March 15, 2021 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
(September 2020 through February 2021)
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 September 2020 through February 2021 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. Note that redevelopment plans for the property continue to move forward.

Section D: Reporting Requirements

- Reporting Period: September 1, 2020 to February 28, 2021.
- Dates of Sampling: September 28, 2020; February 17, 2021 and February 28, 2021. The February 17, 2021 sample collected for PFAS analysis was delayed during shipping due to weather. A second sample for PFAS analysis was collected on February 28, 2021. Laboratory analytical reports are attached.

- The groundwater treatment plant had a scheduled shut down September 23, 2020 through February 1, 2021.
- All effluent samples were collected from the effluent bag filter sampling port downstream of the GAC vessel.
- All influent samples were collected form the influent bag filter sampling port upstream of the GAC vessel and influent bag filter.
- Total Monthly Discharges (gallons):
  - September 2020: 424,882
  - October 2020: 0
  - November 2020: 0
  - December 2020: 0
  - January 2021: 0
  - February 2021: 644,419
- Total Discharge during Reporting Period: 1,069,301 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

Christopher J. Meincke, P.E.

CJM/ds/26

Encl.

cc: Dave Favero, RACER

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantity of Groundwater Discharged/Day (GAL) (1)	Notes
09/01/20	None	None			System Startup
09/02/20	None	None		2,341	Discharge Volume - 9/1-9/2
09/03/20	None	None			
09/04/20	None	None			
09/05/20	None	None			
09/06/20	None	None		59,429	Discharge Volume - 9/2-9/6
09/07/20	None	None			
09/08/20	None	None	WT-012607-090820-CM-001 - Effluent W-012607-090820-CM-002 - Influent	49,382	Discharge Volume - 9/6-9/8 September Discharge Sample
09/09/20	None	None			
09/10/20	None	None		32,961	Discharge Volume - 9/8-9/10
09/11/20	None	None			
09/12/20	None	None			
09/13/20	None	None		75,831	Discharge Volume - 9/10-9/13
09/14/20	None	None			
09/15/20	None	None			
09/16/20	None	None		62,663	Discharge Volume - 9/13-9/16
09/17/20	None	None			
09/18/20	None	None			
09/19/20	None	None			
09/20/20	None	None		114,611	Discharge Volume - 9/16-9/20
09/21/20	None	None			
09/22/20	None	None		27,663	Discharge Volume - 9/20-9/22 System Shutdown
09/23/20	None	None			
09/24/20	None	None			
09/25/20	None	None			
09/26/20	None	None			
09/27/20	None	None			
09/28/20	None	None			
09/29/20	None	None			
09/30/20	None	None			
			Total Monthly Discharge (gal)	424,882	

(1) - Discharge Quantity is total from previous reading

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
10/01/20	None	None			No Discharge During Month Of October
10/02/20	None	None			
10/03/20	None	None			
10/04/20	None	None			
10/05/20	None	None			
10/06/20	None	None			
10/07/20	None	None			
10/08/20	None	None			
10/09/20	None	None			
10/10/20	None	None			
10/11/20	None	None			
10/12/20	None	None			
10/13/20	None	None			
10/14/20	None	None			
10/15/20	None	None			
10/16/20	None	None			
10/17/20	None	None			
10/18/20	None	None			
10/19/20	None	None			
10/20/20	None	None			
10/21/20	None	None			
10/22/20	None	None			
10/23/20	None	None			
10/24/20	None	None			
10/25/20	None	None			
10/26/20	None	None			
10/27/20	None	None			
10/28/20	None	None			
10/29/20	None	None			
10/30/20	None	None			
10/31/20	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 - November 2020

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
11/01/20	None	None			No Discharge During Month Of November
11/02/20	None	None			
11/03/20	None	None			
11/04/20	None	None			
11/05/20	None	None			
11/06/20	None	None			
11/07/20	None	None			
11/08/20	None	None			
11/09/20	None	None			
11/10/20	None	None			
11/11/20	None	None			
11/12/20	None	None			
11/13/20	None	None			
11/14/20	None	None			
11/15/20	None	None			
11/16/20	None	None			
11/17/20	None	None			
11/18/20	None	None			
11/19/20	None	None			
11/20/20	None	None			
11/21/20	None	None			
11/22/20	None	None			
11/23/20	None	None			
11/24/20	None	None			
11/25/20	None	None			
11/26/20	None	None			
11/27/20	None	None			
11/28/20	None	None			
11/29/20	None	None			
11/30/20	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 - December 2020

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
12/01/20	None	None			No Discharge During Month Of December
12/02/20	None	None			
12/03/20	None	None			
12/04/20	None	None			
12/05/20	None	None			
12/06/20	None	None			
12/07/20	None	None			
12/08/20	None	None			
12/09/20	None	None			
12/10/20	None	None			
12/11/20	None	None			
12/12/20	None	None			
12/13/20	None	None			
12/14/20	None	None			
12/15/20	None	None			
12/16/20	None	None			
12/17/20	None	None			
12/18/20	None	None			
12/19/20	None	None			
12/20/20	None	None			
12/21/20	None	None			
12/22/20	None	None			
12/23/20	None	None			
12/24/20	None	None			
12/25/20	None	None			
12/26/20	None	None			
12/27/20	None	None			
12/28/20	None	None			
12/29/20	None	None			
12/30/20	None	None			
12/31/20	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 - January 2021

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantites of Groundwater Discharged / Day - GAL	Notes
01/01/21	None	None			No Discharge During Month Of January
01/02/21	None	None			
01/03/21	None	None			
01/04/21	None	None			
01/05/21	None	None			
01/06/21	None	None			
01/07/21	None	None			
01/08/21	None	None			
01/09/21	None	None			
01/10/21	None	None			
01/11/21	None	None			
01/12/21	None	None			
01/13/21	None	None			
01/14/21	None	None			
01/15/21	None	None			
01/16/21	None	None			
01/17/21	None	None			
01/18/21	None	None			
01/19/21	None	None			
01/20/21	None	None			
01/21/21	None	None			
01/22/21	None	None			
01/23/21	None	None			
01/24/21	None	None			
01/25/21	None	None			
01/26/21	None	None			
01/27/21	None	None			
01/28/21	None	None			
01/29/21	None	None			
01/30/21	None	None			
01/31/21	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 - February 2021

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantity of Groundwater Discharged/Day (GAL) (1)	Notes
02/01/21	None	None			
02/02/21	None	None			System Startup
02/03/21	None	None			
02/04/21	None	None			
02/05/21	None	None			
02/06/21	None	None		55,711	Discharge Volume - 2/1-2/6
02/07/21	None	None			
02/08/21	None	None			
02/09/21	None	None			
02/10/21	None	None			
02/11/21	None	None			
02/12/21	None	None		164,284	Discharge Volume - 2/6-2/12
02/13/21	None	None			
02/14/21	None	None			
02/15/21	None	None			
02/16/21	None	None			
02/17/21	None	None	WT-012607-021721-CM-001 - Effluent Field pH - 7	160,802	Discharge Volume - 2/12-2/17 February Discharge Sample - GLWA Parameters
02/18/21	None	None			
02/19/21	None	None			
02/20/21	None	None			
02/21/21	None	None			
02/22/21	None	None			
02/23/21	None	None			
02/24/21	None	None		133,904	Discharge Volume - 2/17-2/24
02/25/21	None	None			
02/26/21	None	None			
02/27/21	None	None			
02/28/21	None	None	WT-012607-022821-CM-001 - Effluent W-012607-022821-CM-002 - Influent	129,718	Discharge Volume - 2/24-2/28 February Discharge Sample - PFAS
			Total Monthly Discharge (gal)	644,419	

(1) - Discharge Quantity is total from previous reading

Attachment 1 – September 8, 2020 Samples
WT-012607-090820-CM-001 (effluent)
W-012607-090820-CM-002 (influent)
FB-012607-090820-CM-003 (Field Blank)
Laboratory Analytical Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 240-136219-1
Client Project/Site: 12607, RACER Eckles Rd

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

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
9/22/2020 4:31:52 PM

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

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

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

Table of Contents

Case Narrative

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

Job ID: 240-136219-1

Job ID: 240-136219-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-136219-1

Comments
No additional comments.

Receipt
The samples were received on 9/9/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8º C.

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

Metals
Method 200.7 Rev 4.4: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-090820-CM-001 (240-136219-1). 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
Method SM 3500 CR B: The following sample was diluted due to the nature of the sample matrix: WT-012607-090820-CM-001 (240-136219-1). Elevated reporting limits (RLs) are provided.

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

Organic Prep
Methods 3510C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-451340.

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: 240-136219-1

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.
¤	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: 240-136219-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-136219-1	WT-012607-090820-CM-001	Water	09/08/20 15:55	09/09/20 10:00	

Detection Summary

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

Job ID: 240-136219-1

Client Sample ID: WT-012607-090820-CM-001 — Lab Sample ID: 240-136219-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chromium	0.25		0.050		mg/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	0.83		0.010		mg/L	1		200.7 Rev 4.4	Total Recoverable

This Detection Summary does not include radiochemical test results.

Method Summary

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

Job ID: 240-136219-1

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 CAN
3500-Cr B-2011	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL CAN

Protocol References:

1664A = EPA-821-98-002

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

EPA = US Environmental Protection Agency

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

Laboratory References:

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

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

Job ID: 240-136219-1

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

Client Sample ID: WT-012607-090820-CM-001
Date Collected: 09/08/20 15:55
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1
Aroclor-1221	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1
Aroclor-1232	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1
Aroclor-1242	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1
Aroclor-1248	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1
Aroclor-1254	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1
Aroclor-1260	0.097	U	0.097		ug/L		09/15/20 09:29	09/16/20 10:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*88*		*10 - 114*	*09/15/20 09:29*	*09/16/20 10:20*	*1*
Tetrachloro-m-xylene	*83*		*15 - 131*	*09/15/20 09:29*	*09/16/20 10:20*	*1*

Client Sample Results

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

Job ID: 240-136219-1

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

Client Sample ID: WT-012607-090820-CM-001
Date Collected: 09/08/20 15:55
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**0.25**		0.050		mg/L		09/09/20 14:00	09/10/20 19:47	1
Nickel	**0.83**		0.010		mg/L		09/09/20 14:00	09/10/20 19:47	1
Lead	0.050	U	0.050		mg/L		09/09/20 14:00	09/10/20 19:47	1
Zinc	0.020	U	0.020		mg/L		09/09/20 14:00	09/10/20 19:47	1

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

Job ID: 240-136219-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-090820-CM-001
Date Collected: 09/08/20 15:55
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020		mg/L		09/09/20 12:00	09/10/20 13:28	1

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

Job ID: 240-136219-1

General Chemistry

Client Sample ID: WT-012607-090820-CM-001
Date Collected: 09/08/20 15:55
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8		mg/L			09/22/20 10:11	1
Chromium, hexavalent	0.050	U	0.050		mg/L			09/09/20 11:03	5
Total Suspended Solids	4.0	U	4.0		mg/L			09/11/20 08:53	1

QC Association Summary

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

Job ID: 240-136219-1

GC Semi VOA

Prep Batch: 451340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	608	
MB 240-451340/21-A	Method Blank	Total/NA	Water	608	
LCS 240-451340/22-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 451475

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	608.3	451340
MB 240-451340/21-A	Method Blank	Total/NA	Water	608.3	451340
LCS 240-451340/22-A	Lab Control Sample	Total/NA	Water	608.3	451340

Metals

Prep Batch: 450556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total Recoverable	Water	200.7	
MB 240-450556/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-450556/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 450561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	245.1	
MB 240-450561/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-450561/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 450751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	245.1	450561
MB 240-450561/1-A	Method Blank	Total/NA	Water	245.1	450561
LCS 240-450561/2-A	Lab Control Sample	Total/NA	Water	245.1	450561

Analysis Batch: 450905

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total Recoverable	Water	200.7 Rev 4.4	450556
MB 240-450556/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	450556
LCS 240-450556/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	450556

General Chemistry

Analysis Batch: 450579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	3500-Cr B-2011	
MB 240-450579/3	Method Blank	Total/NA	Water	3500-Cr B-2011	
LCS 240-450579/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2011	
240-136219-1 MS	WT-012607-090820-CM-001	Total/NA	Water	3500-Cr B-2011	
240-136219-1 MSD	WT-012607-090820-CM-001	Total/NA	Water	3500-Cr B-2011	

Analysis Batch: 450934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	SM 2540D	
MB 240-450934/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-450934/2	Lab Control Sample	Total/NA	Water	SM 2540D	

QC Association Summary

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

Job ID: 240-136219-1

General Chemistry

Analysis Batch: 452400

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	1664A	
MB 240-452400/1	Method Blank	Total/NA	Water	1664A	
LCS 240-452400/2	Lab Control Sample	Total/NA	Water	1664A	

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

Lab Sample ID: MB 240-451340/21-A
Matrix: Water
Analysis Batch: 451475

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 451340

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1
Aroclor-1221	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1
Aroclor-1232	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1
Aroclor-1242	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1
Aroclor-1248	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1
Aroclor-1254	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1
Aroclor-1260	0.10	U	0.10		ug/L		09/15/20 09:29	09/16/20 09:33	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*95*		*10 - 114*	*09/15/20 09:29*	*09/16/20 09:33*	*1*
Tetrachloro-m-xylene	*86*		*15 - 131*	*09/15/20 09:29*	*09/16/20 09:33*	*1*

Lab Sample ID: LCS 240-451340/22-A
Matrix: Water
Analysis Batch: 451475

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 451340

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			2.50	1.92		ug/L		77	50 - 140		
Aroclor-1260			2.50	1.84		ug/L		73	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*84*		*10 - 114*
Tetrachloro-m-xylene	*76*		*15 - 131*

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-450556/1-A
Matrix: Water
Analysis Batch: 450905

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 450556

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050		mg/L		09/09/20 14:00	09/10/20 17:40	1
Nickel	0.010	U	0.010		mg/L		09/09/20 14:00	09/10/20 17:40	1
Lead	0.050	U	0.050		mg/L		09/09/20 14:00	09/10/20 17:40	1
Zinc	0.020	U	0.020		mg/L		09/09/20 14:00	09/10/20 17:40	1

Lab Sample ID: LCS 240-450556/2-A
Matrix: Water
Analysis Batch: 450905

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 450556

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			1.00	0.990		mg/L		99	85 - 115		
Nickel			1.00	1.02		mg/L		102	85 - 115		
Lead			1.00	0.968		mg/L		97	85 - 115		
Zinc			1.00	1.08		mg/L		108	85 - 115		

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-450561/1-A
Matrix: Water
Analysis Batch: 450751

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 450561

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020		mg/L		09/09/20 12:00	09/10/20 13:09	1

Lab Sample ID: LCS 240-450561/2-A
Matrix: Water
Analysis Batch: 450751

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 450561

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.00500	0.00515		mg/L		103	85 - 115		

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-452400/1
Matrix: Water
Analysis Batch: 452400

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

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0		mg/L			09/22/20 10:11	1

Lab Sample ID: LCS 240-452400/2
Matrix: Water
Analysis Batch: 452400

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

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
HEM			40.0	39.20		mg/L		98	78 - 114		

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

Lab Sample ID: MB 240-450579/3
Matrix: Water
Analysis Batch: 450579

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			09/09/20 11:01	1

Lab Sample ID: LCS 240-450579/4
Matrix: Water
Analysis Batch: 450579

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	0.251		mg/L		100	80 - 123		

Lab Sample ID: 240-136219-1 MS
Matrix: Water
Analysis Batch: 450579

Client Sample ID: WT-012607-090820-CM-001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium, hexavalent	0.050	U	1.25	1.50		mg/L		120	31 - 151		

Method: 3500-Cr B-2011 - Chromium, Hexavalent (Continued)

Lab Sample ID: 240-136219-1 MSD
Matrix: Water
Analysis Batch: 450579

Client Sample ID: WT-012607-090820-CM-001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium, hexavalent	0.050	U	1.25	1.59		mg/L		127	31 - 151	6	20

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

Lab Sample ID: MB 240-450934/1
Matrix: Water
Analysis Batch: 450934

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			09/11/20 08:53	1

Lab Sample ID: LCS 240-450934/2
Matrix: Water
Analysis Batch: 450934

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			78.7	79.0		mg/L		100	64 - 120		

Surrogate Summary

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

Job ID: 240-136219-1

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)								
240-136219-1	WT-012607-090820-CM-001	88	83								
LCS 240-451340/22-A	Lab Control Sample	84	76								
MB 240-451340/21-A	Method Blank	95	86								

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Job ID: 240-136219-1
Project/Site: 12607, RACER Eckles Rd

Client Sample ID: WT-012607-090820-CM-001
Lab Sample ID: 240-136219-1

Date Collected: 09/08/20 15:55
Matrix: Water
Date Received: 09/09/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			451340	09/15/20 09:29	MDH	TAL CAN
Total/NA	Analysis	608.3		1	451475	09/16/20 10:20	LSH	TAL CAN
Total Recoverable	Prep	200.7			450556	09/09/20 14:00	MRL	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	450905	09/10/20 19:47	WKD	TAL CAN
Total/NA	Prep	245.1			450561	09/09/20 12:00	MRL	TAL CAN
Total/NA	Analysis	245.1		1	450751	09/10/20 13:28	SLD	TAL CAN
Total/NA	Analysis	1664A		1	452400	09/22/20 10:11	JMR	TAL CAN
Total/NA	Analysis	3500-Cr B-2011		5	450579	09/09/20 11:03	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	450934	09/11/20 08:53	AJ	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 240-136219-1
Project/Site: 12607, RACER Eckles Rd

Laboratory: Eurofins TestAmerica, Canton

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

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

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

MICHIGAN
190

0.9/1.8

Chain of Custody Record 460415

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Address: _____

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

TAL-8210

Client Contact	Project Manager: Meincke	Site Contact: R. Mickle	Date: 9-8-2020	COC No:
Company Name: GHD Services	Tel/Email:	Lab Contact: D. Heckler	Carrier: FedEx	_____ of _____ 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 Eckles Rd	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
PO# 12607A-T3701-01	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFAS	Discharge Metals	Cr VI	O,I&G Grease	TSS	PP PCBs	Sample Specific Notes:
WT-012607-090820-CM-001	9-8-20	15:55	G	W				X	X	X	X	X	X	
W-012607-090820-CM-002	9-8-20	15:50	G	W	2			X						
FB-012607-090820-CM-003	9-8-20	15:45	G	W	2			X						

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GHD	9-8-20/16:15	[signature]	EIA	9-9-20 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 136219

Client GHD Site Name

Cooler Received on 9-9-20 Opened on 9-9-20

Cooler unpacked by: MaKemper

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

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

TestAmerica Cooler # 1 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. 0.9 °C Corrected Cooler Temp. 1.8 °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 (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? Yes (No)
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? (Yes) No NA pH Strip Lot# **HC907861**
14. Were VOAs on the COC? Yes (No)
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)
17. Was a LL Hg or Me Hg trip blank present? Yes (No)

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

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

Sample(s) were received in a broken container.

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

20. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

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

VOA Sample Preservation - Date/Time VOAs Frozen:

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
WT-012607-090820-CM-001	240-136219-E-1	Plastic 500ml - with Nitric Acid	<2			
WT-012607-090820-CM-001	240-136219-H-1	Amber Glass 1 liter - Sulfuric Acid				
WT-012607-090820-CM-001	240-136219-I-1	Amber Glass 1 liter - Sulfuric Acid				

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ANALYTICAL REPORT

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

Laboratory Job ID: 240-136219-2
Client Project/Site: 12607, RACER Eckles Rd

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

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
9/20/2020 12:04:48 PM

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

LINKS

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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.

Table of Contents

Case Narrative

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

Job ID: 240-136219-2

Job ID: 240-136219-2

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-136219-2

Comments
No additional comments.

Receipt
The samples were received on 9/9/2020 10:00 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8º C.

LCMS
Method 537 (modified): The “I” qualifier means the transition mass ratio for the indicated analytes were outside of the established ratio limits. The qualitative identification of the analytes have some degree of uncertainty. However, analyst judgement was used to positively identify the analytes.

Method 537 (modified): The method blank for preparation batch 320-411225 contained 6:2 FTS 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 RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 320-411225 and analytical batch 320-411381 recovered outside control limits for the following analytes: Perfluorododecanoic acid (PFDoA). The percent recovery of the LCS and LCSD was within control limits.

Method 537 (modified): The following sample exhibited matrix interferences for Perfluorooctanesulfonic acid (PFOS) causing elevation of the Reporting Limit (RL): WT-012607-090820-CM-001 (240-136219-1) . The RL for the affected analyte has been raised to be equal to the matrix interference, and a "G" qualifier applied.

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 320-411225.

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: 240-136219-2

Qualifiers

LCMS

Qualifier	Qualifier Description
*1	LCS/LCSD RPD exceeds control limits.
G	The reported quantitation limit has been raised due to an exhibited elevated noise or matrix interference
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
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: 240-136219-2

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-136219-1	WT-012607-090820-CM-001	Water	09/08/20 15:55	09/09/20 10:00	
240-136219-2	W-012607-090820-CM-002	Water	09/08/20 15:50	09/09/20 10:00	
240-136219-3	FB-012607-090820-CM-003	Water	09/08/20 15:45	09/09/20 10:00	

Detection Summary

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

Job ID: 240-136219-2

Client Sample ID: WT-012607-090820-CM-001 — Lab Sample ID: 240-136219-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	3.2	J	4.7	2.3	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.70	J	1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.24	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.91	J	1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.22	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA

Client Sample ID: W-012607-090820-CM-002 — Lab Sample ID: 240-136219-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	12		4.7	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.1		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.9		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.1	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.3		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.42	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.90	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.98	J I	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.7	I	1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	I	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	120	I	1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB-012607-090820-CM-003 — Lab Sample ID: 240-136219-3

No Detections.

This Detection Summary does not include radiochemical test results.

Method Summary

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

Job ID: 240-136219-2

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

Job ID: 240-136219-2

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: WT-012607-090820-CM-001
Date Collected: 09/08/20 15:55
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-1
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**3.2**	**J**	4.7	2.3	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluoropentanoic acid (PFPeA)	**0.70**	**J**	1.9	0.46	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorohexanoic acid (PFHxA)	1.9	U	1.9	0.55	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluoroheptanoic acid (PFHpA)	**0.24**	**J**	1.9	0.24	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorooctanoic acid (PFOA)	**0.91**	**J**	1.9	0.80	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorononanoic acid (PFNA)	1.9	U	1.9	0.26	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorodecanoic acid (PFDA)	1.9	U	1.9	0.29	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluoroundecanoic acid (PFUnA)	1.9	U	1.9	1.0	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorododecanoic acid (PFDoA)	1.9	U *1	1.9	0.52	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorotridecanoic acid (PFTriA)	1.9	U	1.9	1.2	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorotetradecanoic acid (PFTeA)	1.9	U	1.9	0.69	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorobutanesulfonic acid (PFBS)	**0.22**	**J**	1.9	0.19	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluoropentanesulfonic acid (PFPeS)	1.9	U	1.9	0.28	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorohexanesulfonic acid (PFHxS)	1.9	U	1.9	0.54	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	U	1.9	0.18	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorooctanesulfonic acid (PFOS)	9.5	U G	9.5	9.5	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorononanesulfonic acid (PFNS)	1.9	U	1.9	0.35	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorodecanesulfonic acid (PFDS)	1.9	U	1.9	0.30	ng/L		09/10/20 18:26	09/11/20 14:41	1
Perfluorooctanesulfonamide (FOSA)	1.9	U	1.9	0.93	ng/L		09/10/20 18:26	09/11/20 14:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.7	U	4.7	1.1	ng/L		09/10/20 18:26	09/11/20 14:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.7	U	4.7	1.2	ng/L		09/10/20 18:26	09/11/20 14:41	1
4:2 FTS	1.9	U	1.9	0.23	ng/L		09/10/20 18:26	09/11/20 14:41	1
6:2 FTS	4.7	U	4.7	2.4	ng/L		09/10/20 18:26	09/11/20 14:41	1
8:2 FTS	1.9	U	1.9	0.44	ng/L		09/10/20 18:26	09/11/20 14:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.9	U	1.9	0.38	ng/L		09/10/20 18:26	09/11/20 14:41	1
HFPO-DA (GenX)	3.8	U	3.8	1.4	ng/L		09/10/20 18:26	09/11/20 14:41	1
F-53B Major	1.9	U	1.9	0.23	ng/L		09/10/20 18:26	09/11/20 14:41	1
F-53B Minor	1.9	U	1.9	0.30	ng/L		09/10/20 18:26	09/11/20 14:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*72*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C5 PFPeA	*84*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C2 PFHxA	*93*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C4 PFHpA	*91*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C4 PFOA	*94*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C5 PFNA	*102*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C2 PFDA	*95*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C2 PFUnA	*103*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C2 PFDoA	*105*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C2 PFTeDA	*110*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C3 PFBS	*95*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
18O2 PFHxS	*100*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C4 PFOS	*101*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
13C8 FOSA	*87*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
d3-NMeFOSAA	*74*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*
d5-NEtFOSAA	*82*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:41*	*1*

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

Client Sample ID: WT-012607-090820-CM-001
Date Collected: 09/08/20 15:55
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-1
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	113		25 - 150	09/10/20 18:26	09/11/20 14:41	1
M2-8:2 FTS	107		25 - 150	09/10/20 18:26	09/11/20 14:41	1
M2-4:2 FTS	115		25 - 150	09/10/20 18:26	09/11/20 14:41	1
13C3 HFPO-DA	84		25 - 150	09/10/20 18:26	09/11/20 14:41	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: W-012607-090820-CM-002
Date Collected: 09/08/20 15:50
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**12**		4.7	2.2	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluoropentanoic acid (PFPeA)	**3.1**		1.9	0.46	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorohexanoic acid (PFHxA)	**1.9**		1.9	0.54	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluoroheptanoic acid (PFHpA)	**1.1**	**J**	1.9	0.23	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorooctanoic acid (PFOA)	**5.3**		1.9	0.80	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorononanoic acid (PFNA)	**0.42**	**J**	1.9	0.25	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorodecanoic acid (PFDA)	1.9	U	1.9	0.29	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluoroundecanoic acid (PFUnA)	1.9	U	1.9	1.0	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorododecanoic acid (PFDoA)	1.9	U *1	1.9	0.51	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorotridecanoic acid (PFTriA)	1.9	U	1.9	1.2	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorotetradecanoic acid (PFTeA)	1.9	U	1.9	0.68	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorobutanesulfonic acid (PFBS)	**0.90**	**J**	1.9	0.19	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluoropentanesulfonic acid (PFPeS)	**0.98**	**J I**	1.9	0.28	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorohexanesulfonic acid (PFHxS)	**6.7**	**I**	1.9	0.53	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluoroheptanesulfonic Acid (PFHpS)	**1.9**	**I**	1.9	0.18	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorooctanesulfonic acid (PFOS)	**120**	**I**	1.9	0.51	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorononanesulfonic acid (PFNS)	1.9	U	1.9	0.35	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorodecanesulfonic acid (PFDS)	1.9	U	1.9	0.30	ng/L		09/10/20 18:26	09/11/20 14:50	1
Perfluorooctanesulfonamide (FOSA)	1.9	U	1.9	0.92	ng/L		09/10/20 18:26	09/11/20 14:50	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.7	U	4.7	1.1	ng/L		09/10/20 18:26	09/11/20 14:50	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.7	U	4.7	1.2	ng/L		09/10/20 18:26	09/11/20 14:50	1
4:2 FTS	1.9	U	1.9	0.22	ng/L		09/10/20 18:26	09/11/20 14:50	1
6:2 FTS	4.7	U	4.7	2.3	ng/L		09/10/20 18:26	09/11/20 14:50	1
8:2 FTS	1.9	U	1.9	0.43	ng/L		09/10/20 18:26	09/11/20 14:50	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.9	U	1.9	0.37	ng/L		09/10/20 18:26	09/11/20 14:50	1
HFPO-DA (GenX)	3.7	U	3.7	1.4	ng/L		09/10/20 18:26	09/11/20 14:50	1
F-53B Major	1.9	U	1.9	0.22	ng/L		09/10/20 18:26	09/11/20 14:50	1
F-53B Minor	1.9	U	1.9	0.30	ng/L		09/10/20 18:26	09/11/20 14:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*46*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C5 PFPeA	*57*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C2 PFHxA	*66*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C4 PFHpA	*75*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C4 PFOA	*65*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C5 PFNA	*90*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C2 PFDA	*72*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C2 PFUnA	*86*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C2 PFDoA	*74*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C2 PFTeDA	*85*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C3 PFBS	*92*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
18O2 PFHxS	*98*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C4 PFOS	*90*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*
13C8 FOSA	*74*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:50*	*1*

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

Client Sample ID: W-012607-090820-CM-002
Date Collected: 09/08/20 15:50
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-2
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	65		25 - 150	09/10/20 18:26	09/11/20 14:50	1
d5-NEtFOSAA	69		25 - 150	09/10/20 18:26	09/11/20 14:50	1
M2-6:2 FTS	134		25 - 150	09/10/20 18:26	09/11/20 14:50	1
M2-8:2 FTS	126		25 - 150	09/10/20 18:26	09/11/20 14:50	1
M2-4:2 FTS	120		25 - 150	09/10/20 18:26	09/11/20 14:50	1
13C3 HFPO-DA	69		25 - 150	09/10/20 18:26	09/11/20 14:50	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Client Sample ID: FB-012607-090820-CM-003
Date Collected: 09/08/20 15:45
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-3
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.8	U	4.8	2.3	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluoropentanoic acid (PFPeA)	1.9	U	1.9	0.47	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorohexanoic acid (PFHxA)	1.9	U	1.9	0.56	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluoroheptanoic acid (PFHpA)	1.9	U	1.9	0.24	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorooctanoic acid (PFOA)	1.9	U	1.9	0.82	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorononanoic acid (PFNA)	1.9	U	1.9	0.26	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorodecanoic acid (PFDA)	1.9	U	1.9	0.30	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluoroundecanoic acid (PFUnA)	1.9	U	1.9	1.1	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorododecanoic acid (PFDoA)	1.9	U *1	1.9	0.53	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorotridecanoic acid (PFTriA)	1.9	U	1.9	1.3	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorotetradecanoic acid (PFTeA)	1.9	U	1.9	0.71	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorobutanesulfonic acid (PFBS)	1.9	U	1.9	0.19	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluoropentanesulfonic acid (PFPeS)	1.9	U	1.9	0.29	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorohexanesulfonic acid (PFHxS)	1.9	U	1.9	0.55	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	U	1.9	0.18	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorooctanesulfonic acid (PFOS)	1.9	U	1.9	0.52	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorononanesulfonic acid (PFNS)	1.9	U	1.9	0.36	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorodecanesulfonic acid (PFDS)	1.9	U	1.9	0.31	ng/L		09/10/20 18:26	09/11/20 14:59	1
Perfluorooctanesulfonamide (FOSA)	1.9	U	1.9	0.95	ng/L		09/10/20 18:26	09/11/20 14:59	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.8	U	4.8	1.2	ng/L		09/10/20 18:26	09/11/20 14:59	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.8	U	4.8	1.3	ng/L		09/10/20 18:26	09/11/20 14:59	1
4:2 FTS	1.9	U	1.9	0.23	ng/L		09/10/20 18:26	09/11/20 14:59	1
6:2 FTS	4.8	U	4.8	2.4	ng/L		09/10/20 18:26	09/11/20 14:59	1
8:2 FTS	1.9	U	1.9	0.44	ng/L		09/10/20 18:26	09/11/20 14:59	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.9	U	1.9	0.39	ng/L		09/10/20 18:26	09/11/20 14:59	1
HFPO-DA (GenX)	3.9	U	3.9	1.4	ng/L		09/10/20 18:26	09/11/20 14:59	1
F-53B Major	1.9	U	1.9	0.23	ng/L		09/10/20 18:26	09/11/20 14:59	1
F-53B Minor	1.9	U	1.9	0.31	ng/L		09/10/20 18:26	09/11/20 14:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*76*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C5 PFPeA	*81*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C2 PFHxA	*87*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C4 PFHpA	*86*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C4 PFOA	*88*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C5 PFNA	*92*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C2 PFDA	*97*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C2 PFUnA	*105*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C2 PFDoA	*95*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C2 PFTeDA	*90*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C3 PFBS	*94*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
18O2 PFHxS	*96*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C4 PFOS	*96*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
13C8 FOSA	*80*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
d3-NMeFOSAA	*73*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*
d5-NEtFOSAA	*78*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:59*	*1*

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

Client Sample ID: FB-012607-090820-CM-003
Date Collected: 09/08/20 15:45
Date Received: 09/09/20 10:00

Lab Sample ID: 240-136219-3
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	93		25 - 150	09/10/20 18:26	09/11/20 14:59	1
M2-8:2 FTS	91		25 - 150	09/10/20 18:26	09/11/20 14:59	1
M2-4:2 FTS	87		25 - 150	09/10/20 18:26	09/11/20 14:59	1
13C3 HFPO-DA	78		25 - 150	09/10/20 18:26	09/11/20 14:59	1

LCMS

Prep Batch: 411225

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	3535	
240-136219-2	W-012607-090820-CM-002	Total/NA	Water	3535	
240-136219-3	FB-012607-090820-CM-003	Total/NA	Water	3535	
MB 320-411225/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-411225/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-411225/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 411381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-136219-1	WT-012607-090820-CM-001	Total/NA	Water	537 (modified)	411225
240-136219-2	W-012607-090820-CM-002	Total/NA	Water	537 (modified)	411225
240-136219-3	FB-012607-090820-CM-003	Total/NA	Water	537 (modified)	411225
MB 320-411225/1-A	Method Blank	Total/NA	Water	537 (modified)	411225
LCS 320-411225/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	411225

Analysis Batch: 411698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 320-411225/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	411225

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-411225/1-A
Matrix: Water
Analysis Batch: 411381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411225

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	5.0	U	5.0	2.4	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.49	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.58	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.85	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.55	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorotridecanoic acid (PFTriA)	2.0	U	2.0	1.3	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.73	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluoropentanesulfonic acid (PFPeS)	2.0	U	2.0	0.30	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorohexanesulfonic acid (PFHxS)	2.0	U	2.0	0.57	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.54	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorononanesulfonic acid (PFNS)	2.0	U	2.0	0.37	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		09/10/20 18:26	09/11/20 14:13	1
Perfluorooctanesulfonamide (FOSA)	2.0	U	2.0	0.98	ng/L		09/10/20 18:26	09/11/20 14:13	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	5.0	U	5.0	1.2	ng/L		09/10/20 18:26	09/11/20 14:13	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	5.0	U	5.0	1.3	ng/L		09/10/20 18:26	09/11/20 14:13	1
4:2 FTS	2.0	U	2.0	0.24	ng/L		09/10/20 18:26	09/11/20 14:13	1
6:2 FTS	7.63		5.0	2.5	ng/L		09/10/20 18:26	09/11/20 14:13	1
8:2 FTS	2.0	U	2.0	0.46	ng/L		09/10/20 18:26	09/11/20 14:13	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	U	2.0	0.40	ng/L		09/10/20 18:26	09/11/20 14:13	1
HFPO-DA (GenX)	4.0	U	4.0	1.5	ng/L		09/10/20 18:26	09/11/20 14:13	1
F-53B Major	2.0	U	2.0	0.24	ng/L		09/10/20 18:26	09/11/20 14:13	1
F-53B Minor	2.0	U	2.0	0.32	ng/L		09/10/20 18:26	09/11/20 14:13	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C5 PFPeA	*68*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C2 PFHxA	*73*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C4 PFHpA	*71*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C4 PFOA	*71*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C5 PFNA	*76*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C2 PFDA	*80*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C2 PFUnA	*74*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C2 PFDoA	*88*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C2 PFTeDA	*80*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C3 PFBS	*77*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
18O2 PFHxS	*78*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C4 PFOS	*75*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
13C8 FOSA	*67*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*
d3-NMeFOSAA	*57*		*25 - 150*	*09/10/20 18:26*	*09/11/20 14:13*	*1*

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

Lab Sample ID: MB 320-411225/1-A
Matrix: Water
Analysis Batch: 411381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 411225

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	68		25 - 150	09/10/20 18:26	09/11/20 14:13	1
M2-6:2 FTS	69		25 - 150	09/10/20 18:26	09/11/20 14:13	1
M2-8:2 FTS	77		25 - 150	09/10/20 18:26	09/11/20 14:13	1
M2-4:2 FTS	69		25 - 150	09/10/20 18:26	09/11/20 14:13	1
13C3 HFPO-DA	63		25 - 150	09/10/20 18:26	09/11/20 14:13	1

Lab Sample ID: LCS 320-411225/2-A
Matrix: Water
Analysis Batch: 411381

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411225

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	39.8		ng/L		99	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	39.9		ng/L		100	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	38.5		ng/L		96	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	40.0		ng/L		100	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	41.6		ng/L		104	70 - 130
Perfluorononanoic acid (PFNA)	40.0	38.2		ng/L		95	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	41.7		ng/L		104	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	41.3		ng/L		103	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	31.9		ng/L		80	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	31.7		ng/L		79	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	40.7		ng/L		102	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	32.9		ng/L		93	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	37.3		ng/L		99	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.2		ng/L		89	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	38.4		ng/L		101	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	36.4		ng/L		98	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	36.5		ng/L		95	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	35.8		ng/L		93	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	38.6		ng/L		97	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	42.0		ng/L		105	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	39.9		ng/L		100	76 - 136
4:2 FTS	37.4	35.5		ng/L		95	79 - 139
6:2 FTS	37.9	39.6		ng/L		104	59 - 175
8:2 FTS	38.3	37.4		ng/L		98	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	30.8		ng/L		82	79 - 139
HFPO-DA (GenX)	40.0	37.3		ng/L		93	51 - 173
F-53B Major	37.3	35.0		ng/L		94	75 - 135

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

Lab Sample ID: LCS 320-411225/2-A
Matrix: Water
Analysis Batch: 411381

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 411225

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
F-53B Minor			37.7	32.3		ng/L		86	54 - 114		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*68*		*25 - 150*
13C5 PFPeA	*72*		*25 - 150*
13C2 PFHxA	*74*		*25 - 150*
13C4 PFHpA	*76*		*25 - 150*
13C4 PFOA	*77*		*25 - 150*
13C5 PFNA	*80*		*25 - 150*
13C2 PFDA	*70*		*25 - 150*
13C2 PFUnA	*83*		*25 - 150*
13C2 PFDoA	*89*		*25 - 150*
13C2 PFTeDA	*84*		*25 - 150*
13C3 PFBS	*86*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*83*		*25 - 150*
13C8 FOSA	*70*		*25 - 150*
d3-NMeFOSAA	*64*		*25 - 150*
d5-NEtFOSAA	*69*		*25 - 150*
M2-6:2 FTS	*76*		*25 - 150*
M2-8:2 FTS	*77*		*25 - 150*
M2-4:2 FTS	*70*		*25 - 150*
13C3 HFPO-DA	*69*		*25 - 150*

Lab Sample ID: LCSD 320-411225/3-A
Matrix: Water
Analysis Batch: 411698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411225

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	43.6		ng/L		109	76 - 136	9	30
Perfluoropentanoic acid (PFPeA)			40.0	39.5		ng/L		99	71 - 131	1	30
Perfluorohexanoic acid (PFHxA)			40.0	38.7		ng/L		97	73 - 133	1	30
Perfluoroheptanoic acid (PFHpA)			40.0	39.5		ng/L		99	72 - 132	1	30
Perfluorooctanoic acid (PFOA)			40.0	40.2		ng/L		101	70 - 130	3	30
Perfluorononanoic acid (PFNA)			40.0	40.1		ng/L		100	75 - 135	5	30
Perfluorodecanoic acid (PFDA)			40.0	39.4		ng/L		98	76 - 136	6	30
Perfluoroundecanoic acid (PFUnA)			40.0	42.5		ng/L		106	68 - 128	3	30
Perfluorododecanoic acid (PFDoA)			40.0	43.7	*1	ng/L		109	71 - 131	31	30
Perfluorotridecanoic acid (PFTriA)			40.0	41.6		ng/L		104	71 - 131	27	30
Perfluorotetradecanoic acid (PFTeA)			40.0	38.1		ng/L		95	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)			35.4	36.9		ng/L		104	67 - 127	12	30
Perfluoropentanesulfonic acid (PFPeS)			37.5	39.2		ng/L		104	66 - 126	5	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	34.1		ng/L		94	59 - 119	6	30

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

Lab Sample ID: LCSD 320-411225/3-A
Matrix: Water
Analysis Batch: 411698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 411225

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	40.5		ng/L		106	76 - 136	5	30
Perfluorooctanesulfonic acid (PFOS)			37.1	36.7		ng/L		99	70 - 130	1	30
Perfluorononanesulfonic acid (PFNS)			38.4	38.0		ng/L		99	75 - 135	4	30
Perfluorodecanesulfonic acid (PFDS)			38.6	39.1		ng/L		101	71 - 131	9	30
Perfluorooctanesulfonamide (FOSA)			40.0	43.0		ng/L		108	73 - 133	11	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	44.9		ng/L		112	76 - 136	7	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	38.6		ng/L		96	76 - 136	3	30
4:2 FTS			37.4	38.2		ng/L		102	79 - 139	7	30
6:2 FTS			37.9	36.7		ng/L		97	59 - 175	8	30
8:2 FTS			38.3	37.8		ng/L		99	75 - 135	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.7	39.6		ng/L		105	79 - 139	25	30
HFPO-DA (GenX)			40.0	42.6		ng/L		106	51 - 173	13	30
F-53B Major			37.3	38.2		ng/L		103	75 - 135	9	30
F-53B Minor			37.7	37.6		ng/L		100	54 - 114	15	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*98*		*25 - 150*
13C5 PFPeA	*102*		*25 - 150*
13C2 PFHxA	*105*		*25 - 150*
13C4 PFHpA	*105*		*25 - 150*
13C4 PFOA	*102*		*25 - 150*
13C5 PFNA	*109*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*104*		*25 - 150*
13C2 PFDoA	*99*		*25 - 150*
13C2 PFTeDA	*102*		*25 - 150*
13C3 PFBS	*106*		*25 - 150*
18O2 PFHxS	*110*		*25 - 150*
13C4 PFOS	*110*		*25 - 150*
13C8 FOSA	*96*		*25 - 150*
d3-NMeFOSAA	*90*		*25 - 150*
d5-NEtFOSAA	*90*		*25 - 150*
M2-6:2 FTS	*106*		*25 - 150*
M2-8:2 FTS	*114*		*25 - 150*
M2-4:2 FTS	*97*		*25 - 150*
13C3 HFPO-DA	*100*		*25 - 150*

Lab Chronicle

Client: GHD Services Inc.
Job ID: 240-136219-2
Project/Site: 12607, RACER Eckles Rd

Client Sample ID: WT-012607-090820-CM-001
Lab Sample ID: 240-136219-1

Date Collected: 09/08/20 15:55
Matrix: Water
Date Received: 09/09/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			411225	09/10/20 18:26	VP	TAL SAC
Total/NA	Analysis	537 (modified)		1	411381	09/11/20 14:41	RS1	TAL SAC

Client Sample ID: W-012607-090820-CM-002
Lab Sample ID: 240-136219-2

Date Collected: 09/08/20 15:50
Matrix: Water
Date Received: 09/09/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			411225	09/10/20 18:26	VP	TAL SAC
Total/NA	Analysis	537 (modified)		1	411381	09/11/20 14:50	RS1	TAL SAC

Client Sample ID: FB-012607-090820-CM-003
Lab Sample ID: 240-136219-3

Date Collected: 09/08/20 15:45
Matrix: Water
Date Received: 09/09/20 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			411225	09/10/20 18:26	VP	TAL SAC
Total/NA	Analysis	537 (modified)		1	411381	09/11/20 14:59	RS1	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.
Job ID: 240-136219-2
Project/Site: 12607, RACER Eckles Rd

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	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	01-31-22
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
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	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	08-03-23
Nevada	State	CA000442021-1	07-31-21
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
US Fish & Wildlife	US Federal Programs	58448	07-31-21
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	05-05-21
West Virginia (DW)	State	9930C	12-31-20
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

MICHIGAN
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0.9/1.8

Chain of Custody Record 460415

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Address: _____

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

TAL-8210

Client Contact	Project Manager: Meucke	Site Contact: R. Mickle	Date: 9-8-2020	COC No:
Company Name: GHD Services	Tel/Email:	Lab Contact: D. Heckler	Carrier: FedEx	_____ of _____ 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 Eckles Rd	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
PO# 12607A-T3701-01	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	PFAS	Discharge Metals	Cr VI	O,I&G Grease	TSS	pp PCBs	Sample Specific Notes:
WT-012607-090820-CM-001	9-8-20	15:55	G	W				X	X	X	X	X	X	
W-012607-090820-CM-002	9-8-20	15:50	G	W	2			X						
FB-012607-090820-CM-003	9-8-20	15:45	G	W	2			X						

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

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	GHD	9-8-20/16:15		EIA	9-9-20 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

Eurofins TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 136219

Client GHD Site Name

Cooler Received on 9-9-20 Opened on 9-9-20

Cooler unpacked by: MaKomplv

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

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

TestAmerica Cooler # 1 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. 0.9 °C Corrected Cooler Temp. 1.8 °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 (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? Yes (No)
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? (Yes) No NA pH Strip Lot# **HC907861**
14. Were VOAs on the COC? Yes (No)
15. Were air bubbles >6 mm in any VOA vials? ● ← Larger than this. Yes No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)
17. Was a LL Hg or Me Hg trip blank present? Yes (No)

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

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

20. SAMPLE PRESERVATION

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

VOA Sample Preservation - Date/Time VOAs Frozen:

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
WT-012607-090820-CM-001	240-136219-E-1	Plastic 500ml - with Nitric Acid	<2			
WT-012607-090820-CM-001	240-136219-H-1	Amber Glass 1 liter - Sulfuric Acid				
WT-012607-090820-CM-001	240-136219-I-1	Amber Glass 1 liter - Sulfuric Acid				

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

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-124986.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Denise.Heckler@Eurofinset.com	State of Origin: Michigan	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note):		Job #: 240-136219-2
Address: 880 Riverside Parkway, ,	Due Date Requested: 9/21/2020			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: 12607, RACER Eckles Rd	Project #: 24005880			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC (MOD) PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
WT-012607-090820-CM-001 (240-136219-1)	9/8/20	15:55 Eastern		Water			X	2	
W-012607-090820-CM-002 (240-136219-2)	9/8/20	15:50 Eastern		Water			X	2	
FB-012607-090820-CM-003 (240-136219-3)	9/8/20	15:45 Eastern		Water			X	2	

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

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

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
C. Hart	9-9-20 1551	240		09/10/20 11:30	ETA-SAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: OB: 1.4 CORR: 0.9

Ver: 01/16/2019

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 240-136219-2

Login Number: 136219
List Number: 2
Creator: Saephan, Kae C

List Source: Eurofins TestAmerica, Sacramento
List Creation: 09/10/20 02:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= 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	ob: 1.4c corr: 0.9c
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 <6mm (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: 240-136219-2

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)
240-136219-1	WT-012607-090820-CM-001	72	84	93	91	94	102	95	103
240-136219-2	W-012607-090820-CM-002	46	57	66	75	65	90	72	86
240-136219-3	FB-012607-090820-CM-003	76	81	87	86	88	92	97	105
LCS 320-411225/2-A	Lab Control Sample	68	72	74	76	77	80	70	83
LCSD 320-411225/3-A	Lab Control Sample Dup	98	102	105	105	102	109	109	104
MB 320-411225/1-A	Method Blank	62	68	73	71	71	76	80	74

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
240-136219-1	WT-012607-090820-CM-001	105	110	95	100	101	87	74	82
240-136219-2	W-012607-090820-CM-002	74	85	92	98	90	74	65	69
240-136219-3	FB-012607-090820-CM-003	95	90	94	96	96	80	73	78
LCS 320-411225/2-A	Lab Control Sample	89	84	86	88	83	70	64	69
LCSD 320-411225/3-A	Lab Control Sample Dup	99	102	106	110	110	96	90	90
MB 320-411225/1-A	Method Blank	88	80	77	78	75	67	57	68

		Percent Isotope Dilution Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)
240-136219-1	WT-012607-090820-CM-001	113	107	115	84
240-136219-2	W-012607-090820-CM-002	134	126	120	69
240-136219-3	FB-012607-090820-CM-003	93	91	87	78
LCS 320-411225/2-A	Lab Control Sample	76	77	70	69
LCSD 320-411225/3-A	Lab Control Sample Dup	106	114	97	100
MB 320-411225/1-A	Method Blank	69	77	69	63

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
PFDoA = 13C2 PFDoA
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

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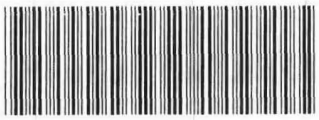
Sacramento Sample Receiving Notes



240-136219 Field Sheet

Tracking # : 9148 7501 2483

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: AK-5 Corr. Factor: (+/-) 0.5 °C

Ice X Wet X Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: —

Temp Observed: 1.4 °C Corrected: 0.9 °C

From: Temp Blank ☑ Sample ☐

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐

Initials: _____ Date: 09/10/20

Unpacking/Labeling The Samples	Yes	No	NA
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: _____ Date: 09/10/20

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☑

Initials: _____ Date: 09/10/20

Attachment 2
February 17, 2021 Sample WT-012607-021721-CM-001 (effluent) Laboratory Analytical Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 240-144624-1
Client Project/Site: 12607-T37, RACER Eckles Rd

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

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
3/2/2021 8:58:08 AM

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

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

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

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

Table of Contents

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

Job ID: 240-144624-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-144624-1

Comments
The PFAS samples were cancelled due to Fedex weather delays.

Receipt
The samples were received on 2/18/2021 12:40 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3º C.

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

Metals
Method 200.7 Rev 4.4: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-021721-CM-001 (240-144624-1). 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 240-474101.

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-T37, RACER Eckles Rd

Job ID: 240-144624-1

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.
¤	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-T37, RACER Eckles Rd

Job ID: 240-144624-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-144624-1	WT-012607-021721-CM-001	Water	02/17/21 15:45	02/18/21 12:40	

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

Client Sample ID: WT-012607-021721-CM-001 — Lab Sample ID: 240-144624-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Chromium	0.43		0.050		mg/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	0.70		0.010		mg/L	1		200.7 Rev 4.4	Total Recoverable
Chromium, hexavalent	0.47		0.010		mg/L	1		3500-Cr B-2011	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

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 CAN
3500-Cr B-2011	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	TAL CAN
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
608	Liquid-Liquid Extraction (Separatory Funnel)	40CFR136A	TAL CAN

Protocol References:

1664A = EPA-821-98-002

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

EPA = US Environmental Protection Agency

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

Laboratory References:

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

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

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

Client Sample ID: WT-012607-021721-CM-001
Date Collected: 02/17/21 15:45
Date Received: 02/18/21 12:40

Lab Sample ID: 240-144624-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1
Aroclor-1221	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1
Aroclor-1232	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1
Aroclor-1242	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1
Aroclor-1248	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1
Aroclor-1254	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1
Aroclor-1260	0.096	U	0.096		ug/L		02/23/21 09:21	02/24/21 08:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*94*		*10 - 114*	*02/23/21 09:21*	*02/24/21 08:23*	*1*
Tetrachloro-m-xylene	*82*		*15 - 131*	*02/23/21 09:21*	*02/24/21 08:23*	*1*

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

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

Client Sample ID: WT-012607-021721-CM-001
Date Collected: 02/17/21 15:45
Date Received: 02/18/21 12:40

Lab Sample ID: 240-144624-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**0.43**		0.050		mg/L		02/19/21 14:00	02/22/21 11:23	1
Nickel	**0.70**		0.010		mg/L		02/19/21 14:00	02/22/21 11:23	1
Lead	0.050	U	0.050		mg/L		02/19/21 14:00	02/22/21 11:23	1
Zinc	0.020	U	0.020		mg/L		02/19/21 14:00	02/22/21 11:23	1

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-021721-CM-001
Date Collected: 02/17/21 15:45
Date Received: 02/18/21 12:40

Lab Sample ID: 240-144624-1
Matrix: Water

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020		mg/L		02/19/21 12:00	02/23/21 09:13	1

Client: GHD Services Inc.
Job ID: 240-144624-1
Project/Site: 12607-T37, RACER Eckles Rd

General Chemistry

Client Sample ID: WT-012607-021721-CM-001
Lab Sample ID: 240-144624-1
Date Collected: 02/17/21 15:45
Matrix: Water
Date Received: 02/18/21 12:40

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8		mg/L			03/01/21 08:48	1
Chromium, hexavalent	**0.47**		0.010		mg/L			02/18/21 13:21	1
Total Suspended Solids	4.0	U	4.0		mg/L			02/23/21 09:10	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

GC Semi VOA

Prep Batch: 474101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	608	
MB 240-474101/17-A	Method Blank	Total/NA	Water	608	
LCS 240-474101/18-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 474216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	608.3	474101
MB 240-474101/17-A	Method Blank	Total/NA	Water	608.3	474101
LCS 240-474101/18-A	Lab Control Sample	Total/NA	Water	608.3	474101

Metals

Prep Batch: 473733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total Recoverable	Water	200.7	
MB 240-473733/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-473733/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-144624-1 MS	WT-012607-021721-CM-001	Total Recoverable	Water	200.7	
240-144624-1 MSD	WT-012607-021721-CM-001	Total Recoverable	Water	200.7	

Prep Batch: 473734

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	245.1	
MB 240-473734/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-473734/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 474068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total Recoverable	Water	200.7 Rev 4.4	473733
MB 240-473733/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	473733
LCS 240-473733/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	473733
240-144624-1 MS	WT-012607-021721-CM-001	Total Recoverable	Water	200.7 Rev 4.4	473733
240-144624-1 MSD	WT-012607-021721-CM-001	Total Recoverable	Water	200.7 Rev 4.4	473733

Analysis Batch: 474141

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	245.1	473734
MB 240-473734/1-A	Method Blank	Total/NA	Water	245.1	473734
LCS 240-473734/2-A	Lab Control Sample	Total/NA	Water	245.1	473734

General Chemistry

Analysis Batch: 473591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	3500-Cr B-2011	

Analysis Batch: 474099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	SM 2540D	
MB 240-474099/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-474099/2	Lab Control Sample	Total/NA	Water	SM 2540D	

QC Association Summary

Client: GHD Services Inc.
Job ID: 240-144624-1
Project/Site: 12607-T37, RACER Eckles Rd

General Chemistry

Analysis Batch: 474822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-144624-1	WT-012607-021721-CM-001	Total/NA	Water	1664A	
MB 240-474822/1	Method Blank	Total/NA	Water	1664A	
LCS 240-474822/2	Lab Control Sample	Total/NA	Water	1664A	

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

Lab Sample ID: MB 240-474101/17-A
Matrix: Water
Analysis Batch: 474216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 474101

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1
Aroclor-1221	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1
Aroclor-1232	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1
Aroclor-1242	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1
Aroclor-1248	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1
Aroclor-1254	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1
Aroclor-1260	0.10	U	0.10		ug/L		02/23/21 09:21	02/24/21 07:53	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl	*114*		*10 - 114*	*02/23/21 09:21*	*02/24/21 07:53*	*1*
Tetrachloro-m-xylene	*106*		*15 - 131*	*02/23/21 09:21*	*02/24/21 07:53*	*1*

Lab Sample ID: LCS 240-474101/18-A
Matrix: Water
Analysis Batch: 474216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 474101

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aroclor-1016			2.50	1.40		ug/L		56	50 - 140		
Aroclor-1260			2.50	1.55		ug/L		62	8 - 140		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl	*74*		*10 - 114*
Tetrachloro-m-xylene	*56*		*15 - 131*

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-473733/1-A
Matrix: Water
Analysis Batch: 474068

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 473733

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050		mg/L		02/19/21 14:00	02/22/21 10:58	1
Nickel	0.010	U	0.010		mg/L		02/19/21 14:00	02/22/21 10:58	1
Lead	0.050	U	0.050		mg/L		02/19/21 14:00	02/22/21 10:58	1
Zinc	0.020	U	0.020		mg/L		02/19/21 14:00	02/22/21 10:58	1

Lab Sample ID: LCS 240-473733/2-A
Matrix: Water
Analysis Batch: 474068

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 473733

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			1.00	1.00		mg/L		100	85 - 115		
Nickel			1.00	1.02		mg/L		102	85 - 115		
Lead			1.00	0.971		mg/L		97	85 - 115		
Zinc			1.00	1.06		mg/L		106	85 - 115		

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

Lab Sample ID: 240-144624-1 MS — **Client Sample ID: WT-012607-021721-CM-001**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 474068 — **Prep Batch: 473733**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.43		1.00	1.41		mg/L		98	70 - 130
Nickel	0.70		1.00	1.71		mg/L		101	70 - 130
Lead	0.050	U	1.00	0.930		mg/L		93	70 - 130
Zinc	0.020	U	1.00	1.07		mg/L		107	70 - 130

Lab Sample ID: 240-144624-1 MSD — **Client Sample ID: WT-012607-021721-CM-001**
Matrix: Water — **Prep Type: Total Recoverable**
Analysis Batch: 474068 — **Prep Batch: 473733**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.43		1.00	1.42		mg/L		100	70 - 130	1	20
Nickel	0.70		1.00	1.73		mg/L		103	70 - 130	1	20
Lead	0.050	U	1.00	0.943		mg/L		94	70 - 130	1	20
Zinc	0.020	U	1.00	1.08		mg/L		108	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-473734/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 474141 — **Prep Batch: 473734**

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020		mg/L		02/19/21 12:00	02/23/21 09:02	1

Lab Sample ID: LCS 240-473734/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 474141 — **Prep Batch: 473734**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury			0.00500	0.00536		mg/L		107	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-474822/1 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 474822

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0		mg/L			03/01/21 08:48	1

Lab Sample ID: LCS 240-474822/2 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 474822

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM			40.0	40.50		mg/L		101	78 - 114

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

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

Lab Sample ID: MB 240-474099/1
Matrix: Water
Analysis Batch: 474099

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			02/23/21 09:10	1

Lab Sample ID: LCS 240-474099/2
Matrix: Water
Analysis Batch: 474099

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			30.1	26.0		mg/L		86	64 - 120		

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 240-144624-1

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)								
240-144624-1	WT-012607-021721-CM-001	94	82								
LCS 240-474101/18-A	Lab Control Sample	74	56								
MB 240-474101/17-A	Method Blank	114	106								

Surrogate Legend

DCBP = DCB Decachlorobiphenyl
TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Job ID: 240-144624-1
Project/Site: 12607-T37, RACER Eckles Rd

Client Sample ID: WT-012607-021721-CM-001
Lab Sample ID: 240-144624-1

Date Collected: 02/17/21 15:45
Matrix: Water
Date Received: 02/18/21 12:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	608			474101	02/23/21 09:21	MDH	TAL CAN
Total/NA	Analysis	608.3		1	474216	02/24/21 08:23	KMG	TAL CAN
Total Recoverable	Prep	200.7			473733	02/19/21 14:00	MRL	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	474068	02/22/21 11:23	WKD	TAL CAN
Total/NA	Prep	245.1			473734	02/19/21 12:00	MRL	TAL CAN
Total/NA	Analysis	245.1		1	474141	02/23/21 09:13	SLD	TAL CAN
Total/NA	Analysis	1664A		1	474822	03/01/21 08:48	KLR	TAL CAN
Total/NA	Analysis	3500-Cr B-2011		1	473591	02/18/21 13:21	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	474099	02/23/21 09:10	KLR	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Job ID: 240-144624-1
Project/Site: 12607-T37, RACER Eckles Rd

Laboratory: Eurofins TestAmerica, Canton

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

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-23-21 *
Connecticut	State	PH-0590	12-31-21
Florida	NELAP	E87225	06-30-21
Georgia	State	4062	02-23-21 *
Illinois	NELAP	004498	07-31-21
Iowa	State	421	06-01-21
Kansas	NELAP	E-10336	04-30-21
Kentucky (UST)	State	112225	02-23-21 *
Kentucky (WW)	State	KY98016	12-31-21
Minnesota	NELAP	OH00048	12-31-21
Minnesota (Petrofund)	State	3506	08-01-21
New Jersey	NELAP	OH001	06-30-21
New York	NELAP	10975	03-31-21
Ohio VAP	State	CL0024	12-21-23
Oregon	NELAP	4062	02-23-22
Pennsylvania	NELAP	68-00340	08-31-21
Texas	NELAP	T104704517-18-10	08-31-21
USDA	US Federal Programs	P330-18-00281	09-17-21
Virginia	NELAP	010101	09-14-21
Washington	State	C971	01-12-22
West Virginia DEP	State	210	12-31-21

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

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

Chain of Custody Record

22123

eurofins | Environment Testing America

Client Information	Sampler: Meincke	Lab PM: Heckler, Denise D	Carrier Tracking No(s):	COC No: 240-79661-31279.1
Client Contact: Chris Meincke	Phone:	E-Mail: Denise.Heckler@Eurofinset.com	State of Origin: MI	Page: Page 1 of 1
Company: GHD Services Inc.	PWSID:			Job #:
Address: 26850 Haggerty Rd.	Due Date Requested:			
City: Farmington Hills	TAT Requested (days): 2 wks			
State, Zip: MI, 48331	Compliance Project: Δ Yes Δ No			
Phone:	PO #: Purchase Order Requested			
Email: chris.meincke@ghd.com	WO #: 12607			
Project Name: 12607-T37-monthly, RACER Eckles Rd	Project #: 24005880			
Site:	SSOW#: 12607A-T37421-01			

Analysis Requested

Preservation Codes:

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

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	3500_CR_B - Chromium, Hexavalent	200.7 - Hg, Cr,Pb,Ni,Zn	608.3_PCB_PREC - PCBs	2540D - TSS	1664A_NP - HEM	PFC_IDA - (MOD) PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X	N	D	N	N	S	N	X	
WT-012607-021721-CM-001	2-17-21	15:45	6	Water			X	X	X	X	X	X		
W-012607-021721-CM-002	2-17-21	15:40	6	Water								X		
FB-012607-021721-CM-003	2-17-21	15:50	6	Water								X		

240-144624 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2-17-21 1640	GHD		2-18-21 1240	TA
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

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

Ver: 11/01/2020

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # : 144624**
Canton Facility

Client GHD Site Name

Cooler Received on 2.18.21 Opened on 2.18.21

Cooler unpacked by:

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-11 (CF +0.1 °C) Observed Cooler Temp. 2.2 °C Corrected Cooler Temp. 2.3 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 (Yes) No
   -Were the seals on the outside of the cooler(s) signed & dated? (Yes) No NA
   -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes (No)
   -Were tamper/custody seals intact and uncompromised? (Yes) No NA
3. Shippers' packing slip attached to the cooler(s)? (Yes) No
4. Did custody papers accompany the sample(s)? (Yes) No
5. Were the custody papers relinquished & signed in the appropriate place? (Yes) No
6. Was/were the person(s) who collected the samples clearly identified on the COC? (Yes) No
7. Did all bottles arrive in good condition (Unbroken)? (Yes) No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC? (Yes) No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N) and sample type of grab/comp (Y/N)?
10. Were correct bottle(s) used for the test(s) indicated? (Yes) No
11. Sufficient quantity received to perform indicated analyses? (Yes) No
12. Are these work share samples and all listed on the COC? Yes (No)
    If yes, Questions 13-17 have been checked at the originating laboratory.
13. Were all preserved sample(s) at the correct pH upon receipt? (Yes) No NA pH Strip Lot# **HC907861**
14. Were VOAs on the COC? Yes (No)
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this. Yes No (NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # Yes (No)
17. Was a LL Hg or Me Hg trip blank present? Yes (No)

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

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

20. SAMPLE PRESERVATION

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

VOA Sample Preservation - Date/Time VOAs Frozen:

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Container Temp	Preservative Added (mls)	Lot #
WT-012607-021721-CM-001	240-144624-E-1	Plastic 500ml - with Nitric Acid	<2			
WT-012607-021721-CM-001	240-144624-H-1	Amber Glass 1 liter - Sulfuric Acid				
WT-012607-021721-CM-001	240-144624-I-1	Amber Glass 1 liter - Sulfuric Acid				

Attachment 3
February 28, 2021 Samples
WT-012607-022821-CM-001 (effluent)
W-012607-022821-CM-002 (influent)
EB-012607-022821-CM-003 (Field Blank)
Laboratory Analytical Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-70731-1
Client Project/Site: 12607-T37, RACER Eckles Rd

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

Attn: Ms. Ruth Mickle

Denise D Heckler

Authorized for release by:
3/9/2021 7:23:11 AM

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

LINKS

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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.

Table of Contents

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

Qualifiers

LCMS

Qualifier	Qualifier Description
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
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

Job ID: 320-70731-1

Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative
320-70731-1

Comments
No additional comments.

Receipt
The samples were received on 3/3/2021 11:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8º C.

LCMS
Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analytes were outside of the established ratio limits. The qualitative identification of the analytes have some degree of uncertainty, and the reported values may have some high bias. However, analyst judgment was used to positively identify the analytes: WT-012607-022821-CM-001 (320-70731-1) and W-012607-022821-CM-002 (320-70731-2).

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 320-467676.

Method 3535: The following sample was cloudy prior to extraction: W-012607-022821-CM-002 (320-70731-2).

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

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

Client Sample ID: WT-012607-022821-CM-001 — Lab Sample ID: 320-70731-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	5.0		4.6	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.91	J	1.8	0.45	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	0.56	J I	1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.25	J	1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.24	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.70	J I	1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	6.4	I	1.8	0.49	ng/L	1		537 (modified)	Total/NA

Client Sample ID: W-012607-022821-CM-002 — Lab Sample ID: 320-70731-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.3		4.7	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.3		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.0		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.4	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	5.1		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.32	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	1.1	J I	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.4	I	1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	120	I	1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: FB-012607-022821-CM-003 — Lab Sample ID: 320-70731-3

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: WT-012607-022821-CM-001

Lab Sample ID: 320-70731-1

Date Collected: 02/28/21 14:30

Matrix: Water

Date Received: 03/03/21 11:20

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.0**		4.6	2.2	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluoropentanoic acid (PFPeA)	**0.91**	**J**	1.8	0.45	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorohexanoic acid (PFHxA)	**0.56**	**J I**	1.8	0.53	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluoroheptanoic acid (PFHpA)	**0.25**	**J**	1.8	0.23	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorooctanoic acid (PFOA)	1.8	U	1.8	0.78	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorononanoic acid (PFNA)	1.8	U	1.8	0.25	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorodecanoic acid (PFDA)	1.8	U	1.8	0.28	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluoroundecanoic acid (PFUnA)	1.8	U	1.8	1.0	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorododecanoic acid (PFDoA)	1.8	U	1.8	0.50	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorotridecanoic acid (PFTriA)	1.8	U	1.8	1.2	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorotetradecanoic acid (PFTeA)	1.8	U	1.8	0.67	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorobutanesulfonic acid (PFBS)	**0.24**	**J**	1.8	0.18	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluoropentanesulfonic acid (PFPeS)	1.8	U	1.8	0.27	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorohexanesulfonic acid (PFHxS)	**0.70**	**J I**	1.8	0.52	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.8	U	1.8	0.17	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorooctanesulfonic acid (PFOS)	**6.4**	**I**	1.8	0.49	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorononanesulfonic acid (PFNS)	1.8	U	1.8	0.34	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorodecanesulfonic acid (PFDS)	1.8	U	1.8	0.29	ng/L		03/04/21 19:08	03/05/21 13:08	1
Perfluorooctanesulfonamide (FOSA)	1.8	U	1.8	0.89	ng/L		03/04/21 19:08	03/05/21 13:08	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.6	U	4.6	1.1	ng/L		03/04/21 19:08	03/05/21 13:08	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.6	U	4.6	1.2	ng/L		03/04/21 19:08	03/05/21 13:08	1
4:2 FTS	1.8	U	1.8	0.22	ng/L		03/04/21 19:08	03/05/21 13:08	1
6:2 FTS	4.6	U	4.6	2.3	ng/L		03/04/21 19:08	03/05/21 13:08	1
8:2 FTS	1.8	U	1.8	0.42	ng/L		03/04/21 19:08	03/05/21 13:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.8	U	1.8	0.36	ng/L		03/04/21 19:08	03/05/21 13:08	1
HFPO-DA (GenX)	3.6	U	3.6	1.4	ng/L		03/04/21 19:08	03/05/21 13:08	1
F-53B Major	1.8	U	1.8	0.22	ng/L		03/04/21 19:08	03/05/21 13:08	1
F-53B Minor	1.8	U	1.8	0.29	ng/L		03/04/21 19:08	03/05/21 13:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*57*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C5 PFPeA	*65*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C2 PFHxA	*71*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C4 PFHpA	*80*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C4 PFOA	*99*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C5 PFNA	*99*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C2 PFDA	*99*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C2 PFUnA	*90*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C2 PFDoA	*88*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C2 PFTeDA	*87*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C3 PFBS	*62*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
18O2 PFHxS	*60*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C4 PFOS	*64*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*
13C8 FOSA	*67*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:08*	*1*

Client Sample ID: WT-012607-022821-CM-001

Lab Sample ID: 320-70731-1
Matrix: Water
Date Collected: 02/28/21 14:30
Date Received: 03/03/21 11:20

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	58		25 - 150	03/04/21 19:08	03/05/21 13:08	1
d5-NEtFOSAA	57		25 - 150	03/04/21 19:08	03/05/21 13:08	1
M2-6:2 FTS	104		25 - 150	03/04/21 19:08	03/05/21 13:08	1
M2-8:2 FTS	107		25 - 150	03/04/21 19:08	03/05/21 13:08	1
M2-4:2 FTS	95		25 - 150	03/04/21 19:08	03/05/21 13:08	1
13C3 HFPO-DA	74		25 - 150	03/04/21 19:08	03/05/21 13:08	1

Client Sample ID: W-012607-022821-CM-002

Lab Sample ID: 320-70731-2
Matrix: Water
Date Collected: 02/28/21 14:25
Date Received: 03/03/21 11:20

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.3**		4.7	2.2	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluoropentanoic acid (PFPeA)	**2.3**		1.9	0.46	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorohexanoic acid (PFHxA)	**2.0**		1.9	0.54	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluoroheptanoic acid (PFHpA)	**1.4**	**J**	1.9	0.23	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorooctanoic acid (PFOA)	**5.1**		1.9	0.80	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorononanoic acid (PFNA)	**0.32**	**J**	1.9	0.25	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorodecanoic acid (PFDA)	1.9	U	1.9	0.29	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluoroundecanoic acid (PFUnA)	1.9	U	1.9	1.0	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorododecanoic acid (PFDoA)	1.9	U	1.9	0.51	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorotridecanoic acid (PFTriA)	1.9	U	1.9	1.2	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorotetradecanoic acid (PFTeA)	1.9	U	1.9	0.68	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.9	0.19	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluoropentanesulfonic acid (PFPeS)	**1.1**	**J I**	1.9	0.28	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorohexanesulfonic acid (PFHxS)	**6.4**	**I**	1.9	0.53	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.9	U	1.9	0.18	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorooctanesulfonic acid (PFOS)	**120**	**I**	1.9	0.51	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorononanesulfonic acid (PFNS)	1.9	U	1.9	0.35	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorodecanesulfonic acid (PFDS)	1.9	U	1.9	0.30	ng/L		03/04/21 19:08	03/05/21 13:17	1
Perfluorooctanesulfonamide (FOSA)	1.9	U	1.9	0.92	ng/L		03/04/21 19:08	03/05/21 13:17	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.7	U	4.7	1.1	ng/L		03/04/21 19:08	03/05/21 13:17	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.7	U	4.7	1.2	ng/L		03/04/21 19:08	03/05/21 13:17	1
4:2 FTS	1.9	U	1.9	0.22	ng/L		03/04/21 19:08	03/05/21 13:17	1
6:2 FTS	4.7	U	4.7	2.3	ng/L		03/04/21 19:08	03/05/21 13:17	1
8:2 FTS	1.9	U	1.9	0.43	ng/L		03/04/21 19:08	03/05/21 13:17	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.9	U	1.9	0.37	ng/L		03/04/21 19:08	03/05/21 13:17	1
HFPO-DA (GenX)	3.7	U	3.7	1.4	ng/L		03/04/21 19:08	03/05/21 13:17	1
F-53B Major	1.9	U	1.9	0.22	ng/L		03/04/21 19:08	03/05/21 13:17	1
F-53B Minor	1.9	U	1.9	0.30	ng/L		03/04/21 19:08	03/05/21 13:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	52		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C5 PFPeA	59		25 - 150	03/04/21 19:08	03/05/21 13:17	1

Client Sample ID: W-012607-022821-CM-002

Lab Sample ID: 320-70731-2
Date Collected: 02/28/21 14:25
Matrix: Water
Date Received: 03/03/21 11:20

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFHxA	66		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C4 PFHpA	77		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C4 PFOA	89		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C5 PFNA	99		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C2 PFDA	97		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C2 PFUnA	91		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C2 PFDoA	93		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C2 PFTeDA	94		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C3 PFBS	65		25 - 150	03/04/21 19:08	03/05/21 13:17	1
18O2 PFHxS	64		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C4 PFOS	70		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C8 FOSA	68		25 - 150	03/04/21 19:08	03/05/21 13:17	1
d3-NMeFOSAA	59		25 - 150	03/04/21 19:08	03/05/21 13:17	1
d5-NEtFOSAA	54		25 - 150	03/04/21 19:08	03/05/21 13:17	1
M2-6:2 FTS	114		25 - 150	03/04/21 19:08	03/05/21 13:17	1
M2-8:2 FTS	117		25 - 150	03/04/21 19:08	03/05/21 13:17	1
M2-4:2 FTS	96		25 - 150	03/04/21 19:08	03/05/21 13:17	1
13C3 HFPO-DA	74		25 - 150	03/04/21 19:08	03/05/21 13:17	1

Client Sample ID: FB-012607-022821-CM-003

Lab Sample ID: 320-70731-3
Date Collected: 02/28/21 14:35
Matrix: Water
Date Received: 03/03/21 11:20

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.5	U	4.5	2.2	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluoropentanoic acid (PFPeA)	1.8	U	1.8	0.44	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorohexanoic acid (PFHxA)	1.8	U	1.8	0.52	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluoroheptanoic acid (PFHpA)	1.8	U	1.8	0.23	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorooctanoic acid (PFOA)	1.8	U	1.8	0.77	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorononanoic acid (PFNA)	1.8	U	1.8	0.24	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorodecanoic acid (PFDA)	1.8	U	1.8	0.28	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluoroundecanoic acid (PFUnA)	1.8	U	1.8	0.99	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorododecanoic acid (PFDoA)	1.8	U	1.8	0.50	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorotridecanoic acid (PFTriA)	1.8	U	1.8	1.2	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorotetradecanoic acid (PFTeA)	1.8	U	1.8	0.66	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorobutanesulfonic acid (PFBS)	1.8	U	1.8	0.18	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluoropentanesulfonic acid (PFPeS)	1.8	U	1.8	0.27	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorohexanesulfonic acid (PFHxS)	1.8	U	1.8	0.52	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.8	U	1.8	0.17	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorooctanesulfonic acid (PFOS)	1.8	U	1.8	0.49	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorononanesulfonic acid (PFNS)	1.8	U	1.8	0.33	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorodecanesulfonic acid (PFDS)	1.8	U	1.8	0.29	ng/L		03/04/21 19:08	03/05/21 13:26	1
Perfluorooctanesulfonamide (FOSA)	1.8	U	1.8	0.89	ng/L		03/04/21 19:08	03/05/21 13:26	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	4.5	U	4.5	1.1	ng/L		03/04/21 19:08	03/05/21 13:26	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	4.5	U	4.5	1.2	ng/L		03/04/21 19:08	03/05/21 13:26	1
4:2 FTS	1.8	U	1.8	0.22	ng/L		03/04/21 19:08	03/05/21 13:26	1

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

Client Sample ID: FB-012607-022821-CM-003
Date Collected: 02/28/21 14:35
Date Received: 03/03/21 11:20

Lab Sample ID: 320-70731-3
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
6:2 FTS	4.5	U	4.5	2.3	ng/L		03/04/21 19:08	03/05/21 13:26	1
8:2 FTS	1.8	U	1.8	0.42	ng/L		03/04/21 19:08	03/05/21 13:26	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	1.8	U	1.8	0.36	ng/L		03/04/21 19:08	03/05/21 13:26	1
HFPO-DA (GenX)	3.6	U	3.6	1.4	ng/L		03/04/21 19:08	03/05/21 13:26	1
F-53B Major	1.8	U	1.8	0.22	ng/L		03/04/21 19:08	03/05/21 13:26	1
F-53B Minor	1.8	U	1.8	0.29	ng/L		03/04/21 19:08	03/05/21 13:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*58*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C5 PFPeA	*68*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C2 PFHxA	*71*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C4 PFHpA	*76*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C4 PFOA	*90*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C5 PFNA	*97*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C2 PFDA	*98*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C2 PFUnA	*104*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C2 PFDoA	*116*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C2 PFTeDA	*98*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C3 PFBS	*62*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
18O2 PFHxS	*60*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C4 PFOS	*67*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C8 FOSA	*66*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
d3-NMeFOSAA	*73*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
d5-NEtFOSAA	*62*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
M2-6:2 FTS	*104*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
M2-8:2 FTS	*111*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
M2-4:2 FTS	*93*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*
13C3 HFPO-DA	*74*		*25 - 150*	*03/04/21 19:08*	*03/05/21 13:26*	*1*

Isotope Dilution Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

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)
320-70731-1	WT-012607-022821-CM-001	57	65	71	80	99	99	99	90
320-70731-2	W-012607-022821-CM-002	52	59	66	77	89	99	97	91
320-70731-3	FB-012607-022821-CM-003	58	68	71	76	90	97	98	104
LCS 320-467676/2-A	Lab Control Sample	83	80	89	93	95	95	95	92
LCSD 320-467676/3-A	Lab Control Sample Dup	84	83	90	93	94	91	96	93
MB 320-467676/1-A	Method Blank	63	75	75	87	99	106	109	98

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
320-70731-1	WT-012607-022821-CM-001	88	87	62	60	64	67	58	57
320-70731-2	W-012607-022821-CM-002	93	94	65	64	70	68	59	54
320-70731-3	FB-012607-022821-CM-003	116	98	62	60	67	66	73	62
LCS 320-467676/2-A	Lab Control Sample	87	77	85	87	88	78	95	79
LCSD 320-467676/3-A	Lab Control Sample Dup	85	81	84	86	84	77	89	76
MB 320-467676/1-A	Method Blank	57	92	69	67	74	70	71	50

		Percent Isotope Dilution Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)
320-70731-1	WT-012607-022821-CM-001	104	107	95	74
320-70731-2	W-012607-022821-CM-002	114	117	96	74
320-70731-3	FB-012607-022821-CM-003	104	111	93	74
LCS 320-467676/2-A	Lab Control Sample	96	117	95	88
LCSD 320-467676/3-A	Lab Control Sample Dup	99	117	100	91
MB 320-467676/1-A	Method Blank	112	143	104	80

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
PFDoA = 13C2 PFDoA
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

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-467676/1-A
Matrix: Water
Analysis Batch: 467907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 467676

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	5.0	U	5.0	2.4	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluoropentanoic acid (PFPeA)	2.0	U	2.0	0.49	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorohexanoic acid (PFHxA)	2.0	U	2.0	0.58	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluoroheptanoic acid (PFHpA)	2.0	U	2.0	0.25	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorooctanoic acid (PFOA)	2.0	U	2.0	0.85	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorononanoic acid (PFNA)	2.0	U	2.0	0.27	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorodecanoic acid (PFDA)	2.0	U	2.0	0.31	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluoroundecanoic acid (PFUnA)	2.0	U	2.0	1.1	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorododecanoic acid (PFDoA)	2.0	U	2.0	0.55	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorotridecanoic acid (PFTriA)	2.0	U	2.0	1.3	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorotetradecanoic acid (PFTeA)	2.0	U	2.0	0.73	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorobutanesulfonic acid (PFBS)	2.0	U	2.0	0.20	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluoropentanesulfonic acid (PFPeS)	2.0	U	2.0	0.30	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorohexanesulfonic acid (PFHxS)	2.0	U	2.0	0.57	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.0	U	2.0	0.19	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorooctanesulfonic acid (PFOS)	2.0	U	2.0	0.54	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorononanesulfonic acid (PFNS)	2.0	U	2.0	0.37	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorodecanesulfonic acid (PFDS)	2.0	U	2.0	0.32	ng/L		03/04/21 19:08	03/05/21 12:41	1
Perfluorooctanesulfonamide (FOSA)	2.0	U	2.0	0.98	ng/L		03/04/21 19:08	03/05/21 12:41	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	5.0	U	5.0	1.2	ng/L		03/04/21 19:08	03/05/21 12:41	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	5.0	U	5.0	1.3	ng/L		03/04/21 19:08	03/05/21 12:41	1
4:2 FTS	2.0	U	2.0	0.24	ng/L		03/04/21 19:08	03/05/21 12:41	1
6:2 FTS	5.0	U	5.0	2.5	ng/L		03/04/21 19:08	03/05/21 12:41	1
8:2 FTS	2.0	U	2.0	0.46	ng/L		03/04/21 19:08	03/05/21 12:41	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	2.0	U	2.0	0.40	ng/L		03/04/21 19:08	03/05/21 12:41	1
HFPO-DA (GenX)	4.0	U	4.0	1.5	ng/L		03/04/21 19:08	03/05/21 12:41	1
F-53B Major	2.0	U	2.0	0.24	ng/L		03/04/21 19:08	03/05/21 12:41	1
F-53B Minor	2.0	U	2.0	0.32	ng/L		03/04/21 19:08	03/05/21 12:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*63*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C5 PFPeA	*75*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C2 PFHxA	*75*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C4 PFHpA	*87*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C4 PFOA	*99*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C5 PFNA	*106*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C2 PFDA	*109*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C2 PFUnA	*98*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C2 PFDoA	*57*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C2 PFTeDA	*92*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C3 PFBS	*69*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
18O2 PFHxS	*67*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C4 PFOS	*74*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
13C8 FOSA	*70*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*
d3-NMeFOSAA	*71*		*25 - 150*	*03/04/21 19:08*	*03/05/21 12:41*	*1*

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

Lab Sample ID: MB 320-467676/1-A
Matrix: Water
Analysis Batch: 467907

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 467676

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	50		25 - 150	03/04/21 19:08	03/05/21 12:41	1
M2-6:2 FTS	112		25 - 150	03/04/21 19:08	03/05/21 12:41	1
M2-8:2 FTS	143		25 - 150	03/04/21 19:08	03/05/21 12:41	1
M2-4:2 FTS	104		25 - 150	03/04/21 19:08	03/05/21 12:41	1
13C3 HFPO-DA	80		25 - 150	03/04/21 19:08	03/05/21 12:41	1

Lab Sample ID: LCS 320-467676/2-A
Matrix: Water
Analysis Batch: 468254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 467676

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	44.4		ng/L		111	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	44.6		ng/L		112	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	44.2		ng/L		110	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	44.7		ng/L		112	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	40.8		ng/L		102	70 - 130
Perfluorononanoic acid (PFNA)	40.0	43.9		ng/L		110	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	42.7		ng/L		107	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	45.1		ng/L		113	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	44.7		ng/L		112	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	41.3		ng/L		103	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	47.2		ng/L		118	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	41.0		ng/L		116	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	44.6		ng/L		119	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	39.4		ng/L		108	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	43.0		ng/L		113	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	43.0		ng/L		116	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	42.9		ng/L		112	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	42.5		ng/L		110	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	49.8		ng/L		124	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	41.1		ng/L		103	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	46.0		ng/L		115	76 - 136
4:2 FTS	37.4	40.9		ng/L		109	79 - 139
6:2 FTS	37.9	43.5		ng/L		115	59 - 175
8:2 FTS	38.3	42.1		ng/L		110	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	44.9		ng/L		119	79 - 139
HFPO-DA (GenX)	40.0	42.9		ng/L		107	51 - 173
F-53B Major	37.3	43.4		ng/L		116	75 - 135

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

Lab Sample ID: LCS 320-467676/2-A
Matrix: Water
Analysis Batch: 468254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 467676

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
F-53B Minor			37.7	41.0		ng/L		109	54 - 114		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*83*		*25 - 150*
13C5 PFPeA	*80*		*25 - 150*
13C2 PFHxA	*89*		*25 - 150*
13C4 PFHpA	*93*		*25 - 150*
13C4 PFOA	*95*		*25 - 150*
13C5 PFNA	*95*		*25 - 150*
13C2 PFDA	*95*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*87*		*25 - 150*
13C2 PFTeDA	*77*		*25 - 150*
13C3 PFBS	*85*		*25 - 150*
18O2 PFHxS	*87*		*25 - 150*
13C4 PFOS	*88*		*25 - 150*
13C8 FOSA	*78*		*25 - 150*
d3-NMeFOSAA	*95*		*25 - 150*
d5-NEtFOSAA	*79*		*25 - 150*
M2-6:2 FTS	*96*		*25 - 150*
M2-8:2 FTS	*117*		*25 - 150*
M2-4:2 FTS	*95*		*25 - 150*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: LCSD 320-467676/3-A
Matrix: Water
Analysis Batch: 468254

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 467676

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	43.2		ng/L		108	76 - 136	3	30
Perfluoropentanoic acid (PFPeA)			40.0	41.3		ng/L		103	71 - 131	8	30
Perfluorohexanoic acid (PFHxA)			40.0	43.5		ng/L		109	73 - 133	2	30
Perfluoroheptanoic acid (PFHpA)			40.0	42.0		ng/L		105	72 - 132	6	30
Perfluorooctanoic acid (PFOA)			40.0	40.3		ng/L		101	70 - 130	1	30
Perfluorononanoic acid (PFNA)			40.0	43.0		ng/L		108	75 - 135	2	30
Perfluorodecanoic acid (PFDA)			40.0	44.4		ng/L		111	76 - 136	4	30
Perfluoroundecanoic acid (PFUnA)			40.0	44.4		ng/L		111	68 - 128	2	30
Perfluorododecanoic acid (PFDoA)			40.0	43.2		ng/L		108	71 - 131	3	30
Perfluorotridecanoic acid (PFTriA)			40.0	37.9		ng/L		95	71 - 131	9	30
Perfluorotetradecanoic acid (PFTeA)			40.0	38.5		ng/L		96	70 - 130	20	30
Perfluorobutanesulfonic acid (PFBS)			35.4	42.2		ng/L		119	67 - 127	3	30
Perfluoropentanesulfonic acid (PFPeS)			37.5	45.9		ng/L		122	66 - 126	3	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	38.5		ng/L		106	59 - 119	2	30

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

Lab Sample ID: LCSD 320-467676/3-A
Matrix: Water
Analysis Batch: 468254

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 467676

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	43.3		ng/L		114	76 - 136	1	30
Perfluorooctanesulfonic acid (PFOS)			37.1	43.1		ng/L		116	70 - 130	0	30
Perfluorononanesulfonic acid (PFNS)			38.4	41.4		ng/L		108	75 - 135	4	30
Perfluorodecanesulfonic acid (PFDS)			38.6	41.6		ng/L		108	71 - 131	2	30
Perfluorooctanesulfonamide (FOSA)			40.0	45.9		ng/L		115	73 - 133	8	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	40.8		ng/L		102	76 - 136	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	43.7		ng/L		109	76 - 136	5	30
4:2 FTS			37.4	39.3		ng/L		105	79 - 139	4	30
6:2 FTS			37.9	41.3		ng/L		109	59 - 175	5	30
8:2 FTS			38.3	43.9		ng/L		114	75 - 135	4	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.7	44.4		ng/L		118	79 - 139	1	30
HFPO-DA (GenX)			40.0	42.2		ng/L		106	51 - 173	2	30
F-53B Major			37.3	43.6		ng/L		117	75 - 135	0	30
F-53B Minor			37.7	40.6		ng/L		108	54 - 114	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*84*		*25 - 150*
13C5 PFPeA	*83*		*25 - 150*
13C2 PFHxA	*90*		*25 - 150*
13C4 PFHpA	*93*		*25 - 150*
13C4 PFOA	*94*		*25 - 150*
13C5 PFNA	*91*		*25 - 150*
13C2 PFDA	*96*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*85*		*25 - 150*
13C2 PFTeDA	*81*		*25 - 150*
13C3 PFBS	*84*		*25 - 150*
18O2 PFHxS	*86*		*25 - 150*
13C4 PFOS	*84*		*25 - 150*
13C8 FOSA	*77*		*25 - 150*
d3-NMeFOSAA	*89*		*25 - 150*
d5-NEtFOSAA	*76*		*25 - 150*
M2-6:2 FTS	*99*		*25 - 150*
M2-8:2 FTS	*117*		*25 - 150*
M2-4:2 FTS	*100*		*25 - 150*
13C3 HFPO-DA	*91*		*25 - 150*

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

LCMS

Prep Batch: 467676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-70731-1	WT-012607-022821-CM-001	Total/NA	Water	3535	
320-70731-2	W-012607-022821-CM-002	Total/NA	Water	3535	
320-70731-3	FB-012607-022821-CM-003	Total/NA	Water	3535	
MB 320-467676/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-467676/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-467676/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 467907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-70731-1	WT-012607-022821-CM-001	Total/NA	Water	537 (modified)	467676
320-70731-2	W-012607-022821-CM-002	Total/NA	Water	537 (modified)	467676
320-70731-3	FB-012607-022821-CM-003	Total/NA	Water	537 (modified)	467676
MB 320-467676/1-A	Method Blank	Total/NA	Water	537 (modified)	467676

Analysis Batch: 468254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 320-467676/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	467676
LCSD 320-467676/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	467676

Lab Chronicle

Client: GHD Services Inc.
Job ID: 320-70731-1
Project/Site: 12607-T37, RACER Eckles Rd

Client Sample ID: WT-012607-022821-CM-001
Lab Sample ID: 320-70731-1
Date Collected: 02/28/21 14:30
Matrix: Water
Date Received: 03/03/21 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			274 mL	10.00 mL	467676	03/04/21 19:08	VP	TAL SAC
Total/NA	Analysis	537 (modified)		1			467907	03/05/21 13:08	JY1	TAL SAC

Client Sample ID: W-012607-022821-CM-002
Lab Sample ID: 320-70731-2
Date Collected: 02/28/21 14:25
Matrix: Water
Date Received: 03/03/21 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			267.1 mL	10.00 mL	467676	03/04/21 19:08	VP	TAL SAC
Total/NA	Analysis	537 (modified)		1			467907	03/05/21 13:17	JY1	TAL SAC

Client Sample ID: FB-012607-022821-CM-003
Lab Sample ID: 320-70731-3
Date Collected: 02/28/21 14:35
Matrix: Water
Date Received: 03/03/21 11:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			276.5 mL	10.00 mL	467676	03/04/21 19:08	VP	TAL SAC
Total/NA	Analysis	537 (modified)		1			467907	03/05/21 13:26	JY1	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.
Job ID: 320-70731-1
Project/Site: 12607-T37, RACER Eckles Rd

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	02-20-24
ANAB	Dept. of Defense ELAP	L2468	01-20-24
ANAB	Dept. of Energy	L2468.01	01-20-24
ANAB	ISO/IEC 17025	L2468	01-20-24
Arizona	State	AZ0708	08-11-21
Arkansas DEQ	State	88-0691	06-17-21
California	State	2897	02-01-23
Colorado	State	CA0004	08-31-21
Connecticut	State	PH-0691	06-30-21
Florida	NELAP	E87570	06-30-21
Georgia	State	4040	01-29-22
Hawaii	State	<cert No.>	01-29-22
Illinois	NELAP	200060	03-17-21
Kansas	NELAP	E-10375	02-01-21 *
Louisiana	NELAP	01944	06-30-21
Maine	State	CA00004	04-14-22
Michigan	State	9947	01-29-22
Nevada	State	CA000442021-2	07-31-21
New Hampshire	NELAP	2997	04-18-21
New Jersey	NELAP	CA005	06-30-21
New York	NELAP	11666	04-01-21
Ohio	State	41252	01-29-22
Oregon	NELAP	4040	01-29-22
Pennsylvania	NELAP	68-01272	03-31-21
Texas	NELAP	T104704399-19-13	06-01-21
US Fish & Wildlife	US Federal Programs	58448	07-31-21
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	05-05-21
West Virginia (DW)	State	9930C	12-31-21
Wisconsin	State	998204680	08-31-21
Wyoming	State Program	8TMS-L	01-28-19 *

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

Method Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12607-T37, RACER Eckles Rd

Job ID: 320-70731-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-70731-1	WT-012607-022821-CM-001	Water	02/28/21 14:30	03/03/21 11:20	
320-70731-2	W-012607-022821-CM-002	Water	02/28/21 14:25	03/03/21 11:20	
320-70731-3	FB-012607-022821-CM-003	Water	02/28/21 14:35	03/03/21 11:20	

Eurofins TestAmerica, Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone: 916-373-5600 Fax: 916-372-1059

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Meincke	Lab PM: Heckler, Denise D	Carrier Tracking No(s): fedex	COC No: 240-80623-31468.1
Client Contact: Chris Meincke	Phone:	E-Mail: Denise.Heckler@Eurofinset.com	State of Origin:	Page: Page 1 of 1
Company: GHD Services Inc.	PWSID:	Analysis Requested		Job #:
Address: 26850 Haggerty Rd.	Due Date Requested:			Preservation Codes: A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
City: Farmington Hills	TAT Requested (days): 2 week			
State, Zip: MI, 48331	Compliance Project: ∧ Yes ∧ No			
Phone:	PO #: Purchase Order Requested			Other:
Email: chris.meincke@ghd.com	WO #: 12607			
Project Name: 12607-T37, RACER Eckles Rd	Project #: 24005880			
Site:	SSOW#:			

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
WT-012607-022821-CM-001	2-25-21	14:30	G	Water			X		
W-012607-022821-CM-002	"	14:25	G	Water			X		
FB-012607-022821-CM-003	"	14:35	G	Water			X		

320-70731 Chain of Custody

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

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

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

Special Instructions/QC Requirements:

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

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	2/1/21 1600	GHD		03/03/21 1120	eta SGF
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: ∧ Yes ∧ No	Custody Seal No.: 1633318	Cooler Temperature(s) °C and Other Remarks: 2.8

Ver: 11.01.2020

Login Sample Receipt Checklist

Client: GHD Services Inc.

Job Number: 320-70731-1

Login Number: 70731
List Number: 1
Creator: Oropeza, Salvador

List Source: Eurofins TestAmerica, Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	1633318
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	
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 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 <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	