

GHD Reference No: 11208058-Whom-10

January 29, 2024

City of Bay City WWTP  
Attn: IPP Coordinator  
2905 North Water Street  
Bay City, Michigan, 48708

**Semi-Annual Compliance Report (July 1 to December 31, 2023)**  
**RACER Bay City Industrial Land**  
**Bay City, Michigan**

To Whom It May Concern,

The following letter has been prepared by GHD on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER) in accordance with Part 4 Section 3 of Industrial User (IU) permit No. 120807 as the semi-annual compliance report for the period July 1 to December 31, 2023, for RACER's groundwater extraction and treatment system located at the north end of Crotty Street in Bay City, Michigan (Site).

The groundwater extraction and treatment system operated consistently for the first three weeks of this semi-annual period with the exception of short periods when the system was down for maintenance or as a result of an alarm condition. However, breakthrough concentrations of PCBs (0.29 µg/L) and mercury (0.16 µg/L) were detected in the June 30, 2023 composite effluent compliance sample, reported on July 13, 2023, which exceeded the discharge permit limits of non-detect with no detection limit exceeding 0.2 µg/L. Following multiple attempts to troubleshoot the system and re-collect a confirmation sample, the groundwater extraction and treatment system was shut down on August 7, 2023. Following replacement of the GAC drums and bag filters, the treatment system was started on October 16, 2023 for one day, with discharge containerized in an on-Site tote (therefore not released to the sewer). A 24-hour composite effluent compliance sample was collected on October 17, 2023 and analyzed on a rush turn-around-time. No PCBs or mercury were detected in the October 17 composite effluent compliance sample, and the entire extraction and treatment system was restarted on October 27, 2023. On November 11, 2023, a grab effluent sample was collected and analysed for PCBs to confirm the system was continuing to operate properly. There were no detections.

Table 1 presents the results of the required semi-annual effluent samples collected from the RACER groundwater extraction and treatment system between June 30, 2023 and January 16, 2024. Attachment 1 presents the laboratory analytical reports.

The treatment system requires additional cleaning/maintenance which is scheduled for spring 2024.

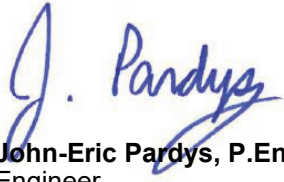
Table 2 presents the flow readings collected periodically from the flow meter.

The RACER groundwater extraction and treatment system is operated and maintained by John York (GHD).

See Attachment 2 for the certification statement prepared in accordance with Section 106-23(d) of the Bay City sewer ordinance.

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

Sincerely,



**John-Eric Pardys, P.Eng.**  
Engineer

+1 519 340-4316  
john-eric.pardys@ghd.com

JG/kf/10

cc: Grant Trigger (RACER)  
Brendan Mullen (RACER)  
Dave Favero (RACER)

Encl. Table 1 – Effluent Results Summary  
Table 2 – Flow Meter Readings  
Attachment 1 - Laboratory Analytical Report  
Attachment 2 – Certification Statement

**Table 1**  
**Analytical Results Summary**  
**Sampling**  
**Bay City Industrial Land**  
**Bay City, Michigan**

Sample Location:			effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS	effluent-GWTS
Sample ID:			GW-11208058-063023-JY-001	GW-11208058-063023-JY-002	W-11208058-101723-JY-003	W-11208058-101723-JY-004	GW-11208058-111323-JY-006	W-11208058-011624-JY-002	W-11208058-011624-JY-003
Sample Date:			6/30/2023	6/30/2023	10/17/2023	10/17/2023	11/13/2023	1/16/2024	1/16/2024
Parameters	Units	Daily Maximum <sup>(1)</sup>	Grab	Composite	Grab	Composite	Grab (Confirmation)	Grab	Composite
<b>VOAs</b>									
Vinyl chloride	mg/L	0.002	0.001	-	0.001 U	-	-	0.001 U	-
<b>Metals</b>									
Cadmium	mg/L	0.057	-	0.002	-	0.002 U	-	-	0.002 U
Chromium	mg/L	6.812	-	0.0014	-	0.001 J	-	-	0.005 U
Copper	mg/L	1.476	-	0.02	-	0.02 U	-	-	0.02 U
Iron	mg/L	--	-	5.3	-	1	-	-	0.1 U
Lead	mg/L	0.632	-	0.003	-	0.003 U	-	-	0.003 U
Mercury	mg/L	ND	-	0.00016	-	0.0002 U	-	-	0.0002 U
Nickel	mg/L	2.548	-	0.0051	-	0.0037 J	-	-	0.0022 J
Silver	mg/L	0.2	-	0.005	-	0.005 U	-	-	0.005 U
<b>PCBs</b>									
Aroclor-1016 (PCB-1016)	mg/L	ND	-	0.000096	-	0.000098 U	0.000095 U	-	0.000096 U
Aroclor-1221 (PCB-1221)	mg/L	ND	-	0.000096	-	0.000098 U	0.000095 U	-	0.000096 U
Aroclor-1232 (PCB-1232)	mg/L	ND	-	0.000096	-	0.000098 U	0.000095 U	-	0.000096 U
Aroclor-1242 (PCB-1242)	mg/L	ND	-	0.00029	-	0.000098 U	0.000095 U	-	0.000096 U
Aroclor-1248 (PCB-1248)	mg/L	ND	-	0.000096	-	0.000098 U	0.000095 U	-	0.000096 U
Aroclor-1254 (PCB-1254)	mg/L	ND	-	0.000096	-	0.000098 U	0.000095 U	-	0.000096 U
Aroclor-1260 (PCB-1260)	mg/L	ND	-	0.000096	-	0.000098 U	0.000095 U	-	0.000096 U
<b>Wet</b>									
Ammonia-N	mg/L	30	-	13	-	0.61	-	-	9.0
Biochemical oxygen demand (BOD)	mg/L	835	-	2.0 U	-	2.0 U	-	-	2.0 U
Chemical oxygen demand (COD)	mg/L	1670	-	15	-	10 U	-	-	5.1 J
Oil and grease (HEM), total	mg/L	100	2.8	-	4.3 J	-	-	2.2 J	-
pH, lab	s.u.	6.5 to 11.0	7.1	-	7.6 HF	-	-	7.2 HF	-
Phosphorus	mg/L	13.8	-	0.10	-	0.085 J	-	-	0.10 U
Total suspended solids (TSS)	mg/L	1336	-	9.8	-	1.6 J	-	-	4.0 U

Notes:

- (1) Bay City Industrial User Discharge Permit (120807)
- J Estimated concentration
- JB Estimated quantity - also detected in the method blank.
- 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.
- U Not detected at the associated reporting limit.
- ^+ Continuing Calibration Verification (CCV) is outside acceptance limits, high biased.

**Flow Meter Readings  
Bay City Industrial Land  
Bay City, Michigan**

<b>Date</b>	<b>Flow Meter Totalized Reading (gallons)</b>	<b>Cumulative Total: (gallons)</b>	<b>Volume to be Invoiced Annually (July to June 30)</b>	<b>Comments</b>
7-Nov-23	836,099	1,582,197		- City collecting sample
27-Oct-23	833,943	1,580,041		- System start-up
17-Oct-23				- Collected effluent sample, shutdown
16-Oct-23	833,137	1,579,235		- Start system for effluent sample
11-Sep-23	833,113	1,579,211		- System not operating
7-Aug-23				- System shut down
2-Aug-23	832,734	1,578,832		
7-Jul-23	828,158	1,574,256		
30-Jun-23	826,566	1,572,664	<b>213,090</b>	- Collected effluent sample, City invoiced for discharge
12-Jun-23	813,114	1,559,212		
5-May-23	784,200	1,530,298		
10-Apr-23	783,184	1,529,282		
20-Mar-23	777,866	1,523,964		
14-Feb-23	762,917	1,509,015		
16-Jan-23	757,367	1,503,465		- Collected effluent sample
5-Dec-22	700,568	1,446,666		
21-Nov-22	689,378	1,435,476		
25-Oct-22	688,227	1,434,325		
12-Sep-22	684,028	1,430,126		
23-Aug-22	672,428	1,418,526		- Collected effluent sample
17-Jun-22	619,110	1,365,208		
13-Jun-22	613,476	1,359,574	<b>204,431</b>	- City invoiced for discharge - Collected effluent sample
26-May-22				
24-May-22	610,180	1,356,278		
26-Apr-22	592,790	1,338,888		
23-Mar-22	592,060	1,338,158		
1-Mar-22	580,971	1,327,069		
24-Jan-22	580,938	1,327,036		
27-Dec-21	553,735	1,299,833		
23-Dec-21				- Collected effluent sample
29-Nov-21	533,997	1,280,095		
27-Sep-21	475,843	1,221,941		
20-Aug-21	436,048	1,182,146		
30-Jul-21	421,003	1,167,101		
23-Jun-21	409,045	1,155,143	<b>139,856</b>	- Collected effluent sample and City invoiced for discharge
27-May-21	400,420	1,146,518		
29-Apr-21	397,390	1,143,488		
23-Mar-21	371,797	1,117,895		
22-Feb-21	348,776	1,094,874		
21-Dec-20	308,935	1,055,033		
10-Dec-20				- Collected effluent sample
9-Dec-20	304,649	1,050,747		
12-Oct-20	278,099	1,024,197		
10-Sep-20	277,899	1,023,997		
25-Aug-20	277,020	1,023,118		
22-Jul-20	274,190	1,020,288		
22-Jun-20	270,975	1,017,073		
4-Jun-20	269,189	1,015,287	<b>124,809</b>	- City invoiced for discharge - Collected effluent sample
28-May-20	268,089	1,014,187		
28-Apr-20	263,922	1,010,020		
25-Mar-20	248,006	994,104		
20-Feb-20	227,965	974,063		
27-Jan-20	220,321	966,419		

**Flow Meter Readings  
Bay City Industrial Land  
Bay City, Michigan**

<b>Date</b>	<b>Flow Meter Totalized Reading (gallons)</b>	<b>Cumulative Total: (gallons)</b>	<b>Volume to be Invoiced Annually (July to June 30)</b>	<b>Comments</b>
5-Dec-19	200,031	946,129		- Collected PFAS effluent sample
25-Nov-19	192,582	938,680		
29-Oct-19	176,533	922,631		
28-Aug-19	168,508	914,606		
17-Jul-19	159,490	905,588		
17-Jun-19	144,380	890,478	<b>122,047</b>	- City invoiced for discharge
31-May-19				- Collected effluent sample
17-May-19	123,482	869,580		
19-Apr-19	105,745	851,843		
22-Mar-19	81,364	827,462		
28-Feb-19	77,720	823,818		
29-Jan-19	77,720	823,818		
20-Jan-19				- Collected effluent sample
12-Dec-18	77,570	823,668		- Collected effluent sample
29-Nov-18	76,972	823,070		
26-Sep-18	59,303	805,401		
30-Aug-18	53,199	799,297		
30-Jul-18	52,454	798,552		
20-Jun-18	35,274	781,372		
1-Jun-18				- Collected effluent sample
1-Jun-18	22,333	768,431	<b>88,271</b>	- City invoiced for discharge
31-May-18	20,490	766,588		
30-Apr-18	18,529	764,627		
29-Mar-18	11,243	757,341		
8-Mar-18	122,667	746,098		- Last reading before
8-Mar-18	0	746,098		- New Flow meter installed
30-Nov-17				- Collected effluent sample
25-Oct-17	73,702	697,133		
12-Jul-17	60,991	684,422		
28-Jun-17	56,911	680,342		
13-Jun-17	56,729	680,160	<b>137,544</b>	- City invoiced for discharge
22-May-17	56,722	680,153		
9-May-17				- Collected effluent sample
27-Apr-17	55,126	678,557		
2-Feb-17	5,813	629,244		
16-Jan-17				- Collected effluent sample
14-Jan-17	609,074	623,431		
14-Jan-17	0	623,431		
16-Dec-16	609,074	623,431		
11-Nov-16	608,980	623,337		
28-Oct-16	608,865	623,222		
30-Sep-16	607,717	622,074		
31-Aug-16	607,298	621,655		
20-Jul-16	561,893	576,250		
29-Jun-16	556,457	570,814		
14-Jun-16	528,259	542,616	<b>523,666</b>	- Collected effluent sample,
31-May-16	521,920	536,277		
27-Apr-16	462,204	476,561		
21-Mar-16	409,836	424,193		
29-Feb-16	394,550	408,907		
10-Feb-16	387,410	401,767		

**Flow Meter Readings  
Bay City Industrial Land  
Bay City, Michigan**

<b>Date</b>	<b>Flow Meter Totalized Reading (gallons)</b>	<b>Cumulative Total: (gallons)</b>	<b>Volume to be Invoiced Annually (July to June 30)</b>	<b>Comments</b>
30-Dec-15	351,550	365,907		
10-Dec-15				- Collected effluent sample
23-Nov-15	289,731	304,088		
30-Oct-15	260,771	275,128		
29-Sep-15	252,638	266,995		
28-Aug-15	241,397	255,754		
29-Jul-15	232,315	246,672		
30-Jun-15	232,315	246,672		
25-Jun-15	232,315	246,672		
18-Jun-15	224,490	238,847		
6-May-15	197,766	212,123		
30-Apr-15	175,234	189,591		
19-Mar-15	67,425	81,782		
16-Mar-15				- Collected effluent sample
13-Feb-15	46,303	60,660		
27-Jan-15	31,004	45,361		
29-Dec-14	31,004	45,361		
26-Nov-14	31,004	45,361		
23-Oct-14	31,004	45,361		
23-Sep-14	11,504	25,861		
5-Sep-14	6,337	20,694		- Collected effluent sample
18-Aug-14	4,593	18,950		
28-Jul-14	4,593	18,950		
16-Jun-14	4,593	18,950	<b>18,950</b>	- City invoiced for discharge

# Attachment 1

## Laboratory Analytical Report

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Ruth Mickle  
GHD Services Inc.  
26850 Haggerty Rd.  
Farmington Hills, Michigan 48331

Generated 7/13/2023 8:09:02 AM

## JOB DESCRIPTION

11208058, RACER Bay City

## JOB NUMBER

240-187979-1

# Eurofins Cleveland

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



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Authorized for release by  
Denise Heckler, Project Manager II  
[Denise.Heckler@et.eurofinsus.com](mailto:Denise.Heckler@et.eurofinsus.com)  
(330)966-9477



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# Case Narrative

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

Job ID: 240-187979-1

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## Job ID: 240-187979-1

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### Laboratory: Eurofins Cleveland

#### Narrative

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#### Job Narrative 240-187979-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 7/1/2023 9:35 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.1° C.

#### GC/MS VOA

Method 624.1: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container(s): GW-11208058-063023-JY-001 (240-187979-1).

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

#### GC Semi VOA

Method 608.3: The following sample appears to contain polychlorinated biphenyls (PCBs); however, due to weathering, other environmental processes and/or contributions from the presence of multiple Aroclors, resulting in overlapping PCB patterns, the PCBs in the sample do not directly match any of the laboratory's Aroclor standards used for instrument calibration: GW-11208058-063023-JY-002 (240-187979-2). The sample has been quantified and reported using the best overall Aroclor/standard pattern match relative to the reference standards.

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) fall below the laboratory's verified standard quantitation limit. The continuing calibration blanks and method blanks may not support the lower PQL.

Method 245.1: The method blank for preparation batch 240-579732 contained Mercury above the reporting limit (RL). None of the samples associated with this method blank contained mercury above the reporting limit; therefore, re-digestion of samples were not performed. GW-11208058-063023-JY-002 (240-187979-2)

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 glucose-glutamic acid standard (LCS) recovered outside the recovery limits specified in the method in batch 240-579274. The method holding time had expired, therefore the analysis was not repeated. The data was qualified and reported.

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 240-579829.

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: 240-187979-1

## 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
B	Compound was found in the blank and sample.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

### General Chemistry

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

Eurofins Cleveland

# Sample Summary

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

Job ID: 240-187979-1

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<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
240-187979-1	GW-11208058-063023-JY-001	Water	06/30/23 09:30	07/01/23 09:35
240-187979-2	GW-11208058-063023-JY-002	Water	06/30/23 10:00	07/01/23 09:35
240-187979-3	TRIP BLANK	Water	06/30/23 00:00	07/01/23 09:35

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- 2
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# Detection Summary

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

Job ID: 240-187979-1

## Client Sample ID: GW-11208058-063023-JY-001

## Lab Sample ID: 240-187979-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM	2.8	J	4.9	0.99	mg/L	1		1664B	Total/NA
pH	7.1	HF	0.1	0.1	SU	1		4500 H+ B-2000	Total/NA

## Client Sample ID: GW-11208058-063023-JY-002

## Lab Sample ID: 240-187979-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	0.29		0.096	0.073	ug/L	1		608.3	Total/NA
Chromium	1.4	J	5.0	0.76	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	5300		100	83	ug/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	5.1	J	20	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Mercury	0.16	J B	0.20	0.13	ug/L	1		245.1	Total/NA
Chemical Oxygen Demand	15		10	1.8	mg/L	1		410.4	Total/NA
Ammonia	13		2.0	0.76	mg/L	10		4500 NH3 H	Total/NA
Total Suspended Solids	9.8		4.0	0.40	mg/L	1		SM 2540D	Total/NA

## Client Sample ID: TRIP BLANK

## Lab Sample ID: 240-187979-3

No Detections.

This Detection Summary does not include radiochemical test results.

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# Method Summary

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

Job ID: 240-187979-1

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

#### Protocol References:

- 1664B = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

- EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Client Sample Results

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

Job ID: 240-187979-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-11208058-063023-JY-001

Date Collected: 06/30/23 09:30

Date Received: 07/01/23 09:35

Lab Sample ID: 240-187979-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/10/23 16:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		62 - 137					07/10/23 16:23	1
4-Bromofluorobenzene (Surr)	91		56 - 136					07/10/23 16:23	1
Toluene-d8 (Surr)	99		78 - 122					07/10/23 16:23	1

# Client Sample Results

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

Job ID: 240-187979-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: TRIP BLANK

Date Collected: 06/30/23 00:00

Date Received: 07/01/23 09:35

Lab Sample ID: 240-187979-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.45	ug/L			07/10/23 14:41	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	90		62 - 137					07/10/23 14:41	1
4-Bromofluorobenzene (Surr)	90		56 - 136					07/10/23 14:41	1
Toluene-d8 (Surr)	100		78 - 122					07/10/23 14:41	1

# Client Sample Results

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

Job ID: 240-187979-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: GW-11208058-063023-JY-002**

**Lab Sample ID: 240-187979-2**

**Date Collected: 06/30/23 10:00**

**Matrix: Water**

**Date Received: 07/01/23 09:35**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	0.054	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
Aroclor-1221	0.096	U	0.096	0.055	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
Aroclor-1232	0.096	U	0.096	0.071	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
<b>Aroclor-1242</b>	<b>0.29</b>		0.096	0.073	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
Aroclor-1248	0.096	U	0.096	0.048	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
Aroclor-1254	0.096	U	0.096	0.038	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
Aroclor-1260	0.096	U	0.096	0.044	ug/L	-	07/07/23 08:31	07/10/23 12:54	1
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>DCB Decachlorobiphenyl</i>	71		10 - 174				07/07/23 08:31	07/10/23 12:54	1
<i>Tetrachloro-m-xylene</i>	66		10 - 149				07/07/23 08:31	07/10/23 12:54	1

# Client Sample Results

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

Job ID: 240-187979-1

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

**Client Sample ID: GW-11208058-063023-JY-002**

**Lab Sample ID: 240-187979-2**

**Date Collected: 06/30/23 10:00**

**Matrix: Water**

**Date Received: 07/01/23 09:35**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L	-	07/07/23 14:00	07/10/23 15:12	1
Cadmium	2.0	U	2.0	0.45	ug/L	-	07/07/23 14:00	07/10/23 15:12	1
<b>Chromium</b>	<b>1.4</b>	<b>J</b>	5.0	0.76	ug/L	-	07/07/23 14:00	07/10/23 15:12	1
Copper	20	U	20	3.5	ug/L	-	07/07/23 14:00	07/10/23 15:12	1
<b>Iron</b>	<b>5300</b>		100	83	ug/L	-	07/07/23 14:00	07/10/23 15:12	1
<b>Nickel</b>	<b>5.1</b>	<b>J</b>	20	2.2	ug/L	-	07/07/23 14:00	07/10/23 15:12	1
Lead	3.0	U	3.0	2.8	ug/L	-	07/07/23 14:00	07/10/23 15:12	1



# Client Sample Results

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

Job ID: 240-187979-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: GW-11208058-063023-JY-002

Date Collected: 06/30/23 10:00

Date Received: 07/01/23 09:35

Lab Sample ID: 240-187979-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.16	J B	0.20	0.13	ug/L		07/06/23 14:00	07/07/23 14:36	1

# Client Sample Results

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

Job ID: 240-187979-1

## General Chemistry

Client Sample ID: GW-11208058-063023-JY-001

Lab Sample ID: 240-187979-1

Date Collected: 06/30/23 09:30

Matrix: Water

Date Received: 07/01/23 09:35

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (1664B)	2.8	J	4.9	0.99	mg/L			07/07/23 09:03	1
pH (SM 4500 H+ B-2000)	7.1	HF	0.1	0.1	SU			07/05/23 10:17	1

# Client Sample Results

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

Job ID: 240-187979-1

## General Chemistry

**Client Sample ID: GW-11208058-063023-JY-002**

**Date Collected: 06/30/23 10:00**

**Date Received: 07/01/23 09:35**

**Lab Sample ID: 240-187979-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Chemical Oxygen Demand (EPA 410.4)</b>	<b>15</b>		10	1.8	mg/L			07/07/23 10:55	1
<b>Ammonia (SM 4500 NH3 H)</b>	<b>13</b>		2.0	0.76	mg/L			07/11/23 15:17	10
Biochemical Oxygen Demand (SM 5210B-2001)	2.0	U *	2.0	2.0	mg/L			07/01/23 14:05	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>9.8</b>		4.0	0.40	mg/L			07/05/23 08:42	1
Total Phosphorus as P (SM4500 P E-1999)	0.10	U	0.10	0.076	mg/L			07/12/23 09:14	1



# QC Association Summary

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

Job ID: 240-187979-1

## GC/MS VOA

### Analysis Batch: 580006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-1	GW-11208058-063023-JY-001	Total/NA	Water	624.1	
240-187979-3	TRIP BLANK	Total/NA	Water	624.1	
MB 240-580006/9	Method Blank	Total/NA	Water	624.1	
LCS 240-580006/5	Lab Control Sample	Total/NA	Water	624.1	

## GC Semi VOA

### Prep Batch: 579829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	608	
MB 240-579829/12-A	Method Blank	Total/NA	Water	608	
LCS 240-579829/13-A	Lab Control Sample	Total/NA	Water	608	

### Analysis Batch: 580073

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	608.3	579829
MB 240-579829/12-A	Method Blank	Total/NA	Water	608.3	579829
LCS 240-579829/13-A	Lab Control Sample	Total/NA	Water	608.3	579829

## Metals

### Prep Batch: 579731

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total Recoverable	Water	200.7	
MB 240-579731/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-579731/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-187979-2 MS	GW-11208058-063023-JY-002	Total Recoverable	Water	200.7	
240-187979-2 MSD	GW-11208058-063023-JY-002	Total Recoverable	Water	200.7	

### Prep Batch: 579732

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	245.1	
MB 240-579732/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-579732/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-187979-2 MS	GW-11208058-063023-JY-002	Total/NA	Water	245.1	
240-187979-2 MSD	GW-11208058-063023-JY-002	Total/NA	Water	245.1	

### Analysis Batch: 580069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	245.1	579732
MB 240-579732/1-A	Method Blank	Total/NA	Water	245.1	579732
LCS 240-579732/2-A	Lab Control Sample	Total/NA	Water	245.1	579732
240-187979-2 MS	GW-11208058-063023-JY-002	Total/NA	Water	245.1	579732
240-187979-2 MSD	GW-11208058-063023-JY-002	Total/NA	Water	245.1	579732

### Analysis Batch: 580082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total Recoverable	Water	200.7 Rev 4.4	579731
MB 240-579731/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	579731
LCS 240-579731/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	579731
240-187979-2 MS	GW-11208058-063023-JY-002	Total Recoverable	Water	200.7 Rev 4.4	579731
240-187979-2 MSD	GW-11208058-063023-JY-002	Total Recoverable	Water	200.7 Rev 4.4	579731

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# QC Association Summary

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

Job ID: 240-187979-1

## General Chemistry

### Analysis Batch: 579274

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	5210B-2001	
SCB 240-579274/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-579274/1	Method Blank	Total/NA	Water	5210B-2001	
LCS 240-579274/3	Lab Control Sample	Total/NA	Water	5210B-2001	

### Analysis Batch: 579557

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	SM 2540D	
MB 240-579557/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-579557/2	Lab Control Sample	Total/NA	Water	SM 2540D	

### Analysis Batch: 579592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-1	GW-11208058-063023-JY-001	Total/NA	Water	4500 H+ B-2000	
LCS 240-579592/2	Lab Control Sample	Total/NA	Water	4500 H+ B-2000	
LCSD 240-579592/3	Lab Control Sample Dup	Total/NA	Water	4500 H+ B-2000	
240-187979-1 DU	GW-11208058-063023-JY-001	Total/NA	Water	4500 H+ B-2000	

### Analysis Batch: 579846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-1	GW-11208058-063023-JY-001	Total/NA	Water	1664B	
MB 240-579846/1	Method Blank	Total/NA	Water	1664B	
LCS 240-579846/2	Lab Control Sample	Total/NA	Water	1664B	

### Analysis Batch: 579878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	410.4	
MB 240-579878/41	Method Blank	Total/NA	Water	410.4	
LCS 240-579878/42	Lab Control Sample	Total/NA	Water	410.4	

### Analysis Batch: 580109

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-580109/44	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 240-580109/45	Lab Control Sample	Total/NA	Water	4500 NH3 H	

### Analysis Batch: 580314

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	4500 NH3 H	
MB 240-580314/14	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 240-580314/15	Lab Control Sample	Total/NA	Water	4500 NH3 H	

### Analysis Batch: 580328

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-187979-2	GW-11208058-063023-JY-002	Total/NA	Water	SM4500 P E-1999	
MB 240-580328/3	Method Blank	Total/NA	Water	SM4500 P E-1999	
LCS 240-580328/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	

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# QC Sample Results

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

Job ID: 240-187979-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-580006/9**  
**Matrix: Water**  
**Analysis Batch: 580006**

**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	0.45	ug/L			07/10/23 12:32	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	88		62 - 137					07/10/23 12:32	1
4-Bromofluorobenzene (Surr)	88		56 - 136					07/10/23 12:32	1
Toluene-d8 (Surr)	99		78 - 122					07/10/23 12:32	1

**Lab Sample ID: LCS 240-580006/5**  
**Matrix: Water**  
**Analysis Batch: 580006**

**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	17.8		ug/L		89	5 - 195
Surrogate	%Recovery	LCS Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	88		62 - 137				
4-Bromofluorobenzene (Surr)	95		56 - 136				
Toluene-d8 (Surr)	104		78 - 122				

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 240-579829/12-A**  
**Matrix: Water**  
**Analysis Batch: 580073**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 579829**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		07/07/23 08:31	07/10/23 11:52	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		07/07/23 08:31	07/10/23 11:52	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		07/07/23 08:31	07/10/23 11:52	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		07/07/23 08:31	07/10/23 11:52	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		07/07/23 08:31	07/10/23 11:52	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		07/07/23 08:31	07/10/23 11:52	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		07/07/23 08:31	07/10/23 11:52	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	90		10 - 174				07/07/23 08:31	07/10/23 11:52	1
Tetrachloro-m-xylene	85		10 - 149				07/07/23 08:31	07/10/23 11:52	1

**Lab Sample ID: LCS 240-579829/13-A**  
**Matrix: Water**  
**Analysis Batch: 580073**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 579829**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Aroclor-1016	2.50	2.22		ug/L		89	50 - 140
Aroclor-1260	2.50	2.28		ug/L		91	8 - 140

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# QC Sample Results

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

Job ID: 240-187979-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

**Lab Sample ID: LCS 240-579829/13-A**  
**Matrix: Water**  
**Analysis Batch: 580073**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 579829**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	88		10 - 174
Tetrachloro-m-xylene	84		10 - 149

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

**Lab Sample ID: MB 240-579731/1-A**  
**Matrix: Water**  
**Analysis Batch: 580082**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 579731**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	5.0	U	5.0	0.62	ug/L		07/07/23 14:00	07/10/23 15:04	1
Cadmium	2.0	U	2.0	0.45	ug/L		07/07/23 14:00	07/10/23 15:04	1
Chromium	5.0	U	5.0	0.76	ug/L		07/07/23 14:00	07/10/23 15:04	1
Copper	20	U	20	3.5	ug/L		07/07/23 14:00	07/10/23 15:04	1
Iron	100	U	100	83	ug/L		07/07/23 14:00	07/10/23 15:04	1
Nickel	20	U	20	2.2	ug/L		07/07/23 14:00	07/10/23 15:04	1
Lead	3.0	U	3.0	2.8	ug/L		07/07/23 14:00	07/10/23 15:04	1

**Lab Sample ID: LCS 240-579731/2-A**  
**Matrix: Water**  
**Analysis Batch: 580082**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 579731**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec	Limits
		Result	Qualifier					
Silver	100	99.0		ug/L		99		85 - 115
Cadmium	1000	973		ug/L		97		85 - 115
Chromium	1000	929		ug/L		93		85 - 115
Copper	1000	964		ug/L		96		85 - 115
Iron	10000	9380		ug/L		94		85 - 115
Nickel	1000	947		ug/L		95		85 - 115
Lead	1000	929		ug/L		93		85 - 115

**Lab Sample ID: 240-187979-2 MS**  
**Matrix: Water**  
**Analysis Batch: 580082**

**Client Sample ID: GW-11208058-063023-JY-002**  
**Prep Type: Total Recoverable**  
**Prep Batch: 579731**

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Silver	5.0	U	100	102		ug/L		102		70 - 130
Cadmium	2.0	U	1000	997		ug/L		100		70 - 130
Chromium	1.4	J	1000	952		ug/L		95		70 - 130
Copper	20	U	1000	1000		ug/L		100		70 - 130
Iron	5300		10000	14900		ug/L		97		70 - 130
Nickel	5.1	J	1000	970		ug/L		96		70 - 130
Lead	3.0	U	1000	936		ug/L		94		70 - 130

# QC Sample Results

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

Job ID: 240-187979-1

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

**Lab Sample ID: 240-187979-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 580082**

**Client Sample ID: GW-11208058-063023-JY-002**  
**Prep Type: Total Recoverable**  
**Prep Batch: 579731**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Silver	5.0	U	100	103		ug/L		103	70 - 130	0	20
Cadmium	2.0	U	1000	1010		ug/L		101	70 - 130	1	20
Chromium	1.4	J	1000	960		ug/L		96	70 - 130	1	20
Copper	20	U	1000	1020		ug/L		102	70 - 130	1	20
Iron	5300		10000	15000		ug/L		97	70 - 130	1	20
Nickel	5.1	J	1000	983		ug/L		98	70 - 130	1	20
Lead	3.0	U	1000	944		ug/L		94	70 - 130	1	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 240-579732/1-A**  
**Matrix: Water**  
**Analysis Batch: 580069**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 579732**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Mercury	0.201		0.20	0.13	ug/L		07/06/23 14:00	07/07/23 14:32		1

**Lab Sample ID: LCS 240-579732/2-A**  
**Matrix: Water**  
**Analysis Batch: 580069**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 579732**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec	Limits
		Result	Qualifier				Limits	
Mercury	5.00	4.27		ug/L		85	85 - 115	

**Lab Sample ID: 240-187979-2 MS**  
**Matrix: Water**  
**Analysis Batch: 580069**

**Client Sample ID: GW-11208058-063023-JY-002**  
**Prep Type: Total/NA**  
**Prep Batch: 579732**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec	Limits
	Result	Qualifier		Result	Qualifier					
Mercury	0.16	J B	1.00	1.11		ug/L		96	70 - 130	

**Lab Sample ID: 240-187979-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 580069**

**Client Sample ID: GW-11208058-063023-JY-002**  
**Prep Type: Total/NA**  
**Prep Batch: 579732**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Mercury	0.16	J B	1.00	1.06		ug/L		91	70 - 130	4	20

## Method: 1664B - HEM and SGT-HEM

**Lab Sample ID: MB 240-579846/1**  
**Matrix: Water**  
**Analysis Batch: 579846**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
HEM	5.0	U	5.0	1.0	mg/L			07/07/23 09:03		1

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-187979-1

## Method: 1664B - HEM and SGT-HEM (Continued)

Lab Sample ID: LCS 240-579846/2  
Matrix: Water  
Analysis Batch: 579846

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	35.0		mg/L		88	78 - 114

## Method: 410.4 - COD

Lab Sample ID: MB 240-579878/41  
Matrix: Water  
Analysis Batch: 579878

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	1.8	mg/L			07/07/23 10:55	1

Lab Sample ID: LCS 240-579878/42  
Matrix: Water  
Analysis Batch: 579878

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	46.4	44.8		mg/L		97	90 - 110

## Method: 4500 H+ B-2000 - pH

Lab Sample ID: LCS 240-579592/2  
Matrix: Water  
Analysis Batch: 579592

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.24	9.3		SU		100	97 - 103

Lab Sample ID: LCSD 240-579592/3  
Matrix: Water  
Analysis Batch: 579592

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

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
pH	9.24	9.3		SU		100	97 - 103	0	20

Lab Sample ID: 240-187979-1 DU  
Matrix: Water  
Analysis Batch: 579592

Client Sample ID: GW-11208058-063023-JY-001  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.1	HF	7.1		SU		0.1	20

## Method: 4500 NH3 H - Ammonia

Lab Sample ID: MB 240-580109/44  
Matrix: Water  
Analysis Batch: 580109

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	0.076	mg/L			07/10/23 13:53	1

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-187979-1

## Method: 4500 NH3 H - Ammonia (Continued)

Lab Sample ID: LCS 240-580109/45  
Matrix: Water  
Analysis Batch: 580109

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	6.37	6.28		mg/L		99	90 - 110

Lab Sample ID: MB 240-580314/14  
Matrix: Water  
Analysis Batch: 580314

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	0.076	mg/L			07/11/23 15:02	1

Lab Sample ID: LCS 240-580314/15  
Matrix: Water  
Analysis Batch: 580314

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	6.37	5.98		mg/L		94	90 - 110

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

Lab Sample ID: SCB 240-579274/2  
Matrix: Water  
Analysis Batch: 579274

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	2.0	mg/L			07/01/23 10:28	1

Lab Sample ID: USB 240-579274/1  
Matrix: Water  
Analysis Batch: 579274

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	2.0	mg/L			07/01/23 10:27	1

Lab Sample ID: LCS 240-579274/3  
Matrix: Water  
Analysis Batch: 579274

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	143	*-	mg/L		72	85 - 115

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

Lab Sample ID: MB 240-579557/1  
Matrix: Water  
Analysis Batch: 579557

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	0.40	mg/L			07/05/23 08:42	1

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# QC Sample Results

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

Job ID: 240-187979-1

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

Lab Sample ID: LCS 240-579557/2  
 Matrix: Water  
 Analysis Batch: 579557

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	35.6	30.0		mg/L		84	64 - 120

## Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-580328/3  
 Matrix: Water  
 Analysis Batch: 580328

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	0.076	mg/L			07/12/23 09:14	1

Lab Sample ID: LCS 240-580328/4  
 Matrix: Water  
 Analysis Batch: 580328

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	0.784	0.799		mg/L		102	77 - 120

# Surrogate Summary

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

Job ID: 240-187979-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL
		(62-137)	(56-136)	(78-122)
240-187979-1	GW-11208058-063023-JY-001	90	91	99
240-187979-3	TRIP BLANK	90	90	100
LCS 240-580006/5	Lab Control Sample	88	95	104
MB 240-580006/9	Method Blank	88	88	99

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP1	TCX1
		(10-174)	(10-149)
240-187979-2	GW-11208058-063023-JY-002	71	66
LCS 240-579829/13-A	Lab Control Sample	88	84
MB 240-579829/12-A	Method Blank	90	85

#### Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

# Lab Chronicle

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

Job ID: 240-187979-1

**Client Sample ID: GW-11208058-063023-JY-001**

**Lab Sample ID: 240-187979-1**

**Date Collected: 06/30/23 09:30**

**Matrix: Water**

**Date Received: 07/01/23 09:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	624.1		1	580006	HMB	EET CLE	07/10/23 16:23
Total/NA	Analysis	1664B		1	579846	JMR	EET CLE	07/07/23 09:03
Total/NA	Analysis	4500 H+ B-2000		1	579592	RP	EET CLE	07/05/23 10:17

**Client Sample ID: GW-11208058-063023-JY-002**

**Lab Sample ID: 240-187979-2**

**Date Collected: 06/30/23 10:00**

**Matrix: Water**

**Date Received: 07/01/23 09:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	608			579829	LK2	EET CLE	07/07/23 08:31
Total/NA	Analysis	608.3		1	580073	RR	EET CLE	07/10/23 12:54
Total Recoverable	Prep	200.7			579731	GK	EET CLE	07/07/23 14:00
Total Recoverable	Analysis	200.7 Rev 4.4		1	580082	RKT	EET CLE	07/10/23 15:12
Total/NA	Prep	245.1			579732	GK	EET CLE	07/06/23 14:00
Total/NA	Analysis	245.1		1	580069	AJC	EET CLE	07/07/23 14:36
Total/NA	Analysis	410.4		1	579878	ALT	EET CLE	07/07/23 10:55
Total/NA	Analysis	4500 NH3 H		10	580314	MED	EET CLE	07/11/23 15:17
Total/NA	Analysis	5210B-2001		1	579274	BLW	EET CLE	07/01/23 14:05
Total/NA	Analysis	SM 2540D		1	579557	MS	EET CLE	07/05/23 08:42
Total/NA	Analysis	SM4500 P E-1999		1	580328	BLW	EET CLE	07/12/23 09:14

**Client Sample ID: TRIP BLANK**

**Lab Sample ID: 240-187979-3**

**Date Collected: 06/30/23 00:00**

**Matrix: Water**

**Date Received: 07/01/23 09:35**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	624.1		1	580006	HMB	EET CLE	07/10/23 14:41

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Accreditation/Certification Summary

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

Job ID: 240-187979-1

## Laboratory: Eurofins Cleveland

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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-23
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-17	08-31-23
Virginia	NELAP	460175	09-14-23
West Virginia DEP	State	210	12-31-23

<b>Client Information</b>		Sampler: <u>John York</u>		Lab PM: <u>Heckler, Denise D</u>		Camera Tracking No(s): <u>Eurofins</u>		COC No: <u>240-109047-38912 1</u>	
Client Contact: <u>Ms. Ruth Mickie</u>		Phone: <u>734 231 6088</u>		E-Mail: <u>Denise.Heckler@et.eurofins.com</u>		State of Origin: <u>Michigan</u>		Page: <u>1 of 1</u>	
Company: <u>GHD Services Inc.</u>		PWSID: <u>734 231 6088</u>		Due Date Requested:		Analysis Requested		Job #: <u>240-109047-38912 1</u>	
Address: <u>26850 Haggerty Rd</u>		TAT Requested (days): <u>STD</u>		Compliance Project: <u>Δ Yes Δ No</u>		Field Filtered Sample (Yes or No)		Preservation Codes:	
City: <u>Farmington Hills</u>		Purchase Order Requested		PO #: <u>11208058</u>		Perform MS/MSD (Yes or No)		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 Y - Triama Z - other (specify)	
Phone: <u>612-524-6872(Tel)</u>		Project Name: <u>11208058, RACER Bay City</u>		Project #: <u>24006288</u>		410 4.4500_P.E. M4500_NH3_H		Special Instructions/Note:	
Email: <u>ruth.mickle@ghd.com</u>		Site: <u>SSOW#</u>		Sample Date		624 1.LL_P.PREC - Vinyl chloride		<u>Treatment EFF.</u>	
Sample Identification		Sample Time		Sample Type (C=Comp, G=grab)		200 7 - Select Metals + Hg		"	
<u>GW-11208058-0630M3-IX-ED1</u>		<u>6/30/23 0930</u>		<u>G</u>		608 3_PCB_PREC - PCBs			
<u>GW-11208058-0610M3-IX-00</u>		<u>" 1000</u>		<u>C</u>		2540D - TSS			
<u>Trip Blank</u>		<u>" -</u>		<u>- WQ</u>		5210B - BOD			
						1664B NP - HEM			
						SM4500_H+ - pH			

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

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

**Empty Kit Relinquished by:** \_\_\_\_\_ Date: \_\_\_\_\_

**Relinquished by:** [Signature] Date/Time: 6-30-23 1030 Company: GHD

**Relinquished by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Relinquished by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Custody Seal Intact:** Δ Yes Δ No **Custody Seal No.:** \_\_\_\_\_

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

**Special Instructions/QC Requirements:**

**Received by:** [Signature] Date/Time: 07-01-23 800g Company: EE TM

**Received by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Received by:** \_\_\_\_\_ Date/Time: \_\_\_\_\_ Company: \_\_\_\_\_

**Cooler Temperature(s) °C and Other Remarks:**

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			<u>pH</u>	<u>Temp</u>	<u>Added (mls)</u>	<u>Lot #</u>
GW-11208058-063023-JY-001	240-187979-A-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
GW-11208058-063023-JY-001	240-187979-B-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
GW-11208058-063023-JY-001	240-187979-C-1	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
GW-11208058-063023-JY-001	240-187979-D-1	Plastic 125mL - unpreserved	_____	_____	_____	_____
GW-11208058-063023-JY-001	240-187979-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____
GW-11208058-063023-JY-001	240-187979-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____
GW-11208058-063023-JY-002	240-187979-A-2	Plastic 250ml - with Sulfuric Acid	<2	_____	_____	_____
GW-11208058-063023-JY-002	240-187979-B-2	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
GW-11208058-063023-JY-002	240-187979-C-2	Plastic 1 liter - unpreserved	_____	_____	_____	_____
GW-11208058-063023-JY-002	240-187979-D-2	Plastic 1 liter - unpreserved	_____	_____	_____	_____
GW-11208058-063023-JY-002	240-187979-E-2	Amber Glass 1 liter - unpreserved	_____	_____	_____	_____
GW-11208058-063023-JY-002	240-187979-F-2	Amber Glass 1 liter - unpreserved	_____	_____	_____	_____
TRIP BLANK	240-187979-A-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____
TRIP BLANK	240-187979-B-3	Voa Vial 40ml - Hydrochloric Acid	_____	_____	_____	_____

**Eurofins - Cleveland Sample Receipt Form/Narrative**  
**Barberton Facility**

Login # : 187979

Client GHD Services Site Name \_\_\_\_\_  
Cooler Received on 07-01-23 Opened on 07-01-23  
FedEx: 1<sup>st</sup> Grd  Exp  UPS FAS Clipper Client Drop Off Eurofins Courier Other \_\_\_\_\_

Cooler unpacked by:  
Laek M. Smith

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

Eurofins Cooler # EC 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 # 13 (CF +0.4 °C) Observed Cooler Temp. 4.7 °C Corrected Cooler Temp. 5.1 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_  
-Were the seals on the outside of the cooler(s) signed & dated? Yes  No  NA   
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes  No  NA   
-Were tamper/custody seals intact and uncompromised? Yes  No  NA
3. Shippers' packing slip attached to the cooler(s)? Yes  No
4. Did custody papers accompany the sample(s)? Yes  No
5. Were the custody papers relinquished & signed in the appropriate place? Yes  No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes  No
7. Did all bottles arrive in good condition (Unbroken)? Yes  No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes  No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes  No
10. Were correct bottle(s) used for the test(s) indicated? Yes  No
11. Sufficient quantity received to perform indicated analyses? Yes  No
12. Are these work share samples and all listed on the COC? Yes  No
- If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? Yes  No  NA  pH Strip Lot# 10BDH4321
14. Were VOAs on the COC? Yes  No
15. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes  No  NA
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 62225 Yes  No
17. 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 \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page Samples processed by: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

19. SAMPLE CONDITION  
Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
Sample(s) \_\_\_\_\_ were received in a broken container.  
Sample(s) 1x Trip were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION  
Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_  
VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_

# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Ruth Mickle  
GHD Services Inc.  
26850 Haggerty Rd.  
Farmington Hills, Michigan 48331

Generated 10/26/2023 7:22:10 AM

## JOB DESCRIPTION

11208058-D04-001Y23-001, RACER Bay City

## JOB NUMBER

240-193741-1

# Eurofins Cleveland

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
10/26/2023 7:22:10 AM

Authorized for release by  
Denise Heckler, Project Manager II  
[Denise.Heckler@et.eurofinsus.com](mailto:Denise.Heckler@et.eurofinsus.com)  
(330)966-9477



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# Case Narrative

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

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## Job ID: 240-193741-1

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### Laboratory: Eurofins Cleveland

#### Narrative

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#### Job Narrative 240-193741-1

#### Receipt

The samples were received on 10/18/2023 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.2° C.

#### GC/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

Method 200.7 Rev 4.4: 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 USB dilution water D.O. depletion was greater than 0.2 mg/L. The associated sample results in batch 240-591214 are qualified and reported.

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-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## 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	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

# Sample Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-193741-2	W-11208058-101723-JY-003	Water	10/17/23 08:00	10/18/23 08:00
240-193741-3	W-11208058-101723-JY-004	Water	10/17/23 08:30	10/18/23 08:00

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# Detection Summary

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Client Sample ID: W-11208058-101723-JY-003

## Lab Sample ID: 240-193741-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM	4.3	J	5.0	1.0	mg/L	1		1664B	Total/NA
pH	7.6	HF	0.1	0.1	SU	1		4500 H+ B-2000	Total/NA

## Client Sample ID: W-11208058-101723-JY-004

## Lab Sample ID: 240-193741-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1.0	J	5.0	0.76	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	1000		100	83	ug/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	3.7	J	20	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Ammonia	0.61		0.20	0.076	mg/L	1		4500 NH3 H	Total/NA
Total Suspended Solids	1.6	J	4.0	0.40	mg/L	1		SM 2540D	Total/NA
Total Phosphorus as P	0.085	J	0.10	0.076	mg/L	1		SM4500 P E-1999	Total/NA

This Detection Summary does not include radiochemical test results.

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# Method Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

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

#### Protocol References:

- 1664B = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

- EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

Client Sample ID: W-11208058-101723-JY-003

Date Collected: 10/17/23 08:00

Date Received: 10/18/23 08:00

Lab Sample ID: 240-193741-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.45	ug/L			10/24/23 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	83		62 - 137					10/24/23 17:00	1
4-Bromofluorobenzene (Surr)	76		56 - 136					10/24/23 17:00	1
Toluene-d8 (Surr)	97		78 - 122					10/24/23 17:00	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: W-11208058-101723-JY-004**

**Lab Sample ID: 240-193741-3**

**Date Collected: 10/17/23 08:30**

**Matrix: Water**

**Date Received: 10/18/23 08:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.098	U	0.098	0.055	ug/L	-	10/19/23 08:01	10/21/23 06:53	1
Aroclor-1221	0.098	U	0.098	0.056	ug/L	-	10/19/23 08:01	10/21/23 06:53	1
Aroclor-1232	0.098	U	0.098	0.073	ug/L	-	10/19/23 08:01	10/21/23 06:53	1
Aroclor-1242	0.098	U	0.098	0.075	ug/L	-	10/19/23 08:01	10/21/23 06:53	1
Aroclor-1248	0.098	U	0.098	0.049	ug/L	-	10/19/23 08:01	10/21/23 06:53	1
Aroclor-1254	0.098	U	0.098	0.039	ug/L	-	10/19/23 08:01	10/21/23 06:53	1
Aroclor-1260	0.098	U	0.098	0.045	ug/L	-	10/19/23 08:01	10/21/23 06:53	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
<i>DCB Decachlorobiphenyl</i>	79	-	10 - 174	10/19/23 08:01	10/21/23 06:53	1
<i>Tetrachloro-m-xylene</i>	73	-	10 - 149	10/19/23 08:01	10/21/23 06:53	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

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

Client Sample ID: W-11208058-101723-JY-004

Date Collected: 10/17/23 08:30

Date Received: 10/18/23 08:00

Lab Sample ID: 240-193741-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		10/19/23 14:00	10/21/23 01:55	1
Cadmium	2.0	U	2.0	0.45	ug/L		10/19/23 14:00	10/21/23 01:55	1
<b>Chromium</b>	<b>1.0</b>	<b>J</b>	5.0	0.76	ug/L		10/19/23 14:00	10/21/23 01:55	1
Copper	20	U	20	3.5	ug/L		10/19/23 14:00	10/21/23 01:55	1
<b>Iron</b>	<b>1000</b>		100	83	ug/L		10/19/23 14:00	10/21/23 01:55	1
<b>Nickel</b>	<b>3.7</b>	<b>J</b>	20	2.2	ug/L		10/19/23 14:00	10/21/23 01:55	1
Lead	3.0	U	3.0	2.8	ug/L		10/19/23 14:00	10/21/23 01:55	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: W-11208058-101723-JY-004

Lab Sample ID: 240-193741-3

Date Collected: 10/17/23 08:30

Matrix: Water

Date Received: 10/18/23 08:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		10/19/23 14:00	10/20/23 15:01	1

- 1
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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## General Chemistry

Client Sample ID: W-11208058-101723-JY-003

Date Collected: 10/17/23 08:00

Date Received: 10/18/23 08:00

Lab Sample ID: 240-193741-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (1664B)	4.3	J	5.0	1.0	mg/L			10/24/23 07:40	1
pH (SM 4500 H+ B-2000)	7.6	HF	0.1	0.1	SU			10/18/23 16:34	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## General Chemistry

Client Sample ID: W-11208058-101723-JY-004

Date Collected: 10/17/23 08:30

Date Received: 10/18/23 08:00

Lab Sample ID: 240-193741-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (EPA 410.4)	10	U	10	1.8	mg/L			10/23/23 10:30	1
<b>Ammonia (SM 4500 NH3 H)</b>	<b>0.61</b>		0.20	0.076	mg/L			10/24/23 11:22	1
Biochemical Oxygen Demand (SM 5210B-2001)	2.0	U	2.0	2.0	mg/L			10/18/23 13:09	1
<b>Total Suspended Solids (SM 2540D)</b>	<b>1.6</b>	<b>J</b>	4.0	0.40	mg/L			10/23/23 13:57	1
<b>Total Phosphorus as P (SM4500 P E-1999)</b>	<b>0.085</b>	<b>J</b>	0.10	0.076	mg/L			10/20/23 10:12	1

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## GC/MS VOA

### Analysis Batch: 592016

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-2	W-11208058-101723-JY-003	Total/NA	Water	624.1	
MB 240-592016/10	Method Blank	Total/NA	Water	624.1	
LCS 240-592016/6	Lab Control Sample	Total/NA	Water	624.1	

## GC Semi VOA

### Prep Batch: 591388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	608	
MB 240-591388/1-A	Method Blank	Total/NA	Water	608	
LCS 240-591388/2-A	Lab Control Sample	Total/NA	Water	608	

### Analysis Batch: 591698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	608.3	591388
MB 240-591388/1-A	Method Blank	Total/NA	Water	608.3	591388
LCS 240-591388/2-A	Lab Control Sample	Total/NA	Water	608.3	591388

## Metals

### Prep Batch: 591458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total Recoverable	Water	200.7	
MB 240-591458/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-591458/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

### Prep Batch: 591461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	245.1	
MB 240-591461/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-591461/2-A	Lab Control Sample	Total/NA	Water	245.1	

### Analysis Batch: 591646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total Recoverable	Water	200.7 Rev 4.4	591458
MB 240-591458/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	591458
LCS 240-591458/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	591458

### Analysis Batch: 591690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	245.1	591461
MB 240-591461/1-A	Method Blank	Total/NA	Water	245.1	591461
LCS 240-591461/2-A	Lab Control Sample	Total/NA	Water	245.1	591461

## General Chemistry

### Analysis Batch: 591214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	5210B-2001	
SCB 240-591214/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-591214/1	Method Blank	Total/NA	Water	5210B-2001	
LCS 240-591214/3	Lab Control Sample	Total/NA	Water	5210B-2001	

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## General Chemistry

### Analysis Batch: 591357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-2	W-11208058-101723-JY-003	Total/NA	Water	4500 H+ B-2000	
LCS 240-591357/2	Lab Control Sample	Total/NA	Water	4500 H+ B-2000	

### Analysis Batch: 591629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	SM4500 P E-1999	
MB 240-591629/3	Method Blank	Total/NA	Water	SM4500 P E-1999	
LCS 240-591629/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	

### Analysis Batch: 591834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	410.4	
MB 240-591834/9	Method Blank	Total/NA	Water	410.4	
LCS 240-591834/10	Lab Control Sample	Total/NA	Water	410.4	

### Analysis Batch: 591887

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	SM 2540D	
MB 240-591887/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-591887/2	Lab Control Sample	Total/NA	Water	SM 2540D	

### Analysis Batch: 591966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-2	W-11208058-101723-JY-003	Total/NA	Water	1664B	
MB 240-591966/1	Method Blank	Total/NA	Water	1664B	
LCS 240-591966/2	Lab Control Sample	Total/NA	Water	1664B	

### Analysis Batch: 592136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-193741-3	W-11208058-101723-JY-004	Total/NA	Water	4500 NH3 H	
MB 240-592136/44	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 240-592136/45	Lab Control Sample	Total/NA	Water	4500 NH3 H	

# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-592016/10**  
**Matrix: Water**  
**Analysis Batch: 592016**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	1.0	U	1.0	0.45	ug/L			10/24/23 13:52	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	85		62 - 137				10/24/23 13:52	1	
4-Bromofluorobenzene (Surr)	77		56 - 136				10/24/23 13:52	1	
Toluene-d8 (Surr)	100		78 - 122				10/24/23 13:52	1	

**Lab Sample ID: LCS 240-592016/6**  
**Matrix: Water**  
**Analysis Batch: 592016**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Vinyl chloride	20.0	21.2		ug/L		106	5 - 195
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	80		62 - 137				
4-Bromofluorobenzene (Surr)	84		56 - 136				
Toluene-d8 (Surr)	100		78 - 122				

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 240-591388/1-A**  
**Matrix: Water**  
**Analysis Batch: 591698**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 591388**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor-1016	0.10	U	0.10	0.056	ug/L		10/19/23 08:01	10/21/23 05:17	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		10/19/23 08:01	10/21/23 05:17	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		10/19/23 08:01	10/21/23 05:17	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		10/19/23 08:01	10/21/23 05:17	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		10/19/23 08:01	10/21/23 05:17	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		10/19/23 08:01	10/21/23 05:17	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		10/19/23 08:01	10/21/23 05:17	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
DCB Decachlorobiphenyl	85		10 - 174			10/19/23 08:01	10/21/23 05:17	1	
Tetrachloro-m-xylene	70		10 - 149			10/19/23 08:01	10/21/23 05:17	1	

**Lab Sample ID: LCS 240-591388/2-A**  
**Matrix: Water**  
**Analysis Batch: 591698**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 591388**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor-1016	2.50	1.62		ug/L		65	50 - 140
Aroclor-1260	2.50	1.68		ug/L		67	8 - 140

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

**Lab Sample ID: LCS 240-591388/2-A**  
**Matrix: Water**  
**Analysis Batch: 591698**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 591388**

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	79		10 - 174
Tetrachloro-m-xylene	66		10 - 149

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

**Lab Sample ID: MB 240-591458/1-A**  
**Matrix: Water**  
**Analysis Batch: 591646**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 591458**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	5.0	U	5.0	0.62	ug/L		10/19/23 14:00	10/21/23 01:26	1
Cadmium	2.0	U	2.0	0.45	ug/L		10/19/23 14:00	10/21/23 01:26	1
Chromium	5.0	U	5.0	0.76	ug/L		10/19/23 14:00	10/21/23 01:26	1
Copper	20	U	20	3.5	ug/L		10/19/23 14:00	10/21/23 01:26	1
Iron	100	U	100	83	ug/L		10/19/23 14:00	10/21/23 01:26	1
Nickel	20	U	20	2.2	ug/L		10/19/23 14:00	10/21/23 01:26	1
Lead	3.0	U	3.0	2.8	ug/L		10/19/23 14:00	10/21/23 01:26	1

**Lab Sample ID: LCS 240-591458/2-A**  
**Matrix: Water**  
**Analysis Batch: 591646**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 591458**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Silver	100	103		ug/L		103	85 - 115
Cadmium	1000	1020		ug/L		102	85 - 115
Chromium	1000	958		ug/L		96	85 - 115
Copper	1000	987		ug/L		99	85 - 115
Iron	10000	9280		ug/L		93	85 - 115
Nickel	1000	1000		ug/L		100	85 - 115
Lead	1000	966		ug/L		97	85 - 115

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 240-591461/1-A**  
**Matrix: Water**  
**Analysis Batch: 591690**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 591461**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	0.20	U	0.20	0.13	ug/L		10/19/23 14:00	10/20/23 14:50	1

**Lab Sample ID: LCS 240-591461/2-A**  
**Matrix: Water**  
**Analysis Batch: 591690**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 591461**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Mercury	2.50	2.52		ug/L		101	85 - 115

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 240-591966/1  
Matrix: Water  
Analysis Batch: 591966

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	1.0	mg/L			10/24/23 07:40	1

Lab Sample ID: LCS 240-591966/2  
Matrix: Water  
Analysis Batch: 591966

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	35.6		mg/L		89	78 - 114

## Method: 410.4 - COD

Lab Sample ID: MB 240-591834/9  
Matrix: Water  
Analysis Batch: 591834

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	1.8	mg/L			10/23/23 10:30	1

Lab Sample ID: LCS 240-591834/10  
Matrix: Water  
Analysis Batch: 591834

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	46.4	43.1		mg/L		93	90 - 110

## Method: 4500 H+ B-2000 - pH

Lab Sample ID: LCS 240-591357/2  
Matrix: Water  
Analysis Batch: 591357

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.24	9.3		SU		101	97 - 103

## Method: 4500 NH3 H - Ammonia

Lab Sample ID: MB 240-592136/44  
Matrix: Water  
Analysis Batch: 592136

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	0.076	mg/L			10/24/23 10:58	1

Lab Sample ID: LCS 240-592136/45  
Matrix: Water  
Analysis Batch: 592136

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.83	3.49		mg/L		91	90 - 110

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

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

**Lab Sample ID: SCB 240-591214/2**  
**Matrix: Water**  
**Analysis Batch: 591214**

**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	2.0	mg/L			10/18/23 09:12	1

**Lab Sample ID: USB 240-591214/1**  
**Matrix: Water**  
**Analysis Batch: 591214**

**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	2.0	mg/L			10/18/23 09:08	1

**Lab Sample ID: LCS 240-591214/3**  
**Matrix: Water**  
**Analysis Batch: 591214**

**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 240-591887/1**  
**Matrix: Water**  
**Analysis Batch: 591887**

**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	0.40	mg/L			10/23/23 13:57	1

**Lab Sample ID: LCS 240-591887/2**  
**Matrix: Water**  
**Analysis Batch: 591887**

**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	54.0	54.0		mg/L		100	64 - 120

## Method: SM4500 P E-1999 - Phosphorus

**Lab Sample ID: MB 240-591629/3**  
**Matrix: Water**  
**Analysis Batch: 591629**

**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	0.076	mg/L			10/20/23 10:12	1

**Lab Sample ID: LCS 240-591629/4**  
**Matrix: Water**  
**Analysis Batch: 591629**

**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	0.179	0.204		mg/L		114	77 - 120

# Surrogate Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL
		(62-137)	(56-136)	(78-122)
240-193741-2	W-11208058-101723-JY-003	83	76	97
LCS 240-592016/6	Lab Control Sample	80	84	100
MB 240-592016/10	Method Blank	85	77	100

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP1	TCX1
		(10-174)	(10-149)
240-193741-3	W-11208058-101723-JY-004	79	73
LCS 240-591388/2-A	Lab Control Sample	79	66
MB 240-591388/1-A	Method Blank	85	70

#### Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

# Lab Chronicle

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

**Client Sample ID: W-11208058-101723-JY-003**

**Lab Sample ID: 240-193741-2**

**Date Collected: 10/17/23 08:00**

**Matrix: Water**

**Date Received: 10/18/23 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	624.1		1	592016	HMB	EET CLE	10/24/23 17:00
Total/NA	Analysis	1664B		1	591966	JMR	EET CLE	10/24/23 07:40
Total/NA	Analysis	4500 H+ B-2000		1	591357	RP	EET CLE	10/18/23 16:34

**Client Sample ID: W-11208058-101723-JY-004**

**Lab Sample ID: 240-193741-3**

**Date Collected: 10/17/23 08:30**

**Matrix: Water**

**Date Received: 10/18/23 08:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	608			591388	MDH	EET CLE	10/19/23 08:01
Total/NA	Analysis	608.3		1	591698	BPM	EET CLE	10/21/23 06:53
Total Recoverable	Prep	200.7			591458	S4FJ	EET CLE	10/19/23 14:00
Total Recoverable	Analysis	200.7 Rev 4.4		1	591646	KLC	EET CLE	10/21/23 01:55
Total/NA	Prep	245.1			591461	S4FJ	EET CLE	10/19/23 14:00
Total/NA	Analysis	245.1		1	591690	AJC	EET CLE	10/20/23 15:01
Total/NA	Analysis	410.4		1	591834	QUY8	EET CLE	10/23/23 10:30
Total/NA	Analysis	4500 NH3 H		1	592136	JMR	EET CLE	10/24/23 11:22
Total/NA	Analysis	5210B-2001		1	591214	BLW	EET CLE	10/18/23 13:09
Total/NA	Analysis	SM 2540D		1	591887	QUY8	EET CLE	10/23/23 13:57
Total/NA	Analysis	SM4500 P E-1999		1	591629	RP	EET CLE	10/20/23 10:12

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-193741-1

## Laboratory: Eurofins Cleveland

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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-23

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

**Chain of Custody Record**



1-3/12

<b>Client Information</b>		Lab PM Heckler, Denise D		Camer Tracking No(s) GHD to Rigbox		COC No 240-113300-40277.1	
Company GHD Services Inc.		E-Mail Denise Heckler@et.eurofins.com		State of Origin Michigan		Page Page 1 of 1	
Address 26850 Haggerty Rd.		Phone 734 231 6088		Job #		Preservation Codes:	
City Farmington Hills		Compliance Project: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Analysis Requested		M - Hexane N - None O - Ash/NaOH P - Na2O4S Q - Nitric Acid R - NaHSO4 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 X - EDTA Y - Trizma Z - other (specify)	
State, Zip MI, 48331		Purchase Order Requested		Total Number of Containers		Other:	
Phone 612-524-6872(Tel)		PO #		Field Filtered Sample (Yes or No)		Special Instructions/Note:	
Email ruth.mickle@ghd.com		WO #		Perform MS/MSD (Yes or No)		STD TAT	
Project Name 11208058, RACER Bay City		Project #		410.4, 4500, P.E. SM4500, NH3, H		S Day TAT	
Site 11208058		SSOW#		608.3, PCB, PREC - PCBs		S Day TAT	
Due Date Requested: TAT Requested (days):		Sample Date		624.1, LL, PREC - Vinyl chloride		MICHIGAN 190	
See Special Instructions		Sample Time		5210B - BOD			
Sample Date		Sample Type (C=Comp, G=grab)		2540D - TSS			
10-16-23		G		1664B, NP - HEM			
10-17-23		G		SM4500, H+ - PH			
11-08-23		C					
Matrix (W=water, S=solid, O=wastewater, BT=tissue, A=air)		Preservation Code:					
Water		G					
Water		G					
Water		C					
Sample Identification		Sample Date		Analysis Requested			
W-11208058-101623-5Y-002		10-16-23		5210B - BOD			
W-11208058-101723-5Y-003		10-17-23		2540D - TSS			
W-11208058-101723-5Y-004		11-08-23		1664B, NP - HEM			
Possible Hazard Identification		Sample Time		Field Filtered Sample (Yes or No)			
<input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		G		X			
Deliverable Requested: I, II, III, IV, Other (specify)		C		X			
Empty Kit Relinquished by:		Date:		Special Instructions/QC Requirements			
Relinquished by: <i>Cody Ph</i>		10-17-23		Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months			
Relinquished by: <i>Denise Heckler</i>		0900		Method of Shipment			
Relinquished by: <i>Denise Heckler</i>		10-17-23		Received by: <i>Denise Heckler</i>		Date/Time: 10/17/23 12:35 Company: FEFA	
Custody Seals Intact <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		12:35		Received by: <i>Denise Heckler</i>		Date/Time: 10-18-23 800 Company: FEFA	
Custody Seal No. _____		0900		Received by: <i>Denise Heckler</i>		Date/Time: 10-18-23 800 Company: FEFA	

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Eurofins - Cleveland Sample Receipt Form/Narrative Login #: 193741  
**Barberton Facility**  
 Client GHD Site Name \_\_\_\_\_ Cooler unpacked by: [Signature]  
 Cooler Received on 10-18-23 Opened on 10-18-23  
 FedEx: 1<sup>st</sup> Grd Exp UPS FAS Waypoint Client Drop Off Eurofins Courier Other \_\_\_\_\_  
 Receipt After-hours: Drop-off Date/Time \_\_\_\_\_ Storage Location \_\_\_\_\_  
 Eurofins Cooler # EC  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 # 22 (CF -0.1 °C) Observed Cooler Temp. 13 °C Corrected Cooler Temp. 12 °C  
 2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1  
 -Were the seals on the outside of the cooler(s) signed & dated? Yes  No  NA  
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes  No  NA  
 -Were tamper/custody seals intact and uncompromised? Yes  No  NA  
 3. Shippers' packing slip attached to the cooler(s)? Yes  No   
 4. Did custody papers accompany the sample(s)? Yes  No   
 5. Were the custody papers relinquished & signed in the appropriate place? Yes  No   
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes  No   
 7. Did all bottles arrive in good condition (Unbroken)? Yes  No   
 8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes  No   
 9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)? Yes  No   
 10. Were correct bottle(s) used for the test(s) indicated? Yes  No   
 11. Sufficient quantity received to perform indicated analyses? Yes  No   
 12. Are these work share samples and all listed on the COC? Yes  No   
 If yes, Questions 13-17 have been checked at the originating laboratory.  
 13. Were all preserved sample(s) at the correct pH upon receipt? Yes  No  NA pH Strip Lot# HC316719  
 14. Were VOAs on the COC? Yes  No   
 15. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA Larger than this.  Yes  No  
 16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes  No   
 17. Was a LL Hg or Me Hg trip blank present? Yes  No   
 Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

Tests that are not checked for pH by Receiving:  
 VOAs  
 Oil and Grease  
 TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page Samples processed by: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

19. SAMPLE CONDITION  
 Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.  
 Sample(s) \_\_\_\_\_ were received in a broken container.  
 Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION  
 Sample(s) \_\_\_\_\_ were further preserved in the laboratory.  
 Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_  
 VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_

Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			<u>pH</u>	<u>Temp</u>	<u>Added (mls)</u>	<u>Lot #</u>
W-11208058-101623-JY-003	240-193741-E-2	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____
W-11208058-101623-JY-003	240-193741-F-2	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____
W-11208058-101623-JY-004	240-193741-A-3	Plastic 250ml - with Sulfuric Acid	<2	_____	_____	_____
W-11208058-101623-JY-004	240-193741-B-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Ruth Mickle  
GHD Services Inc.  
26850 Haggerty Rd.  
Farmington Hills, Michigan 48331

Generated 11/21/2023 9:12:23 AM

## JOB DESCRIPTION

11208058-D04-001Y23-001, RACER Bay City

## JOB NUMBER

240-195393-1

# Eurofins Cleveland

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
11/21/2023 9:12:23 AM

Authorized for release by  
Denise Heckler, Project Manager II  
[Denise.Heckler@et.eurofinsus.com](mailto:Denise.Heckler@et.eurofinsus.com)  
(330)966-9477

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# Case Narrative

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

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## Job ID: 240-195393-1

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### Laboratory: Eurofins Cleveland

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#### Narrative

#### Job Narrative 240-195393-1

#### Receipt

The samples were received on 11/14/2023 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.8°C

#### PCBs

Method 608.3\_PCB\_PREC: The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: GW-11208058-111323-JY-005 (240-195393-1).

Method 608.3\_PCB\_PREC: The Tetrachloro-m-xylene surrogate recovery for the following samples was outside acceptance limits (high biased) on the primary column due to matrix interference: GW-11208058-111323-JY-005 (240-195393-1). The recovery is within acceptance limits on the other column, indicating that the extraction process was in control.

Method 608.3\_PCB\_PREC: The following sample appears to contain polychlorinated biphenyls (PCBs); however, due to weathering or other environmental processes, the PCBs in the sample do not directly match any of the laboratory's Aroclor standards used for instrument calibration: GW-11208058-111323-JY-005 (240-195393-1). The sample has been quantified and reported using the best overall Aroclor/standard pattern match relative to the reference standards.

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-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## Qualifiers

### GC Semi VOA

Qualifier	Qualifier Description
S1+	Surrogate recovery exceeds control limits, high biased.
U	Indicates the analyte was analyzed for but not detected.

## Glossary

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

# Sample Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

---

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-195393-1	GW-11208058-111323-JY-005	Water	11/13/23 12:00	11/14/23 10:00
240-195393-2	GW-11208058-111323-JY-006	Water	11/13/23 11:30	11/14/23 10:00

1

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# Detection Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

**Client Sample ID: GW-11208058-111323-JY-005**

**Lab Sample ID: 240-195393-1**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	20		0.95	0.72	ug/L	10		608.3	Total/NA

**Client Sample ID: GW-11208058-111323-JY-006**

**Lab Sample ID: 240-195393-2**

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

# Method Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

Method	Method Description	Protocol	Laboratory
608.3	Polychlorinated Biphenyls (PCBs) (GC)	EPA	EET CLE
608	Liquid-Liquid Extraction (Separatory Funnel)	EPA	EET CLE

**Protocol References:**

EPA = US Environmental Protection Agency

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396



# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: GW-11208058-111323-JY-005**

**Lab Sample ID: 240-195393-1**

**Date Collected: 11/13/23 12:00**

**Matrix: Water**

**Date Received: 11/14/23 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.95	U	0.95	0.53	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
Aroclor-1221	0.95	U	0.95	0.54	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
Aroclor-1232	0.95	U	0.95	0.70	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
<b>Aroclor-1242</b>	<b>20</b>		0.95	0.72	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
Aroclor-1248	0.95	U	0.95	0.48	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
Aroclor-1254	0.95	U	0.95	0.38	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
Aroclor-1260	0.95	U	0.95	0.44	ug/L	-	11/16/23 08:52	11/17/23 12:05	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>DCB Decachlorobiphenyl</i>	32		10 - 174				11/16/23 08:52	11/17/23 12:05	10
<i>Tetrachloro-m-xylene</i>	460	S1+	10 - 149				11/16/23 08:52	11/17/23 12:05	10

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: GW-11208058-111323-JY-006**

**Lab Sample ID: 240-195393-2**

**Date Collected: 11/13/23 11:30**

**Matrix: Water**

**Date Received: 11/14/23 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L	-	11/16/23 08:52	11/17/23 12:22	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L	-	11/16/23 08:52	11/17/23 12:22	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L	-	11/16/23 08:52	11/17/23 12:22	1
Aroclor-1242	0.095	U	0.095	0.072	ug/L	-	11/16/23 08:52	11/17/23 12:22	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L	-	11/16/23 08:52	11/17/23 12:22	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L	-	11/16/23 08:52	11/17/23 12:22	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L	-	11/16/23 08:52	11/17/23 12:22	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	105	-	10 - 174	11/16/23 08:52	11/17/23 12:22	1
Tetrachloro-m-xylene	89	-	10 - 149	11/16/23 08:52	11/17/23 12:22	1

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## GC Semi VOA

### Prep Batch: 594820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195393-1	GW-11208058-111323-JY-005	Total/NA	Water	608	
240-195393-2	GW-11208058-111323-JY-006	Total/NA	Water	608	
MB 240-594820/1-A	Method Blank	Total/NA	Water	608	
LCS 240-594820/2-A	Lab Control Sample	Total/NA	Water	608	

### Analysis Batch: 594966

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-195393-1	GW-11208058-111323-JY-005	Total/NA	Water	608.3	594820
240-195393-2	GW-11208058-111323-JY-006	Total/NA	Water	608.3	594820
MB 240-594820/1-A	Method Blank	Total/NA	Water	608.3	594820
LCS 240-594820/2-A	Lab Control Sample	Total/NA	Water	608.3	594820

# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 240-594820/1-A**  
**Matrix: Water**  
**Analysis Batch: 594966**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 594820**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor-1016	0.10	U	0.10	0.056	ug/L		11/16/23 08:52	11/17/23 11:31	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		11/16/23 08:52	11/17/23 11:31	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		11/16/23 08:52	11/17/23 11:31	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		11/16/23 08:52	11/17/23 11:31	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		11/16/23 08:52	11/17/23 11:31	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		11/16/23 08:52	11/17/23 11:31	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		11/16/23 08:52	11/17/23 11:31	1

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
DCB Decachlorobiphenyl	100		10 - 174	11/16/23 08:52	11/17/23 11:31	1
Tetrachloro-m-xylene	63		10 - 149	11/16/23 08:52	11/17/23 11:31	1

**Lab Sample ID: LCS 240-594820/2-A**  
**Matrix: Water**  
**Analysis Batch: 594966**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 594820**

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor-1016	2.50	2.11		ug/L		84	50 - 140
Aroclor-1260	2.50	2.11		ug/L		84	8 - 140

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	104		10 - 174
Tetrachloro-m-xylene	73		10 - 149

# Surrogate Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP2	TCX2
		(10-174)	(10-149)
240-195393-1	GW-11208058-111323-JY-005	32	460 S1+
240-195393-2	GW-11208058-111323-JY-006	105	89
LCS 240-594820/2-A	Lab Control Sample	104	73
MB 240-594820/1-A	Method Blank	100	63

#### Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

**Client Sample ID: GW-11208058-111323-JY-005**

**Lab Sample ID: 240-195393-1**

**Date Collected: 11/13/23 12:00**

**Matrix: Water**

**Date Received: 11/14/23 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	608			594820	LK2	EET CLE	11/16/23 08:52
Total/NA	Analysis	608.3		10	594966	MBB	EET CLE	11/17/23 12:05

**Client Sample ID: GW-11208058-111323-JY-006**

**Lab Sample ID: 240-195393-2**

**Date Collected: 11/13/23 11:30**

**Matrix: Water**

**Date Received: 11/14/23 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	608			594820	LK2	EET CLE	11/16/23 08:52
Total/NA	Analysis	608.3		1	594966	MBB	EET CLE	11/17/23 12:22

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396



# Accreditation/Certification Summary

Client: GHD Services Inc.  
Project/Site: 11208058-D04-001Y23-001, RACER Bay City

Job ID: 240-195393-1

## Laboratory: Eurofins Cleveland

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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-31-23
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-23
Minnesota (Petrofund)	State	3506	08-01-23 *
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-02-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-23

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

**Chain of Custody Record**



Environment Testing

2.4/2.8

<b>Client Information</b>		Sampler: <u>John Yem</u>		Lab PM: Heckler, Denise D		Carrier Tracking No(s): <u>Fed Ex</u>		COC No:	
Client Contact: <u>John-Eric Pardy's</u>		Phone: <u>734 231 6088</u>		E-Mail: <u>Denise.Heckler@et.eurofins.com</u>		State of Origin: <u>Michigan</u>		Page: <u>1 of 1</u>	
Company: <u>GHD</u>		PWSID:		Due Date Requested: <u>STD</u>		Analysis Requested:		Job #: <u>11208058</u>	
Address: <u>26850 Hegarty Rd</u>		TAT Requested (days): <u>STD</u>		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No		Field Filtered Sample (Yes or No) <input checked="" type="checkbox"/>		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 Other:	
City: <u>Farmington Hills</u>		State, Zip: <u>Michigan 48331</u>		WO #: <u>248 893 3400</u>		Perform MS/MSD (Yes or No) <input checked="" type="checkbox"/>		Special Instructions/Note: <u>Inf</u> <u>FFF</u>	
Phone: <u>248 893 3400</u>		Project #: <u>Rose Bay City</u>		SSOW#:		Total Number of Containers			
Email:		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, S=solid, O=waste/oli, B=leachate A=air)	
Project Name: <u>Rose Bay City</u>		Sample Date: <u>11-13-23</u>		Sample Time: <u>1200</u>		Sample Type: <u>G</u>		Preservation Code: <u>GW</u>	
Site: <u>Rose Bay City</u>		Sample Date: <u>11-13-23</u>		Sample Time: <u>1130</u>		Sample Type: <u>G</u>		Preservation Code: <u>GW</u>	
Sample Identification		Sample Date		Sample Time		Sample Type		Matrix	
<u>C-U-11208058-11323-TY-005</u>		<u>11-13-23</u>		<u>1200</u>		<u>G</u>		<u>GW</u>	
<u>C-U-11208058-11323-TY-006</u>		<u>11-13-23</u>		<u>1130</u>		<u>G</u>		<u>GW</u>	
Possible Hazard Identification <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological		Date: <u>11-13-23</u>		Date: <u>11-14-23</u>		Date: <u>11-14-23</u>		Date: <u>11-14-23</u>	
Deliverable Requested: I, II, III, IV, Other (specify)		Empty Kit Relinquished by: <u>Go to 2106</u>		Relinquished by: <u>Go to 2106</u>		Relinquished by: <u>Go to 2106</u>		Relinquished by: <u>Go to 2106</u>	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Company: <u>GHD</u>		Company: <u>GHD</u>		Company: <u>GHD</u>	
Cooler Temperature(s) °C and Other Remarks:		Date: <u>11-13-23</u>		Date: <u>11-14-23</u>		Date: <u>11-14-23</u>		Date: <u>11-14-23</u>	



Eurofins - Cleveland Sample Receipt Form/Narrative Barberton Facility Login #: 195393

Client: GAD Site Name: \_\_\_\_\_ Cooler unpacked by: [Signature]

Cooler Received on: 11-14-23 Opened on: 11-14-23

FedEx: 1<sup>st</sup>  Exp  UPS  FAS  Waypoint  Client Drop Off  Eurofins Courier  Other

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

Eurofins Cooler # ES  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 # 21 (CF +2.0 °C) Observed Cooler Temp. 2.6 °C Corrected Cooler Temp. 2.8 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1

- Were the seals on the outside of the cooler(s) signed & dated?  Yes  No  NA
- Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No  NA
- Were tamper/custody seals intact and uncompromised?  Yes  No  NA

3. Shippers' packing slip attached to the cooler(s)?  Yes  No

4. Did custody papers accompany the sample(s)?  Yes  No

5. Were the custody papers relinquished & signed in the appropriate place?  Yes  No

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

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

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

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?  Yes  No

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

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

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

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

13. Were all preserved sample(s) at the correct pH upon receipt?  Yes  No  NA pH Strip Lot# HC316719

14. Were VOAs on the COC?  Yes  No  NA

15. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA ← Larger than this.

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  Yes  No  NA

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

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

Tests that are not checked for pH by Receiving:

VOAs  
Oil and Grease  
TOC

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES  additional next page Samples processed by: \_\_\_\_\_

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19. SAMPLE CONDITION

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

Sample(s) \_\_\_\_\_ were received in a broken container.

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

20. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Ms. Ruth Mickle  
GHD Services Inc.  
26850 Haggerty Rd.  
Farmington Hills, Michigan 48331

Generated 1/24/2024 4:08:06 PM

## JOB DESCRIPTION

11208058, RACER Bay City

## JOB NUMBER

240-198216-1

# Eurofins Cleveland

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
1/24/2024 4:08:06 PM

Authorized for release by  
Denise Heckler, Project Manager II  
[Denise.Heckler@et.eurofinsus.com](mailto:Denise.Heckler@et.eurofinsus.com)  
(330)966-9477



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# Case Narrative

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

Job ID: 240-198216-1

**Job ID: 240-198216-1**

**Eurofins Cleveland**

## Job Narrative 240-198216-1

### Receipt

The samples were received on 1/17/2024 10:40 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.3°C

### GC/MS VOA

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

### PCBs

Method 608.3\_PCB\_PREC: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-600571.

Method 608.3\_PCB\_PREC: The following sample appears to contain polychlorinated biphenyls (PCBs); however, due to weathering or other environmental processes, the PCBs in the sample do not directly match any of the laboratory's Aroclor standards used for instrument calibration: W-11208058-011524-JY-001 (240-198216-1). The sample has been quantified and reported using the best overall Aroclor/standard pattern match relative to the reference standards.

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

### Metals

Method 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

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

Eurofins Cleveland

# Definitions/Glossary

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

Job ID: 240-198216-1

## 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	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
s	Seeded Control Blank (SCB) Recovery High
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: 240-198216-1

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Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-198216-1	W-11208058-011524-JY-001	Water	01/15/24 09:30	01/17/24 10:40
240-198216-2	W-11208058-011624-JY-002	Water	01/16/24 08:30	01/17/24 10:40
240-198216-3	W-11208058-011624-JY-003	Water	01/16/24 09:00	01/17/24 10:40

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# Detection Summary

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

Job ID: 240-198216-1

## Client Sample ID: W-11208058-011524-JY-001

## Lab Sample ID: 240-198216-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	12		0.95	0.72	ug/L	10		608.3	Total/NA

## Client Sample ID: W-11208058-011624-JY-002

## Lab Sample ID: 240-198216-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
HEM	2.2	J	4.9	1.0	mg/L	1		1664B	Total/NA
pH	7.2	HF	0.1	0.1	SU	1		4500 H+ B-2000	Total/NA

## Client Sample ID: W-11208058-011624-JY-003

## Lab Sample ID: 240-198216-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Nickel	2.2	J	20	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
Chemical Oxygen Demand	5.1	J	10	1.8	mg/L	1		410.4	Total/NA
Ammonia	9.0		0.20	0.076	mg/L	1		4500 NH3 H	Total/NA

This Detection Summary does not include radiochemical test results.

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# Method Summary

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

Job ID: 240-198216-1

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

#### Protocol References:

- 1664B = EPA-821-98-002
- EPA = US Environmental Protection Agency
- SM = "Standard Methods For The Examination Of Water And Wastewater"

#### Laboratory References:

- EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Client Sample Results

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

Job ID: 240-198216-1

## Method: EPA 624.1 - Volatile Organic Compounds (GC/MS)

**Client Sample ID: W-11208058-011624-JY-002**

**Date Collected: 01/16/24 08:30**

**Date Received: 01/17/24 10:40**

**Lab Sample ID: 240-198216-2**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.45	ug/L			01/19/24 16:29	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	110		62 - 137					01/19/24 16:29	1
4-Bromofluorobenzene (Surr)	103		56 - 136					01/19/24 16:29	1
Toluene-d8 (Surr)	101		78 - 122					01/19/24 16:29	1



# Client Sample Results

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

Job ID: 240-198216-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: W-11208058-011524-JY-001**

**Lab Sample ID: 240-198216-1**

**Date Collected: 01/15/24 09:30**

**Matrix: Water**

**Date Received: 01/17/24 10:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.95	U	0.95	0.53	ug/L		01/18/24 08:24	01/19/24 16:04	10
Aroclor-1221	0.95	U	0.95	0.54	ug/L		01/18/24 08:24	01/19/24 16:04	10
Aroclor-1232	0.95	U	0.95	0.70	ug/L		01/18/24 08:24	01/19/24 16:04	10
<b>Aroclor-1242</b>	<b>12</b>		0.95	0.72	ug/L		01/18/24 08:24	01/19/24 16:04	10
Aroclor-1248	0.95	U	0.95	0.48	ug/L		01/18/24 08:24	01/19/24 16:04	10
Aroclor-1254	0.95	U	0.95	0.38	ug/L		01/18/24 08:24	01/19/24 16:04	10
Aroclor-1260	0.95	U	0.95	0.44	ug/L		01/18/24 08:24	01/19/24 16:04	10
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				<b>Prepared</b>	<b>Analyzed</b>	<b>Dil Fac</b>
<i>DCB Decachlorobiphenyl</i>	36		10 - 174				01/18/24 08:24	01/19/24 16:04	10
<i>Tetrachloro-m-xylene</i>	68		10 - 149				01/18/24 08:24	01/19/24 16:04	10

# Client Sample Results

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

Job ID: 240-198216-1

## Method: EPA 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Client Sample ID: W-11208058-011624-JY-003**

**Lab Sample ID: 240-198216-3**

**Date Collected: 01/16/24 09:00**

**Matrix: Water**

**Date Received: 01/17/24 10:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	0.054	ug/L		01/18/24 08:24	01/19/24 16:19	1
Aroclor-1221	0.096	U	0.096	0.055	ug/L		01/18/24 08:24	01/19/24 16:19	1
Aroclor-1232	0.096	U	0.096	0.071	ug/L		01/18/24 08:24	01/19/24 16:19	1
Aroclor-1242	0.096	U	0.096	0.073	ug/L		01/18/24 08:24	01/19/24 16:19	1
Aroclor-1248	0.096	U	0.096	0.048	ug/L		01/18/24 08:24	01/19/24 16:19	1
Aroclor-1254	0.096	U	0.096	0.038	ug/L		01/18/24 08:24	01/19/24 16:19	1
Aroclor-1260	0.096	U	0.096	0.044	ug/L		01/18/24 08:24	01/19/24 16:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		10 - 174	01/18/24 08:24	01/19/24 16:19	1
Tetrachloro-m-xylene	60		10 - 149	01/18/24 08:24	01/19/24 16:19	1

# Client Sample Results

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

Job ID: 240-198216-1

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

Client Sample ID: W-11208058-011624-JY-003

Date Collected: 01/16/24 09:00

Date Received: 01/17/24 10:40

Lab Sample ID: 240-198216-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		01/18/24 14:00	01/19/24 08:03	1
Cadmium	2.0	U	2.0	0.45	ug/L		01/18/24 14:00	01/19/24 08:03	1
Chromium	5.0	U	5.0	0.76	ug/L		01/18/24 14:00	01/19/24 08:03	1
Copper	20	U	20	3.5	ug/L		01/18/24 14:00	01/19/24 08:03	1
Iron	100	U	100	83	ug/L		01/18/24 14:00	01/19/24 08:03	1
<b>Nickel</b>	<b>2.2</b>	<b>J</b>	20	2.2	ug/L		01/18/24 14:00	01/19/24 08:03	1
Lead	3.0	U	3.0	2.8	ug/L		01/18/24 14:00	01/19/24 08:03	1

# Client Sample Results

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

Job ID: 240-198216-1

## Method: EPA 245.1 - Mercury (CVAA)

Client Sample ID: W-11208058-011624-JY-003

Date Collected: 01/16/24 09:00

Date Received: 01/17/24 10:40

Lab Sample ID: 240-198216-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		01/18/24 14:00	01/19/24 11:26	1

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# Client Sample Results

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

Job ID: 240-198216-1

## General Chemistry

Client Sample ID: W-11208058-011624-JY-002

Date Collected: 01/16/24 08:30

Date Received: 01/17/24 10:40

Lab Sample ID: 240-198216-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM (1664B)	2.2	J	4.9	1.0	mg/L			01/24/24 08:55	1
pH (SM 4500 H+ B-2000)	7.2	HF	0.1	0.1	SU			01/23/24 04:48	1

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# Client Sample Results

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

Job ID: 240-198216-1

## General Chemistry

Client Sample ID: W-11208058-011624-JY-003

Date Collected: 01/16/24 09:00

Date Received: 01/17/24 10:40

Lab Sample ID: 240-198216-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand (EPA 410.4)	5.1	J	10	1.8	mg/L			01/22/24 11:16	1
Ammonia (SM 4500 NH3 H)	9.0		0.20	0.076	mg/L			01/23/24 14:00	1
Biochemical Oxygen Demand (SM 5210B-2001)	2.0	U	2.0	2.0	mg/L			01/17/24 13:43	1
Total Suspended Solids (SM 2540D)	4.0	U	4.0	0.40	mg/L			01/19/24 12:22	1
Total Phosphorus as P (SM4500 P E-1999)	0.10	U	0.10	0.076	mg/L			01/24/24 10:36	1

# QC Association Summary

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

Job ID: 240-198216-1

## GC/MS VOA

### Analysis Batch: 600689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-2	W-11208058-011624-JY-002	Total/NA	Water	624.1	
MB 240-600689/9	Method Blank	Total/NA	Water	624.1	
LCS 240-600689/5	Lab Control Sample	Total/NA	Water	624.1	

## GC Semi VOA

### Prep Batch: 600571

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-1	W-11208058-011524-JY-001	Total/NA	Water	608	
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	608	
MB 240-600571/1-A	Method Blank	Total/NA	Water	608	
LCS 240-600571/2-A	Lab Control Sample	Total/NA	Water	608	
LCSD 240-600571/3-A	Lab Control Sample Dup	Total/NA	Water	608	

### Analysis Batch: 600687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-1	W-11208058-011524-JY-001	Total/NA	Water	608.3	600571
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	608.3	600571
MB 240-600571/1-A	Method Blank	Total/NA	Water	608.3	600571
LCS 240-600571/2-A	Lab Control Sample	Total/NA	Water	608.3	600571
LCSD 240-600571/3-A	Lab Control Sample Dup	Total/NA	Water	608.3	600571

## Metals

### Prep Batch: 600612

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total Recoverable	Water	200.7	
MB 240-600612/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-600612/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-198216-3 MS	W-11208058-011624-JY-003	Total Recoverable	Water	200.7	
240-198216-3 MSD	W-11208058-011624-JY-003	Total Recoverable	Water	200.7	

### Prep Batch: 600618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	245.1	
MB 240-600618/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-600618/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-198216-3 MS	W-11208058-011624-JY-003	Total/NA	Water	245.1	
240-198216-3 MSD	W-11208058-011624-JY-003	Total/NA	Water	245.1	

### Analysis Batch: 600707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total Recoverable	Water	200.7 Rev 4.4	600612
MB 240-600612/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	600612
LCS 240-600612/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	600612
240-198216-3 MS	W-11208058-011624-JY-003	Total Recoverable	Water	200.7 Rev 4.4	600612
240-198216-3 MSD	W-11208058-011624-JY-003	Total Recoverable	Water	200.7 Rev 4.4	600612

### Analysis Batch: 600750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	245.1	600618
MB 240-600618/1-A	Method Blank	Total/NA	Water	245.1	600618

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# QC Association Summary

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

Job ID: 240-198216-1

## Metals (Continued)

### Analysis Batch: 600750 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-600618/2-A	Lab Control Sample	Total/NA	Water	245.1	600618
240-198216-3 MS	W-11208058-011624-JY-003	Total/NA	Water	245.1	600618
240-198216-3 MSD	W-11208058-011624-JY-003	Total/NA	Water	245.1	600618

## General Chemistry

### Analysis Batch: 600508

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	5210B-2001	
SCB 240-600508/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-600508/1	Method Blank	Total/NA	Water	5210B-2001	
LCS 240-600508/3	Lab Control Sample	Total/NA	Water	5210B-2001	

### Analysis Batch: 600753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	SM 2540D	
MB 240-600753/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-600753/2	Lab Control Sample	Total/NA	Water	SM 2540D	

### Analysis Batch: 600880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	410.4	
MB 240-600880/9	Method Blank	Total/NA	Water	410.4	
LCS 240-600880/10	Lab Control Sample	Total/NA	Water	410.4	
240-198216-3 MS	W-11208058-011624-JY-003	Total/NA	Water	410.4	
240-198216-3 MSD	W-11208058-011624-JY-003	Total/NA	Water	410.4	

### Analysis Batch: 600950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-2	W-11208058-011624-JY-002	Total/NA	Water	4500 H+ B-2000	
LCS 240-600950/30	Lab Control Sample	Total/NA	Water	4500 H+ B-2000	
240-198216-2 DU	W-11208058-011624-JY-002	Total/NA	Water	4500 H+ B-2000	

### Analysis Batch: 601051

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	4500 NH3 H	
MB 240-601051/16	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 240-601051/17	Lab Control Sample	Total/NA	Water	4500 NH3 H	

### Analysis Batch: 601095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-2	W-11208058-011624-JY-002	Total/NA	Water	1664B	
MB 240-601095/1	Method Blank	Total/NA	Water	1664B	
LCS 240-601095/2	Lab Control Sample	Total/NA	Water	1664B	

### Analysis Batch: 601137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-198216-3	W-11208058-011624-JY-003	Total/NA	Water	SM4500 P E-1999	
MB 240-601137/3	Method Blank	Total/NA	Water	SM4500 P E-1999	

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# QC Association Summary

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

Job ID: 240-198216-1

## General Chemistry (Continued)

### Analysis Batch: 601137 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-601137/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	
240-198216-3 MS	W-11208058-011624-JY-003	Total/NA	Water	SM4500 P E-1999	
240-198216-3 MSD	W-11208058-011624-JY-003	Total/NA	Water	SM4500 P E-1999	

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# QC Sample Results

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

Job ID: 240-198216-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-600689/9**  
**Matrix: Water**  
**Analysis Batch: 600689**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Vinyl chloride	1.0	U	1.0	0.45	ug/L			01/19/24 11:40	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	109		62 - 137				01/19/24 11:40	1	
4-Bromofluorobenzene (Surr)	103		56 - 136				01/19/24 11:40	1	
Toluene-d8 (Surr)	101		78 - 122				01/19/24 11:40	1	

**Lab Sample ID: LCS 240-600689/5**  
**Matrix: Water**  
**Analysis Batch: 600689**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Vinyl chloride	20.0	16.4		ug/L		82	5 - 195
Surrogate	%Recovery	Qualifier	Limits				
1,2-Dichloroethane-d4 (Surr)	104		62 - 137				
4-Bromofluorobenzene (Surr)	99		56 - 136				
Toluene-d8 (Surr)	100		78 - 122				

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

**Lab Sample ID: MB 240-600571/1-A**  
**Matrix: Water**  
**Analysis Batch: 600687**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 600571**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Aroclor-1016	0.10	U	0.10	0.056	ug/L		01/18/24 08:24	01/19/24 12:47	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		01/18/24 08:24	01/19/24 12:47	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		01/18/24 08:24	01/19/24 12:47	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		01/18/24 08:24	01/19/24 12:47	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		01/18/24 08:24	01/19/24 12:47	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		01/18/24 08:24	01/19/24 12:47	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		01/18/24 08:24	01/19/24 12:47	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac	
DCB Decachlorobiphenyl	86		10 - 174			01/18/24 08:24	01/19/24 12:47	1	
Tetrachloro-m-xylene	75		10 - 149			01/18/24 08:24	01/19/24 12:47	1	

**Lab Sample ID: LCS 240-600571/2-A**  
**Matrix: Water**  
**Analysis Batch: 600687**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 600571**

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Aroclor-1016	2.50	1.79		ug/L		71	50 - 140
Aroclor-1260	2.50	1.72		ug/L		69	8 - 140

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# QC Sample Results

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

Job ID: 240-198216-1

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC) (Continued)

**Lab Sample ID: LCS 240-600571/2-A**  
**Matrix: Water**  
**Analysis Batch: 600687**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 600571**

Surrogate	LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	79		10 - 174
Tetrachloro-m-xylene	68		10 - 149

**Lab Sample ID: LCSD 240-600571/3-A**  
**Matrix: Water**  
**Analysis Batch: 600687**

**Client Sample ID: Lab Control Sample Dup**  
**Prep Type: Total/NA**  
**Prep Batch: 600571**

Analyte	Spike Added	LCSD		Unit	D	%Rec	%Rec		RPD	Limit
		Result	Qualifier				Limits	RPD		
Aroclor-1016	2.50	1.89		ug/L		76	50 - 140	6	30	
Aroclor-1260	2.50	1.68		ug/L		67	8 - 140	3	30	

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	83		10 - 174
Tetrachloro-m-xylene	71		10 - 149

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

**Lab Sample ID: MB 240-600612/1-A**  
**Matrix: Water**  
**Analysis Batch: 600707**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 600612**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Silver	5.0	U	5.0	0.62	ug/L		01/18/24 14:00	01/19/24 07:55	1
Cadmium	2.0	U	2.0	0.45	ug/L		01/18/24 14:00	01/19/24 07:55	1
Chromium	5.0	U	5.0	0.76	ug/L		01/18/24 14:00	01/19/24 07:55	1
Copper	20	U	20	3.5	ug/L		01/18/24 14:00	01/19/24 07:55	1
Iron	100	U	100	83	ug/L		01/18/24 14:00	01/19/24 07:55	1
Nickel	20	U	20	2.2	ug/L		01/18/24 14:00	01/19/24 07:55	1
Lead	3.0	U	3.0	2.8	ug/L		01/18/24 14:00	01/19/24 07:55	1

**Lab Sample ID: LCS 240-600612/2-A**  
**Matrix: Water**  
**Analysis Batch: 600707**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 600612**

Analyte	Spike Added	LCS		Unit	D	%Rec	%Rec	
		Result	Qualifier				Limits	RPD
Silver	100	100		ug/L		100	85 - 115	
Cadmium	1000	1020		ug/L		102	85 - 115	
Chromium	1000	938		ug/L		94	85 - 115	
Copper	1000	975		ug/L		98	85 - 115	
Iron	10000	9870		ug/L		99	85 - 115	
Nickel	1000	1010		ug/L		101	85 - 115	
Lead	1000	947		ug/L		95	85 - 115	

**Lab Sample ID: 240-198216-3 MS**  
**Matrix: Water**  
**Analysis Batch: 600707**

**Client Sample ID: W-11208058-011624-JY-003**  
**Prep Type: Total Recoverable**  
**Prep Batch: 600612**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS		Unit	D	%Rec	%Rec	
				Result	Qualifier				Limits	RPD
Silver	5.0	U	100	98.2		ug/L		98	70 - 130	

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# QC Sample Results

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

Job ID: 240-198216-1

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

**Lab Sample ID: 240-198216-3 MS**  
**Matrix: Water**  
**Analysis Batch: 600707**

**Client Sample ID: W-11208058-011624-JY-003**  
**Prep Type: Total Recoverable**  
**Prep Batch: 600612**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Cadmium	2.0	U	1000	1030		ug/L		103	70 - 130
Chromium	5.0	U	1000	918		ug/L		92	70 - 130
Copper	20	U	1000	953		ug/L		95	70 - 130
Iron	100	U	10000	9580		ug/L		96	70 - 130
Nickel	2.2	J	1000	1020		ug/L		102	70 - 130
Lead	3.0	U	1000	937		ug/L		94	70 - 130

**Lab Sample ID: 240-198216-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 600707**

**Client Sample ID: W-11208058-011624-JY-003**  
**Prep Type: Total Recoverable**  
**Prep Batch: 600612**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	5.0	U	100	95.1		ug/L		95	70 - 130	3	20
Cadmium	2.0	U	1000	988		ug/L		99	70 - 130	4	20
Chromium	5.0	U	1000	881		ug/L		88	70 - 130	4	20
Copper	20	U	1000	919		ug/L		92	70 - 130	4	20
Iron	100	U	10000	9330		ug/L		93	70 - 130	3	20
Nickel	2.2	J	1000	977		ug/L		97	70 - 130	4	20
Lead	3.0	U	1000	898		ug/L		90	70 - 130	4	20

## Method: 245.1 - Mercury (CVAA)

**Lab Sample ID: MB 240-600618/1-A**  
**Matrix: Water**  
**Analysis Batch: 600750**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 600618**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.13	ug/L		01/18/24 14:00	01/19/24 11:22	1

**Lab Sample ID: LCS 240-600618/2-A**  
**Matrix: Water**  
**Analysis Batch: 600750**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 600618**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.25		ug/L		105	85 - 115

**Lab Sample ID: 240-198216-3 MS**  
**Matrix: Water**  
**Analysis Batch: 600750**

**Client Sample ID: W-11208058-011624-JY-003**  
**Prep Type: Total/NA**  
**Prep Batch: 600618**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	0.20	U	1.00	1.08		ug/L		108	70 - 130

**Lab Sample ID: 240-198216-3 MSD**  
**Matrix: Water**  
**Analysis Batch: 600750**

**Client Sample ID: W-11208058-011624-JY-003**  
**Prep Type: Total/NA**  
**Prep Batch: 600618**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Mercury	0.20	U	1.00	1.08		ug/L		108	70 - 130	0	20

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# QC Sample Results

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

Job ID: 240-198216-1

## Method: 1664B - HEM and SGT-HEM

Lab Sample ID: MB 240-601095/1  
Matrix: Water  
Analysis Batch: 601095

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	1.0	mg/L			01/24/24 08:55	1

Lab Sample ID: LCS 240-601095/2  
Matrix: Water  
Analysis Batch: 601095

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	33.9		mg/L		85	78 - 114

## Method: 410.4 - COD

Lab Sample ID: MB 240-600880/9  
Matrix: Water  
Analysis Batch: 600880

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	1.8	mg/L			01/22/24 11:16	1

Lab Sample ID: LCS 240-600880/10  
Matrix: Water  
Analysis Batch: 600880

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	46.4	43.5		mg/L		94	90 - 110

Lab Sample ID: 240-198216-3 MS  
Matrix: Water  
Analysis Batch: 600880

Client Sample ID: W-11208058-011624-JY-003  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	5.1	J	50.0	59.8		mg/L		109	90 - 110

Lab Sample ID: 240-198216-3 MSD  
Matrix: Water  
Analysis Batch: 600880

Client Sample ID: W-11208058-011624-JY-003  
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	5.1	J	50.0	58.1		mg/L		106	90 - 110	3	20

## Method: 4500 H+ B-2000 - pH

Lab Sample ID: LCS 240-600950/30  
Matrix: Water  
Analysis Batch: 600950

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.14	9.2		SU		100	97 - 103

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# QC Sample Results

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

Job ID: 240-198216-1

## Method: 4500 H+ B-2000 - pH (Continued)

Lab Sample ID: 240-198216-2 DU  
Matrix: Water  
Analysis Batch: 600950

Client Sample ID: W-11208058-011624-JY-002  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	HF	7.2		SU		0	20

## Method: 4500 NH3 H - Ammonia

Lab Sample ID: MB 240-601051/16  
Matrix: Water  
Analysis Batch: 601051

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	0.076	mg/L			01/23/24 13:42	1

Lab Sample ID: LCS 240-601051/17  
Matrix: Water  
Analysis Batch: 601051

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.83	3.77		mg/L		98	90 - 110

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

Lab Sample ID: SCB 240-600508/2  
Matrix: Water  
Analysis Batch: 600508

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 s	2.0	2.0	mg/L			01/17/24 12:32	1

Lab Sample ID: USB 240-600508/1  
Matrix: Water  
Analysis Batch: 600508

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	2.0	mg/L			01/17/24 12:29	1

Lab Sample ID: LCS 240-600508/3  
Matrix: Water  
Analysis Batch: 600508

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	181		mg/L		91	85 - 115

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

Lab Sample ID: MB 240-600753/1  
Matrix: Water  
Analysis Batch: 600753

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	0.40	mg/L			01/19/24 12:22	1

Eurofins Cleveland

# QC Sample Results

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

Job ID: 240-198216-1

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

Lab Sample ID: LCS 240-600753/2  
Matrix: Water  
Analysis Batch: 600753

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	60.1	49.0		mg/L		82	64 - 120

## Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-601137/3  
Matrix: Water  
Analysis Batch: 601137

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	0.076	mg/L			01/24/24 10:36	1

Lab Sample ID: LCS 240-601137/4  
Matrix: Water  
Analysis Batch: 601137

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	0.358	0.383		mg/L		107	77 - 120

Lab Sample ID: 240-198216-3 MS  
Matrix: Water  
Analysis Batch: 601137

Client Sample ID: W-11208058-011624-JY-003  
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	0.601		mg/L		120	38 - 156

Lab Sample ID: 240-198216-3 MSD  
Matrix: Water  
Analysis Batch: 601137

Client Sample ID: W-11208058-011624-JY-003  
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	0.564		mg/L		113	38 - 156	6	29

# Surrogate Summary

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

Job ID: 240-198216-1

## Method: 624.1 - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCA	BFB	TOL
		(62-137)	(56-136)	(78-122)
240-198216-2	W-11208058-011624-JY-002	110	103	101
LCS 240-600689/5	Lab Control Sample	104	99	100
MB 240-600689/9	Method Blank	109	103	101

#### Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

TOL = Toluene-d8 (Surr)

## Method: 608.3 - Polychlorinated Biphenyls (PCBs) (GC)

Matrix: Water

Prep Type: Total/NA

### Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP1	TCX1
		(10-174)	(10-149)
240-198216-1	W-11208058-011524-JY-001	36	68
240-198216-3	W-11208058-011624-JY-003	62	60
LCS 240-600571/2-A	Lab Control Sample	79	68
LCSD 240-600571/3-A	Lab Control Sample Dup	83	71
MB 240-600571/1-A	Method Blank	86	75

#### Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

# Lab Chronicle

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

Job ID: 240-198216-1

**Client Sample ID: W-11208058-011524-JY-001**

**Lab Sample ID: 240-198216-1**

**Date Collected: 01/15/24 09:30**

**Matrix: Water**

**Date Received: 01/17/24 10:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	608			600571	GBS	EET CLE	01/18/24 08:24
Total/NA	Analysis	608.3		10	600687	MBB	EET CLE	01/19/24 16:04

**Client Sample ID: W-11208058-011624-JY-002**

**Lab Sample ID: 240-198216-2**

**Date Collected: 01/16/24 08:30**

**Matrix: Water**

**Date Received: 01/17/24 10:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	624.1		1	600689	HMB	EET CLE	01/19/24 16:29
Total/NA	Analysis	1664B		1	601095	JMR	EET CLE	01/24/24 08:55
Total/NA	Analysis	4500 H+ B-2000		1	600950	MS	EET CLE	01/23/24 04:48

**Client Sample ID: W-11208058-011624-JY-003**

**Lab Sample ID: 240-198216-3**

**Date Collected: 01/16/24 09:00**

**Matrix: Water**

**Date Received: 01/17/24 10:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	608			600571	GBS	EET CLE	01/18/24 08:24
Total/NA	Analysis	608.3		1	600687	MBB	EET CLE	01/19/24 16:19
Total Recoverable	Prep	200.7			600612	TQ6W	EET CLE	01/18/24 14:00
Total Recoverable	Analysis	200.7 Rev 4.4		1	600707	KLC	EET CLE	01/19/24 08:03
Total/NA	Prep	245.1			600618	TQ6W	EET CLE	01/18/24 14:00
Total/NA	Analysis	245.1		1	600750	GK	EET CLE	01/19/24 11:26
Total/NA	Analysis	410.4		1	600880	MS	EET CLE	01/22/24 11:16
Total/NA	Analysis	4500 NH3 H		1	601051	JMR	EET CLE	01/23/24 14:00
Total/NA	Analysis	5210B-2001		1	600508	C5SV	EET CLE	01/17/24 13:43
Total/NA	Analysis	SM 2540D		1	600753	C5SV	EET CLE	01/19/24 12:22
Total/NA	Analysis	SM4500 P E-1999		1	601137	BLW	EET CLE	01/24/24 10:36

**Laboratory References:**

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

# Accreditation/Certification Summary

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

Job ID: 240-198216-1

## Laboratory: Eurofins Cleveland

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	02-27-24
Georgia	State	4062	02-27-24
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-28-24
Kentucky (WW)	State	KY98016	12-30-24
Michigan	State	9135	02-27-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	07-01-24
New York	NELAP	10975	04-01-24
Ohio	State	8303	02-27-24
Ohio VAP	State	ORELAP 4062	02-27-24
Oregon	NELAP	4062	02-27-24
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24





Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservation</u>	<u>Preservation</u>
			<u>pH</u>	<u>Temp</u>	<u>Added</u>	<u>Lot Number</u>
W-11208058-011524-JY-003	240-198216-A-3	Plastic 250ml - with Sulfuric Acid	<2	_____	_____	_____
W-11208058-011524-JY-003	240-198216-B-3	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____

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# Attachment 2

## Certification Statement

Certification Statement

"I, M. Brendan Mullen, certify under penalty of law that this document (January 30, 2024 GHD Semi-Annual Compliance Report (July 1 to December 31, 2023)), and all attachments were prepared under by direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

M. Brendan Mullen

RACER Trust, Cleanup Manager

1/29/2024

(Date)