



September 14, 2020

Reference No. 012607

Ms. Tessy Jose
City of Detroit
Great Lakes Water Authority
Industrial Waste Control Division
9300 W. Jefferson Avenue
Detroit, Michigan 48209

Dear Ms. Jose:

**Re: DWSD Semi Annual Report – SD6 94508
(March 2020 through August 2020)
12950 Eckles Road
Livonia, Michigan 48150
Permit No.: SD6 94508**

GHD Services Inc. (GHD) is providing the attached documents for the reporting requirements of Special Discharge Permit SD6 94508 for the period of March 2020 through August 2020 for the RACER Eckles Road Site located at 12950 Eckles Road, Livonia, Michigan.

Special Discharge Permit SD6 94508 was issued in June 2011, renewed in June 2015, June 2019, and February 2020, and is effective through December 31, 2022. A Permit Renewal/Reapplication form was submitted to Great Lakes Water Authority (GLWA) on January 31, 2020 and a renewed Special Discharge Permit was issued effective February 10, 2020.

Based on the renewed special discharge permit effective February 10, 2020, treatment of the discharge with a carbon treatment system is required prior to discharge to the sanitary sewer system. A 1,000 lb granular activated carbon (GAC) vessel was installed during April through May 2020. Bag filter housings were also installed on the influent and effluent of the GAC vessel. A second bag filter housing was installed in August 2020 to address sediment/fines observed on the surface of the GAC within the vessel. The groundwater dewatering and treatment system was operated May 18, 2020 through June 12, 2020 to manage precipitation and associated groundwater elevations. Per previous communication with GLWA, RACER plans to continue to implement dewatering activities on an as-needed basis and in compliance with the February 2020 Special Discharge Permit (SD6-94508) to prevent unacceptable groundwater levels until final groundwater levels, dewatering methods and discharge to the sanitary sewer, if any, are determined and implemented.

Section D: Reporting Requirements

- Reporting Period: March 1, 2020 to August 31, 2020.
- Dates of Sampling: May 21, 2020; and June 11, 2020. Laboratory analytical reports are attached.
- The groundwater treatment plant had a scheduled shut down February 1, 2020 through May 18, 2020 and June 12, 2020 through August 31, 2020.



- All effluent samples were collected from the effluent bag filter sampling port downstream of the GAC vessel.
- All influent samples were collected from the influent bag filter sampling port upstream of the GAC vessel and influent bag filter.
- Total Monthly Discharges (gallons):
 - March 2020: 0
 - April 2020: 0
 - May 2020: 369,101
 - June 2020: 338,177
 - July 2020: 0
 - August 2020: 0
- Total Discharge during Reporting Period: 707,279 gallons.
- Signature of GHD's authorized representative who is knowledgeable of the remediation Site's discharge.

GHD certifies that the discharge complied with the permit discharge limits.

Please contact me at (248) 893-3400 if you require further information or clarification.

Sincerely,

GHD

A handwritten signature in blue ink, appearing to read "Chris Meincke", is written over a horizontal line.

Christopher J. Meincke, P.E.

CJM/bw/25

Encl.

cc: Dave Favero, RACER

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - March 2020**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
03/01/20	None	None			GWTP Shutdown Month of March
03/02/20	None	None			
03/03/20	None	None			
03/04/20	None	None			
03/05/20	None	None			
03/06/20	None	None			
03/07/20	None	None			
03/08/20	None	None			
03/09/20	None	None			
03/10/20	None	None			
03/11/20	None	None			
03/12/20	None	None			
03/13/20	None	None			
03/14/20	None	None			
03/15/20	None	None			
03/16/20	None	None			
03/17/20	None	None			
03/18/20	None	None			
03/19/20	None	None			
03/20/20	None	None			
03/21/20	None	None			
03/22/20	None	None			
03/23/20	None	None			
03/24/20	None	None			
03/25/20	None	None			
03/26/20	None	None			
03/27/20	None	None			
03/28/20	None	None			
03/29/20	None	None			
03/30/20	None	None			
03/31/20	None	None			

Total Monthly Discharge (gal)

0

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - April 2020**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
04/01/20	None	None			GWTP Shutdown Month of April
04/02/20	None	None			
04/03/20	None	None			
04/04/20	None	None			
04/05/20	None	None			
04/06/20	None	None			
04/07/20	None	None			
04/08/20	None	None			
04/09/20	None	None			
04/10/20	None	None			
04/11/20	None	None			
04/12/20	None	None			
04/13/20	None	None			
04/14/20	None	None			
04/15/20	None	None			
04/16/20	None	None			
04/17/20	None	None			
04/18/20	None	None			
04/19/20	None	None			
04/20/20	None	None			
04/21/20	None	None			
04/22/20	None	None			
04/23/20	None	None			
04/24/20	None	None			
04/25/20	None	None			
04/26/20	None	None			
04/27/20	None	None			
04/28/20	None	None			
04/29/20	None	None			
04/30/20	None	None			

Total Monthly Discharge (gal)

0

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log - May 2020

Date	Inspection Visits	Changes or Replacements of Treatment	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
05/01/20	None	None			
05/02/20	None	None			
05/03/20	None	None			
05/04/20	None	None			
05/05/20	None	None			
05/06/20	None	None			
05/07/20	None	None			
05/08/20	None	None			
05/09/20	None	None			
05/10/20	None	None			
05/11/20	None	None			
05/12/20	None	None			
05/13/20	None	None			
05/14/20	None	None			
05/15/20	None	None			
05/16/20	None	None			
05/17/20	None	None			
05/18/20	None	1,000 lb GAC Unit Influent/Effluent Bag Filter			GAC System install complete, system started due to significant rain events
05/19/20	None	None		8,131	
05/20/20	None	None		64,808	
05/21/20	None	None	WT-012607-052120-CM-001 - Effluent W-012607-052120-CM-002 - Influent WT-012607-052120-CM-003 - Effluent (60gpm) FB-012607-052120-CM-004 - Field Blank	43,683	Sample 003 was collected after running the system at 60 gpm for 30 mins to test GAC Treatment Capacity
05/22/20	None	None		43,247	
05/23/20	None	None			
05/24/20	None	None		45,389	
05/25/20	None	None			
05/26/20	None	None		60,060	
05/27/20	None	None		34,813	
05/28/20	None	None			
05/29/20	None	None		68,972	
05/30/20	None	None			
05/31/20	None	None			

Total Monthly Discharge (gal) 369,101

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - June 2020**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
06/01/20	None	None		79,830	
06/02/20	None	None			
06/03/20	None	None		56,060	
06/04/20	None	None			
06/05/20	None	None		29,003	
06/06/20	None	None			
06/07/20	None	None			
06/08/20	None	None		79,363	
06/09/20	None	None			
06/10/20	None	None			
06/11/20	None	None	WT-012607-061120-CM-001 - Effluent W-012607-061120-CM-002 - Influent	70,193	Monthly Discharge Sampling
06/12/20	None	None		21,243	
06/13/20	None	None			
06/14/20	None	None			
06/15/20	None	None			
06/16/20	None	None			
06/17/20	None	None			
06/18/20	None	None			
06/19/20	None	None			
06/20/20	None	None			
06/21/20	None	None			
06/22/20	None	None			
06/23/20	None	None			
06/24/20	None	None			
06/25/20	None	None			
06/26/20	None	None			
06/27/20	None	None			
06/28/20	None	None			
06/29/20	None	None			
06/30/20	None	None		2,486	Prep for GAC Backwash

Total Monthly Discharge (gal)

338,177

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - July 2020**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
07/01/20	None	None			GWTP Shutdown Month of July
07/02/20	None	None			
07/03/20	None	None			
07/04/20	None	None			
07/05/20	None	None			
07/06/20	None	None			
07/07/20	None	None			
07/08/20	None	None			
07/09/20	None	None			
07/10/20	None	None			
07/11/20	None	None			
07/12/20	None	None			
07/13/20	None	None			
07/14/20	None	None			
07/15/20	None	None			
07/16/20	None	None			
07/17/20	None	None			
07/18/20	None	None			
07/19/20	None	None			
07/20/20	None	None			
07/21/20	None	None			
07/22/20	None	None			
07/23/20	None	None			
07/24/20	None	None			
07/25/20	None	None			
07/26/20	None	None			
07/27/20	None	None			
07/28/20	None	None			
07/29/20	None	None			
07/30/20	None	None			
07/31/20	None	None			

Total Monthly Discharge (gal)

0

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - August 2020**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
08/01/20	None	None			GWTP Shutdown Month of August
08/02/20	None	None			
08/03/20	None	None			
08/04/20	None	None			
08/05/20	None	None			
08/06/20	None	None			
08/07/20	None	None			
08/08/20	None	None			
08/09/20	None	None			
08/10/20	None	None			
08/11/20	None	None			
08/12/20	None	None			
08/13/20	None	None			
08/14/20	None	None			
08/15/20	None	None			
08/16/20	None	None			
08/17/20	None	None			
08/18/20	None	None			
08/19/20	None	None			
08/20/20	None	None			
08/21/20	None	None			
08/22/20	None	None			
08/23/20	None	None			
08/24/20	None	None			
08/25/20	None	None			
08/26/20	None	None			
08/27/20	None	None			
08/28/20	None	None			
08/29/20	None	2nd Influent Bag Filter Installed			
08/30/20	None	None			
08/31/20	None	None			

Total Monthly Discharge (gal)

0

Attachment 1 - May 21, 2020 Samples
WT-012607-052120-CM-001 (effluent)
W-012607-052120-CM-002 (influent)
WT-012607-052120-CM-003 (effluent-60pm)
FB-012607-052120-CM-004 (Field Blank)
Laboratory Analytical Reports

ANALYTICAL REPORT

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

Laboratory Job ID: 240-130720-1

Client Project/Site: 12607, RACER Eckles Rd

For:

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

Attn: Ms. Ruth Mickle



Authorized for release by:
6/7/2020 12:06:23 PM

Denise Heckler, Project Manager II
(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Job ID: 240-130720-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-130720-1

Comments

No additional comments.

Receipt

The samples were received on 5/22/2020 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

GC Semi VOA

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

Metals

Methods 200.7 Rev 4.4: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-052120-CM-001 (240-130720-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

General Chemistry

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

Organic Prep

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-436190.

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: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
-----------	-----------------------

U	Indicates the analyte was analyzed for but not detected.
---	--

Metals

Qualifier	Qualifier Description
-----------	-----------------------

U	Indicates the analyte was analyzed for but not detected.
---	--

General Chemistry

Qualifier	Qualifier Description
-----------	-----------------------

U	Indicates the analyte was analyzed for but not detected.
---	--

Glossary

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-130720-1	WT-012607-052120-CM-001	Water	05/21/20 13:30	05/22/20 10:10	

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Client Sample ID: WT-012607-052120-CM-001

Lab Sample ID: 240-130720-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Chromium	0.20		0.050	0.00063	mg/L	1			200.7 Rev 4.4	Total
Nickel	0.80		0.010	0.0022	mg/L	1			200.7 Rev 4.4	Recoverable
Chromium, hexavalent	0.079		0.010	0.0070	mg/L	1			3500-Cr B-2011	Total

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Method	Method Description	Protocol	Laboratory
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL BUF
3500-Cr B-2011	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
1664A	HEM and SGT-HEM (SPE)	1664A	TAL BUF
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL CAN

Protocol References:

1664A = EPA-821-98-002

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

EPA = US Environmental Protection Agency

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

Laboratory References:

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

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

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

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

Client Sample ID: WT-012607-052120-CM-001

Date Collected: 05/21/20 13:30

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.099	U	0.099	0.055	ug/L		05/29/20 13:19	06/02/20 11:21	1
Aroclor-1221	0.099	U	0.099	0.056	ug/L		05/29/20 13:19	06/02/20 11:21	1
Aroclor-1232	0.099	U	0.099	0.073	ug/L		05/29/20 13:19	06/02/20 11:21	1
Aroclor-1242	0.099	U	0.099	0.075	ug/L		05/29/20 13:19	06/02/20 11:21	1
Aroclor-1248	0.099	U	0.099	0.050	ug/L		05/29/20 13:19	06/02/20 11:21	1
Aroclor-1254	0.099	U	0.099	0.040	ug/L		05/29/20 13:19	06/02/20 11:21	1
Aroclor-1260	0.099	U	0.099	0.046	ug/L		05/29/20 13:19	06/02/20 11:21	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	80		10 - 114				05/29/20 13:19	06/02/20 11:21	1
Tetrachloro-m-xylene	85		15 - 131				05/29/20 13:19	06/02/20 11:21	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

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

Client Sample ID: WT-012607-052120-CM-001

Date Collected: 05/21/20 13:30

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.20		0.050	0.00063	mg/L		05/26/20 14:00	05/28/20 01:05	1
Nickel	0.80		0.010	0.0022	mg/L		05/26/20 14:00	05/28/20 01:05	1
Lead	0.050	U	0.050	0.0028	mg/L		05/26/20 14:00	05/28/20 01:05	1
Zinc	0.020	U	0.020	0.0097	mg/L		05/26/20 14:00	05/28/20 01:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-052120-CM-001

Date Collected: 05/21/20 13:30

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.00013	mg/L	—	05/26/20 12:00	05/26/20 16:20	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

General Chemistry

Client Sample ID: WT-012607-052120-CM-001

Date Collected: 05/21/20 13:30

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	1.4	mg/L		06/02/20 18:37	06/02/20 18:37	1
Chromium, hexavalent	0.079		0.010	0.0070	mg/L			05/22/20 11:17	1
Total Suspended Solids	4.0	U	4.0	2.2	mg/L			05/28/20 07:16	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

GC Semi VOA

Prep Batch: 436190

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	608	
MB 240-436190/19-A	Method Blank	Total/NA	Water	608	
LCS 240-436190/20-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 436456

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	608.3	436190
MB 240-436190/19-A	Method Blank	Total/NA	Water	608.3	436190
LCS 240-436190/20-A	Lab Control Sample	Total/NA	Water	608.3	436190

Metals

Prep Batch: 435631

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total Recoverable	Water	200.7	
MB 240-435631/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-435631/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-130720-1 MS	WT-012607-052120-CM-001	Total Recoverable	Water	200.7	
240-130720-1 MSD	WT-012607-052120-CM-001	Total Recoverable	Water	200.7	

Prep Batch: 435633

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	245.1	
MB 240-435633/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-435633/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 435766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	245.1	435633
MB 240-435633/1-A	Method Blank	Total/NA	Water	245.1	435633
LCS 240-435633/2-A	Lab Control Sample	Total/NA	Water	245.1	435633

Analysis Batch: 435986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total Recoverable	Water	200.7 Rev 4.4	435631
MB 240-435631/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	435631
LCS 240-435631/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	435631
240-130720-1 MS	WT-012607-052120-CM-001	Total Recoverable	Water	200.7 Rev 4.4	435631
240-130720-1 MSD	WT-012607-052120-CM-001	Total Recoverable	Water	200.7 Rev 4.4	435631

General Chemistry

Analysis Batch: 435384

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	3500-Cr B-2011	
MB 240-435384/3	Method Blank	Total/NA	Water	3500-Cr B-2011	
LCS 240-435384/11	Lab Control Sample	Total/NA	Water	3500-Cr B-2011	

Analysis Batch: 435969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	SM 2540D	
MB 240-435969/1	Method Blank	Total/NA	Water	SM 2540D	

Eurofins TestAmerica, Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

General Chemistry (Continued)

Analysis Batch: 435969 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-435969/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Prep Batch: 534464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	1664A	
MB 480-534464/1-A	Method Blank	Total/NA	Water	1664A	
LCS 480-534464/2-A	Lab Control Sample	Total/NA	Water	1664A	

Analysis Batch: 534465

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	1664A	534464
MB 480-534464/1-A	Method Blank	Total/NA	Water	1664A	534464
LCS 480-534464/2-A	Lab Control Sample	Total/NA	Water	1664A	534464

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

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

Lab Sample ID: MB 240-436190/19-A

Matrix: Water

Analysis Batch: 436456

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 436190

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	0.056	ug/L		05/29/20 13:19	06/02/20 09:39	1
Aroclor-1221	0.10	U	0.10	0.057	ug/L		05/29/20 13:19	06/02/20 09:39	1
Aroclor-1232	0.10	U	0.10	0.074	ug/L		05/29/20 13:19	06/02/20 09:39	1
Aroclor-1242	0.10	U	0.10	0.076	ug/L		05/29/20 13:19	06/02/20 09:39	1
Aroclor-1248	0.10	U	0.10	0.050	ug/L		05/29/20 13:19	06/02/20 09:39	1
Aroclor-1254	0.10	U	0.10	0.040	ug/L		05/29/20 13:19	06/02/20 09:39	1
Aroclor-1260	0.10	U	0.10	0.046	ug/L		05/29/20 13:19	06/02/20 09:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	80		10 - 114	05/29/20 13:19	06/02/20 09:39	1
Tetrachloro-m-xylene	83		15 - 131	05/29/20 13:19	06/02/20 09:39	1

Lab Sample ID: LCS 240-436190/20-A

Matrix: Water

Analysis Batch: 436456

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 436190

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.74		ug/L		70	50 - 140
Aroclor-1260	2.50	1.91		ug/L		76	8 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	75		10 - 114
Tetrachloro-m-xylene	72		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-435631/1-A

Matrix: Water

Analysis Batch: 435986

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 435631

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	0.00063	mg/L		05/26/20 14:00	05/28/20 00:56	1
Nickel	0.010	U	0.010	0.0022	mg/L		05/26/20 14:00	05/28/20 00:56	1
Lead	0.050	U	0.050	0.0028	mg/L		05/26/20 14:00	05/28/20 00:56	1
Zinc	0.020	U	0.020	0.0097	mg/L		05/26/20 14:00	05/28/20 00:56	1

Lab Sample ID: LCS 240-435631/2-A

Matrix: Water

Analysis Batch: 435986

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 435631

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	1.00	0.999		mg/L		100	85 - 115
Nickel	1.00	1.01		mg/L		101	85 - 115
Lead	1.00	0.957		mg/L		96	85 - 115
Zinc	1.00	1.03		mg/L		103	85 - 115

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

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

Lab Sample ID: 240-130720-1 MS

Matrix: Water

Analysis Batch: 435986

Client Sample ID: WT-012607-052120-CM-001

Prep Type: Total Recoverable

Prep Batch: 435631

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.20		1.00	1.22		mg/L		102	75 - 125
Nickel	0.80		1.00	1.84		mg/L		104	75 - 125
Lead	0.050	U	1.00	0.950		mg/L		95	75 - 125
Zinc	0.020	U	1.00	1.05		mg/L		105	75 - 125

Lab Sample ID: 240-130720-1 MSD

Matrix: Water

Analysis Batch: 435986

Client Sample ID: WT-012607-052120-CM-001

Prep Type: Total Recoverable

Prep Batch: 435631

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.20		1.00	1.15		mg/L		95	75 - 125	6	20
Nickel	0.80		1.00	1.73		mg/L		93	75 - 125	6	20
Lead	0.050	U	1.00	0.900		mg/L		90	75 - 125	5	20
Zinc	0.020	U	1.00	0.991		mg/L		99	75 - 125	6	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-435633/1-A

Matrix: Water

Analysis Batch: 435766

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 435633

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	0.00013	mg/L		05/26/20 12:00	05/26/20 16:06	1

Lab Sample ID: LCS 240-435633/2-A

Matrix: Water

Analysis Batch: 435766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 435633

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00513		mg/L		103	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 480-534464/1-A

Matrix: Water

Analysis Batch: 534465

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 534464

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

Lab Sample ID: LCS 480-534464/2-A

Matrix: Water

Analysis Batch: 534465

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 534464

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

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Method: 3500-Cr B-2011 - Chromium, Hexavalent

Lab Sample ID: MB 240-435384/3

Matrix: Water

Analysis Batch: 435384

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	0.010	U	0.010	0.0070	mg/L			05/22/20 09:30	1

Lab Sample ID: LCS 240-435384/11

Matrix: Water

Analysis Batch: 435384

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.250	0.252		mg/L		101	80 - 123

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

Lab Sample ID: MB 240-435969/1

Matrix: Water

Analysis Batch: 435969

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			05/28/20 07:16	1

Lab Sample ID: LCS 240-435969/2

Matrix: Water

Analysis Batch: 435969

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	83.0	77.0		mg/L		93	64 - 120

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

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 (10-114)	TCX2 (15-131)
240-130720-1	WT-012607-052120-CM-001	80	85
LCS 240-436190/20-A	Lab Control Sample	75	72
MB 240-436190/19-A	Method Blank	80	83

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Client Sample ID: WT-012607-052120-CM-001

Lab Sample ID: 240-130720-1

Date Collected: 05/21/20 13:30

Matrix: Water

Date Received: 05/22/20 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			436190	05/29/20 13:19	MDH	TAL CAN
Total/NA	Analysis	608.3		1	436456	06/02/20 11:21	KMG	TAL CAN
Total Recoverable	Prep	200.7			435631	05/26/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	435986	05/28/20 01:05	WKD	TAL CAN
Total/NA	Prep	245.1			435633	05/26/20 12:00	MRL	TAL CAN
Total/NA	Analysis	245.1		1	435766	05/26/20 16:20	SLD	TAL CAN
Total/NA	Prep	1664A			534464	06/02/20 18:37	CRK	TAL BUF
Total/NA	Analysis	1664A		1	534465	06/02/20 18:37	T1S	TAL BUF
Total/NA	Analysis	3500-Cr B-2011		1	435384	05/22/20 11:17	LKG	TAL CAN
Total/NA	Analysis	SM 2540D		1	435969	05/28/20 07:16	JR	TAL CAN

Laboratory References:

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

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

Laboratory: Eurofins TestAmerica, Buffalo

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

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

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-1

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

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

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

37/44

Chain of Custody Record

273154

TestAmerica

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

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: C. Mervette		Site Contact: R. Mickle		Date: 06-20-2020		COC No:	
Company Name: GHD Services		Tel/Fax:		Lab Contact: D. Hecker		Carrier:		COCs	
Address: 26850 Haggerty Rd				Analysis Turnaround Time				Sampler:	
City/State/Zip: Farmington Hills, MI 48331				☐ CALENDAR DAYS ☐ WORKING DAYS				For Lab Use Only:	
Phone: 248-893-3400				TAT if different from Below				Walk-in Client:	
Fax:				☒ 2 weeks				Lab Sampling:	
Project Name: RACER ECKES RD				☐ 1 week				Job / SDG No.:	
Site:				☐ 2 days				Sample Specific Notes:	
PO # 12607A-T37Y20-01				☐ 1 day				no metalson 002	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.			
WT-012607-052120-CM-001	5-21-20	13:30	G	W	8				
W-012607-052120-CM-002	5-21-20	13:05	G	W	2				
WT-012607-052120-CM-003	5-21-20	14:05	G	W	2				
WB-012607-05120-CM-004	5-21-20	13:35	G	W	2				
							Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other									
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.									
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown									
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:	
Relinquished by:		Company: GHD		Received by:		Company: TA		Date/Time: 5-22-20 1010	
Relinquished by:		Company:		Received by:		Company:		Date/Time:	
Relinquished by:		Company:		Received in Laboratory by:		Company:		Date/Time:	

Eurofins TestAmerica Canton Sample Receipt Form/Narrative		Login # : <u>130720</u>
Canton Facility		
Client <u>GHD</u>	Site Name _____	Cooler unpacked by: <u>[Signature]</u>
Cooler Received on <u>5/22/20</u>	Opened on <u>5/22/20</u>	
FedEx: 1 st Grd <u>Exp</u> UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____		
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____		
TestAmerica Cooler # <u>7A</u> Foam Box Client Cooler Box Other _____		
Packing material used: <u>Bubble Wrap</u> Foam Plastic Bag None Other _____		
COOLANT: <u>Wet Ice</u> Blue Ice Dry Ice Water None		
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form		
IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. <u>3.7</u> °C Corrected Cooler Temp. <u>4.4</u> °C		
IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C		
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> Yes No		
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA		
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No		
-Were tamper/custody seals intact and uncompromised? Yes No NA		
3. Shippers' packing slip attached to the cooler(s)? Yes No		
4. Did custody papers accompany the sample(s)? Yes No		
5. Were the custody papers relinquished & signed in the appropriate place? Yes No		
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No		
7. Did all bottles arrive in good condition (Unbroken)? Yes No		
8. Could all bottle labels be reconciled with the COC? Yes No		
9. Were correct bottle(s) used for the test(s) indicated? Yes No		
10. Sufficient quantity received to perform indicated analyses? Yes No		
11. Are these work share samples? Yes No		
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# <u>HC902937</u>		
13. Were VOAs on the COC? Yes No		
14. Were air bubbles >6 mm in any VOA vials? <u>Yes</u> ☒ Larger than this. Yes No NA		
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No		
16. Was a LL Hg or Me Hg trip blank present? _____ Yes No		
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____		
Concerning _____		

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by: _____
_____ _____ _____ _____ _____	
18. SAMPLE CONDITION	
Sample(s) _____ were received after the recommended holding time had expired.	
Sample(s) _____ were received in a broken container.	
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION	
Sample(s) _____ were further preserved in the laboratory.	
Time preserved: _____ Preservative(s) added/Lot number(s): _____	
VOA Sample Preservation - Date/Time VOAs Frozen: _____	

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			<u>pH</u>	<u>Temp</u>	<u>Added (mls)</u>	<u>Lot #</u>
WT-012607-052120-CM-001	240-130720-D-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
WT-012607-052120-CM-001	240-130720-G-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____
WT-012607-052120-CM-001	240-130720-H-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-130720-1

Login Number: 130720

List Number: 3

Creator: Sabuda, Brendan D

List Source: Eurofins TestAmerica, Buffalo

List Creation: 06/02/20 04:26 PM

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

ANALYTICAL REPORT

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

Laboratory Job ID: 240-130720-2

Client Project/Site: 12607, RACER Eckles Rd

For:

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

Attn: Ms. Ruth Mickle



Authorized for release by:
6/10/2020 7:47:54 AM

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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: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Job ID: 240-130720-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-130720-2

Comments

No additional comments.

Receipt

The samples were received on 5/22/2020 10:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.4° C.

LCMS

Method 537 (modified): The method blank for preparation batch 320-380493 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit (RL). None of the samples associated with this method blank contained the target compound; therefore, re-extraction and/or re-analysis of samples were not performed.

Method 537 (modified): The method blank for preparation batch 320-380493 and analytical batch 320-381343 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit (RL). Associated sample was not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 320-380493 and analytical batch 320-381343 recovered outside control limits for the following analyte: Perfluorotridecanoic acid (PFTrIA). This analyte were biased high in the LCS and was not detected in the associated samples; therefore, the data have been reported.

Method 537 (modified): The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-380493 and analytical batch 320-381343 recovered outside control limits for the following analytes: Perfluorotridecanoic acid (PFTrIA) and Perfluorododecanoic acid (PFDoA).

Method 537 (modified): The laboratory control sample duplicate (LCSD) for preparation batch 320-380493 and analytical batch 320-381759 recovered outside control limits for the following analyte: Perfluorododecanoic acid (PFDoA). This analyte was biased high in the LCSD and was not detected in the associated samples; therefore, the data have been reported.

Method 537 (modified): The method blank for preparation batch 320-380493 and analytical batch 320-381759 contained Perfluorooctanesulfonic acid (PFOS) above the reporting limit (RL). Associated samples were reported because results were greater than 10X the value found in the method blank.

Method 537 (modified): Results for sample WT-012607-052120-CM-003 (240-130720-3) were reported from the analysis of a diluted extract due to high concentration of the target analyte or matrix effects in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for several IDA in the following samples: WT-012607-052120-CM-001 (240-130720-1) and WT-012607-052120-CM-003 (240-130720-3). The samples were analyzed diluted with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Results for sample WT-012607-052120-CM-001 (240-130720-1) and WT-012607-052120-CM-003 (240-130720-3) were reported from the analysis of a diluted extract due to matrix interference in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were outside acceptance limits.

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

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-380493.

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Job ID: 240-130720-2 (Continued)

Laboratory: Eurofins TestAmerica, Canton (Continued)

Method 3535: Elevated reporting limits are provided for the following samples due to insufficient sample provided for preparation: W-012607-052120-CM-002 (240-130720-2) and WT-012607-052120-CM-003 (240-130720-3).

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-382955.

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: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Qualifiers

LCMS

Qualifier	Qualifier Description
*	LCS or LCSD is outside acceptance limits.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-130720-1	WT-012607-052120-CM-001	Water	05/21/20 13:30	05/22/20 10:10	
240-130720-2	W-012607-052120-CM-002	Water	05/21/20 13:05	05/22/20 10:10	
240-130720-3	WT-012607-052120-CM-003	Water	05/21/20 14:05	05/22/20 10:10	
240-130720-4	FB-012607-052120-CM-004	Water	05/21/20 13:55	05/22/20 10:10	

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Client Sample ID: WT-012607-052120-CM-001

Lab Sample ID: 240-130720-1

No Detections.

Client Sample ID: W-012607-052120-CM-002

Lab Sample ID: 240-130720-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	11	B	2.0	0.35	ng/L	1			537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.8		2.0	0.49	ng/L	1			537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.7	J	2.0	0.58	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.2	J	2.0	0.25	ng/L	1			537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.2		2.0	0.85	ng/L	1			537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.0	0.20	ng/L	1			537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.3	J I	2.0	0.30	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.3	I B	2.0	0.17	ng/L	1			537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	J I	2.0	0.19	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	120	I B	2.0	0.54	ng/L	1			537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.41	J B	2.0	0.35	ng/L	1			537 (modified)	Total/NA

Client Sample ID: WT-012607-052120-CM-003

Lab Sample ID: 240-130720-3

No Detections.

Client Sample ID: FB-012607-052120-CM-004

Lab Sample ID: 240-130720-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil	Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.79	J B	1.8	0.31	ng/L	1			537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.24	J B	1.8	0.15	ng/L	1			537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: WT-012607-052120-CM-001

Date Collected: 05/21/20 13:30

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	18	U	18	3.2	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluoropentanoic acid (PFPeA)	18	U	18	4.5	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorohexanoic acid (PFHxA)	18	U	18	5.3	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluoroheptanoic acid (PFHpA)	18	U	18	2.3	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorooctanoic acid (PFOA)	18	U	18	7.8	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorononanoic acid (PFNA)	18	U	18	2.5	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorodecanoic acid (PFDA)	18	U	18	2.8	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluoroundecanoic acid (PFUnA)	18	U	18	10	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorododecanoic acid (PFDoA)	18	U	18	5.0	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorotridecanoic acid (PFTriA)	18	U	18	12	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorotetradecanoic acid (PFTeA)	18	U	18	2.7	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorobutanesulfonic acid (PFBS)	18	U	18	1.8	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluoropentanesulfonic acid (PFPeS)	18	U	18	2.8	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorohexanesulfonic acid (PFHxS)	18	U	18	1.6	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluoroheptanesulfonic Acid (PFHpS)	18	U	18	1.7	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorooctanesulfonic acid (PFOS)	18	U	18	5.0	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorononanesulfonic acid (PFNS)	18	U	18	1.5	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorodecanesulfonic acid (PFDS)	18	U	18	2.9	ng/L		06/03/20 11:45	06/08/20 17:21	10
Perfluorooctanesulfonamide (FOSA)	18	U	18	3.2	ng/L		06/03/20 11:45	06/08/20 17:21	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	180	U	180	28	ng/L		06/03/20 11:45	06/08/20 17:21	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	180	U	180	17	ng/L		06/03/20 11:45	06/08/20 17:21	10
4:2 FTS	180	U	180	48	ng/L		06/03/20 11:45	06/08/20 17:21	10
6:2 FTS	180	U	180	18	ng/L		06/03/20 11:45	06/08/20 17:21	10
8:2 FTS	180	U	180	18	ng/L		06/03/20 11:45	06/08/20 17:21	10
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	18	U	18	1.7	ng/L		06/03/20 11:45	06/08/20 17:21	10
HFPO-DA (GenX)	37	U	37	14	ng/L		06/03/20 11:45	06/08/20 17:21	10
F-53B Major	18	U	18	2.2	ng/L		06/03/20 11:45	06/08/20 17:21	10
F-53B Minor	18	U	18	2.9	ng/L		06/03/20 11:45	06/08/20 17:21	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C5 PFPeA	79		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C2 PFHxA	82		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C4 PFHpA	83		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C4 PFOA	88		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C5 PFNA	87		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C2 PFDA	92		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C2 PFUnA	81		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C2 PFDoA	84		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C2 PFTeDA	83		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C3 PFBS	69		25 - 150	06/03/20 11:45	06/08/20 17:21	10
18O2 PFHxS	84		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C4 PFOS	84		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C8 FOSA	81		25 - 150	06/03/20 11:45	06/08/20 17:21	10
d3-NMeFOSAA	81		25 - 150	06/03/20 11:45	06/08/20 17:21	10
d5-NEtFOSAA	89		25 - 150	06/03/20 11:45	06/08/20 17:21	10

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: WT-012607-052120-CM-001

Date Collected: 05/21/20 13:30

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-1

Matrix: Water

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
M2-6:2 FTS	144		25 - 150	06/03/20 11:45	06/08/20 17:21	10
M2-8:2 FTS	95		25 - 150	06/03/20 11:45	06/08/20 17:21	10
M2-4:2 FTS	89		25 - 150	06/03/20 11:45	06/08/20 17:21	10
13C3 HFPO-DA	71		25 - 150	06/03/20 11:45	06/08/20 17:21	10

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: W-012607-052120-CM-002

Date Collected: 05/21/20 13:05

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	11	B	2.0	0.35	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluoropentanoic acid (PFPeA)	2.8		2.0	0.49	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorohexanoic acid (PFHxA)	1.7	J	2.0	0.58	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluoroheptanoic acid (PFHpA)	1.2	J	2.0	0.25	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorooctanoic acid (PFOA)	4.2		2.0	0.85	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorododecanoic acid (PFDoA)	2.0	U *	2.0	0.55	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorotridecanoic acid (PFTriA)	2.0	U	2.0	1.3	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.29	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorobutanesulfonic acid (PFBS)	1.2	J	2.0	0.20	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluoropentanesulfonic acid (PFPeS)	1.3	J I	2.0	0.30	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorohexanesulfonic acid (PFHxS)	6.3	I B	2.0	0.17	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	J I	2.0	0.19	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorooctanesulfonic acid (PFOS)	120	I B	2.0	0.54	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorononanesulfonic acid (PFNS)	2.0	U	2.0	0.16	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		05/26/20 04:53	05/28/20 14:14	1
Perfluorooctanesulfonamide (FOSA)	0.41	J B	2.0	0.35	ng/L		05/26/20 04:53	05/28/20 14:14	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	20	U	20	3.1	ng/L		05/26/20 04:53	05/28/20 14:14	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	20	U	20	1.9	ng/L		05/26/20 04:53	05/28/20 14:14	1
8:2 FTS	20	U	20	2.0	ng/L		05/26/20 04:53	05/28/20 14:14	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	U	2.0	0.18	ng/L		05/26/20 04:53	05/28/20 14:14	1
HFPO-DA (GenX)	4.0	U	4.0	1.5	ng/L		05/26/20 04:53	05/28/20 14:14	1
F-53B Major	2.0	U	2.0	0.24	ng/L		05/26/20 04:53	05/28/20 14:14	1
F-53B Minor	2.0	U	2.0	0.32	ng/L		05/26/20 04:53	05/28/20 14:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C5 PFPeA	82		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C2 PFHxA	96		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C4 PFHpA	109		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C4 PFOA	95		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C5 PFNA	113		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C2 PFDA	98		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C2 PFUnA	89		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C2 PFDoA	105		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C2 PFTeDA	104		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C3 PFBS	101		25 - 150	05/26/20 04:53	05/28/20 14:14	1
18O2 PFHxS	111		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C4 PFOS	107		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C8 FOSA	94		25 - 150	05/26/20 04:53	05/28/20 14:14	1
d3-NMeFOSAA	105		25 - 150	05/26/20 04:53	05/28/20 14:14	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: W-012607-052120-CM-002

Date Collected: 05/21/20 13:05

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-2

Matrix: Water

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
d5-NEtFOSAA	100		25 - 150	05/26/20 04:53	05/28/20 14:14	1
M2-8:2 FTS	134		25 - 150	05/26/20 04:53	05/28/20 14:14	1
13C3 HFPO-DA	95		25 - 150	05/26/20 04:53	05/28/20 14:14	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: WT-012607-052120-CM-003

Date Collected: 05/21/20 14:05

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	20	U	20	3.5	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluoropentanoic acid (PFPeA)	20	U	20	4.9	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorohexanoic acid (PFHxA)	20	U	20	5.9	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluoroheptanoic acid (PFHpA)	20	U	20	2.5	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorooctanoic acid (PFOA)	20	U	20	8.6	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorononanoic acid (PFNA)	20	U	20	2.7	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorodecanoic acid (PFDA)	20	U	20	3.1	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluoroundecanoic acid (PFUnA)	20	U	20	11	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorododecanoic acid (PFDoA)	20	U	20	5.6	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorotridecanoic acid (PFTriA)	20	U	20	13	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorotetradecanoic acid (PFTeA)	20	U	20	2.9	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorobutanesulfonic acid (PFBS)	20	U	20	2.0	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluoropentanesulfonic acid (PFPeS)	20	U	20	3.0	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorohexanesulfonic acid (PFHxS)	20	U	20	1.7	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluoroheptanesulfonic Acid (PFHpS)	20	U	20	1.9	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorooctanesulfonic acid (PFOS)	20	U	20	5.5	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorononanesulfonic acid (PFNS)	20	U	20	1.6	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorodecanesulfonic acid (PFDS)	20	U	20	3.2	ng/L		06/03/20 11:45	06/08/20 17:30	10
Perfluorooctanesulfonamide (FOSA)	20	U	20	3.5	ng/L		06/03/20 11:45	06/08/20 17:30	10
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	200	U	200	31	ng/L		06/03/20 11:45	06/08/20 17:30	10
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	200	U	200	19	ng/L		06/03/20 11:45	06/08/20 17:30	10
4:2 FTS	200	U	200	52	ng/L		06/03/20 11:45	06/08/20 17:30	10
6:2 FTS	200	U	200	20	ng/L		06/03/20 11:45	06/08/20 17:30	10
8:2 FTS	200	U	200	20	ng/L		06/03/20 11:45	06/08/20 17:30	10
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	20	U	20	1.8	ng/L		06/03/20 11:45	06/08/20 17:30	10
HFPO-DA (GenX)	40	U	40	15	ng/L		06/03/20 11:45	06/08/20 17:30	10
F-53B Major	20	U	20	2.4	ng/L		06/03/20 11:45	06/08/20 17:30	10
F-53B Minor	20	U	20	3.2	ng/L		06/03/20 11:45	06/08/20 17:30	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C5 PFPeA	74		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C2 PFHxA	77		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C4 PFHpA	80		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C4 PFOA	85		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C5 PFNA	89		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C2 PFDA	90		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C2 PFUnA	81		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C2 PFDoA	85		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C2 PFTeDA	82		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C3 PFBS	70		25 - 150	06/03/20 11:45	06/08/20 17:30	10
18O2 PFHxS	79		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C4 PFOS	84		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C8 FOSA	82		25 - 150	06/03/20 11:45	06/08/20 17:30	10
d3-NMeFOSAA	80		25 - 150	06/03/20 11:45	06/08/20 17:30	10
d5-NEtFOSAA	79		25 - 150	06/03/20 11:45	06/08/20 17:30	10

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: WT-012607-052120-CM-003

Date Collected: 05/21/20 14:05

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-3

Matrix: Water

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
M2-6:2 FTS	98		25 - 150	06/03/20 11:45	06/08/20 17:30	10
M2-8:2 FTS	77		25 - 150	06/03/20 11:45	06/08/20 17:30	10
M2-4:2 FTS	66		25 - 150	06/03/20 11:45	06/08/20 17:30	10
13C3 HFPO-DA	71		25 - 150	06/03/20 11:45	06/08/20 17:30	10

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: FB-012607-052120-CM-004

Date Collected: 05/21/20 13:55

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.79	J B	1.8	0.31	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluoropentanoic acid (PFPeA)	1.8	U	1.8	0.43	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorohexanoic acid (PFHxA)	1.8	U	1.8	0.51	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluoroheptanoic acid (PFHpA)	1.8	U	1.8	0.22	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorooctanoic acid (PFOA)	1.8	U	1.8	0.75	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorononanoic acid (PFNA)	1.8	U	1.8	0.24	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorodecanoic acid (PFDA)	1.8	U	1.8	0.27	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluoroundecanoic acid (PFUnA)	1.8	U	1.8	0.97	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorododecanoic acid (PFDoA)	1.8	U	1.8	0.49	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorotridecanoic acid (PFTriA)	1.8	U	1.8	1.2	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorotetradecanoic acid (PFTeA)	1.8	U	1.8	0.26	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorobutanesulfonic acid (PFBS)	1.8	U	1.8	0.18	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluoropentanesulfonic acid (PFPeS)	1.8	U	1.8	0.27	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorohexanesulfonic acid (PFHxS)	0.24	J B	1.8	0.15	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.8	U	1.8	0.17	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorooctanesulfonic acid (PFOS)	1.8	U	1.8	0.48	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorononanesulfonic acid (PFNS)	1.8	U	1.8	0.14	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorodecanesulfonic acid (PFDS)	1.8	U	1.8	0.28	ng/L		06/03/20 11:45	06/05/20 07:32	1
Perfluorooctanesulfonamide (FOSA)	1.8	U	1.8	0.31	ng/L		06/03/20 11:45	06/05/20 07:32	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18	U	18	2.7	ng/L		06/03/20 11:45	06/05/20 07:32	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18	U	18	1.7	ng/L		06/03/20 11:45	06/05/20 07:32	1
4:2 FTS	18	U	18	4.6	ng/L		06/03/20 11:45	06/05/20 07:32	1
6:2 FTS	18	U	18	1.8	ng/L		06/03/20 11:45	06/05/20 07:32	1
8:2 FTS	18	U	18	1.8	ng/L		06/03/20 11:45	06/05/20 07:32	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.8	U	1.8	0.16	ng/L		06/03/20 11:45	06/05/20 07:32	1
HFPO-DA (GenX)	3.5	U	3.5	1.3	ng/L		06/03/20 11:45	06/05/20 07:32	1
F-53B Major	1.8	U	1.8	0.21	ng/L		06/03/20 11:45	06/05/20 07:32	1
F-53B Minor	1.8	U	1.8	0.28	ng/L		06/03/20 11:45	06/05/20 07:32	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C4 PFBA	68		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C5 PFPeA	68		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C2 PFHxA	72		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C4 PFHpA	75		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C4 PFOA	78		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C5 PFNA	80		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C2 PFDA	76		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C2 PFUnA	75		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C2 PFDoA	80		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C2 PFTeDA	80		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C3 PFBS	63		25 - 150				06/03/20 11:45	06/05/20 07:32	1
18O2 PFHxS	77		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C4 PFOS	80		25 - 150				06/03/20 11:45	06/05/20 07:32	1
13C8 FOSA	72		25 - 150				06/03/20 11:45	06/05/20 07:32	1
d3-NMeFOSAA	67		25 - 150				06/03/20 11:45	06/05/20 07:32	1
d5-NEtFOSAA	72		25 - 150				06/03/20 11:45	06/05/20 07:32	1

Eurofins TestAmerica, Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: FB-012607-052120-CM-004

Date Collected: 05/21/20 13:55

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-4

Matrix: Water

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
M2-6:2 FTS	92		25 - 150	06/03/20 11:45	06/05/20 07:32	1
M2-8:2 FTS	68		25 - 150	06/03/20 11:45	06/05/20 07:32	1
M2-4:2 FTS	71		25 - 150	06/03/20 11:45	06/05/20 07:32	1
13C3 HFPO-DA	68		25 - 150	06/03/20 11:45	06/05/20 07:32	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Client Sample ID: W-012607-052120-CM-002

Date Collected: 05/21/20 13:05

Date Received: 05/22/20 10:10

Lab Sample ID: 240-130720-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	200	U	200	52	ng/L		05/26/20 04:53	05/30/20 10:10	10
6:2 FTS	200	U	200	20	ng/L		05/26/20 04:53	05/30/20 10:10	10
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
M2-6:2 FTS	126		25 - 150				05/26/20 04:53	05/30/20 10:10	10
M2-4:2 FTS	119		25 - 150				05/26/20 04:53	05/30/20 10:10	10

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

LCMS

Prep Batch: 380493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-2 - DL	W-012607-052120-CM-002	Total/NA	Water	3535	
240-130720-2	W-012607-052120-CM-002	Total/NA	Water	3535	
MB 320-380493/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-380493/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-380493/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 381343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-2	W-012607-052120-CM-002	Total/NA	Water	537 (modified)	380493

Analysis Batch: 381759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-2 - DL	W-012607-052120-CM-002	Total/NA	Water	537 (modified)	380493
MB 320-380493/1-A	Method Blank	Total/NA	Water	537 (modified)	380493
LCS 320-380493/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	380493
LCSD 320-380493/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	380493

Prep Batch: 382955

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	3535	
240-130720-3	WT-012607-052120-CM-003	Total/NA	Water	3535	
240-130720-4	FB-012607-052120-CM-004	Total/NA	Water	3535	
MB 320-382955/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-382955/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-382955/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 383535

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-4	FB-012607-052120-CM-004	Total/NA	Water	537 (modified)	382955
MB 320-382955/1-A	Method Blank	Total/NA	Water	537 (modified)	382955
LCS 320-382955/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	382955
LCSD 320-382955/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	382955

Analysis Batch: 384478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-130720-1	WT-012607-052120-CM-001	Total/NA	Water	537 (modified)	382955
240-130720-3	WT-012607-052120-CM-003	Total/NA	Water	537 (modified)	382955

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-380493/1-A

Matrix: Water

Analysis Batch: 381759

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 380493

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.941	J	2.0	0.35	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.49	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.58	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.85	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.55	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorotridecanoic acid (PFTriA)	2.0	U	2.0	1.3	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.29	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluoropentanesulfonic acid (PFPeS)	2.0	U	2.0	0.30	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorohexanesulfonic acid (PFHxS)	0.402	J	2.0	0.17	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorooctanesulfonic acid (PFOS)	3.34		2.0	0.54	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorononanesulfonic acid (PFNS)	2.0	U	2.0	0.16	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		05/26/20 04:53	05/30/20 09:24	1
Perfluorooctanesulfonamide (FOSA)	0.649	J	2.0	0.35	ng/L		05/26/20 04:53	05/30/20 09:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	20	U	20	3.1	ng/L		05/26/20 04:53	05/30/20 09:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	20	U	20	1.9	ng/L		05/26/20 04:53	05/30/20 09:24	1
4:2 FTS	20	U	20	5.2	ng/L		05/26/20 04:53	05/30/20 09:24	1
6:2 FTS	20	U	20	2.0	ng/L		05/26/20 04:53	05/30/20 09:24	1
8:2 FTS	20	U	20	2.0	ng/L		05/26/20 04:53	05/30/20 09:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	U	2.0	0.18	ng/L		05/26/20 04:53	05/30/20 09:24	1
HFPO-DA (GenX)	4.0	U	4.0	1.5	ng/L		05/26/20 04:53	05/30/20 09:24	1
F-53B Major	2.0	U	2.0	0.24	ng/L		05/26/20 04:53	05/30/20 09:24	1
F-53B Minor	2.0	U	2.0	0.32	ng/L		05/26/20 04:53	05/30/20 09:24	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	94		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C5 PFPeA	96		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C2 PFHxA	103		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C4 PFHpA	102		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C4 PFOA	96		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C5 PFNA	107		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C2 PFDA	94		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C2 PFUnA	97		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C2 PFDoA	82		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C2 PFTeDA	96		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C3 PFBS	103		25 - 150	05/26/20 04:53	05/30/20 09:24	1
18O2 PFHxS	107		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C4 PFOS	101		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C8 FOSA	96		25 - 150	05/26/20 04:53	05/30/20 09:24	1
d3-NMeFOSAA	101		25 - 150	05/26/20 04:53	05/30/20 09:24	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-380493/1-A

Matrix: Water

Analysis Batch: 381759

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 380493

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	94		25 - 150	05/26/20 04:53	05/30/20 09:24	1
M2-6:2 FTS	106		25 - 150	05/26/20 04:53	05/30/20 09:24	1
M2-8:2 FTS	102		25 - 150	05/26/20 04:53	05/30/20 09:24	1
M2-4:2 FTS	98		25 - 150	05/26/20 04:53	05/30/20 09:24	1
13C3 HFPO-DA	98		25 - 150	05/26/20 04:53	05/30/20 09:24	1

Lab Sample ID: LCS 320-380493/2-A

Matrix: Water

Analysis Batch: 381759

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 380493

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	45.6		ng/L		114	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	39.1		ng/L		98	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	39.6		ng/L		99	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	40.9		ng/L		102	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	42.5		ng/L		106	70 - 130
Perfluorononanoic acid (PFNA)	40.0	42.9		ng/L		107	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	41.6		ng/L		104	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	43.0		ng/L		107	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	40.1		ng/L		100	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	48.3		ng/L		121	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	42.3		ng/L		106	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	36.2		ng/L		102	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	39.9		ng/L		106	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.1		ng/L		91	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.5		ng/L		109	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	39.4		ng/L		106	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	39.5		ng/L		103	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	39.4		ng/L		102	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	41.5		ng/L		104	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.9		ng/L		102	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.6		ng/L		109	76 - 136
4:2 FTS	37.4	39.7		ng/L		106	79 - 139
6:2 FTS	37.9	39.2		ng/L		103	59 - 175
8:2 FTS	38.3	39.0		ng/L		102	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	39.1		ng/L		104	79 - 139
HFPO-DA (GenX)	40.0	45.0		ng/L		113	51 - 173
F-53B Major	37.3	38.5		ng/L		103	75 - 135

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-380493/2-A

Matrix: Water

Analysis Batch: 381759

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 380493

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
F-53B Minor	37.7	39.1		ng/L		104	54 - 114
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C4 PFBA	95		25 - 150				
13C5 PFPeA	100		25 - 150				
13C2 PFHxA	102		25 - 150				
13C4 PFHpA	97		25 - 150				
13C4 PFOA	92		25 - 150				
13C5 PFNA	96		25 - 150				
13C2 PFDA	104		25 - 150				
13C2 PFUnA	94		25 - 150				
13C2 PFDoA	87		25 - 150				
13C2 PFTeDA	110		25 - 150				
13C3 PFBS	103		25 - 150				
18O2 PFHxS	106		25 - 150				
13C4 PFOS	103		25 - 150				
13C8 FOSA	95		25 - 150				
d3-NMeFOSAA	104		25 - 150				
d5-NEtFOSAA	95		25 - 150				
M2-6:2 FTS	106		25 - 150				
M2-8:2 FTS	103		25 - 150				
M2-4:2 FTS	100		25 - 150				
13C3 HFPO-DA	95		25 - 150				

Lab Sample ID: LCSD 320-380493/3-A

Matrix: Water

Analysis Batch: 381759

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 380493

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	40.0	45.2		ng/L		113	76 - 136	1	30
Perfluoropentanoic acid (PFPeA)	40.0	40.3		ng/L		101	71 - 131	3	30
Perfluorohexanoic acid (PFHxA)	40.0	41.4		ng/L		103	73 - 133	4	30
Perfluoroheptanoic acid (PFHpA)	40.0	42.4		ng/L		106	72 - 132	4	30
Perfluorooctanoic acid (PFOA)	40.0	43.8		ng/L		110	70 - 130	3	30
Perfluorononanoic acid (PFNA)	40.0	36.7		ng/L		92	75 - 135	16	30
Perfluorodecanoic acid (PFDA)	40.0	48.0		ng/L		120	76 - 136	14	30
Perfluoroundecanoic acid (PFUnA)	40.0	33.8		ng/L		84	68 - 128	24	30
Perfluorododecanoic acid (PFDoA)	40.0	53.0 *		ng/L		133	71 - 131	28	30
Perfluorotridecanoic acid (PFTriA)	40.0	50.3		ng/L		126	71 - 131	4	30
Perfluorotetradecanoic acid (PFTeA)	40.0	39.4		ng/L		99	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)	35.4	35.4		ng/L		100	67 - 127	2	30
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.9		ng/L		101	66 - 126	5	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	35.0		ng/L		96	59 - 119	6	30

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-380493/3-A

Matrix: Water

Analysis Batch: 381759

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 380493

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	40.8		ng/L		107	76 - 136	2	30
Perfluorooctanesulfonic acid (PFOS)	37.1	40.6		ng/L		109	70 - 130	3	30
Perfluorononanesulfonic acid (PFNS)	38.4	38.6		ng/L		101	75 - 135	2	30
Perfluorodecanesulfonic acid (PFDS)	38.6	39.9		ng/L		103	71 - 131	1	30
Perfluorooctanesulfonamide (FOSA)	40.0	41.3		ng/L		103	73 - 133	0	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.0		ng/L		102	76 - 136	0	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	40.6		ng/L		102	76 - 136	7	30
4:2 FTS	37.4	39.3		ng/L		105	79 - 139	1	30
6:2 FTS	37.9	39.6		ng/L		104	59 - 175	1	30
8:2 FTS	38.3	39.7		ng/L		104	75 - 135	2	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	38.6		ng/L		102	79 - 139	1	30
HFPO-DA (GenX)	40.0	42.7		ng/L		107	51 - 173	5	30
F-53B Major	37.3	37.8		ng/L		101	75 - 135	2	30
F-53B Minor	37.7	37.5		ng/L		99	54 - 114	4	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFBA	95		25 - 150
13C5 PFPeA	96		25 - 150
13C2 PFHxA	102		25 - 150
13C4 PFHpA	100		25 - 150
13C4 PFOA	92		25 - 150
13C5 PFNA	107		25 - 150
13C2 PFDA	96		25 - 150
13C2 PFUnA	102		25 - 150
13C2 PFDoA	84		25 - 150
13C2 PFTeDA	108		25 - 150
13C3 PFBS	104		25 - 150
18O2 PFHxS	109		25 - 150
13C4 PFOS	104		25 - 150
13C8 FOSA	97		25 - 150
d3-NMeFOSAA	101		25 - 150
d5-NEtFOSAA	99		25 - 150
M2-6:2 FTS	108		25 - 150
M2-8:2 FTS	103		25 - 150
M2-4:2 FTS	100		25 - 150
13C3 HFPO-DA	99		25 - 150

Lab Sample ID: MB 320-382955/1-A

Matrix: Water

Analysis Batch: 383535

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 382955

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.667	J	2.0	0.35	ng/L		06/03/20 11:45	06/05/20 02:23	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-382955/1-A

Matrix: Water

Analysis Batch: 383535

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 382955

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.49	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.58	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.85	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.55	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorotridecanoic acid (PFTriA)	2.0	U	2.0	1.3	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.29	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluoropentanesulfonic acid (PFPeS)	2.0	U	2.0	0.30	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorohexanesulfonic acid (PFHxS)	0.403	J	2.0	0.17	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.54	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorononanesulfonic acid (PFNS)	2.0	U	2.0	0.16	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		06/03/20 11:45	06/05/20 02:23	1
Perfluorooctanesulfonamide (FOSA)	0.398	J	2.0	0.35	ng/L		06/03/20 11:45	06/05/20 02:23	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	20	U	20	3.1	ng/L		06/03/20 11:45	06/05/20 02:23	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	20	U	20	1.9	ng/L		06/03/20 11:45	06/05/20 02:23	1
4:2 FTS	20	U	20	5.2	ng/L		06/03/20 11:45	06/05/20 02:23	1
6:2 FTS	20	U	20	2.0	ng/L		06/03/20 11:45	06/05/20 02:23	1
8:2 FTS	20	U	20	2.0	ng/L		06/03/20 11:45	06/05/20 02:23	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	U	2.0	0.18	ng/L		06/03/20 11:45	06/05/20 02:23	1
HFPO-DA (GenX)	4.0	U	4.0	1.5	ng/L		06/03/20 11:45	06/05/20 02:23	1
F-53B Major	2.0	U	2.0	0.24	ng/L		06/03/20 11:45	06/05/20 02:23	1
F-53B Minor	2.0	U	2.0	0.32	ng/L		06/03/20 11:45	06/05/20 02:23	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	90		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C5 PFPeA	86		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C2 PFHxA	101		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C4 PFHpA	95		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C4 PFOA	102		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C5 PFNA	97		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C2 PFDA	104		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C2 PFUnA	101		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C2 PFDoA	105		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C2 PFTeDA	107		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C3 PFBS	83		25 - 150	06/03/20 11:45	06/05/20 02:23	1
18O2 PFHxS	103		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C4 PFOS	100		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C8 FOSA	95		25 - 150	06/03/20 11:45	06/05/20 02:23	1
d3-NMeFOSAA	95		25 - 150	06/03/20 11:45	06/05/20 02:23	1
d5-NEtFOSAA	101		25 - 150	06/03/20 11:45	06/05/20 02:23	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-382955/1-A

Matrix: Water

Analysis Batch: 383535

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 382955

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	92		25 - 150	06/03/20 11:45	06/05/20 02:23	1
M2-8:2 FTS	105		25 - 150	06/03/20 11:45	06/05/20 02:23	1
M2-4:2 FTS	79		25 - 150	06/03/20 11:45	06/05/20 02:23	1
13C3 HFPO-DA	92		25 - 150	06/03/20 11:45	06/05/20 02:23	1

Lab Sample ID: LCS 320-382955/2-A

Matrix: Water

Analysis Batch: 383535

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 382955

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	43.3		ng/L		108	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	40.0		ng/L		100	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	38.7		ng/L		97	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	40.0		ng/L		100	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	39.9		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.8		ng/L		102	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	41.5		ng/L		104	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	42.2		ng/L		105	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	40.5		ng/L		101	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	44.0		ng/L		110	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	41.7		ng/L		104	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	37.7		ng/L		107	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	43.2		ng/L		115	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.6		ng/L		92	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	40.0		ng/L		105	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	37.5		ng/L		101	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	37.4		ng/L		97	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	36.6		ng/L		95	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	40.8		ng/L		102	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.8		ng/L		105	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	41.2		ng/L		103	76 - 136
4:2 FTS	37.4	39.9		ng/L		107	79 - 139
6:2 FTS	37.9	39.2		ng/L		103	59 - 175
8:2 FTS	38.3	44.2		ng/L		115	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	42.2		ng/L		112	79 - 139
HFPO-DA (GenX)	40.0	41.7		ng/L		104	51 - 173
F-53B Major	37.3	38.9		ng/L		104	75 - 135
F-53B Minor	37.7	40.3		ng/L		107	54 - 114

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	LCS		Limits
	%Recovery	Qualifier	
13C4 PFBA	89		25 - 150
13C5 PFPeA	88		25 - 150
13C2 PFHxA	101		25 - 150
13C4 PFHpA	97		25 - 150
13C4 PFOA	98		25 - 150
13C5 PFNA	101		25 - 150
13C2 PFDA	101		25 - 150
13C2 PFUnA	99		25 - 150
13C2 PFDoA	100		25 - 150
13C2 PFTeDA	95		25 - 150
13C3 PFBS	85		25 - 150
18O2 PFHxS	97		25 - 150
13C4 PFOS	96		25 - 150
13C8 FOSA	91		25 - 150
d3-NMeFOSAA	89		25 - 150
d5-NEtFOSAA	98		25 - 150
M2-6:2 FTS	94		25 - 150
M2-8:2 FTS	91		25 - 150
M2-4:2 FTS	87		25 - 150
13C3 HFPO-DA	95		25 - 150

Lab Sample ID: LCSD 320-382955/3-A

Matrix: Water

Analysis Batch: 383535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 382955

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec.		RPD	Limit
							Limits	RPD		
Perfluorobutanoic acid (PFBA)	40.0	42.8		ng/L		107	76 - 136	1	30	
Perfluoropentanoic acid (PFPeA)	40.0	40.2		ng/L		100	71 - 131	0	30	
Perfluorohexanoic acid (PFHxA)	40.0	40.5		ng/L		101	73 - 133	4	30	
Perfluoroheptanoic acid (PFHpA)	40.0	39.9		ng/L		100	72 - 132	0	30	
Perfluorooctanoic acid (PFOA)	40.0	39.6		ng/L		99	70 - 130	1	30	
Perfluorononanoic acid (PFNA)	40.0	45.5		ng/L		114	75 - 135	11	30	
Perfluorodecanoic acid (PFDA)	40.0	39.9		ng/L		100	76 - 136	4	30	
Perfluoroundecanoic acid (PFUnA)	40.0	42.0		ng/L		105	68 - 128	1	30	
Perfluorododecanoic acid (PFDoA)	40.0	41.4		ng/L		104	71 - 131	2	30	
Perfluorotridecanoic acid (PFTriA)	40.0	44.8		ng/L		112	71 - 131	2	30	
Perfluorotetradecanoic acid (PFTeA)	40.0	41.6		ng/L		104	70 - 130	0	30	
Perfluorobutanesulfonic acid (PFBS)	35.4	38.6		ng/L		109	67 - 127	2	30	
Perfluoropentanesulfonic acid (PFPeS)	37.5	44.7		ng/L		119	66 - 126	3	30	
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.4		ng/L		92	59 - 119	1	30	
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	41.6		ng/L		109	76 - 136	4	30	
Perfluorooctanesulfonic acid (PFOS)	37.1	35.9		ng/L		97	70 - 130	4	30	
Perfluorononanesulfonic acid (PFNS)	38.4	34.5		ng/L		90	75 - 135	8	30	
Perfluorodecanesulfonic acid (PFDS)	38.6	37.4		ng/L		97	71 - 131	2	30	

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-382955/3-A

Matrix: Water

Analysis Batch: 383535

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 382955

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorooctanesulfonamide (FOSA)	40.0	44.4		ng/L		111	73 - 133	9	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	40.2		ng/L		101	76 - 136	4	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	43.4		ng/L		109	76 - 136	5	30
4:2 FTS	37.4	43.7		ng/L		117	79 - 139	9	30
6:2 FTS	37.9	39.0		ng/L		103	59 - 175	1	30
8:2 FTS	38.3	39.8		ng/L		104	75 - 135	10	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	42.3		ng/L		112	79 - 139	0	30
HFPO-DA (GenX)	40.0	43.8		ng/L		109	51 - 173	5	30
F-53B Major	37.3	39.0		ng/L		105	75 - 135	0	30
F-53B Minor	37.7	39.5		ng/L		105	54 - 114	2	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFBA	92		25 - 150
13C5 PFPeA	90		25 - 150
13C2 PFHxA	99		25 - 150
13C4 PFHpA	101		25 - 150
13C4 PFOA	99		25 - 150
13C5 PFNA	98		25 - 150
13C2 PFDA	102		25 - 150
13C2 PFUnA	102		25 - 150
13C2 PFDoA	99		25 - 150
13C2 PFTeDA	99		25 - 150
13C3 PFBS	84		25 - 150
18O2 PFHxS	101		25 - 150
13C4 PFOS	99		25 - 150
13C8 FOSA	89		25 - 150
d3-NMeFOSAA	92		25 - 150
d5-NEtFOSAA	94		25 - 150
M2-6:2 FTS	97		25 - 150
M2-8:2 FTS	95		25 - 150
M2-4:2 FTS	87		25 - 150
13C3 HFPO-DA	93		25 - 150

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Client Sample ID: WT-012607-052120-CM-001

Lab Sample ID: 240-130720-1

Date Collected: 05/21/20 13:30

Matrix: Water

Date Received: 05/22/20 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			382955	06/03/20 11:45	LN	TAL SAC
Total/NA	Analysis	537 (modified)		10	384478	06/08/20 17:21	S1M	TAL SAC

Client Sample ID: W-012607-052120-CM-002

Lab Sample ID: 240-130720-2

Date Collected: 05/21/20 13:05

Matrix: Water

Date Received: 05/22/20 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			380493	05/26/20 04:53	LB	TAL SAC
Total/NA	Analysis	537 (modified)		1	381343	05/28/20 14:14	RS1	TAL SAC
Total/NA	Prep	3535	DL		380493	05/26/20 04:53	LB	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10	381759	05/30/20 10:10	AF	TAL SAC

Client Sample ID: WT-012607-052120-CM-003

Lab Sample ID: 240-130720-3

Date Collected: 05/21/20 14:05

Matrix: Water

Date Received: 05/22/20 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			382955	06/03/20 11:45	LN	TAL SAC
Total/NA	Analysis	537 (modified)		10	384478	06/08/20 17:30	S1M	TAL SAC

Client Sample ID: FB-012607-052120-CM-004

Lab Sample ID: 240-130720-4

Date Collected: 05/21/20 13:55

Matrix: Water

Date Received: 05/22/20 10:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			382955	06/03/20 11:45	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	383535	06/05/20 07:32	MNV	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-20
Arkansas DEQ	State	19-042-0	06-17-20
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-20
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	07-01-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-20
Maine	State	2018009	04-14-22
Michigan	State	9947	01-31-22
Nevada	State	CA000442020-1	07-31-20
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

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

Authority	Program	Identification Number	Expiration Date
US Fish & Wildlife	US Federal Programs	58448	07-31-20
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-20 *
West Virginia (DW)	State	9930C	12-31-20
Wyoming	State Program	8TMS-L	01-28-19 *

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

Eurofins TestAmerica, Canton

37/44

Chain of Custody Record

273154

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-8210 (0713)Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

Client Contact		Project Manager: C. Menckel		Site Contact: R. Mickle		Date: 06-20-2020		COC No:											
Company Name: GHD Services		Tel/Fax:		Lab Contact: D. Hecker		Carrier:		COCs											
Address: 26850 Haggerty Rd		Analysis Turnaround Time		Perform MS/MSD (Y/N)		Filtered Sample (Y/N)		Sampler:											
City/State/Zip: Farmington Hills, MI 48331		☐ CALENDAR DAYS ☐ WORKING DAYS		Sample Type (C=Comp, G=Grab)		# of Cont.		For Lab Use Only:											
Phone: 248-893-3400		TAT if different from Below		Sample Date		Sample Time		Walk-in Client:											
Fax:		☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Sample Date		Sample Time		Lab Sampling:											
Project Name: RACER ECKES RD		Sample Date		Sample Time		Sample Type		Job / SDG No.:											
Site:		Sample Date		Sample Time		Sample Type		Sample Specific Notes:											
PO # 12607A-T37Y20-01		Sample Date		Sample Time		Sample Type													
WT-012607-052120-CM-001	5-21-20	13:30	G	W	8														
W-012607-052120-CM-002	5-21-20	13:05	G	W	2														
WT-012607-052120-CM-003	5-21-20	14:05	G	W	2				no metalson 002										
WB-012607-05120-CM-004	5-21-20	13:35	G	W	2				Sample time - 14:05										
																			
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other																			
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.																			
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown																			
Special Instructions/QC Requirements & Comments:																			
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corr'd:		Therm ID No.:											
Relinquished by: 		Company: GHD		Received by: 		Company: TA		Date/Time: 5-22-20 1010											
Relinquished by:		Company:		Received by:		Company:		Date/Time:											
Relinquished by:		Company:		Received in Laboratory by:		Company:		Date/Time:											

Eurofins TestAmerica Canton Sample Receipt Form/Narrative		Login # : <u>130720</u>
Canton Facility		
Client <u>GHD</u>	Site Name _____	Cooler unpacked by: <u>[Signature]</u>
Cooler Received on <u>5/22/20</u>	Opened on <u>5/22/20</u>	
FedEx: 1 st Grd <u>Exp</u> UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____		
Receipt After-hours: Drop-off Date/Time		Storage Location
TestAmerica Cooler # <u>7A</u>	Foam Box _____	Client Cooler _____
Packing material used: <u>Bubble Wrap</u>	Foam _____	Plastic Bag _____
COOLANT: <u>Wet Ice</u>	Blue Ice _____	Dry Ice _____
	Water _____	None _____
1. Cooler temperature upon receipt ☐ See Multiple Cooler Form IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. <u>3.7</u> °C Corrected Cooler Temp. <u>4.4</u> °C IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C		
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> Yes No -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No -Were tamper/custody seals intact and uncompromised? Yes No NA		
3. Shippers' packing slip attached to the cooler(s)? Yes No		
4. Did custody papers accompany the sample(s)? Yes No		
5. Were the custody papers relinquished & signed in the appropriate place? Yes No		
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No		
7. Did all bottles arrive in good condition (Unbroken)? Yes No		
8. Could all bottle labels be reconciled with the COC? Yes No		
9. Were correct bottle(s) used for the test(s) indicated? Yes No		
10. Sufficient quantity received to perform indicated analyses? Yes No		
11. Are these work share samples? Yes No		
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# <u>HC902937</u>		
13. Were VOAs on the COC? Yes No		
14. Were air bubbles >6 mm in any VOA vials? <u>Yes</u> ☒ Larger than this. Yes No NA		
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No		
16. Was a LL Hg or Me Hg trip blank present? _____ Yes No		
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____		
Concerning _____		

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by: _____
_____ _____ _____ _____ _____	
18. SAMPLE CONDITION	
Sample(s) _____ were received after the recommended holding time had expired.	
Sample(s) _____ were received in a broken container.	
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)	
19. SAMPLE PRESERVATION	
Sample(s) _____ were further preserved in the laboratory.	
Time preserved: _____ Preservative(s) added/Lot number(s): _____	
VOA Sample Preservation - Date/Time VOAs Frozen: _____	

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			<u>pH</u>	<u>Temp</u>	<u>Added (mls)</u>	<u>Lot #</u>
WT-012607-052120-CM-001	240-130720-D-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
WT-012607-052120-CM-001	240-130720-G-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____
WT-012607-052120-CM-001	240-130720-H-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-130720-2

Login Number: 130720

List Number: 2

Creator: Guzman, Juan

List Source: Eurofins TestAmerica, Sacramento

List Creation: 05/23/20 05:53 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.6
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
240-130720-1	WT-012607-052120-CM-001	68	79	82	83	88	87	92	81
240-130720-2	W-012607-052120-CM-002	68	82	96	109	95	113	98	89
240-130720-2 - DL	W-012607-052120-CM-002								
240-130720-3	WT-012607-052120-CM-003	68	74	77	80	85	89	90	81
240-130720-4	FB-012607-052120-CM-004	68	68	72	75	78	80	76	75
LCS 320-380493/2-A	Lab Control Sample	95	100	102	97	92	96	104	94
LCS 320-382955/2-A	Lab Control Sample	89	88	101	97	98	101	101	99
LCSD 320-380493/3-A	Lab Control Sample Dup	95	96	102	100	92	107	96	102
LCSD 320-382955/3-A	Lab Control Sample Dup	92	90	99	101	99	98	102	102
MB 320-380493/1-A	Method Blank	94	96	103	102	96	107	94	97
MB 320-382955/1-A	Method Blank	90	86	101	95	102	97	104	101

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
240-130720-1	WT-012607-052120-CM-001	84	83	69	84	84	81	81	89
240-130720-2	W-012607-052120-CM-002	105	104	101	111	107	94	105	100
240-130720-2 - DL	W-012607-052120-CM-002								
240-130720-3	WT-012607-052120-CM-003	85	82	70	79	84	82	80	79
240-130720-4	FB-012607-052120-CM-004	80	80	63	77	80	72	67	72
LCS 320-380493/2-A	Lab Control Sample	87	110	103	106	103	95	104	95
LCS 320-382955/2-A	Lab Control Sample	100	95	85	97	96	91	89	98
LCSD 320-380493/3-A	Lab Control Sample Dup	84	108	104	109	104	97	101	99
LCSD 320-382955/3-A	Lab Control Sample Dup	99	99	84	101	99	89	92	94
MB 320-380493/1-A	Method Blank	82	96	103	107	101	96	101	94
MB 320-382955/1-A	Method Blank	105	107	83	103	100	95	95	101

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)
240-130720-1	WT-012607-052120-CM-001	144	95	89	71
240-130720-2	W-012607-052120-CM-002		134		95
240-130720-2 - DL	W-012607-052120-CM-002	126		119	
240-130720-3	WT-012607-052120-CM-003	98	77	66	71
240-130720-4	FB-012607-052120-CM-004	92	68	71	68
LCS 320-380493/2-A	Lab Control Sample	106	103	100	95
LCS 320-382955/2-A	Lab Control Sample	94	91	87	95
LCSD 320-380493/3-A	Lab Control Sample Dup	108	103	100	99
LCSD 320-382955/3-A	Lab Control Sample Dup	97	95	87	93
MB 320-380493/1-A	Method Blank	106	102	98	98
MB 320-382955/1-A	Method Blank	92	105	79	92

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA

Eurofins TestAmerica, Canton

Isotope Dilution Summary

Client: GHD Services Inc.

Project/Site: 12607, RACER Eckles Rd

Job ID: 240-130720-2

PFD_oA = 13C₂ PFD_oA

PFTDA = 13C₂ PFTeDA

C₃PFBS = 13C₃ PFBS

PFHxS = 18O₂ PFHxS

PFOS = 13C₄ PFOS

PFOSA = 13C₈ FOSA

d₃NMFOS = d₃-NMeFOSAA

d₅NEFOS = d₅-NEtFOSAA

M₂₆₂FTS = M_{2-6:2} FTS

M₂₈₂FTS = M_{2-8:2} FTS

M₂₄₂FTS = M_{2-4:2} FTS

HFPODA = 13C₃ HFPO-DA

1

2

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Attachment 2
June 11, 2020 Samples
WT-012607-061120-CM-001 (effluent)
W-012607-061120-CM-002 (influent)
Laboratory Analytical Reports

ANALYTICAL REPORT

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

Laboratory Job ID: 240-131780-1

Client Project/Site: 12607, RACER Eckles Rd

For:

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

Attn: Ms. Ruth Mickle



Authorized for release by:
6/19/2020 1:07:00 PM

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

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Job ID: 240-131780-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-131780-1

Comments

No additional comments.

Receipt

The samples were received on 6/12/2020 9:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2° C.

GC Semi VOA

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

Metals

Methods 200.7 Rev 4.4: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-061120-CM-001 (240-131780-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

General Chemistry

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

Organic Prep

Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-438378.

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: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Qualifiers

GC Semi VOA

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

Metals

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

General Chemistry

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

Glossary

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-131780-1	WT-012607-061120-CM-001	Water	06/11/20 16:30	06/12/20 09:40	

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Client Sample ID: WT-012607-061120-CM-001

Lab Sample ID: 240-131780-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.23		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.75		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Chromium, hexavalent	0.20		0.010	mg/L	1		3500-Cr B-2011	Total
								Recoverable
								Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Method	Method Description	Protocol	Laboratory
608.3	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL BUF
3500-Cr B-2011	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
1664A	HEM and SGT-HEM (SPE)	1664A	TAL BUF
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL CAN

Protocol References:

1664A = EPA-821-98-002

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

EPA = US Environmental Protection Agency

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

Laboratory References:

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

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

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

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

Client Sample ID: WT-012607-061120-CM-001

Date Collected: 06/11/20 16:30

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Aroclor-1221	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Aroclor-1232	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Aroclor-1242	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Aroclor-1248	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Aroclor-1254	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Aroclor-1260	0.097	U	0.097	ug/L		06/15/20 10:43	06/16/20 16:50	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	94		10 - 114			06/15/20 10:43	06/16/20 16:50	1
Tetrachloro-m-xylene	84		15 - 131			06/15/20 10:43	06/16/20 16:50	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

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

Client Sample ID: WT-012607-061120-CM-001

Date Collected: 06/11/20 16:30

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.23		0.050	mg/L		06/15/20 14:00	06/17/20 21:28	1
Nickel	0.75		0.010	mg/L		06/15/20 14:00	06/17/20 21:28	1
Lead	0.050	U	0.050	mg/L		06/15/20 14:00	06/17/20 21:28	1
Zinc	0.020	U	0.020	mg/L		06/15/20 14:00	06/17/20 21:28	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-061120-CM-001

Date Collected: 06/11/20 16:30

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		06/15/20 12:00	06/16/20 12:08	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

General Chemistry

Client Sample ID: WT-012607-061120-CM-001

Date Collected: 06/11/20 16:30

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L		06/17/20 14:50	06/17/20 15:48	1
Chromium, hexavalent	0.20		0.010	mg/L			06/12/20 11:49	1
Total Suspended Solids	4.0	U	4.0	mg/L			06/18/20 09:02	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

GC Semi VOA

Prep Batch: 438378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	608	
MB 240-438378/21-A	Method Blank	Total/NA	Water	608	
LCS 240-438378/22-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 438568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	608.3	438378
MB 240-438378/21-A	Method Blank	Total/NA	Water	608.3	438378
LCS 240-438378/22-A	Lab Control Sample	Total/NA	Water	608.3	438378

Metals

Prep Batch: 438358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total Recoverable	Water	200.7	
MB 240-438358/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-438358/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 438364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	245.1	
MB 240-438364/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-438364/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 438759

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	245.1	438364
MB 240-438364/1-A	Method Blank	Total/NA	Water	245.1	438364
LCS 240-438364/2-A	Lab Control Sample	Total/NA	Water	245.1	438364

Analysis Batch: 438915

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total Recoverable	Water	200.7 Rev 4.4	438358
MB 240-438358/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	438358
LCS 240-438358/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	438358

General Chemistry

Analysis Batch: 438148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	3500-Cr B-2011	
MB 240-438148/3	Method Blank	Total/NA	Water	3500-Cr B-2011	
LCS 240-438148/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2011	

Analysis Batch: 438943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	SM 2540D	
MB 240-438943/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-438943/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Eurofins TestAmerica, Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

General Chemistry

Prep Batch: 536568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	1664A	
MB 480-536568/1-A	Method Blank	Total/NA	Water	1664A	
LCS 480-536568/2-A	Lab Control Sample	Total/NA	Water	1664A	

Analysis Batch: 536757

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	1664A	536568
MB 480-536568/1-A	Method Blank	Total/NA	Water	1664A	536568
LCS 480-536568/2-A	Lab Control Sample	Total/NA	Water	1664A	536568

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

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

Lab Sample ID: MB 240-438378/21-A

Matrix: Water

Analysis Batch: 438568

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 438378

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1
Aroclor-1221	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1
Aroclor-1232	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1
Aroclor-1242	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1
Aroclor-1248	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1
Aroclor-1254	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1
Aroclor-1260	0.10	U	0.10	ug/L		06/15/20 10:43	06/16/20 15:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	90		10 - 114	06/15/20 10:43	06/16/20 15:50	1
Tetrachloro-m-xylene	80		15 - 131	06/15/20 10:43	06/16/20 15:50	1

Lab Sample ID: LCS 240-438378/22-A

Matrix: Water

Analysis Batch: 438568

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 438378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	2.02		ug/L		81	50 - 140
Aroclor-1260	2.50	1.91		ug/L		77	8 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	88		10 - 114
Tetrachloro-m-xylene	81		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-438358/1-A

Matrix: Water

Analysis Batch: 438915

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 438358

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		06/15/20 14:00	06/17/20 20:22	1
Nickel	0.010	U	0.010	mg/L		06/15/20 14:00	06/17/20 20:22	1
Lead	0.050	U	0.050	mg/L		06/15/20 14:00	06/17/20 20:22	1
Zinc	0.020	U	0.020	mg/L		06/15/20 14:00	06/17/20 20:22	1

Lab Sample ID: LCS 240-438358/2-A

Matrix: Water

Analysis Batch: 438915

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 438358

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	1.00	0.992		mg/L		99	85 - 115
Nickel	1.00	1.01		mg/L		101	85 - 115
Lead	1.00	0.959		mg/L		96	85 - 115
Zinc	1.00	1.03		mg/L		103	85 - 115

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-438364/1-A
Matrix: Water
Analysis Batch: 438759

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 438364

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		06/15/20 12:00	06/16/20 11:49	1

Lab Sample ID: LCS 240-438364/2-A
Matrix: Water
Analysis Batch: 438759

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 438364

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00499		mg/L		100	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 480-536568/1-A
Matrix: Water
Analysis Batch: 536757

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 536568

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	mg/L		06/16/20 18:48	06/17/20 15:48	1

Lab Sample ID: LCS 480-536568/2-A
Matrix: Water
Analysis Batch: 536757

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 536568

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	10.0	8.70		mg/L		87	78 - 114

Method: 3500-Cr B-2011 - Chromium, Hexavalent

Lab Sample ID: MB 240-438148/3
Matrix: Water
Analysis Batch: 438148

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium, hexavalent	0.010	U	0.010	mg/L			06/12/20 11:32	1

Lab Sample ID: LCS 240-438148/4
Matrix: Water
Analysis Batch: 438148

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium, hexavalent	0.250	0.236		mg/L		94	80 - 123

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

Lab Sample ID: MB 240-438943/1
Matrix: Water
Analysis Batch: 438943

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L			06/18/20 09:02	1

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

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

Lab Sample ID: LCS 240-438943/2
Matrix: Water
Analysis Batch: 438943

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	84.7	88.0		mg/L		104	64 - 120

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP1 (10-114)	TCX1 (15-131)
240-131780-1	WT-012607-061120-CM-001	94	84
LCS 240-438378/22-A	Lab Control Sample	88	81
MB 240-438378/21-A	Method Blank	90	80

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Client Sample ID: WT-012607-061120-CM-001

Lab Sample ID: 240-131780-1

Date Collected: 06/11/20 16:30

Matrix: Water

Date Received: 06/12/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			438378	06/15/20 10:43	MDH	TAL CAN
Total/NA	Analysis	608.3		1	438568	06/16/20 16:50	CSC	TAL CAN
Total Recoverable	Prep	200.7			438358	06/15/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	438915	06/17/20 21:28	WKD	TAL CAN
Total/NA	Prep	245.1			438364	06/15/20 12:00	MRL	TAL CAN
Total/NA	Analysis	245.1		1	438759	06/16/20 12:08	SLD	TAL CAN
Total/NA	Prep	1664A			536568	06/17/20 14:50	T1S	TAL BUF
Total/NA	Analysis	1664A		1	536757	06/17/20 15:48	T1S	TAL BUF
Total/NA	Analysis	3500-Cr B-2011		1	438148	06/12/20 11:49	JMR	TAL CAN
Total/NA	Analysis	SM 2540D		1	438943	06/18/20 09:02	JR	TAL CAN

Laboratory References:

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

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

Laboratory: Eurofins TestAmerica, Buffalo

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

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

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

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-1

Laboratory: Eurofins TestAmerica, Buffalo (Continued)

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

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

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

Eurofins TestAmerica, Canton

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:[illegible]

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 131780

Client GND

Site Name _____

Cooler unpacked by: _____

Cooler Received on 6-12-20

Opened on 6-12-20 9:00

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

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

Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____
 Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. 5.3 °C Corrected Cooler Temp. 4.2 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA

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

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

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

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

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

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

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

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

11. Are these work share samples? Yes No

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

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC902937

13. Were VOAs on the COC? Yes No

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

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

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

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

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

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: RC

18. SAMPLE CONDITION

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

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

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

19. SAMPLE PRESERVATION

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

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

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			pH	Temp	Added (mls)	Lot #
WT-012607-061120-CM-001	240-131780-D-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
WT-012607-061120-CM-001	240-131780-G-1	Amber Glass 1 liter - Nitric Acid	_____	_____	_____	_____
WT-012607-061120-CM-001	240-131780-H-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____

Chain of Custody Record



Client Information (Sub Contract Lab)				Lab PM: Heckler, Denise D		Carrier Tracking No(s): 240-121787.1	
Client Contact: Shipping/Receiving				Phone:		State of Origin: Michigan	
Company: TestAmerica Laboratories, Inc.				E-Mail: denise.heckler@testamericainc.com		Page: Page 1 of 1	
Address: 10 Hazelwood Drive, City: Amherst State, Zip: NY, 14228-2298 Phone: 716-691-2600(Tel) 716-691-7991(Fax) Email: Project Name: 12607, RACER Eckles Rd Site:				Accreditations Required (See note):		Job #: 240-131780-1	
Due Date Requested: 6/24/2020 TAT Requested (days):				Preservation Codes:			
PO #:				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:			
WO #:				M - Hexane N - None O - AsNaO2 P - Na2O4S Q - Na2SO3 R - Na2SO3 S - H2SO4 T - TSP Dodecahydrate U - Acetone V - MCAA W - pH 4-5 Z - other (specify)			
Project #: 24005880 SSOW#:				Total Number of containers			
Sample Date				Field Filtered Sample (Yes or No)			
Sample Time				Perform MS/MSD (Yes or No)			
Sample Type (C=Comp, G=grab)				1664A_Calc/1664A_SPE HEM			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				1664A_Calc/1664A_SPE HEM			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			
Matrix (W=water, S=solid, O=water/oil, BT=Tissue, A=Air)				X			
Preservation Code:				X			
Sample Date				X			
Sample Time				X			
Sample Type (C=Comp, G=grab)				X			

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-131780-1

Login Number: 131780

List Number: 3

Creator: Kolb, Chris M

List Source: Eurofins TestAmerica, Buffalo

List Creation: 06/15/20 01:52 PM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	3.9 ir gun #1 ice
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

ANALYTICAL REPORT

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

Laboratory Job ID: 240-131780-2

Client Project/Site: 12607, RACER Eckles Rd

For:

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

Attn: Ms. Ruth Mickle



Authorized for release by:
6/18/2020 8:25:10 AM

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

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results through

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www.eurofinsus.com/Env

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Job ID: 240-131780-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative 240-131780-2

Comments

No additional comments.

Receipt

The samples were received on 6/12/2020 9:40 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2° C.

LCMS

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2 FTS of the following sample: W-012607-061120-CM-002 (240-131780-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-4:2 FTS of the following sample: W-012607-061120-CM-002 (240-131780-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-8:2 FTS of the following sample: W-012607-061120-CM-002 (240-131780-2). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside of the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte.

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

Organic Prep

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-386345.

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: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Qualifiers

LCMS

Qualifier	Qualifier Description
*5	Isotope dilution analyte is outside acceptance limits.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
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: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-131780-1	WT-012607-061120-CM-001	Water	06/11/20 16:30	06/12/20 09:40	
240-131780-2	W-012607-061120-CM-002	Water	06/11/20 16:40	06/12/20 09:40	

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Client Sample ID: WT-012607-061120-CM-001

Lab Sample ID: 240-131780-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.8		1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.49	J	1.9	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.61	J B	1.9	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.8	I	1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.41	J B	1.9	0.34	ng/L	1		537 (modified)	Total/NA

Client Sample ID: W-012607-061120-CM-002

Lab Sample ID: 240-131780-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	11		1.8	0.32	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.6		1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.7	J	1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.5		1.8	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.75	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.1	J I	1.8	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	5.4	I B	1.8	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	1.4	J I	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	100	I	1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	0.74	J B	1.8	0.32	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

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

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: WT-012607-061120-CM-001

Date Collected: 06/11/20 16:30

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2.8		1.9	0.34	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluoropentanoic acid (PFPeA)	0.49	J	1.9	0.48	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorohexanoic acid (PFHxA)	1.9	U	1.9	0.56	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluoroheptanoic acid (PFHpA)	1.9	U	1.9	0.24	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorooctanoic acid (PFOA)	1.9	U	1.9	0.83	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorononanoic acid (PFNA)	1.9	U	1.9	0.26	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorodecanoic acid (PFDA)	1.9	U	1.9	0.30	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluoroundecanoic acid (PFUnA)	1.9	U	1.9	1.1	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorododecanoic acid (PFDoA)	1.9	U	1.9	0.53	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorotridecanoic acid (PFTriA)	1.9	U	1.9	1.3	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorotetradecanoic acid (PFTeA)	1.9	U	1.9	0.28	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorobutanesulfonic acid (PFBS)	1.9	U	1.9	0.19	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluoropentanesulfonic acid (PFPeS)	1.9	U	1.9	0.29	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorohexanesulfonic acid (PFHxS)	0.61	J I B	1.9	0.17	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	U	1.9	0.18	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorooctanesulfonic acid (PFOS)	5.8	I	1.9	0.53	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorononanesulfonic acid (PFNS)	1.9	U	1.9	0.16	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorodecanesulfonic acid (PFDS)	1.9	U	1.9	0.31	ng/L		06/15/20 04:53	06/16/20 12:26	1
Perfluorooctanesulfonamide (FOSA)	0.41	J B	1.9	0.34	ng/L		06/15/20 04:53	06/16/20 12:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	19	U	19	3.0	ng/L		06/15/20 04:53	06/16/20 12:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	19	U	19	1.8	ng/L		06/15/20 04:53	06/16/20 12:26	1
4:2 FTS	19	U	19	5.1	ng/L		06/15/20 04:53	06/16/20 12:26	1
6:2 FTS	19	U	19	1.9	ng/L		06/15/20 04:53	06/16/20 12:26	1
8:2 FTS	19	U	19	1.9	ng/L		06/15/20 04:53	06/16/20 12:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.9	U	1.9	0.18	ng/L		06/15/20 04:53	06/16/20 12:26	1
HFPO-DA (GenX)	3.9	U	3.9	1.5	ng/L		06/15/20 04:53	06/16/20 12:26	1
F-53B Major	1.9	U	1.9	0.23	ng/L		06/15/20 04:53	06/16/20 12:26	1
F-53B Minor	1.9	U	1.9	0.31	ng/L		06/15/20 04:53	06/16/20 12:26	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	73		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C5 PFPeA	79		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C2 PFHxA	87		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C4 PFHpA	95		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C4 PFOA	98		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C5 PFNA	103		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C2 PFDA	100		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C2 PFUnA	103		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C2 PFDoA	111		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C2 PFTeDA	111		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C3 PFBS	79		25 - 150	06/15/20 04:53	06/16/20 12:26	1
18O2 PFHxS	83		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C4 PFOS	83		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C8 FOSA	77		25 - 150	06/15/20 04:53	06/16/20 12:26	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: WT-012607-061120-CM-001

Date Collected: 06/11/20 16:30

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-1

Matrix: Water

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
d3-NMeFOSAA	76		25 - 150	06/15/20 04:53	06/16/20 12:26	1
d5-NEtFOSAA	87		25 - 150	06/15/20 04:53	06/16/20 12:26	1
M2-6:2 FTS	132		25 - 150	06/15/20 04:53	06/16/20 12:26	1
M2-8:2 FTS	126		25 - 150	06/15/20 04:53	06/16/20 12:26	1
M2-4:2 FTS	122		25 - 150	06/15/20 04:53	06/16/20 12:26	1
13C3 HFPO-DA	84		25 - 150	06/15/20 04:53	06/16/20 12:26	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: W-012607-061120-CM-002

Date Collected: 06/11/20 16:40

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	11		1.8	0.32	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluoropentanoic acid (PFPeA)	2.6		1.8	0.45	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorohexanoic acid (PFHxA)	1.7	J	1.8	0.53	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluoroheptanoic acid (PFHpA)	1.2	J	1.8	0.23	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorooctanoic acid (PFOA)	4.5		1.8	0.78	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorononanoic acid (PFNA)	1.8	U	1.8	0.25	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorodecanoic acid (PFDA)	1.8	U	1.8	0.29	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluoroundecanoic acid (PFUnA)	1.8	U	1.8	1.0	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorododecanoic acid (PFDoA)	1.8	U	1.8	0.51	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorotridecanoic acid (PFTriA)	1.8	U	1.8	1.2	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorotetradecanoic acid (PFTeA)	1.8	U	1.8	0.27	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorobutanesulfonic acid (PFBS)	0.75	J	1.8	0.18	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluoropentanesulfonic acid (PFPeS)	1.1	J I	1.8	0.28	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorohexanesulfonic acid (PFHxS)	5.4	I B	1.8	0.16	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.4	J I	1.8	0.18	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorooctanesulfonic acid (PFOS)	100	I	1.8	0.50	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorononanesulfonic acid (PFNS)	1.8	U	1.8	0.15	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorodecanesulfonic acid (PFDS)	1.8	U	1.8	0.29	ng/L		06/15/20 04:53	06/16/20 12:35	1
Perfluorooctanesulfonamide (FOSA)	0.74	J B	1.8	0.32	ng/L		06/15/20 04:53	06/16/20 12:35	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	18	U	18	2.9	ng/L		06/15/20 04:53	06/16/20 12:35	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	18	U	18	1.8	ng/L		06/15/20 04:53	06/16/20 12:35	1
4:2 FTS	18	U	18	4.8	ng/L		06/15/20 04:53	06/16/20 12:35	1
6:2 FTS	18	U	18	1.8	ng/L		06/15/20 04:53	06/16/20 12:35	1
8:2 FTS	18	U	18	1.8	ng/L		06/15/20 04:53	06/16/20 12:35	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.8	U	1.8	0.17	ng/L		06/15/20 04:53	06/16/20 12:35	1
HFPO-DA (GenX)	3.7	U	3.7	1.4	ng/L		06/15/20 04:53	06/16/20 12:35	1
F-53B Major	1.8	U	1.8	0.22	ng/L		06/15/20 04:53	06/16/20 12:35	1
F-53B Minor	1.8	U	1.8	0.29	ng/L		06/15/20 04:53	06/16/20 12:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	61		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C5 PFPeA	66		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C2 PFHxA	85		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C4 PFHpA	106		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C4 PFOA	100		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C5 PFNA	121		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C2 PFDA	123		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C2 PFUnA	135		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C2 PFDoA	130		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C2 PFTeDA	140		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C3 PFBS	88		25 - 150	06/15/20 04:53	06/16/20 12:35	1
18O2 PFHxS	105		25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C4 PFOS	102		25 - 150	06/15/20 04:53	06/16/20 12:35	1

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Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Client Sample ID: W-012607-061120-CM-002

Date Collected: 06/11/20 16:40

Date Received: 06/12/20 09:40

Lab Sample ID: 240-131780-2

Matrix: Water

<i>Isotope Dilution</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
13C8 FOSA	92		25 - 150	06/15/20 04:53	06/16/20 12:35	1
d3-NMeFOSAA	102		25 - 150	06/15/20 04:53	06/16/20 12:35	1
d5-NEtFOSAA	116		25 - 150	06/15/20 04:53	06/16/20 12:35	1
M2-6:2 FTS	217	*5	25 - 150	06/15/20 04:53	06/16/20 12:35	1
M2-8:2 FTS	249	*5	25 - 150	06/15/20 04:53	06/16/20 12:35	1
M2-4:2 FTS	165	*5	25 - 150	06/15/20 04:53	06/16/20 12:35	1
13C3 HFPO-DA	96		25 - 150	06/15/20 04:53	06/16/20 12:35	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

LCMS

Prep Batch: 386345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	3535	
240-131780-2	W-012607-061120-CM-002	Total/NA	Water	3535	
MB 320-386345/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-386345/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-386345/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 386795

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-131780-1	WT-012607-061120-CM-001	Total/NA	Water	537 (modified)	386345
240-131780-2	W-012607-061120-CM-002	Total/NA	Water	537 (modified)	386345
MB 320-386345/1-A	Method Blank	Total/NA	Water	537 (modified)	386345
LCS 320-386345/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	386345
LCSD 320-386345/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	386345

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-386345/1-A

Matrix: Water

Analysis Batch: 386795

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 386345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2.0	U	2.0	0.35	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.49	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.58	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.85	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.55	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorotridecanoic acid (PFTriA)	2.0	U	2.0	1.3	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.29	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluoropentanesulfonic acid (PFPeS)	2.0	U	2.0	0.30	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.290	J	2.0	0.17	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.54	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorononanesulfonic acid (PFNS)	2.0	U	2.0	0.16	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		06/15/20 04:53	06/16/20 11:46	1
Perfluorooctanesulfonamide (FOSA)	0.640	J	2.0	0.35	ng/L		06/15/20 04:53	06/16/20 11:46	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	20	U	20	3.1	ng/L		06/15/20 04:53	06/16/20 11:46	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	20	U	20	1.9	ng/L		06/15/20 04:53	06/16/20 11:46	1
4:2 FTS	20	U	20	5.2	ng/L		06/15/20 04:53	06/16/20 11:46	1
6:2 FTS	20	U	20	2.0	ng/L		06/15/20 04:53	06/16/20 11:46	1
8:2 FTS	20	U	20	2.0	ng/L		06/15/20 04:53	06/16/20 11:46	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	U	2.0	0.18	ng/L		06/15/20 04:53	06/16/20 11:46	1
HFPO-DA (GenX)	4.0	U	4.0	1.5	ng/L		06/15/20 04:53	06/16/20 11:46	1
F-53B Major	2.0	U	2.0	0.24	ng/L		06/15/20 04:53	06/16/20 11:46	1
F-53B Minor	2.0	U	2.0	0.32	ng/L		06/15/20 04:53	06/16/20 11:46	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	81		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C5 PFPeA	86		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C2 PFHxA	88		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C4 PFHpA	97		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C4 PFOA	99		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C5 PFNA	102		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C2 PFDA	103		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C2 PFUnA	106		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C2 PFDoA	112		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C2 PFTeDA	112		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C3 PFBS	81		25 - 150	06/15/20 04:53	06/16/20 11:46	1
18O2 PFHxS	83		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C4 PFOS	80		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C8 FOSA	72		25 - 150	06/15/20 04:53	06/16/20 11:46	1
d3-NMeFOSAA	88		25 - 150	06/15/20 04:53	06/16/20 11:46	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-386345/1-A

Matrix: Water

Analysis Batch: 386795

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 386345

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	97		25 - 150	06/15/20 04:53	06/16/20 11:46	1
M2-6:2 FTS	141		25 - 150	06/15/20 04:53	06/16/20 11:46	1
M2-8:2 FTS	135		25 - 150	06/15/20 04:53	06/16/20 11:46	1
M2-4:2 FTS	138		25 - 150	06/15/20 04:53	06/16/20 11:46	1
13C3 HFPO-DA	87		25 - 150	06/15/20 04:53	06/16/20 11:46	1

Lab Sample ID: LCS 320-386345/2-A

Matrix: Water

Analysis Batch: 386795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 386345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	43.5		ng/L		109	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	39.2		ng/L		98	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	42.5		ng/L		106	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	41.0		ng/L		102	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	40.0		ng/L		100	70 - 130
Perfluorononanoic acid (PFNA)	40.0	40.4		ng/L		101	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	41.2		ng/L		103	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	37.8		ng/L		95	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	40.5		ng/L		101	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	44.4		ng/L		111	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	38.8		ng/L		97	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	35.4		ng/L		100	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	39.5		ng/L		105	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	33.5		ng/L		92	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.4		ng/L		104	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	36.8		ng/L		99	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	38.4		ng/L		100	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	37.4		ng/L		97	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	44.1		ng/L		110	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	47.1		ng/L		118	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	45.7		ng/L		114	76 - 136
4:2 FTS	37.4	41.4		ng/L		111	79 - 139
6:2 FTS	37.9	40.7		ng/L		107	59 - 175
8:2 FTS	38.3	41.4		ng/L		108	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	42.6		ng/L		113	79 - 139
HFPO-DA (GenX)	40.0	42.6		ng/L		107	51 - 173
F-53B Major	37.3	37.6		ng/L		101	75 - 135

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-386345/2-A

Matrix: Water

Analysis Batch: 386795

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 386345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
F-53B Minor	37.7	38.8		ng/L		103	54 - 114
Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits				
13C4 PFBA	85		25 - 150				
13C5 PFPeA	88		25 - 150				
13C2 PFHxA	91		25 - 150				
13C4 PFHpA	99		25 - 150				
13C4 PFOA	103		25 - 150				
13C5 PFNA	109		25 - 150				
13C2 PFDA	107		25 - 150				
13C2 PFUnA	119		25 - 150				
13C2 PFDoA	113		25 - 150				
13C2 PFTeDA	120		25 - 150				
13C3 PFBS	82		25 - 150				
18O2 PFHxS	85		25 - 150				
13C4 PFOS	83		25 - 150				
13C8 FOSA	74		25 - 150				
d3-NMeFOSAA	93		25 - 150				
d5-NEtFOSAA	101		25 - 150				
M2-6:2 FTS	141		25 - 150				
M2-8:2 FTS	133		25 - 150				
M2-4:2 FTS	134		25 - 150				
13C3 HFPO-DA	91		25 - 150				

Lab Sample ID: LCSD 320-386345/3-A

Matrix: Water

Analysis Batch: 386795

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 386345

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Perfluorobutanoic acid (PFBA)	40.0	42.6		ng/L		107	76 - 136	2	30
Perfluoropentanoic acid (PFPeA)	40.0	38.1		ng/L		95	71 - 131	3	30
Perfluorohexanoic acid (PFHxA)	40.0	41.9		ng/L		105	73 - 133	1	30
Perfluoroheptanoic acid (PFHpA)	40.0	39.5		ng/L		99	72 - 132	4	30
Perfluorooctanoic acid (PFOA)	40.0	38.8		ng/L		97	70 - 130	3	30
Perfluorononanoic acid (PFNA)	40.0	39.1		ng/L		98	75 - 135	3	30
Perfluorodecanoic acid (PFDA)	40.0	40.7		ng/L		102	76 - 136	1	30
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	68 - 128	9	30
Perfluorododecanoic acid (PFDoA)	40.0	36.7		ng/L		92	71 - 131	10	30
Perfluorotridecanoic acid (PFTriA)	40.0	37.5		ng/L		94	71 - 131	17	30
Perfluorotetradecanoic acid (PFTeA)	40.0	35.4		ng/L		88	70 - 130	9	30
Perfluorobutanesulfonic acid (PFBS)	35.4	35.9		ng/L		101	67 - 127	1	30
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.3		ng/L		99	66 - 126	6	30
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.8		ng/L		90	59 - 119	2	30

Eurofins TestAmerica, Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-386345/3-A

Matrix: Water

Analysis Batch: 386795

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 386345

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.8		ng/L		104	76 - 136	1	30
Perfluorooctanesulfonic acid (PFOS)	37.1	37.9		ng/L		102	70 - 130	3	30
Perfluorononanesulfonic acid (PFNS)	38.4	38.9		ng/L		101	75 - 135	1	30
Perfluorodecanesulfonic acid (PFDS)	38.6	35.5		ng/L		92	71 - 131	5	30
Perfluorooctanesulfonamide (FOSA)	40.0	43.8		ng/L		110	73 - 133	1	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	46.4		ng/L		116	76 - 136	2	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	46.2		ng/L		116	76 - 136	1	30
4:2 FTS	37.4	40.6		ng/L		109	79 - 139	2	30
6:2 FTS	37.9	40.9		ng/L		108	59 - 175	0	30
8:2 FTS	38.3	39.8		ng/L		104	75 - 135	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	42.4		ng/L		113	79 - 139	1	30
HFPO-DA (GenX)	40.0	41.5		ng/L		104	51 - 173	3	30
F-53B Major	37.3	38.2		ng/L		102	75 - 135	2	30
F-53B Minor	37.7	37.8		ng/L		100	54 - 114	2	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C4 PFBA	87		25 - 150
13C5 PFPeA	93		25 - 150
13C2 PFHxA	94		25 - 150
13C4 PFHpA	105		25 - 150
13C4 PFOA	106		25 - 150
13C5 PFNA	116		25 - 150
13C2 PFDA	114		25 - 150
13C2 PFUnA	113		25 - 150
13C2 PFDoA	133		25 - 150
13C2 PFTeDA	130		25 - 150
13C3 PFBS	88		25 - 150
18O2 PFHxS	88		25 - 150
13C4 PFOS	87		25 - 150
13C8 FOSA	78		25 - 150
d3-NMeFOSAA	95		25 - 150
d5-NEtFOSAA	103		25 - 150
M2-6:2 FTS	141		25 - 150
M2-8:2 FTS	135		25 - 150
M2-4:2 FTS	142		25 - 150
13C3 HFPO-DA	94		25 - 150

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Client Sample ID: WT-012607-061120-CM-001

Lab Sample ID: 240-131780-1

Date Collected: 06/11/20 16:30

Matrix: Water

Date Received: 06/12/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			386345	06/15/20 04:53	LB	TAL SAC
Total/NA	Analysis	537 (modified)		1	386795	06/16/20 12:26	S1M	TAL SAC

Client Sample ID: W-012607-061120-CM-002

Lab Sample ID: 240-131780-2

Date Collected: 06/11/20 16:40

Matrix: Water

Date Received: 06/12/20 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			386345	06/15/20 04:53	LB	TAL SAC
Total/NA	Analysis	537 (modified)		1	386795	06/16/20 12:35	S1M	TAL SAC

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-20
Georgia	State	4062	02-23-21
Illinois	NELAP	004498	07-31-20
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21
Kentucky (WW)	State	KY98016	12-31-20
Minnesota	NELAP	OH00048	12-31-20
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-20
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	06-05-21
Oregon	NELAP	4062	02-24-21
Pennsylvania	NELAP	68-00340	08-31-20
Texas	NELAP	T104704517-18-10	08-31-20
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-20
Washington	State	C971	01-12-21
West Virginia DEP	State	210	12-31-20

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Alaska (UST)	State	17-020	01-20-21
ANAB	Dept. of Defense ELAP	L2468	01-20-21
ANAB	Dept. of Energy	L2468.01	01-20-21
ANAB	ISO/IEC 17025	L2468	01-20-21
Arizona	State	AZ0708	08-11-20
Arkansas DEQ	State	19-042-0	06-17-20
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-20
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	07-01-21
Georgia	State	4040	01-30-21
Hawaii	State	<cert No.>	01-29-21
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	10-31-20
Louisiana	NELAP	01944	06-30-20
Maine	State	2018009	04-14-22
Michigan	State	9947	01-31-22
Nevada	State	CA000442020-1	07-31-20
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Oregon	NELAP	4040	01-29-21
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21

Eurofins TestAmerica, Canton

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Laboratory: Eurofins TestAmerica, Sacramento (Continued)

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

Authority	Program	Identification Number	Expiration Date
US Fish & Wildlife	US Federal Programs	58448	07-31-20
USDA	US Federal Programs	P330-18-00239	07-31-21
Utah	NELAP	CA000442019-01	02-28-21
Vermont	State	VT-4040	04-16-21
Virginia	NELAP	460278	03-14-21
Washington	State	C581	05-05-20 *
West Virginia (DW)	State	9930C	12-31-20
Wyoming	State Program	8TMS-L	01-28-19 *

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

Eurofins TestAmerica, Canton

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210 (0713)

Company Name: GHD Services Address: 26850 Haverhill Rd City/State/Zip: Farmington Hills, MI 48331 Phone: 248-893-3400 Fax: Project Name: RACER ECHES RD Site: PO # 12607A-137420-01		Client Contact Project Manager: Memcke Tel/Fax:		Site Contact: R. Mickle Date: 6-11-2020 Carrier:		COC No.: _____ of _____ COCs Sampler: _____ For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No.: _____			
Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below _____ ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day				Filtered Sample (Y/N) Perform MS/MSD (Y/N)				Sample Specific Notes:	
Sample Identification	Sample Date	Sample Time	Sample Type (G=Comp, G=Grab)	Matrix	# of Cont.				
WT-012607-061120-CM-001	6-11-20	16:30	G	W	8	X X X X X X X X			
WN-012607-061120-CM-002	6-11-20	16:40	G	W	2	X			
 240-131780 Chain of Custody									
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other _____									
Possible Hazard Identification: Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.									
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown									
Special Instructions/QC Requirements & Comments:									
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.: _____		Cooler Temp. (°C): Obs'd: _____		Therm ID No.: _____			
Relinquished by: 		Company: GHD		Received by: J. A. C.		Company: ETA			
Relinquished by:		Company:		Received by:		Company:			
Relinquished by:		Company:		Received by:		Company:			

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 131780

Client GND

Site Name _____

Cooler unpacked by: _____

Cooler Received on 6-12-20

Opened on 6-12-20 9:00

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

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

Storage Location _____

TestAmerica Cooler # TA Foam Box Client Cooler Box Other _____

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

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN# IR-10 (CF +0.7 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN #IR-11 (CF +0.9 °C) Observed Cooler Temp. 5.3 °C Corrected Cooler Temp. 4.2 °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
 -Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
 If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC902937
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? _____ Yes No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

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

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

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

19. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
 Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u>		<u>Preservative</u>	
			pH	Temp	Added (mls)	Lot #
WT-012607-061120-CM-001	240-131780-D-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____
WT-012607-061120-CM-001	240-131780-G-1	Amber Glass 1 liter - Nitric Acid	_____	_____	_____	_____
WT-012607-061120-CM-001	240-131780-H-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____	_____

[illegible]

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-131780-2

Login Number: 131780

List Number: 2

Creator: Guzman, Juan

List Source: Eurofins TestAmerica, Sacramento

List Creation: 06/13/20 04:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.2
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: 12607, RACER Eckles Rd

Job ID: 240-131780-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water

Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
240-131780-1	WT-012607-061120-CM-001	73	79	87	95	98	103	100	103
240-131780-2	W-012607-061120-CM-002	61	66	85	106	100	121	123	135
LCS 320-386345/2-A	Lab Control Sample	85	88	91	99	103	109	107	119
LCSD 320-386345/3-A	Lab Control Sample Dup	87	93	94	105	106	116	114	113
MB 320-386345/1-A	Method Blank	81	86	88	97	99	102	103	106

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	PFDaA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
240-131780-1	WT-012607-061120-CM-001	111	111	79	83	83	77	76	87
240-131780-2	W-012607-061120-CM-002	130	140	88	105	102	92	102	116
LCS 320-386345/2-A	Lab Control Sample	113	120	82	85	83	74	93	101
LCSD 320-386345/3-A	Lab Control Sample Dup	133	130	88	88	87	78	95	103
MB 320-386345/1-A	Method Blank	112	112	81	83	80	72	88	97

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)
240-131780-1	WT-012607-061120-CM-001	132	126	122	84
240-131780-2	W-012607-061120-CM-002	217 *5	249 *5	165 *5	96
LCS 320-386345/2-A	Lab Control Sample	141	133	134	91
LCSD 320-386345/3-A	Lab Control Sample Dup	141	135	142	94
MB 320-386345/1-A	Method Blank	141	135	138	87

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDaA = 13C2 PFDaA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
M242FTS = M2-4:2 FTS
HFPODA = 13C3 HFPO-DA



240-131780 Field Sheet

Tracking #: 1103 6129 4850

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other

Job: _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: <u>IR151m</u>	Corr. Factor: (+/-) <u>0</u> °C
Ice ☒	Wet ☒ Gel _____ Other _____
Cooler Custody Seal: _____	
Cooler ID: _____	
Temp Observed: <u>0.2</u> °C Corrected: <u>0.2</u> °C	
From: Temp Blank ☒ Sample ☐	

Opening/Processing The Shipment	<u>Yes</u>	<u>No</u>	<u>NA</u>
Cooler compromised/tampered with?	☐	☒	☐
Cooler Temperature is acceptable?	☒	☐	☐

Initials: SO Date: 6/15/20

Unpacking/Labeling The Samples	<u>Yes</u>	<u>No</u>	<u>NA</u>
CoC is complete w/o discrepancies?	☒	☐	☐
Samples compromised/tampered with?	☐	☒	☐
Sample containers have legible labels?	☒	☐	☐
Sample custody seal?	☐	☒	☐
Containers are not broken or leaking?	☒	☐	☐
Sample date/times are provided?	☒	☐	☐
Appropriate containers are used?	☒	☐	☐
Sample bottles are completely filled?	☒	☐	☐
Sample preservatives verified?	☐	☐	☒
Samples w/o discrepancies?	☒	☐	☐
Zero headspace?*	☐	☐	☒
Alkalinity has no headspace?	☐	☐	☒
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☒
Multiphasic samples are not present?	☒	☐	☐

*Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: JK Date: 6/13/20