



July 29, 2019

Reference No. 012610

City of Bay City WWTP
Attn: IPP Coordinator
2905 North Water Street
Bay City, Michigan
U.S.A. 48708

To Whom It May Concern:

**Re: Semi-Annual Compliance Report (January 1 to June 30, 2019)
RACER Bay City Industrial Land
Bay City, Michigan**

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 January 1 to June 30, 2019 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 semi-annual period with the exception of short periods when the system was down for maintenance or as a result of an alarm condition.

Table 1 presents the results of the required semi-annual effluent sample collected from the RACER groundwater extraction and treatment system on May 31, 2019. Attachment 1 presents a copy of the laboratory analytical report. The analytical results did not identify an exceedance of the daily maximum discharge levels specified in the permit, and there were no other conditions, events or circumstances identified that did not meet other permit requirements. Table 2 presents the flow readings collected periodically from the flow meter.

The RACER groundwater extraction and treatment system is operated and maintained by Steve Hoevermeyer (GHD) who maintains the designation of Waste Treatment Plant Operator – Industrial or Commercial (A-1d Impoundment, A-2b Filtration of Wastewater, B-2c Oil-Water Separation, and B-3b Carbon Adsorption).

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,

GHD

A handwritten signature in blue ink, appearing to read 'J. Pardys', with a stylized flourish at the end.

John-Eric Pardys, P.Eng.

JEP/ev/6

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

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

**Analytical Results Summary
Effluent Sampling
Bay City Industrial Land
Bay City, Michigan**

Sample Location:
Sample ID:
Sample Date:

**effluent-GWTS
W-12610-053119-SSH-00319
5/31/19**

Parameters VOAs	Units	Daily Maximum (Bay City Industrial User Permit)	
Vinyl chloride	mg/L	0.002	0.001 U
Metals			
Cadmium	mg/L	0.057	0.002 U
Chromium	mg/L	6.812	0.0017 J
Copper	mg/L	1.476	0.012 J
Iron	mg/L		0.11
Lead	mg/L	0.632	0.003 U
Mercury	mg/L	ND	0.0002 U
Nickel	mg/L	2.548	0.0059 J
Silver	mg/L	0.2	0.005 U
Pesticides			
Aroclor-1016 (PCB-1016)	mg/L	ND	0.000096 U
Aroclor-1221 (PCB-1221)	mg/L	ND	0.000096 U
Aroclor-1232 (PCB-1232)	mg/L	ND	0.000096 U
Aroclor-1242 (PCB-1242)	mg/L	ND	0.000096 U
Aroclor-1248 (PCB-1248)	mg/L	ND	0.000096 U
Aroclor-1254 (PCB-1254)	mg/L	ND	0.000096 U
Aroclor-1260 (PCB-1260)	mg/L	ND	0.000096 U
Wet			
Ammonia	mg/L	30	0.20 U
Biochemical oxygen demand (BOD)	mg/L	835	2.0 U
Chemical oxygen demand (COD)	mg/L	1670	10 U
Oil and grease (HEM), polar	mg/L	100	4.8 U
pH, lab	s.u.	6.5 to 11.0	7.5 HF
Phosphorus	mg/L	13.8	0.10 U
Total suspended solids (TSS)	mg/L	1336	4.0 U

Notes:

- HF Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
 U Not detected at the associated reporting limit
 J Estimated value

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

Date	Flow Meter reading (gallons)	Cumulative Total: (gallons)	Volume to be invoiced annually (July to June 30)	Comments
16-Jun-14	4593	18950	18950	- City invoiced for discharge
28-Jul-14	4593	18950		
18-Aug-14	4593	18950		
5-Sep-14	6337	20694		- Collected effluent sample
23-Sep-14	11504	25861		
23-Oct-14	31004	45361		
26-Nov-14	31004	45361		
29-Dec-14	31004	45361		
27-Jan-15	31004	45361		
13-Feb-15	46303	60660		
16-Mar-15				- Collected effluent sample
19-Mar-15	67425	81782		
30-Apr-15	175234	189591		
6-May-15	197766	212123		
18-Jun-15	224490	238847		
25-Jun-15	232315	246672		
30-Jun-15	232315	246672		
29-Jul-15	232315	246672		
28-Aug-15	241397	255754		
29-Sep-15	252638	266995		
30-Oct-15	260771	275128		
23-Nov-15	289731	304088		
10-Dec-15				- Collected effluent sample
30-Dec-15	351550	365907		
10-Feb-16	387410	401767		
29-Feb-16	394550	408907		
21-Mar-16	409836	424193		
27-Apr-16	462204	476561		
31-May-16	521920	536277		
14-Jun-16	528259	542616	523666	- Collected effluent sample, City invoiced for discharge
29-Jun-16	556457	570814		
20-Jul-16	561893	576250		
31-Aug-16	607298	621655		
30-Sep-16	607717	622074		
28-Oct-16	608865	623222		
11-Nov-16	608980	623337		
16-Dec-16	609074	623431		
14-Jan-17	609074	623431		
14-Jan-17	0	623431		
16-Jan-17				- Collected effluent sample
2-Feb-17	5813	629244		

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

Date	Flow Meter reading (gallons)	Cumulative Total: (gallons)	Volume to be invoiced annually (July to June 30)	Comments
27-Apr-17	55126	678557		
9-May-17				- Collected effluent sample
22-May-17	56722	680153		
13-Jun-17	56729	680160	137544	- City invoiced for discharge
28-Jun-17	56911	680342		
12-Jul-17	60991	684422		
25-Oct-17	73702	697133		
30-Nov-17				- Collected effluent sample
8-Mar-18	122667	746098		- Last reading before replacing flow meter
8-Mar-18	0	746098		- New Flow meter installed
29-Mar-18	11243	757341		
30-Apr-18	18529	764627		
31-May-18	20490	766588		
1-Jun-18				- Collected effluent sample
1-Jun-18	22333	768431	88271	- City invoiced for discharge
20-Jun-18	35274	781372		
30-Jul-18	52454	798552		
30-Aug-18	53199	799297		
26-Sep-18	59303	805401		
29-Nov-18	76972	823070		
12-Dec-18	77570	823668		- Collected effluent sample
1/29/2019	77720	823818		
2/28/2019	77720	823818		
3/22/2019	81364	827462		
4/19/2019	105745	851843		
5/17/2019	123482	869580		
5/31/2019				- Collected effluent sample
6/17/2019	144380	890478	122047	- City invoiced for discharge

Attachment 1 Laboratory Analytical Report

ANALYTICAL REPORT

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

Laboratory Job ID: 240-113550-1
Client Project/Site: 12610-T04, RACER Bay City

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

Attn: Ms. Ruth Mickle



Authorized for release by:
6/17/2019 8:52:11 AM

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

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www.testamericainc.com

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Job ID: 240-113550-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-113550-1

Comments

No additional comments.

Receipt

The samples were received on 6/1/2019 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

GC/MS VOA

Method(s) 624: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with analytical batch 240-384260.

No additional analytical or quality issues were noted, other than those described above or 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(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: W-12610-053119-SSH-00319 (240-113550-1). The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 245.1: The laboratory control sample (LCS) for preparation batch 240-384127 and analytical batch 240-384688 recovered outside control limits for the following analytes: mercury. These analytes were biased high in the LCS and were below the reporting limit in the associated samples; therefore, the data have been reported.

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

General Chemistry

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

Organic Prep

Method(s) 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-384384.

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: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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
*	LCS or LCSD is outside acceptance limits.
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
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-113550-1	W-12610-053119-SSH-00319	Water	05/31/19 09:30	06/01/19 09:50	
240-113550-2	W-12610-053119-SSH-00519	Water	05/31/19 09:05	06/01/19 09:50	

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Detection Summary

Client: GHD Services Inc.
 Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Client Sample ID: W-12610-053119-SSH-00319

Lab Sample ID: 240-113550-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	1.7	J B	5.0	0.63	ug/L	1		200.7 Rev 4.4	Total Recoverable
Copper	12	J	20	3.5	ug/L	1		200.7 Rev 4.4	Total Recoverable
Iron	110		100	26	ug/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	5.9	J	20	2.2	ug/L	1		200.7 Rev 4.4	Total Recoverable
pH	7.5	HF	0.1	0.1	SU	1		4500 H+ B-2000	Total/NA

Client Sample ID: W-12610-053119-SSH-00519

Lab Sample ID: 240-113550-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aroclor-1242	1.5		0.095	0.072	ug/L	1		608	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton



Method Summary

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Protocol References:

1664A = EPA-821-98-002

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

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

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

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Client Sample ID: W-12610-053119-SSH-00319

Date Collected: 05/31/19 09:30

Date Received: 06/01/19 09:50

Lab Sample ID: 240-113550-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/04/19 03:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	97		69 - 120					06/04/19 03:19	1
1,2-Dichloroethane-d4 (Surr)	79		61 - 138					06/04/19 03:19	1
Toluene-d8 (Surr)	104		73 - 120					06/04/19 03:19	1



Client Sample Results

Client: GHD Services Inc.
 Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Client Sample ID: W-12610-053119-SSH-00319

Lab Sample ID: 240-113550-1

Date Collected: 05/31/19 09:30

Matrix: Water

Date Received: 06/01/19 09:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	0.054	ug/L		06/04/19 09:41	06/05/19 16:26	1
Aroclor-1221	0.096	U	0.096	0.055	ug/L		06/04/19 09:41	06/05/19 16:26	1
Aroclor-1232	0.096	U	0.096	0.071	ug/L		06/04/19 09:41	06/05/19 16:26	1
Aroclor-1242	0.096	U	0.096	0.073	ug/L		06/04/19 09:41	06/05/19 16:26	1
Aroclor-1248	0.096	U	0.096	0.048	ug/L		06/04/19 09:41	06/05/19 16:26	1
Aroclor-1254	0.096	U	0.096	0.038	ug/L		06/04/19 09:41	06/05/19 16:26	1
Aroclor-1260	0.096	U	0.096	0.044	ug/L		06/04/19 09:41	06/05/19 16:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>DCB Decachlorobiphenyl</i>	80		10 - 114				06/04/19 09:41	06/05/19 16:26	1
<i>Tetrachloro-m-xylene</i>	78		15 - 131				06/04/19 09:41	06/05/19 16:26	1

Client Sample Results

Client: GHD Services Inc.
 Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Client Sample ID: W-12610-053119-SSH-00519

Lab Sample ID: 240-113550-2

Date Collected: 05/31/19 09:05

Matrix: Water

Date Received: 06/01/19 09:50

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	0.053	ug/L		06/04/19 09:41	06/05/19 16:47	1
Aroclor-1221	0.095	U	0.095	0.054	ug/L		06/04/19 09:41	06/05/19 16:47	1
Aroclor-1232	0.095	U	0.095	0.070	ug/L		06/04/19 09:41	06/05/19 16:47	1
Aroclor-1242	1.5		0.095	0.072	ug/L		06/04/19 09:41	06/05/19 16:47	1
Aroclor-1248	0.095	U	0.095	0.048	ug/L		06/04/19 09:41	06/05/19 16:47	1
Aroclor-1254	0.095	U	0.095	0.038	ug/L		06/04/19 09:41	06/05/19 16:47	1
Aroclor-1260	0.095	U	0.095	0.044	ug/L		06/04/19 09:41	06/05/19 16:47	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
<i>DCB Decachlorobiphenyl</i>	74		10 - 114				06/04/19 09:41	06/05/19 16:47	1
<i>Tetrachloro-m-xylene</i>	76		15 - 131				06/04/19 09:41	06/05/19 16:47	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Client Sample ID: W-12610-053119-SSH-00319

Date Collected: 05/31/19 09:30

Date Received: 06/01/19 09:50

Lab Sample ID: 240-113550-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	5.0	U	5.0	0.62	ug/L		06/03/19 14:00	06/04/19 19:04	1
Cadmium	2.0	U	2.0	0.20	ug/L		06/03/19 14:00	06/04/19 19:04	1
Chromium	1.7	J B	5.0	0.63	ug/L		06/03/19 14:00	06/04/19 19:04	1
Copper	12	J	20	3.5	ug/L		06/03/19 14:00	06/04/19 19:04	1
Iron	110		100	26	ug/L		06/03/19 14:00	06/04/19 19:04	1
Nickel	5.9	J	20	2.2	ug/L		06/03/19 14:00	06/04/19 19:04	1
Lead	3.0	U	3.0	2.8	ug/L		06/03/19 14:00	06/04/19 19:04	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: W-12610-053119-SSH-00319

Date Collected: 05/31/19 09:30

Date Received: 06/01/19 09:50

Lab Sample ID: 240-113550-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U *	0.20	0.13	ug/L		06/03/19 14:00	06/05/19 15:37	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

General Chemistry

Client Sample ID: W-12610-053119-SSH-00319

Date Collected: 05/31/19 09:30

Date Received: 06/01/19 09:50

Lab Sample ID: 240-113550-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	0.99	mg/L			06/14/19 10:22	1
Chemical Oxygen Demand	10	U	10	4.1	mg/L			06/04/19 09:57	1
pH	7.5	HF	0.1	0.1	SU			06/01/19 12:23	1
Ammonia	0.20	U	0.20	0.093	mg/L			06/14/19 17:53	1
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			06/01/19 13:38	1
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			06/06/19 10:01	1
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L			06/03/19 09:13	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

GC/MS VOA

Analysis Batch: 384260

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	624	
MB 240-384260/8	Method Blank	Total/NA	Water	624	
LCS 240-384260/5	Lab Control Sample	Total/NA	Water	624	

GC Semi VOA

Prep Batch: 384384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	608	
240-113550-2	W-12610-053119-SSH-00519	Total/NA	Water	608	
MB 240-384384/18-A	Method Blank	Total/NA	Water	608	
LCS 240-384384/19-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 384531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	608	384384
240-113550-2	W-12610-053119-SSH-00519	Total/NA	Water	608	384384
MB 240-384384/18-A	Method Blank	Total/NA	Water	608	384384
LCS 240-384384/19-A	Lab Control Sample	Total/NA	Water	608	384384

Metals

Prep Batch: 384126

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total Recoverable	Water	200.7	
MB 240-384126/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-384126/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-113550-1 MS	W-12610-053119-SSH-00319	Total Recoverable	Water	200.7	
240-113550-1 MSD	W-12610-053119-SSH-00319	Total Recoverable	Water	200.7	

Prep Batch: 384127

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	245.1	
MB 240-384127/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-384127/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-113550-1 MS	W-12610-053119-SSH-00319	Total/NA	Water	245.1	
240-113550-1 MSD	W-12610-053119-SSH-00319	Total/NA	Water	245.1	

Analysis Batch: 384578

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total Recoverable	Water	200.7 Rev 4.4	384126
MB 240-384126/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	384126
LCS 240-384126/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	384126
240-113550-1 MS	W-12610-053119-SSH-00319	Total Recoverable	Water	200.7 Rev 4.4	384126
240-113550-1 MSD	W-12610-053119-SSH-00319	Total Recoverable	Water	200.7 Rev 4.4	384126

Analysis Batch: 384688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	245.1	384127
MB 240-384127/1-A	Method Blank	Total/NA	Water	245.1	384127
LCS 240-384127/2-A	Lab Control Sample	Total/NA	Water	245.1	384127
240-113550-1 MS	W-12610-053119-SSH-00319	Total/NA	Water	245.1	384127

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Metals (Continued)

Analysis Batch: 384688 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1 MSD	W-12610-053119-SSH-00319	Total/NA	Water	245.1	384127

General Chemistry

Analysis Batch: 384045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	4500 H+ B-2000	
LCS 240-384045/2	Lab Control Sample	Total/NA	Water	4500 H+ B-2000	

Analysis Batch: 384052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	5210B-2001	
SCB 240-384052/2	Method Blank	Total/NA	Water	5210B-2001	
USB 240-384052/1	Method Blank	Total/NA	Water	5210B-2001	
LCS 240-384052/3	Lab Control Sample	Total/NA	Water	5210B-2001	

Analysis Batch: 384110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	SM4500 P E-1999	
MB 240-384110/3	Method Blank	Total/NA	Water	SM4500 P E-1999	
LCS 240-384110/4	Lab Control Sample	Total/NA	Water	SM4500 P E-1999	

Analysis Batch: 384337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	410.4	
MB 240-384337/40	Method Blank	Total/NA	Water	410.4	
LCS 240-384337/41	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 384841

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	SM 2540D	
MB 240-384841/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-384841/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 386211

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	1664A	
MB 240-386211/1	Method Blank	Total/NA	Water	1664A	
MB 240-386211/25	Method Blank	Total/NA	Water	1664A	
LCS 240-386211/2	Lab Control Sample	Total/NA	Water	1664A	
LCS 240-386211/26	Lab Control Sample	Total/NA	Water	1664A	
240-113550-1 MS	W-12610-053119-SSH-00319	Total/NA	Water	1664A	

Analysis Batch: 386334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-113550-1	W-12610-053119-SSH-00319	Total/NA	Water	4500 NH3 D-2011	
MB 240-386334/7	Method Blank	Total/NA	Water	4500 NH3 D-2011	

Eurofins TestAmerica, Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

General Chemistry (Continued)

Analysis Batch: 386334 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-386334/8	Lab Control Sample	Total/NA	Water	4500 NH3 D-2011	

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

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Lab Sample ID: MB 240-384260/8
Matrix: Water
Analysis Batch: 384260

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	1.0	U	1.0	0.20	ug/L			06/03/19 18:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	107		69 - 120		06/03/19 18:27	1
1,2-Dichloroethane-d4 (Surr)	87		61 - 138		06/03/19 18:27	1
Toluene-d8 (Surr)	110		73 - 120		06/03/19 18:27	1

Lab Sample ID: LCS 240-384260/5
Matrix: Water
Analysis Batch: 384260

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	24.4		ug/L		122	10 - 251

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		69 - 120
1,2-Dichloroethane-d4 (Surr)	82		61 - 138
Toluene-d8 (Surr)	100		73 - 120

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

Lab Sample ID: MB 240-384384/18-A
Matrix: Water
Analysis Batch: 384531

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384384

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		06/04/19 09:49	06/05/19 14:40	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		06/04/19 09:49	06/05/19 14:40	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		06/04/19 09:49	06/05/19 14:40	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		06/04/19 09:49	06/05/19 14:40	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		06/04/19 09:49	06/05/19 14:40	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		06/04/19 09:49	06/05/19 14:40	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		06/04/19 09:49	06/05/19 14:40	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		10 - 114	06/04/19 09:49	06/05/19 14:40	1
Tetrachloro-m-xylene	74		15 - 131	06/04/19 09:49	06/05/19 14:40	1

Lab Sample ID: LCS 240-384384/19-A
Matrix: Water
Analysis Batch: 384531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384384

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.89		ug/L		76	50 - 114
Aroclor-1260	2.50	1.91		ug/L		76	8 - 127

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Lab Sample ID: LCS 240-384384/19-A
Matrix: Water
Analysis Batch: 384531

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384384

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
DCB Decachlorobiphenyl	76		10 - 114
Tetrachloro-m-xylene	77		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-384126/1-A
Matrix: Water
Analysis Batch: 384578

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 384126

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Silver	5.0	U	5.0	0.62	ug/L		06/03/19 14:00	06/04/19 19:41		1
Cadmium	2.0	U	2.0	0.20	ug/L		06/03/19 14:00	06/04/19 19:41		1
Chromium	0.841	J	5.0	0.63	ug/L		06/03/19 14:00	06/04/19 19:41		1
Copper	20	U	20	3.5	ug/L		06/03/19 14:00	06/04/19 19:41		1
Iron	100	U	100	26	ug/L		06/03/19 14:00	06/04/19 19:41		1
Nickel	20	U	20	2.2	ug/L		06/03/19 14:00	06/04/19 19:41		1
Lead	3.0	U	3.0	2.8	ug/L		06/03/19 14:00	06/04/19 19:41		1

Lab Sample ID: LCS 240-384126/2-A
Matrix: Water
Analysis Batch: 384578

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 384126

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	Limits
		Result	Qualifier				
Silver	50.0	52.9		ug/L		106	85 - 115
Cadmium	50.0	51.1		ug/L		102	85 - 115
Chromium	200	205		ug/L		102	85 - 115
Copper	250	269		ug/L		108	85 - 115
Iron	1000	1020		ug/L		102	85 - 115
Nickel	500	503		ug/L		101	85 - 115
Lead	500	479		ug/L		96	85 - 115

Lab Sample ID: 240-113550-1 MS
Matrix: Water
Analysis Batch: 384578

Client Sample ID: W-12610-053119-SSH-00319
Prep Type: Total Recoverable
Prep Batch: 384126

Analyte	Sample Sample		Spike Added	MS MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Silver	5.0	U	50.0	54.1		ug/L		108	75 - 125
Cadmium	2.0	U	50.0	52.8		ug/L		106	75 - 125
Chromium	1.7	J B	200	209		ug/L		104	75 - 125
Copper	12	J	250	288		ug/L		110	75 - 125
Iron	110		1000	1140		ug/L		104	75 - 125
Nickel	5.9	J	500	527		ug/L		104	75 - 125
Lead	3.0	U	500	491		ug/L		98	75 - 125

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Lab Sample ID: 240-113550-1 MSD
Matrix: Water
Analysis Batch: 384578

Client Sample ID: W-12610-053119-SSH-00319
Prep Type: Total Recoverable
Prep Batch: 384126

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Silver	5.0	U	50.0	54.5		ug/L		109	75 - 125	1	20
Cadmium	2.0	U	50.0	52.9		ug/L		106	75 - 125	0	20
Chromium	1.7	J B	200	208		ug/L		103	75 - 125	1	20
Copper	12	J	250	287		ug/L		110	75 - 125	0	20
Iron	110		1000	1140		ug/L		103	75 - 125	1	20
Nickel	5.9	J	500	527		ug/L		104	75 - 125	0	20
Lead	3.0	U	500	489		ug/L		98	75 - 125	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-384127/1-A
Matrix: Water
Analysis Batch: 384688

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 384127

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	0.20	U	0.20	0.13	ug/L		06/03/19 14:00	06/05/19 15:29	1

Lab Sample ID: LCS 240-384127/2-A
Matrix: Water
Analysis Batch: 384688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 384127

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.
		Result	Qualifier				Limits
Mercury	5.00	5.80	*	ug/L		116	85 - 115

Lab Sample ID: 240-113550-1 MS
Matrix: Water
Analysis Batch: 384688

Client Sample ID: W-12610-053119-SSH-00319
Prep Type: Total/NA
Prep Batch: 384127

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Mercury	0.20	U *	1.00	1.18		ug/L		118	70 - 130	

Lab Sample ID: 240-113550-1 MSD
Matrix: Water
Analysis Batch: 384688

Client Sample ID: W-12610-053119-SSH-00319
Prep Type: Total/NA
Prep Batch: 384127

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier				Limits		
Mercury	0.20	U *	1.00	1.09		ug/L		109	70 - 130	7	20

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-386211/1
Matrix: Water
Analysis Batch: 386211

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			06/14/19 09:43	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Lab Sample ID: MB 240-386211/25
Matrix: Water
Analysis Batch: 386211

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	1.60	J	5.0	1.0	mg/L			06/14/19 10:22	1

Lab Sample ID: LCS 240-386211/2
Matrix: Water
Analysis Batch: 386211

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	37.00		mg/L		92	78 - 114

Lab Sample ID: LCS 240-386211/26
Matrix: Water
Analysis Batch: 386211

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	34.40		mg/L		86	78 - 114

Lab Sample ID: 240-113550-1 MS
Matrix: Water
Analysis Batch: 386211

Client Sample ID: W-12610-053119-SSH-00319
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	4.8	U	38.9	33.24		mg/L		85	78 - 114

Method: 410.4 - COD

Lab Sample ID: MB 240-384337/40
Matrix: Water
Analysis Batch: 384337

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	10	U	10	4.1	mg/L			06/04/19 09:37	1

Lab Sample ID: LCS 240-384337/41
Matrix: Water
Analysis Batch: 384337

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chemical Oxygen Demand	68.4	68.9		mg/L		101	90 - 110

Method: 4500 H+ B-2000 - pH

Lab Sample ID: LCS 240-384045/2
Matrix: Water
Analysis Batch: 384045

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
pH	6.79	6.8		SU		100	97 - 103

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Method: 4500 NH3 D-2011 - Ammonia

Lab Sample ID: MB 240-386334/7
Matrix: Water
Analysis Batch: 386334

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.20	U	0.20	0.093	mg/L			06/14/19 14:49	1

Lab Sample ID: LCS 240-386334/8
Matrix: Water
Analysis Batch: 386334

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	18.0	17.8		mg/L		99	85 - 114

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

Lab Sample ID: SCB 240-384052/2
Matrix: Water
Analysis Batch: 384052

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

Analyte	SCB Result	SCB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			06/01/19 13:36	1

Lab Sample ID: USB 240-384052/1
Matrix: Water
Analysis Batch: 384052

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

Analyte	USB Result	USB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Biochemical Oxygen Demand	2.0	U	2.0	1.2	mg/L			06/01/19 13:36	1

Lab Sample ID: LCS 240-384052/3
Matrix: Water
Analysis Batch: 384052

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	185		mg/L		93	85 - 115

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

Lab Sample ID: MB 240-384841/1
Matrix: Water
Analysis Batch: 384841

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			06/06/19 10:01	1

Lab Sample ID: LCS 240-384841/2
Matrix: Water
Analysis Batch: 384841

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	71.5	85.0		mg/L		119	64 - 120

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
 Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Method: SM4500 P E-1999 - Phosphorus

Lab Sample ID: MB 240-384110/3
Matrix: Water
Analysis Batch: 384110

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Phosphorus as P	0.10	U	0.10	0.037	mg/L	-		06/03/19 07:21	1

Lab Sample ID: LCS 240-384110/4
Matrix: Water
Analysis Batch: 384110

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Phosphorus as P	0.405	0.394		mg/L	-	97	77 - 120



Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	BFB	DCA	TOL
		(69-120)	(61-138)	(73-120)
240-113550-1	W-12610-053119-SSH-00319	97	79	104
LCS 240-384260/5	Lab Control Sample	100	82	100
MB 240-384260/8	Method Blank	107	87	110

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

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

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP2	TCX2
		(10-114)	(15-131)
240-113550-1	W-12610-053119-SSH-00319	80	78
240-113550-2	W-12610-053119-SSH-00519	74	76
LCS 240-384384/19-A	Lab Control Sample	76	77
MB 240-384384/18-A	Method Blank	79	74

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Client Sample ID: W-12610-053119-SSH-00319

Lab Sample ID: 240-113550-1

Date Collected: 05/31/19 09:30

Matrix: Water

Date Received: 06/01/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	384260	06/04/19 03:19	TJL1	TAL CAN
Total/NA	Prep	608			384384	06/04/19 09:41	CS	TAL CAN
Total/NA	Analysis	608		1	384531	06/05/19 16:26	LSH	TAL CAN
Total Recoverable	Prep	200.7			384126	06/03/19 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	384578	06/04/19 19:04	WKD	TAL CAN
Total/NA	Prep	245.1			384127	06/03/19 14:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	384688	06/05/19 15:37	WKD	TAL CAN
Total/NA	Analysis	1664A		1	386211	06/14/19 10:22	AMT	TAL CAN
Total/NA	Analysis	410.4		1	384337	06/04/19 09:57	TPH	TAL CAN
Total/NA	Analysis	4500 H+ B-2000		1	384045	06/01/19 12:23	JWW	TAL CAN
Total/NA	Analysis	4500 NH3 D-2011		1	386334	06/14/19 17:53	JWW	TAL CAN
Total/NA	Analysis	5210B-2001		1	384052	06/01/19 13:38	JWW	TAL CAN
Total/NA	Analysis	SM 2540D		1	384841	06/06/19 10:01	JESW	TAL CAN
Total/NA	Analysis	SM4500 P E-1999		1	384110	06/03/19 09:13	TPH	TAL CAN

Client Sample ID: W-12610-053119-SSH-00519

Lab Sample ID: 240-113550-2

Date Collected: 05/31/19 09:05

Matrix: Water

Date Received: 06/01/19 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			384384	06/04/19 09:41	CS	TAL CAN
Total/NA	Analysis	608		1	384531	06/05/19 16:47	LSH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
 Project/Site: 12610-T04, RACER Bay City

Job ID: 240-113550-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-20
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19 *
Illinois	NELAP	5	200004	07-31-19 *
Iowa	State Program	7	421	06-01-21
Kansas	NELAP	7	E-10336	04-30-20
Kentucky (UST)	State Program	4	58	02-23-20
Kentucky (WW)	State Program	4	98016	12-31-19
Minnesota	NELAP	5	039-999-348	12-31-19 *
Minnesota (Petrofund)	State Program	1	3506	07-31-19 *
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19 *
New York	NELAP	2	10975	03-31-20
Ohio VAP	State Program	5	CL0024	06-05-21
Oregon	NELAP	10	4062	02-23-20
Pennsylvania	NELAP	3	68-00340	08-31-19 *
Texas	NELAP	6	T104704517-18-10	08-31-19 *
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-19 *
Washington	State Program	10	C971	01-12-20 *
West Virginia DEP	State Program	3	210	12-31-19

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



3.6/C3.4

Chain of Custody Record

318736

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)

Regulatory Program: DW NPDES RCRA Other:

Company Name: GHD Address: 26850 Hanger Rd City/State/Zip: Farmington Hills, MI Phone: 248 833 3400 Fax:		Client Contact Project Name: Racer Bay City Site: Lab # 24006288 PO # Ref # 12610504		Project Manager: JE Parlys Tel/Fax: 519 340 4316 Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS <input checked="" type="checkbox"/> TAT if different from Below <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: S. Howmeyer Date: 5/31/19 Lab Contact: D. Heiler Carrier: FedEx Filtered Sample (Y/N) <input type="checkbox"/> Perform MS / MSD (Y/N) <input type="checkbox"/>		COC No: 318736 Sampler: S. Howmeyer For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:			
Sample Identification W-12610-053119-SSH-00319 FB-12610-053119-SSH-00419 W-12610-053119-SSH-00519		Sample Date 5/31/19 5/31/19 5/31/19		Sample Time 0930 0905		Sample Type C, G G G		Matrix WT FB GW		# of Cont. 18 1 2	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1,2,3,4 Possible Hazard Identification: 240-113550 Chain of Custody Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample. <input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input checked="" type="checkbox"/> Unknown											
Special Instructions/QC Requirements & Comments:											
Relinquished by: SLA Dan				Relinquished by:				Relinquished by:			
Date/Time: 5/31/19 1500				Date/Time:				Date/Time:			
Company: GHD				Company:				Company:			
Received by:				Received by:				Received by:			
Date/Time:				Date/Time:				Date/Time:			
Company:				Company:				Company:			
Cooler Temp. (°C):				Cooler Temp. (°C):				Cooler Temp. (°C):			
Corrid:				Corrid:				Corrid:			
Term ID No.:				Term ID No.:				Term ID No.:			
Date/Time: 5-1-19 930				Date/Time:				Date/Time:			
Company:				Company:				Company:			
Received by:				Received by:				Received by:			
Date/Time:				Date/Time:				Date/Time:			
Company:				Company:				Company:			



TestAmerica Canton Sample Receipt Form/Narrative

Login # : 113550

Canton Facility

Client CHD Site Name _____

Cooler unpacked by: [Signature]

Cooler Received on 6-1-19 Opened on 6-1-19

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

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

TestAmerica Cooler # 7A Foam Box Client Cooler Box Other _____

Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt See Multiple Cooler Form
IR GUN# IR-8 (CF -0.2 °C) Observed Cooler Temp. 36 °C Corrected Cooler Temp. 3.4 °C
IR GUN #36 (CF +0.7°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA

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

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

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

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

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

8. Could all bottle labels be reconciled with the COC? Yes No

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

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

11. Are these work share samples? Yes No

If yes, Questions 12-16 have been checked at the originating laboratory.

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC984738

13. Were VOAs on the COC? Yes No

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

15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No

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

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: MS

18. SAMPLE CONDITION

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

Sample(s) _____ were received in a broken container.

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

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
W-12610-053119-SSH-00319	240-113550-E-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____
W-12610-053119-SSH-00319	240-113550-F-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
W-12610-053119-SSH-00319	240-113550-J-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
W-12610-053119-SSH-00319	240-113550-K-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____

- 1
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- 3
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- 14

Attachment 2 Certification Statement

Certification Statement

"I, David Favero, certify under penalty of law that this document (July 29, 2019 GHD Semi-Annual Compliance Report (January 1 to June 30, 2019)), 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."



RACER, Deputy Cleanup Manager – Michigan

July 29, 2019

(Date)