/30/20 10:20

Lab Sample ID: 240-131038-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		06/01/20 16:00	06/02/20 12:51	1
Cadmium	2.0	U	2.0	0.20	ug/L		06/01/20 16:00	06/02/20 12:51	1
Chromium	5.0	U	5.0	0.63	ug/L		06/01/20 16:00	06/02/20 12:51	1
Copper	**10**	**J**	20	3.5	ug/L		06/01/20 16:00	06/02/20 12:51	1
Iron	**58**	**J**	100	26	ug/L		06/01/20 16:00	06/02/20 12:51	1
Nickel	**7.2**	**J**	20	2.2	ug/L		06/01/20 16:00	06/02/20 12:51	1
Lead	3.0	U	3.0	2.8	ug/L		06/01/20 16:00	06/02/20 12:51	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: W-12610-052920-SSH-2002
Date Collected: 05/29/20 09:15
Date Received: 05/30/20 10:20

Lab Sample ID: 240-131038-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		06/01/20 16:00	06/02/20 18:02	1

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

General Chemistry

Client Sample ID: W-12610-052920-SSH-2002
Date Collected: 05/29/20 09:15
Date Received: 05/30/20 10:20

Lab Sample ID: 240-131038-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.8	U	5.8	1.6	mg/L		06/02/20 18:37	06/02/20 18:37	1
Chemical Oxygen Demand	**6.7**	**J**	10	4.1	mg/L			06/11/20 11:08	1
pH	**7.7**	**HF**	0.1	0.1	SU			05/30/20 12:09	1
Ammonia	0.20	U	0.20	0.093	mg/L			06/11/20 10:35	1
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			05/30/20 09:28	1
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			06/04/20 09:20	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			06/12/20 06:22	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

GC/MS VOA

Analysis Batch: 436508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	624	
MB 240-436508/32	Method Blank	Total/NA	Water	624	
LCS 240-436508/33	Lab Control Sample	Total/NA	Water	624	

GC Semi VOA

Prep Batch: 436860

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	608	
MB 240-436860/15-A	Method Blank	Total/NA	Water	608	
LCS 240-436860/16-A	Lab Control Sample	Total/NA	Water	608	
LCSD 240-436860/17-A	Lab Control Sample Dup	Total/NA	Water	608	

Analysis Batch: 437216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	608	436860
MB 240-436860/15-A	Method Blank	Total/NA	Water	608	436860
LCS 240-436860/16-A	Lab Control Sample	Total/NA	Water	608	436860
LCSD 240-436860/17-A	Lab Control Sample Dup	Total/NA	Water	608	436860

Metals

Prep Batch: 436389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total Recoverable	Water	200.7	
MB 240-436389/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-436389/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-131038-1 MS	W-12610-052920-SSH-2002	Total Recoverable	Water	200.7	
240-131038-1 MSD	W-12610-052920-SSH-2002	Total Recoverable	Water	200.7	

Prep Batch: 436392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	245.1	
MB 240-436392/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-436392/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 436562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total Recoverable	Water	200.7 Rev 4.4	436389
MB 240-436389/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	436389
LCS 240-436389/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	436389
240-131038-1 MS	W-12610-052920-SSH-2002	Total Recoverable	Water	200.7 Rev 4.4	436389
240-131038-1 MSD	W-12610-052920-SSH-2002	Total Recoverable	Water	200.7 Rev 4.4	436389

Analysis Batch: 436810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	245.1	436392
MB 240-436392/1-A	Method Blank	Total/NA	Water	245.1	436392
LCS 240-436392/2-A	Lab Control Sample	Total/NA	Water	245.1	436392

General Chemistry

Analysis Batch: 436243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	4500 H+ B-2000	
LCS 240-436243/2	Lab Control Sample	Total/NA	Water	4500 H+ B-2000	

Analysis Batch: 436244

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	5210B-2001	
SCB 240-436244/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-436244/1	Method Blank	Total/NA	Water	5210B-2001	
LCS 240-436244/3	Lab Control Sample	Total/NA	Water	5210B-2001	

Analysis Batch: 436882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	SM 2540D	
MB 240-436882/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-436882/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 437904

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	410.4	
MB 240-437904/9	Method Blank	Total/NA	Water	410.4	
LCS 240-437904/10	Lab Control Sample	Total/NA	Water	410.4	
240-131038-1 MS	W-12610-052920-SSH-2002	Total/NA	Water	410.4	
240-131038-1 MSD	W-12610-052920-SSH-2002	Total/NA	Water	410.4	

Analysis Batch: 437959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	4500 NH3 D-2011	
MB 240-437959/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	
LCS 240-437959/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	

Analysis Batch: 438078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	SM4500 P E-1999	
MB 240-438078/3	Method Blank	Total/NA	Water	SM4500 P E-1999	
LCS 240-438078/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	
240-131038-1 MS	W-12610-052920-SSH-2002	Total/NA	Water	SM4500 P E-1999	
240-131038-1 MSD	W-12610-052920-SSH-2002	Total/NA	Water	SM4500 P E-1999	

Prep Batch: 534464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	1664A	
MB 480-534464/1-A	Method Blank	Total/NA	Water	1664A	
LCS 480-534464/2-A	Lab Control Sample	Total/NA	Water	1664A	

QC Association Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

General Chemistry

Analysis Batch: 534465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131038-1	W-12610-052920-SSH-2002	Total/NA	Water	1664A	534464
MB 480-534464/1-A	Method Blank	Total/NA	Water	1664A	534464
LCS 480-534464/2-A	Lab Control Sample	Total/NA	Water	1664A	534464

Method: 624 - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-436508/32
Matrix: Water
Analysis Batch: 436508

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/02/20 23:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*102*		*47 - 134*		*06/02/20 23:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*75 - 130*		*06/02/20 23:23*	*1*
Toluene-d8 (Surr)	*91*		*69 - 122*		*06/02/20 23:23*	*1*

Lab Sample ID: LCS 240-436508/33
Matrix: Water
Analysis Batch: 436508

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Vinyl chloride	20.0	21.7		ug/L		109	10 - 251

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*108*		*47 - 134*
1,2-Dichloroethane-d4 (Surr)	*95*		*75 - 130*
Toluene-d8 (Surr)	*93*		*69 - 122*

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 240-436860/15-A
Matrix: Water
Analysis Batch: 437216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 436860

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		06/04/20 08:07	06/08/20 09:22	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		06/04/20 08:07	06/08/20 09:22	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		06/04/20 08:07	06/08/20 09:22	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		06/04/20 08:07	06/08/20 09:22	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		06/04/20 08:07	06/08/20 09:22	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		06/04/20 08:07	06/08/20 09:22	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		06/04/20 08:07	06/08/20 09:22	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*105*		*10 - 114*	*06/04/20 08:07*	*06/08/20 09:22*	*1*
Tetrachloro-m-xylene	*90*		*15 - 131*	*06/04/20 08:07*	*06/08/20 09:22*	*1*

Lab Sample ID: LCS 240-436860/16-A
Matrix: Water
Analysis Batch: 437216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436860

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	2.10		ug/L		84	50 - 114
Aroclor-1260	2.50	1.83		ug/L		73	8 - 127

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

Lab Sample ID: LCS 240-436860/16-A
Matrix: Water
Analysis Batch: 437216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 436860

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	90		10 - 114
Tetrachloro-m-xylene	83		15 - 131

Lab Sample ID: LCSD 240-436860/17-A
Matrix: Water
Analysis Batch: 437216

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 436860

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor-1016			2.50	2.11		ug/L		84	50 - 114	0	30
Aroclor-1260			2.50	1.97		ug/L		79	8 - 127	8	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	88		10 - 114
Tetrachloro-m-xylene	86		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-436389/1-A
Matrix: Water
Analysis Batch: 436562

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 436389

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		06/01/20 16:00	06/02/20 12:18	1
Cadmium	2.0	U	2.0	0.20	ug/L		06/01/20 16:00	06/02/20 12:18	1
Chromium	5.0	U	5.0	0.63	ug/L		06/01/20 16:00	06/02/20 12:18	1
Copper	20	U	20	3.5	ug/L		06/01/20 16:00	06/02/20 12:18	1
Iron	100	U	100	26	ug/L		06/01/20 16:00	06/02/20 12:18	1
Nickel	20	U	20	2.2	ug/L		06/01/20 16:00	06/02/20 12:18	1
Lead	3.0	U	3.0	2.8	ug/L		06/01/20 16:00	06/02/20 12:18	1

Lab Sample ID: LCS 240-436389/2-A
Matrix: Water
Analysis Batch: 436562

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 436389

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver			100	103		ug/L		103	85 - 115
Cadmium			1000	1020		ug/L		102	85 - 115
Chromium			1000	965		ug/L		97	85 - 115
Copper			1000	982		ug/L		98	85 - 115
Iron			10000	9690		ug/L		97	85 - 115
Nickel			1000	994		ug/L		99	85 - 115
Lead			1000	919		ug/L		92	85 - 115

Lab Sample ID: 240-131038-1 MS
Matrix: Water
Analysis Batch: 436562

Client Sample ID: W-12610-052920-SSH-2002
Prep Type: Total Recoverable
Prep Batch: 436389

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Silver	5.0	U	100	109		ug/L		109	75 - 125

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 240-131038-1 MS — **Client Sample ID: W-12610-052920-SSH-2002**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 436562 — **Prep Batch: 436389**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cadmium	2.0	U	1000	1060		ug/L		106	75 - 125
Chromium	5.0	U	1000	1000		ug/L		100	75 - 125
Copper	10	J	1000	1040		ug/L		103	75 - 125
Iron	58	J	10000	10100		ug/L		100	75 - 125
Nickel	7.2	J	1000	1040		ug/L		103	75 - 125
Lead	3.0	U	1000	942		ug/L		94	75 - 125

Lab Sample ID: 240-131038-1 MSD — **Client Sample ID: W-12610-052920-SSH-2002**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 436562 — **Prep Batch: 436389**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Silver	5.0	U	100	108		ug/L		108	75 - 125	1	20
Cadmium	2.0	U	1000	1060		ug/L		106	75 - 125	0	20
Chromium	5.0	U	1000	984		ug/L		98	75 - 125	2	20
Copper	10	J	1000	1030		ug/L		102	75 - 125	1	20
Iron	58	J	10000	9990		ug/L		99	75 - 125	1	20
Nickel	7.2	J	1000	1050		ug/L		104	75 - 125	1	20
Lead	3.0	U	1000	945		ug/L		95	75 - 125	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-436392/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436810 — **Prep Batch: 436392**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		06/01/20 16:00	06/02/20 17:12	1

Lab Sample ID: LCS 240-436392/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 436810 — **Prep Batch: 436392**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	5.00	5.33		ug/L		107	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 480-534464/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534465 — **Prep Batch: 534464**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	1.4	mg/L		06/02/20 18:37	06/02/20 18:37	1

Method: 1664A - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 480-534464/2-A
Matrix: Water
Analysis Batch: 534465

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534464

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	32.50		mg/L		81	78 - 114

Method: 410.4 - COD

Lab Sample ID: MB 240-437904/9
Matrix: Water
Analysis Batch: 437904

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	U	10	4.1	mg/L			06/11/20 11:07	1

Lab Sample ID: LCS 240-437904/10
Matrix: Water
Analysis Batch: 437904

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	98.5	106		mg/L		107	90 - 110

Lab Sample ID: 240-131038-1 MS
Matrix: Water
Analysis Batch: 437904

Client Sample ID: W-12610-052920-SSH-2002
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	6.7	J	50.0	55.3		mg/L		97	90 - 110

Lab Sample ID: 240-131038-1 MSD
Matrix: Water
Analysis Batch: 437904

Client Sample ID: W-12610-052920-SSH-2002
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chemical Oxygen Demand	6.7	J	50.0	57.7		mg/L		102	90 - 110	4	20

Method: 4500 H+ B-2000 - pH

Lab Sample ID: LCS 240-436243/2
Matrix: Water
Analysis Batch: 436243

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.00	6.1		SU		102	97 - 103

Method: 4500 NH3 D-2011 - Ammonia

Lab Sample ID: MB 240-437959/7
Matrix: Water
Analysis Batch: 437959

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			06/11/20 09:52	1

Method: 4500 NH3 D-2011 - Ammonia (Continued)

Lab Sample ID: LCS 240-437959/8
Matrix: Water
Analysis Batch: 437959

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	2.43		mg/L		94	85 - 114

Method: 5210B-2001 - BOD, 5-Day

Lab Sample ID: SCB 240-436244/2
Matrix: Water
Analysis Batch: 436244

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			05/30/20 09:28	1

Lab Sample ID: USB 240-436244/1
Matrix: Water
Analysis Batch: 436244

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			05/30/20 09:28	1

Lab Sample ID: LCS 240-436244/3
Matrix: Water
Analysis Batch: 436244

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Biochemical Oxygen Demand	198	215		mg/L		109	85 - 115

Method: SM 2540D - Solids, Total Suspended (TSS)

Lab Sample ID: MB 240-436882/1
Matrix: Water
Analysis Batch: 436882

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			06/04/20 09:20	1

Lab Sample ID: LCS 240-436882/2
Matrix: Water
Analysis Batch: 436882

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	83.0	95.0		mg/L		114	64 - 120

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-438078/3
Matrix: Water
Analysis Batch: 438078

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			06/12/20 06:10	1

Method: SM4500 P E-1999 - Phosphorus (Continued)

Lab Sample ID: LCS 240-438078/4
Matrix: Water
Analysis Batch: 438078

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	0.446		mg/L		93	77 - 120		

Lab Sample ID: 240-131038-1 MS
Matrix: Water
Analysis Batch: 438078

Client Sample ID: W-12610-052920-SSH-2002
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	0.535		mg/L		107	38 - 156		

Lab Sample ID: 240-131038-1 MSD
Matrix: Water
Analysis Batch: 438078

Client Sample ID: W-12610-052920-SSH-2002
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	0.521		mg/L		104	38 - 156	3	29

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-131038-1

Method: 624 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
		BFB	DCA	TOL
Lab Sample ID	Client Sample ID	(47-134)	(75-130)	(69-122)
240-131038-1	W-12610-052920-SSH-2002	102	101	92
LCS 240-436508/33	Lab Control Sample	108	95	93
MB 240-436508/32	Method Blank	102	103	91

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)

Method: 608 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)	
		DCBP2	TCX2
Lab Sample ID	Client Sample ID	(10-114)	(15-131)
240-131038-1	W-12610-052920-SSH-2002	90	88
LCS 240-436860/16-A	Lab Control Sample	90	83
LCSD 240-436860/17-A	Lab Control Sample Dup	88	86
MB 240-436860/15-A	Method Blank	105	90

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Job ID: 240-131038-1
Project/Site: 11208058, RACER Bay City

Client Sample ID: W-12610-052920-SSH-2002
Lab Sample ID: 240-131038-1

Date Collected: 05/29/20 09:15
Matrix: Water
Date Received: 05/30/20 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	436508	06/03/20 01:02	HMB	TAL CAN
Total/NA	Prep	608			436860	06/04/20 08:07	BMB	TAL CAN
Total/NA	Analysis	608		1	437216	06/08/20 10:37	KMG	TAL CAN
Total Recoverable	Prep	200.7			436389	06/01/20 16:00	SLD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	436562	06/02/20 12:51	WKD	TAL CAN
Total/NA	Prep	245.1			436392	06/01/20 16:00	SLD	TAL CAN
Total/NA	Analysis	245.1		1	436810	06/02/20 18:02	SLD	TAL CAN
Total/NA	Prep	1664A			534464	06/02/20 18:37	CRK	TAL BUF
Total/NA	Analysis	1664A		1	534465	06/02/20 18:37	T1S	TAL BUF
Total/NA	Analysis	410.4		1	437904	06/11/20 11:08	TPH	TAL CAN
Total/NA	Analysis	4500 H+ B-2000		1	436243	05/30/20 12:09	BLW	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	437959	06/11/20 10:35	JR	TAL CAN
Total/NA	Analysis	5210B-2001		1	436244	05/30/20 09:28	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	436882	06/04/20 09:20	JR	TAL CAN
Total/NA	Analysis	SM4500 P E-1999		1	438078	06/12/20 06:22	TPH	TAL CAN

Laboratory References:

TAL BUF = Eurofins TestAmerica, Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 240-131038-1
Project/Site: 11208058, RACER Bay City

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	06-30-20
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	06-30-20
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

Laboratory: Eurofins TestAmerica, Buffalo

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

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-20
California	State	2931	04-01-20 *
Connecticut	State	PH-0568	09-30-20
Florida	NELAP	E87672	06-30-20
Georgia	State	10026 (NY)	04-01-21
Georgia	State Program	N/A	03-31-09 *
Georgia (DW)	State	956	04-01-21
Illinois	NELAP	200003	06-07-20
Iowa	State	374	02-28-21
Kansas	NELAP	E-10187	02-01-21
Kentucky (DW)	State	90029	12-31-20
Kentucky (UST)	State	30	04-01-21
Kentucky (WW)	State	KY90029	12-31-20
Louisiana	NELAP	02031	06-30-20
Maine	State	NY00044	12-04-20
Maryland	State	294	04-01-21
Massachusetts	State	M-NY044	06-30-20
Michigan	State	9937	03-31-20 *
Michigan	State Program	9937	04-01-09 *
Minnesota	NELAP	1524384	12-31-20
New Hampshire	NELAP	2337	11-18-20
New Jersey	NELAP	NY455	06-30-20
New York	NELAP	10026	04-02-21
North Dakota	State	R-176	03-31-20 *

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 240-131038-1
Project/Site: 11208058, RACER Bay City

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

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

Authority	Program	Identification Number	Expiration Date
Oklahoma	State	9421	09-01-20
Oregon	NELAP	NY200003	06-10-20
Pennsylvania	NELAP	68-00281	07-31-20
Rhode Island	State	LAO00328	12-30-20
Tennessee	State	02970	04-01-21
Texas	NELAP	T104704412-18-10	08-01-20
USDA	US Federal Programs	P330-18-00039	02-06-21
Virginia	NELAP	460185	09-14-20
Washington	State	C784	02-11-21
Wisconsin	State	998310390	08-31-20

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

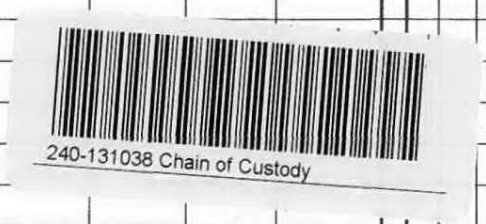
49156

Chain of Custody Record

eurofins | Environment Testing TestAmerica

Client Information	Sampler: S. Hoevemeyer	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-68811-28267.1
Client Contact: Ms. Ruth Mickle	Phone: 616 437 7734	E-Mail: denise.heckler@testamericainc.com		Page: Page 1 of 1
Company: GHD Services Inc.		Analysis Requested		Job #:
Address: 26850 Haggerty Rd.	Due Date Requested:			Preservation Codes:
City: Farmington Hills	TAT Requested (days): standard			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
State, Zip: MI, 48331				
Phone: 248 893 3400	PO #: Purchase Order Requested			
Email: ruth.mickle@ghd.com	WO #: 11208058			Other:
Project Name: 11208058, RACER Bay City	Project #: 24006288			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7 - Select Metals	410.4, 4500_P_E, SM4500NH3_D	624_LL - Vinyl chloride	608_PCB - PCBs	5210B - BOD	2540D, SM4500_H+	1664A_NP - HEM	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	S	A	N	N	N	S		
W-12610-052920-SSH-2002	5/29/20	0915	C, G	Water	N	N	X	X	X	X	X	X	X		
				Water											
				Water											



Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological	☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify)	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
1		5/29/2020 1200	GHD		5-30-20 1020	
2	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
3	Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1268316, 1268317	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 131038**
Canton Facility

Client GHD Site Name _____ Cooler unpacked by:

Cooler Received on 5-30-20 Opened on 5-30-20

FedEx: 1st Grd (Exp) UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 7A 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. 4.7 °C Corrected Cooler Temp. 5-6 °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# HC902937
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: AG

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

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Preservative Lot #
W-12610-052920-SSH-2002	240-131038-E-1	Plastic 500ml - with Sulfuric Acid	<2	____	_____	_____
W-12610-052920-SSH-2002	240-131038-F-1	Plastic 500ml - with Nitric Acid	<2	____	_____	_____

Page 1 of 1

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

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Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-121169.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: denise.heckler@testamericainc.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-131038-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 6/11/2020			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: 11208058, RACER Bay City	Project #: 24006288			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	1664A_Calc/1664A_SPE HEM	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
W-12610-052920-SSH-2002 (240-131038-1)	5/29/20	09:15 Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
C. Hartt	6-1-20 1539	240			
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: 6/2/20 1000	Company TAB

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 4.1 #1

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-131038-1

Login Number: 131038
List Number: 2
Creator: Sabuda, Brendan D

List Source: Eurofins TestAmerica, Buffalo
List Creation: 06/02/20 04:29 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.1 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

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ANALYTICAL REPORT

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

Laboratory Job ID: 240-134837-1
Client Project/Site: 11208058, RACER Bay City

For:
GHD Services Inc.
26850 Haggerty Rd.
Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
8/20/2020 7:14:49 AM

Denise Heckler, Project Manager II
(330)966-9477
Denise.Heckler@Eurofinset.com

Table of Contents

Case Narrative

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Job ID: 240-134837-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-134837-1

Comments
No additional comments.

Receipt
The samples were received on 8/12/2020 11:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.2º C, 5.2º C and 5.2º C.

GC Semi VOA
Method 8082A: The following samples required a copper clean-up to reduce matrix interferences caused by sulfur: GW-11208058-081020-SSH-2003 (240-134837-1), GW-11208058-081020-SSH-2004 (240-134837-2), GW-11208058-081020-SSH-2005 (240-134837-3), GW-11208058-081020-SSH-2006 (240-134837-4), GW-11208058-081020-SSH-2008 (240-134837-6) and GW-11208058-081120-SSH-2011 (240-134837-9). 4818453

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

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

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

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.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
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

Sample Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-134837-1	GW-11208058-081020-SSH-2003	Water	08/10/20 08:36	08/12/20 11:00	
240-134837-2	GW-11208058-081020-SSH-2004	Water	08/10/20 09:21	08/12/20 11:00	
240-134837-3	GW-11208058-081020-SSH-2005	Water	08/10/20 09:31	08/12/20 11:00	
240-134837-4	GW-11208058-081020-SSH-2006	Water	08/10/20 10:16	08/12/20 11:00	
240-134837-5	GW-11208058-081020-SSH-2007	Water	08/10/20 11:15	08/12/20 11:00	
240-134837-6	GW-11208058-081020-SSH-2008	Water	08/10/20 13:16	08/12/20 11:00	
240-134837-7	GW-11208058-081120-SSH-2009	Water	08/11/20 09:11	08/12/20 11:00	
240-134837-8	GW-11208058-081120-SSH-2010	Water	08/11/20 10:21	08/12/20 11:00	
240-134837-9	GW-11208058-081120-SSH-2011	Water	08/11/20 11:31	08/12/20 11:00	

Detection Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Client Sample ID: GW-11208058-081020-SSH-2003 — Lab Sample ID: 240-134837-1

No Detections.

Client Sample ID: GW-11208058-081020-SSH-2004 — Lab Sample ID: 240-134837-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.090	J	0.095	0.072	ug/L	1		8082A	Total/NA

Client Sample ID: GW-11208058-081020-SSH-2005 — Lab Sample ID: 240-134837-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.79		0.095	0.072	ug/L	1		8082A	Total/NA

Client Sample ID: GW-11208058-081020-SSH-2006 — Lab Sample ID: 240-134837-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.24	p	0.095	0.072	ug/L	1		8082A	Total/NA

Client Sample ID: GW-11208058-081020-SSH-2007 — Lab Sample ID: 240-134837-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	1.0		0.095	0.072	ug/L	1		8082A	Total/NA

Client Sample ID: GW-11208058-081020-SSH-2008 — Lab Sample ID: 240-134837-6

No Detections.

Client Sample ID: GW-11208058-081120-SSH-2009 — Lab Sample ID: 240-134837-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.095		0.095	0.072	ug/L	1		8082A	Total/NA

Client Sample ID: GW-11208058-081120-SSH-2010 — Lab Sample ID: 240-134837-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.16		0.095	0.072	ug/L	1		8082A	Total/NA

Client Sample ID: GW-11208058-081120-SSH-2011 — Lab Sample ID: 240-134837-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.95		0.095	0.072	ug/L	1		8082A	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method	Method Description	Protocol	Laboratory
8082A	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL CAN
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	TAL CAN

Protocol References:

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

Laboratory References:

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

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081020-SSH-2003
Date Collected: 08/10/20 08:36
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 12:58	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 12:58	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 12:58	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/14/20 08:16	08/18/20 12:58	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 12:58	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 12:58	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*80*		*22 - 120*	*08/14/20 08:16*	*08/18/20 12:58*	*1*
DCB Decachlorobiphenyl	*30*		*10 - 120*	*08/14/20 08:16*	*08/18/20 12:58*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081020-SSH-2004
Date Collected: 08/10/20 09:21
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 13:13	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 13:13	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 13:13	1
Aroclor-1242	**0.090**	**J**	0.095	0.072	ug/L		08/14/20 08:16	08/18/20 13:13	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 13:13	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 13:13	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 13:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*72*		*22 - 120*	*08/14/20 08:16*	*08/18/20 13:13*	*1*
DCB Decachlorobiphenyl	*45*		*10 - 120*	*08/14/20 08:16*	*08/18/20 13:13*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081020-SSH-2005
Date Collected: 08/10/20 09:31
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 13:28	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 13:28	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 13:28	1
Aroclor-1242	**0.79**		0.095	0.072	ug/L		08/14/20 08:16	08/18/20 13:28	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 13:28	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 13:28	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 13:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*81*		*22 - 120*	*08/14/20 08:16*	*08/18/20 13:28*	*1*
DCB Decachlorobiphenyl	*47*		*10 - 120*	*08/14/20 08:16*	*08/18/20 13:28*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081020-SSH-2006
Date Collected: 08/10/20 10:16
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-4
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 13:43	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 13:43	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 13:43	1
Aroclor-1242	**0.24**	**p**	0.095	0.072	ug/L		08/14/20 08:16	08/18/20 13:43	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 13:43	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 13:43	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 13:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*22 - 120*	*08/14/20 08:16*	*08/18/20 13:43*	*1*
DCB Decachlorobiphenyl	*50*		*10 - 120*	*08/14/20 08:16*	*08/18/20 13:43*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081020-SSH-2007
Date Collected: 08/10/20 11:15
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-5
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 13:58	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 13:58	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 13:58	1
Aroclor-1242	**1.0**		0.095	0.072	ug/L		08/14/20 08:16	08/18/20 13:58	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 13:58	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 13:58	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 13:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*68*		*22 - 120*	*08/14/20 08:16*	*08/18/20 13:58*	*1*
DCB Decachlorobiphenyl	*42*		*10 - 120*	*08/14/20 08:16*	*08/18/20 13:58*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081020-SSH-2008
Date Collected: 08/10/20 13:16
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-6
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 14:13	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 14:13	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 14:13	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L		08/14/20 08:16	08/18/20 14:13	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 14:13	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 14:13	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*76*		*22 - 120*	*08/14/20 08:16*	*08/18/20 14:13*	*1*
DCB Decachlorobiphenyl	*60*		*10 - 120*	*08/14/20 08:16*	*08/18/20 14:13*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081120-SSH-2009
Date Collected: 08/11/20 09:11
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-7
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 14:28	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 14:28	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 14:28	1
Aroclor-1242	**0.095**		0.095	0.072	ug/L		08/14/20 08:16	08/18/20 14:28	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 14:28	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 14:28	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 14:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*22 - 120*	*08/14/20 08:16*	*08/18/20 14:28*	*1*
DCB Decachlorobiphenyl	*41*		*10 - 120*	*08/14/20 08:16*	*08/18/20 14:28*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081120-SSH-2010
Date Collected: 08/11/20 10:21
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-8
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 14:43	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 14:43	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 14:43	1
Aroclor-1242	**0.16**		0.095	0.072	ug/L		08/14/20 08:16	08/18/20 14:43	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 14:43	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 14:43	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 14:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*22 - 120*	*08/14/20 08:16*	*08/18/20 14:43*	*1*
DCB Decachlorobiphenyl	*50*		*10 - 120*	*08/14/20 08:16*	*08/18/20 14:43*	*1*

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Client Sample ID: GW-11208058-081120-SSH-2011
Date Collected: 08/11/20 11:31
Date Received: 08/12/20 11:00

Lab Sample ID: 240-134837-9
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		08/14/20 08:16	08/18/20 15:28	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		08/14/20 08:16	08/18/20 15:28	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		08/14/20 08:16	08/18/20 15:28	1
Aroclor-1242	**0.95**		0.095	0.072	ug/L		08/14/20 08:16	08/18/20 15:28	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		08/14/20 08:16	08/18/20 15:28	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		08/14/20 08:16	08/18/20 15:28	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		08/14/20 08:16	08/18/20 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*73*		*22 - 120*	*08/14/20 08:16*	*08/18/20 15:28*	*1*
DCB Decachlorobiphenyl	*24*	*p*	*10 - 120*	*08/14/20 08:16*	*08/18/20 15:28*	*1*

Client: GHD Services Inc.
Job ID: 240-134837-1
Project/Site: 11208058, RACER Bay City

GC Semi VOA

Prep Batch: 447184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134837-1	GW-11208058-081020-SSH-2003	Total/NA	Water	3510C	
240-134837-2	GW-11208058-081020-SSH-2004	Total/NA	Water	3510C	
240-134837-3	GW-11208058-081020-SSH-2005	Total/NA	Water	3510C	
240-134837-4	GW-11208058-081020-SSH-2006	Total/NA	Water	3510C	
240-134837-5	GW-11208058-081020-SSH-2007	Total/NA	Water	3510C	
240-134837-6	GW-11208058-081020-SSH-2008	Total/NA	Water	3510C	
240-134837-7	GW-11208058-081120-SSH-2009	Total/NA	Water	3510C	
240-134837-8	GW-11208058-081120-SSH-2010	Total/NA	Water	3510C	
240-134837-9	GW-11208058-081120-SSH-2011	Total/NA	Water	3510C	
MB 240-447184/22-A	Method Blank	Total/NA	Water	3510C	
LCS 240-447184/23-A	Lab Control Sample	Total/NA	Water	3510C	
240-134837-8 MS	GW-11208058-081120-SSH-2010	Total/NA	Water	3510C	
240-134837-8 MSD	GW-11208058-081120-SSH-2010	Total/NA	Water	3510C	

Analysis Batch: 447549

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-134837-1	GW-11208058-081020-SSH-2003	Total/NA	Water	8082A	447184
240-134837-2	GW-11208058-081020-SSH-2004	Total/NA	Water	8082A	447184
240-134837-3	GW-11208058-081020-SSH-2005	Total/NA	Water	8082A	447184
240-134837-4	GW-11208058-081020-SSH-2006	Total/NA	Water	8082A	447184
240-134837-5	GW-11208058-081020-SSH-2007	Total/NA	Water	8082A	447184
240-134837-6	GW-11208058-081020-SSH-2008	Total/NA	Water	8082A	447184
240-134837-7	GW-11208058-081120-SSH-2009	Total/NA	Water	8082A	447184
240-134837-8	GW-11208058-081120-SSH-2010	Total/NA	Water	8082A	447184
240-134837-9	GW-11208058-081120-SSH-2011	Total/NA	Water	8082A	447184
MB 240-447184/22-A	Method Blank	Total/NA	Water	8082A	447184
LCS 240-447184/23-A	Lab Control Sample	Total/NA	Water	8082A	447184
240-134837-8 MS	GW-11208058-081120-SSH-2010	Total/NA	Water	8082A	447184
240-134837-8 MSD	GW-11208058-081120-SSH-2010	Total/NA	Water	8082A	447184

Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 240-447184/22-A
Matrix: Water
Analysis Batch: 447549

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 447184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		08/14/20 08:16	08/18/20 09:29	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		08/14/20 08:16	08/18/20 09:29	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		08/14/20 08:16	08/18/20 09:29	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		08/14/20 08:16	08/18/20 09:29	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		08/14/20 08:16	08/18/20 09:29	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		08/14/20 08:16	08/18/20 09:29	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		08/14/20 08:16	08/18/20 09:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Tetrachloro-m-xylene	*82*		*22 - 120*	*08/14/20 08:16*	*08/18/20 09:29*	*1*
DCB Decachlorobiphenyl	*90*		*10 - 120*	*08/14/20 08:16*	*08/18/20 09:29*	*1*

Lab Sample ID: LCS 240-447184/23-A
Matrix: Water
Analysis Batch: 447549

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 447184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.86		ug/L		74	28 - 120
Aroclor-1260	2.50	1.88		ug/L		75	30 - 120

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*79*		*22 - 120*
DCB Decachlorobiphenyl	*82*		*10 - 120*

Lab Sample ID: 240-134837-8 MS
Matrix: Water
Analysis Batch: 447549

Client Sample ID: GW-11208058-081120-SSH-2010
Prep Type: Total/NA
Prep Batch: 447184

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	0.095	U	2.38	1.77		ug/L		74	14 - 120
Aroclor-1260	0.095	U	2.38	1.61		ug/L		68	10 - 120

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Tetrachloro-m-xylene	*74*		*22 - 120*
DCB Decachlorobiphenyl	*45*		*10 - 120*

Lab Sample ID: 240-134837-8 MSD
Matrix: Water
Analysis Batch: 447549

Client Sample ID: GW-11208058-081120-SSH-2010
Prep Type: Total/NA
Prep Batch: 447184

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	1.64		ug/L		69	14 - 120	8	30
Aroclor-1260	0.095	U	2.38	1.38		ug/L		58	10 - 120	15	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*69*		*22 - 120*
DCB Decachlorobiphenyl	*44*		*10 - 120*

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

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)										
240-134837-1	GW-11208058-081020-SSH-20(	80	30										
240-134837-2	GW-11208058-081020-SSH-2004	72	45										
240-134837-3	GW-11208058-081020-SSH-2005	81	47										
240-134837-4	GW-11208058-081020-SSH-2006	76	50										
240-134837-5	GW-11208058-081020-SSH-2007	68	42										
240-134837-6	GW-11208058-081020-SSH-2008	76	60										
240-134837-7	GW-11208058-081120-SSH-2009	73	41										
240-134837-8	GW-11208058-081120-SSH-2010	73	50										
240-134837-8 MS	GW-11208058-081120-SSH-2010	74	45										
240-134837-8 MSD	GW-11208058-081120-SSH-2010	69	44										
240-134837-9	GW-11208058-081120-SSH-2011	73	24 p										
LCS 240-447184/23-A	Lab Control Sample	79	82										
MB 240-447184/22-A	Method Blank	82	90										

Surrogate Legend

TCX = Tetrachloro-m-xylene

DCBP = DCB Decachlorobiphenyl

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 11208058, RACER Bay City

Job ID: 240-134837-1

Client Sample ID: GW-11208058-081020-SSH-2003
Lab Sample ID: 240-134837-1
Date Collected: 08/10/20 08:36
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 12:58	KMG	TAL CAN

Client Sample ID: GW-11208058-081020-SSH-2004
Lab Sample ID: 240-134837-2
Date Collected: 08/10/20 09:21
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 13:13	KMG	TAL CAN

Client Sample ID: GW-11208058-081020-SSH-2005
Lab Sample ID: 240-134837-3
Date Collected: 08/10/20 09:31
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 13:28	KMG	TAL CAN

Client Sample ID: GW-11208058-081020-SSH-2006
Lab Sample ID: 240-134837-4
Date Collected: 08/10/20 10:16
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 13:43	KMG	TAL CAN

Client Sample ID: GW-11208058-081020-SSH-2007
Lab Sample ID: 240-134837-5
Date Collected: 08/10/20 11:15
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 13:58	KMG	TAL CAN

Client Sample ID: GW-11208058-081020-SSH-2008
Lab Sample ID: 240-134837-6
Date Collected: 08/10/20 13:16
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 14:13	KMG	TAL CAN

Lab Chronicle

Client: GHD Services Inc.
Job ID: 240-134837-1
Project/Site: 11208058, RACER Bay City

Client Sample ID: GW-11208058-081120-SSH-2009
Lab Sample ID: 240-134837-7

Date Collected: 08/11/20 09:11
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 14:28	KMG	TAL CAN

Client Sample ID: GW-11208058-081120-SSH-2010
Lab Sample ID: 240-134837-8

Date Collected: 08/11/20 10:21
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 14:43	KMG	TAL CAN

Client Sample ID: GW-11208058-081120-SSH-2011
Lab Sample ID: 240-134837-9

Date Collected: 08/11/20 11:31
Matrix: Water
Date Received: 08/12/20 11:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3510C			447184	08/14/20 08:16	BMB	TAL CAN
Total/NA	Analysis	8082A		1	447549	08/18/20 15:28	KMG	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: GHD Services Inc.
Job ID: 240-134837-1
Project/Site: 11208058, RACER Bay City

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.

4.3/5.2 1.3/2.2 4.3/5.2

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: S. Hoevenaar	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-68810-28266.2
Client Contact: Ms. Ruth Mickle	Phone: 616 437 7734	E-Mail: Denise.Heckler@Eurofinset.com		Page: Page 1 of 2
Company: GHD Services Inc.		Analysis Requested		Job #:
Address: 26850 Haggerty Rd.	Due Date Requested: 8/26/20			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Farmington Hills	TAT Requested (days): 14			
State, Zip: MI, 48331				
Phone: 248 893 3400	PO #: Purchase Order Requested			Other:
Email: ruth.mickle@ghd.com	WO #: 11208058			
Project Name: 11208058, RACER Bay City	Project #: 24006288			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8082A - PCBs	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
GW-11208058-081020-SSH-2003	8/10/20	0836	G	Water	N	N	X		
-2004		0921	G		N	N	X		
-2005		0931	G		N	N	X		
-2006		1016	G		N	N	X		
-2007		1115	G		N	N	X		
GW-11208058-081020-SSH-2008		1316	G		N	N	X		
GW-11208058-081120-SSH-2009	8/11/20	0911	G		N	N	X		
-2010		1021	G		N	Y	X		MS/MSD
-2011		1131	G		N	N	X		

240-134837 Chain of Custody

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by:	Date/Time: 8/11/20 1300	Company GHD	Received by:	Date/Time: 8-12-20 1100	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1244155 – 1244157	Cooler Temperature(s) °C and Other Remarks:

Ver: 01/16/2019

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 240-134837**
Canton Facility

Client CHD Site Name _____ Cooler unpacked by:

Cooler Received on 8-12-20 Opened on 8-12-20

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # _____ 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 3	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

Login # : ____________

Eurofins TestAmerica Canton Sample Receipt Multiple Cooler Form				
Cooler Description (Circle)	**IR Gun # (Circle)**	**Observed Temp °C**	**Corrected Temp °C**	**Coolant (Circle)**
TA Client Box Other	IR-10 **IR-11**	4.3	5.2	**Wet Ice** Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 **IR-11**	1.3	2.2	**Wet Ice** Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 **IR-11**	4.3	5.2	**Wet Ice** Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
TA Client Box Other	IR-10 IR-11			Wet Ice Blue Ice Dry Ice Water None
				☐ See Temperature Excursion Form

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