



March 26, 2018

Reference No. 012607

Ms. Tessy Jose
City of Detroit
Water and Sewerage Department
Industrial Waste Control Division
303 S. Livernois Avenue
Detroit, Michigan 48209

Dear Ms. Jose:

**Re: DWSD Semi Annual Report – SD6 94508
(September 2017 through February 2018)
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 2017 through February 2018 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 and is effective through June 30, 2019.

RACER has been implementing United States Environmental Protection Agency (U.S. EPA) approved pilot studies to evaluate remedial alternatives for the reduction of dissolved chromium and nickel concentrations in site groundwater. Based on these pilot studies and as approved by U.S. EPA, RACER implemented a remedial alternative consisting of in-situ chemical reduction (ISCR) of dissolved chromium and nickel through chemical injections into the impacted groundwater, essentially treating the groundwater in the subsurface. Full-scale ISCR injections were conducted in 2016 and ISCR performance groundwater monitoring and evaluation were conducted through 2017.

The current City of Detroit Water and Sewerage Department (DWSD) Special Discharge Permit effluent limits for the groundwater treatment plant (GWTP) are 3.98 mg/L for nickel and 2.77 mg/L for total chromium. It is noted that recent GWTP influent concentrations have been less than the effluent limits based on laboratory analysis performed weekly since January 2018. A summary of the GWTP influent sample results is provided in Table 1. If the GWTP influent concentrations remain below Special Discharge Permit effluent limits due to the completed chemical injections into the impacted groundwater in the vicinity of the French drain conducted to date, RACER believes it will allow for modification of existing GWTP operation, while still meeting effluent limits and continuing to implement dewatering activities until final portions of the remedial alternative can be implemented and approval to discontinue dewatering (and therefore discharge to the sanitary sewer system) can be obtained from U.S. EPA. Influent testing will continue with field test kits and laboratory analysis weekly in order to obtain data to allow for evaluation of any trends in nickel and chromium concentrations in the influent, and once influent concentrations are consistently below the Special Discharge Permit requirements, the GWTP operations may be modified. Effluent testing will continue as required by the Special Discharge Permit. If approval to discontinue



dewatering is received from U.S. EPA then no discharge will be necessary and the existing Special Discharge Permit can be terminated. The approximate schedule for receiving approval from U.S. EPA to discontinue dewatering activities through the groundwater extraction system and hence the need for operating and discharging to the sanitary sewer system is late in 2018.

Section D: Reporting Requirements

- Reporting Period: September 1, 2017 to February 28, 2018.
- Dates of Sampling: September 6, 2017; October 11, 2017; November 15, 2017; December 6, 2017; January 10, 2018; and February 14, 2018. Laboratory analytical report are attached.
- GHD notified GLWA on October 19, 2017 that the groundwater treatment plant was shutdown due to failure of the air compressor cooler. The air compressor cooler was replaced and the groundwater treatment plant was restarted on November 6, 2017. The groundwater treatment plant was also shut down for the holiday period in December and was operated on a reduced schedule in February due to low groundwater elevations and for main well pump preventative maintenance.
- All samples were collected from the effluent sampling port of Tank T12.
- Total Monthly Discharges (gallons):
 - September 2017: 425,703
 - October 2017: 198,155
 - November 2017: 486,819
 - December 2017: 199,791
 - January 2018: 592,202
 - February 2018: 152,527
- Total Flow to Date (since 2000): 180,622,450 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/16

Encl.

cc: Dave Favero, RACER

Table 1

Analytical Results of GWTP Influent Samples
Eckles Road Site
Livonia, Michigan

Sample Location:		GLWA	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent
Sample Identification:		Special Discharge Permit	WT-012607-122116-EE-002	WT-012607-011717-EE-002	WT-012607-021517-EE-001	WT-012607-030817-EE-002	WT-012607-041917-EE-002	WT-012607-052417-EE-002
Sample Date:		Effluent Limits	12/21/2016	1/17/2017	2/15/2017	3/8/2017	4/19/2017	5/24/2017
Sample Type:								
Parameters	Units							
Metals								
Chromium	mg/L	2.77	5.40	4.80	5.40	5.10	4.40	3.50
Chromium VI (hexavalent)	mg/L		5.20	--	4.40	4.20	3.80	3.30
Nickel	mg/L	3.98	2.90	3.30	3.60	3.90	2.90	2.70

Notes:

U - Not detected at the associated reporting limit.

H - Sample was prepped or analyzed beyond the specified holding time.

"--" - Parameter was not analyzed for in specified sample

Table 1

Analytical Results of GWTP Influent Samples
Eckles Road Site
Livonia, Michigan

Sample Location:		GLWA	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent
Sample Identification:		Special Discharge Permit	WT-012607-062817-EE-002	WT-012607-071217-EE-002	WT-012607-080217-EE-002	WT-012607-090617-EE-002	WT-012607-101117-EE-002	WT-012607-111517-EE-002
Sample Date:		Effluent Limits	6/28/2017	7/12/2017	8/2/2017	9/6/2017	10/11/2017	11/15/2017
Sample Type:								
Parameters	Units							
Metals								
Chromium	mg/L	2.77	3.50	4.00	3.10	2.80	3.30	4.50
Chromium VI (hexavalent)	mg/L		2.50	0.0050 U	2.10	2.7 H	--	4.10
Nickel	mg/L	3.98	3.00	3.00	2.90	2.60	3.40	2.80

Notes:
 U - Not detected at the associated reporting limit.
 H - Sample was prepped or analyzed beyond the specified holding time.
 "--" - Parameter was not analyzed for in specified sample

Table 1

Analytical Results of GWTP Influent Samples
Eckles Road Site
Livonia, Michigan

Sample Location:		GLWA	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent	GWTP Influent
Sample Identification:		Special Discharge Permit	WT-012607-120617-EE-002	WT-012607-011018	WT-012607-012418-EE-002	WT-012607-013118-EE-002	WT-012607A-020718-EE-002	WT-012607-021418-EE-002	WT-012607-022818-EE-002
Sample Date:		Effluent Limits	12/6/2017	1/10/2018	1/24/2018	1/31/2018	2/7/2018	2/14/2018	2/28/2018
Sample Type:									
Parameters		Units							
Metals									
Chromium	mg/L	2.77	4.00	1.80	2.80	2.30	2.60	1.60	0.38
Chromium VI (hexavalent)	mg/L		2.80	1.10	2.40	2.30	2.40	--	0.30
Nickel	mg/L	3.98	2.30	1.20	3.00	2.70	2.90	2.20	2.50

Notes:

U - Not detected at the associated reporting limit.

H - Sample was prepped or analyzed beyond the specified holding time.

"--" - Parameter was not analyzed for in specified sample

Figure 1
GWTP Influent Concentrations - Eckles Road Site



SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - September 2017**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
09/01/17	None	None	On-Site	27,345	
09/02/17	None	None			
09/03/17	None	None			
09/04/17	None	None			
09/05/17	None	None	On-Site	1,939	
09/06/17	None	None	On-Site & Sampled	35,986	
09/07/17	None	None	On-Site	22,121	
09/08/17	None	None	On-Site	27,492	
09/09/17	None	None			
09/10/17	None	None			
09/11/17	None	None	On-Site	176	
09/12/17	None	None	On-Site	31,593	
09/13/17	None	None	On-Site	30,066	
09/14/17	None	None	On-Site	22,818	
09/15/17	None	None	On-Site	23,722	
09/16/17	None	None			
09/17/17	None	None			
09/18/17	None	None	On-Site	1,030	
09/19/17	None	None	On-Site	34,063	
09/20/17	None	None	On-Site	24,828	
09/21/17	None	None	On-Site	21,140	
09/22/17	None	None	On-Site	23,507	
09/23/17	None	None			
09/24/17	None	None			
09/25/17	None	None	On-Site	2,713	
09/26/17	None	None	On-Site	29,271	
09/27/17	None	None	On-Site	22,371	
09/28/17	None	None	On-Site	19,827	
09/29/17	None	None	On-Site	23,695	
09/30/17	None	None			

Total Monthly Discharge (gal)

425,703

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - October 2017**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
10/01/17	None	None			
10/02/17	None	None	On-Site	1,253	
10/03/17	None	None	On-Site	27,670	
10/04/17	None	None	On-Site	21,767	
10/05/17	None	None	On-Site	24,538	System shut down for weekend
10/06/17	None	None			
10/07/17	None	None			
10/08/17	None	None			
10/09/17	None	None	On-Site	1,299	
10/10/17	None	None	On-Site	32,316	
10/11/17	None	None	On-Site & Sampled	20,961	
10/12/17	None	None	On-Site	25,554	
10/13/17	None	None	On-Site	21,571	
10/14/17	None	None			
10/15/17	None	None			
10/16/17	None	None	On-Site	1,437	
10/17/17	None	None	On-Site	19,789	System down - compressor cooler leaking air
10/18/17	None	None			System down - compressor cooler leaking air
10/19/17	None	None			System down - compressor cooler leaking air
10/20/17	None	None			System down - compressor cooler leaking air
10/21/17	None	None			
10/22/17	None	None			
10/23/17	None	None			System down - compressor cooler leaking air
10/24/17	None	None			System down - compressor cooler leaking air
10/25/17	None	None			System down - compressor cooler leaking air
10/26/17	None	None			System down - compressor cooler leaking air
10/27/17	None	None			System down - compressor cooler leaking air
10/28/17	None	None			
10/29/17	None	None			
10/30/17	None	None			System down - compressor cooler leaking air
10/31/17	None	None			System down - compressor cooler leaking air

Total Monthly Discharge (gal)

198,155

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log - November 2017

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
11/01/17	None	None			System down - compressor cooler leaking air
11/02/17	None	None			System down - compressor cooler leaking air
11/03/17	None	None			System down - compressor cooler leaking air
11/04/17	None	None			
11/05/17	None	None			
11/06/17	None	None	On-Site	0	
11/07/17	None	None	On-Site	42,084	
11/08/17	None	None	On-Site	39,369	
11/09/17	None	None	On-Site	39,517	
11/10/17	None	None	On-Site	44,845	
11/11/17	None	None			
11/12/17	None	None			
11/13/17	None	None	On-Site	206	
11/14/17	None	None	On-Site	47,321	
11/15/17	None	None	On-Site & Sampled	48,682	
11/16/17	None	None	On-Site	47,041	
11/17/17	None	None	On-Site	40,798	
11/18/17	None	None			
11/19/17	None	None			
11/20/17	None	None	On-Site	348	
11/21/17	None	None	On-Site	48,863	
11/22/17	None	None	On-Site	49,981	
11/23/17	None	None			
11/24/17	None	None			
11/25/17	None	None			
11/26/17	None	None			
11/27/17	None	None			
11/28/17	None	None			
11/29/17	None	None	On-Site	117	
11/30/17	None	None	On-Site	37,647	

Total Monthly Discharge (gal) 486,819

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - December 2017**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
12/01/17	None	None			
12/02/17	None	None			
12/03/17	None	None			
12/04/17	None	None	On-Site	2,252	
12/05/17	None	None	On-Site	55,702	
12/06/17	None	None	On-Site & Sampled	39,960	
12/07/17	None	None	On-Site	6,923	
12/08/17	None	None			
12/09/17	None	None			
12/10/17	None	None			
12/11/17	None	None	On-Site	0	
12/12/17	None	None	On-Site	7,420	
12/13/17	None	None			System down - computer control system down
12/14/17	None	None			System down - computer control system down
12/15/17	None	None			System down - computer control system down
12/16/17	None	None			
12/17/17	None	None			
12/18/17	None	None	On-Site	0	
12/19/17	None	None	On-Site	48,046	
12/20/17	None	None	On-Site	39,488	
12/21/17	None	None			System down for Holiday Break
12/22/17	None	None			System down for Holiday Break
12/23/17	None	None			
12/24/17	None	None			
12/25/17	None	None			System down for Holiday Break
12/26/17	None	None			System down for Holiday Break
12/27/17	None	None			System down for Holiday Break
12/28/17	None	None			System down for Holiday Break
12/29/17	None	None			System down for Holiday Break
12/30/17	None	None			
12/31/17	None	None			

Total Monthly Discharge (gal)

199,791

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - January 2018**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
01/01/18	None	None			
01/02/18	None	None	On-Site	0	
01/03/18	None	None	On-Site	54,167	
01/04/18	None	None	On-Site	45,461	
01/05/18	None	None	On-Site	36,049	
01/06/18	None	None			
01/07/18	None	None			
01/08/18	None	None	On-Site	2,772	
01/09/18	None	None	On-Site	50,334	
01/10/18	None	None	On-Site & Sampled	37,030	
01/11/18	None	None			
01/12/18	None	None			
01/13/18	None	None			
01/14/18	None	None			
01/15/18	None	None	On-Site	1,849	
01/16/18	None	None	On-Site	47,995	
01/17/18	None	None	On-Site	37,147	
01/18/18	None	None	On-Site	32,235	
01/19/18	None	None	On-Site	45,035	
01/20/18	None	None			
01/21/18	None	None			
01/22/18	None	None	On-Site	319	
01/23/18	None	None	On-Site	34,309	
01/24/18	None	None	On-Site	53,155	
01/25/18	None	None	On-Site	30,929	
01/26/18	None	None			
01/27/18	None	None			
01/28/18	None	None			
01/29/18	None	None	On-Site	1,187	
01/30/18	None	None	On-Site	41,245	
01/31/18	None	None	On-Site	40,984	

Total Monthly Discharge (gal)

592,202

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - February 2018**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
02/01/18	None	None			
02/02/18	None	None			
02/03/18	None	None			
02/04/18	None	None			
02/05/18	None	None	On-Site	962	
02/06/18	None	None	On-Site	53,173	
02/07/18	None	None	On-Site	28,821	
02/08/18	None	None			System shutdown for low groundwater elevations
02/09/18	None	None			System shutdown for low groundwater elevations
02/10/18	None	None			
02/11/18	None	None			
02/12/18	None	None	On-Site	2,222	
02/13/18	None	None	On-Site	47,080	
02/14/18	None	None	On-Site & Sampled	19,995	
02/15/18	None	None			System shutdown for low groundwater elevations
02/16/18	None	None			System shutdown for low groundwater elevations
02/17/18	None	None			
02/18/18	None	None			
02/19/18	None	None			Planned System shutdown
02/20/18	None	None			Planned System shutdown
02/21/18	None	None			Planned System shutdown
02/22/18	None	None			Planned System shutdown
02/23/18	None	None			Planned System shutdown
02/24/18	None	None			
02/25/18	None	None			
02/26/18	None	None			System down - well pump motor changeout
02/27/18	None	None			System down - well pump motor changeout
02/28/18	None	None	On-Site	274	

Total Monthly Discharge (gal)

152,527

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - September 2017**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
9/1/2017	9/1/2017	9.29	0.03	0.00	0.05	
9/2/2017	9/2/2017					
9/3/2017	9/3/2017					
9/4/2017	9/4/2017					
9/5/2017	9/5/2017	8.76	0.02	0.00	0.05	
9/6/2017	9/6/2017	9.51	0.03	0.00	0.05	
9/7/2017	9/7/2017	9.49	0.02	0.00	0.05	
9/8/2017	9/8/2017	9.42	0.02	0.00	0.05	
9/9/2017	9/9/2017					
9/10/2017	9/10/2017					
9/11/2017	9/11/2017	8.46	0.02	0.00	0.05	
9/12/2017	9/12/2017	9.26	0.02	0.00	0.05	
9/13/2017	9/13/2017	9.27	0.02	0.00	0.05	
9/14/2017	9/14/2017	9.23	0.02	0.00	0.05	
9/15/2017	9/15/2017	9.19	0.05	0.00	0.10	
9/16/2017	9/16/2017					
9/17/2017	9/17/2017					
9/18/2017	9/18/2017	8.26	0.03	0.00	0.05	
9/19/2017	9/19/2017	9.20	0.03	0.00	0.05	
9/20/2017	9/20/2017	9.11	0.05	0.00	0.10	
9/21/2017	9/21/2017	9.15	0.02	0.00	0.05	
9/22/2017	9/22/2017	9.10	0.02	0.00	0.05	
9/23/2017	9/23/2017					
9/24/2017	9/24/2017					
9/25/2017	9/25/2017	8.14	0.02	0.00	0.05	
9/26/2017	9/26/2017	9.17	0.02	0.00	0.05	
9/27/2017	9/27/2017	9.12	0.03	0.00	0.05	
9/28/2017	9/28/2017	9.11	0.03	0.00	0.05	
9/29/2017	9/29/2017	9.08	0.02	0.00	0.05	
9/30/2017	9/30/2017					

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - October 2017

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
10/1/2017	10/1/2017					
10/2/2017	10/2/2017	8.49	0.02	0.00	0.05	
10/3/2017	10/3/2017	9.47	0.02	0.00	0.05	
10/4/2017	10/4/2017	9.42	0.02	0.00	0.05	
10/5/2017	10/5/2017	9.41	0.02	0.00	0.05	System shut down for weekend
10/6/2017	10/6/2017					
10/7/2017	10/7/2017					
10/8/2017	10/8/2017					
10/9/2017	10/9/2017	8.29	0.02	0.00	0.05	
10/10/2017	10/10/2017	9.01	0.04	0.00	0.10	
10/11/2017	10/11/2017	9.06	0.02	0.00	0.05	
10/12/2017	10/12/2017	9.01	0.03	0.00	0.10	
10/13/2017	10/13/2017	8.98	0.03	0.00	0.05	
10/14/2017	10/14/2017					
10/15/2017	10/15/2017					
10/16/2017	10/16/2017	8.10	0.02	0.00	0.05	
10/17/2017	10/17/2017	8.86	0.02	0.00	0.05	System down - compressor cooler leaking air
10/18/2017	10/18/2017					System down - compressor cooler leaking air
10/19/2017	10/19/2017					System down - compressor cooler leaking air
10/20/2017	10/20/2017					System down - compressor cooler leaking air
10/21/2017	10/21/2017					
10/22/2017	10/22/2017					
10/23/2017	10/23/2017					System down - compressor cooler leaking air
10/24/2017	10/24/2017					System down - compressor cooler leaking air
10/25/2017	10/25/2017					System down - compressor cooler leaking air
10/26/2017	10/26/2017					System down - compressor cooler leaking air
10/27/2017	10/27/2017					System down - compressor cooler leaking air
10/28/2017	10/28/2017					
10/29/2017	10/29/2017					
10/30/2017	10/30/2017					System down - compressor cooler leaking air
10/31/2017	10/31/2017					System down - compressor cooler leaking air

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - November 2017**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
11/1/2017	11/1/2017					System down - compressor cooler leaking air
11/2/2017	11/2/2017					System down - compressor cooler leaking air
11/3/2017	11/3/2017					System down - compressor cooler leaking air
11/4/2017	11/4/2017					
11/5/2017	11/5/2017					
11/6/2017	11/6/2017	7.72	0.02	0.00	0.05	
11/7/2017	11/7/2017	9.37	0.02	0.00	0.05	
11/8/2017	11/8/2017	9.31	0.02	0.00	0.05	
11/9/2017	11/9/2017	9.22	0.02	0.00	0.05	
11/10/2017	11/10/2017	9.19	0.02	0.00	0.05	
11/11/2017	11/11/2017					
11/12/2017	11/12/2017					
11/13/2017	11/13/2017	8.16	0.02	0.00	0.05	
11/14/2017	11/14/2017	9.20	0.02	0.00	0.05	
11/15/2017	11/15/2017	8.75	0.10	0.00	0.05	
11/16/2017	11/16/2017	9.02	0.02	0.00	0.05	
11/17/2017	11/17/2017	9.04	0.02	0.00	0.05	
11/18/2017	11/18/2017					
11/19/2017	11/19/2017					
11/20/2017	11/20/2017	7.79	0.02	0.00	0.05	
11/21/2017	11/21/2017	8.94	0.02	0.00	0.05	
11/22/2017	11/22/2017	8.89	0.05	0.00	0.10	
11/23/2017	11/23/2017					
11/24/2017	11/24/2017					
11/25/2017	11/25/2017					
11/26/2017	11/26/2017					
11/27/2017	11/27/2017					
11/28/2017	11/28/2017					
11/29/2017	11/29/2017	8.03	0.02	0.00	0.05	
11/30/2017	11/30/2017	9.30	0.02	0.00	0.05	

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - December 2017**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
12/1/2017	12/1/2017					
12/2/2017	12/2/2017					
12/3/2017	12/3/2017					
12/4/2017	12/4/2017	8.08	0.02	0.00	0.05	
12/5/2017	12/5/2017	9.27	0.02	0.00	0.05	
12/6/2017	12/6/2017	9.38	0.02	0.00	0.05	
12/7/2017	12/7/2017	9.15	0.03	0.00	0.10	
12/8/2017	12/8/2017					
12/9/2017	12/9/2017					
12/10/2017	12/10/2017					
12/11/2017	12/11/2017	8.14	0.02	0.00	0.05	
12/12/2017	12/12/2017	9.21	0.02	0.00	0.05	
12/13/2017	12/13/2017					System down - computer control system down
12/14/2017	12/14/2017					System down - computer control system down
12/15/2017	12/15/2017					System down - computer control system down
12/16/2017	12/16/2017					
12/17/2017	12/17/2017					
12/18/2017	12/18/2017	8.33	0.02	0.00	0.05	
12/19/2017	12/19/2017	9.68	0.03	0.00	0.08	
12/20/2017	12/20/2017	9.65	0.02	0.00	0.05	
12/21/2017	12/21/2017					System down for Holiday break
12/22/2017	12/22/2017					System down for Holiday break
12/23/2017	12/23/2017					
12/24/2017	12/24/2017					
12/25/2017	12/25/2017					System down for Holiday break
12/26/2017	12/26/2017					System down for Holiday break
12/27/2017	12/27/2017					System down for Holiday break
12/28/2017	12/28/2017					System down for Holiday break
12/29/2017	12/29/2017					System down for Holiday break
12/30/2017	12/30/2017					
12/31/2017	12/31/2017					

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - January 2018

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
1/1/2018	1/1/2018					
1/2/2018	1/2/2018	9.16	0.02	0.00	0.05	
1/3/2018	1/3/2018	9.63	0.01	0.00	0.05	
1/4/2018	1/4/2018	9.73	0.01	0.00	0.05	
1/5/2018	1/5/2018	9.65	0.01	0.00	0.05	
1/6/2018	1/6/2018					
1/7/2018	1/7/2018					
1/8/2018	1/8/2018	9.10	0.01	0.00	0.05	
1/9/2018	1/9/2018	9.46	0.01	0.00	0.05	
1/10/2018	1/10/2018	9.41	0.01	0.00	0.05	
1/11/2018	1/11/2018					
1/12/2018	1/12/2018					
1/13/2018	1/13/2018					
1/14/2018	1/14/2018					
1/15/2018	1/15/2018	8.06	0.01	0.00	0.05	
1/16/2018	1/16/2018	9.27	0.01	0.00	0.05	
1/17/2018	1/17/2018	9.28	0.01	0.80	0.80	
1/18/2018	1/18/2018	9.21	0.01	0.00	0.05	
1/19/2018	1/19/2018	9.16	0.01	0.00	0.05	
1/20/2018	1/20/2018					
1/21/2018	1/21/2018					
1/22/2018	1/22/2018	8.02	0.01	0.00	0.05	
1/23/2018	1/23/2018	9.28	0.01	0.00	0.05	
1/24/2018	1/24/2018	9.20	0.01	0.00	0.05	
1/25/2018	1/25/2018	9.14	0.01	0.00	0.05	
1/26/2018	1/26/2018					
1/27/2018	1/27/2018					
1/28/2018	1/28/2018					
1/29/2018	1/29/2018	7.80	0.01	0.00	0.05	
1/30/2018	1/30/2018	9.25	0.02	0.00	0.05	
1/31/2018	1/31/2018	9.30	0.01	0.00	0.05	

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - February 2018**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
2/1/2018	2/1/2018					
2/2/2018	2/2/2018					
2/3/2018	2/3/2018					
2/4/2018	2/4/2018					
2/5/2018	2/5/2018	7.94	0.01	0.00	0.05	
2/6/2018	2/6/2018	9.30	0.01	0.00	0.05	
2/7/2018	2/7/2018	9.31	0.02	0.00	0.08	
2/8/2018	2/8/2018					System shutdown for low groundwater elevations
2/9/2018	2/9/2018					System shutdown for low groundwater elevations
2/10/2018	2/10/2018					
2/11/2018	2/11/2018					
2/12/2018	2/12/2018	8.05	0.01	0.00	0.05	
2/13/2018	2/13/2018	9.35	0.01	0.00	0.05	
2/14/2018	2/14/2018	9.30	0.01	0.00	0.05	
2/15/2018	2/15/2018					System shutdown for low groundwater elevations
2/16/2018	2/16/2018					System shutdown for low groundwater elevations
2/17/2018	2/17/2018					
2/18/2018	2/18/2018					
2/19/2018	2/19/2018					Planned sytem shutdown
2/20/2018	2/20/2018					Planned sytem shutdown
2/21/2018	2/21/2018					Planned sytem shutdown
2/22/2018	2/22/2018					Planned sytem shutdown
2/23/2018	2/23/2018					Planned sytem shutdown
2/24/2018	2/24/2018					
2/25/2018	2/25/2018					
2/26/2018	2/26/2018					System down - well pump motor changeout
2/27/2018	2/27/2018					System down - well pump motor changeout
2/28/2018	2/28/2018	7.94	0.01	0.00	0.05	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-84617-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

9/20/2017 9:48:23 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-84617-1

Job ID: 240-84617-1

Laboratory: TestAmerica Canton

Narrative

, ob Narrative
240-84617-1

Comments

No additional comments.

Receipt

The samples were received on 9/7/2017 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

GC Semi VOA

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-090617-EE-001 (240-84617-1). 3206288, 2596995, 3141112.

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

Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-090617-EE-001 (240-84617-1). 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(s) SM 3500 CR B: The following sample was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: WT-012607-090617-EE-001 (240-84617-1).

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

Organic Prep

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-294320.

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

TestAmerica Job ID: 240-84617-1

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
H	Sample was prepped or analyzed beyond the specified holding time
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Sample Summary

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

TestAmerica Job ID: 240-84617-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-84617-1	WT-012607-090617-EE-001	Water	09/06/17 15:00	09/07/17 09:30

Detection Summary

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

TestAmerica Job ID: 240-84617-1

Client Sample ID: WT-012607-090617-EE-001

Lab Sample ID: 240-84617-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.059		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.10		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	10		4.0	mg/L	1		SM 2540D	Total
								Recoverable
								Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-84617-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
3500-Cr B-2009	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	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 = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

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

TestAmerica Job ID: 240-84617-1

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

Client Sample ID: WT-012607-090617-EE-001

Date Collected: 09/06/17 15:00

Date Received: 09/07/17 09:30

Lab Sample ID: 240-84617-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Aroclor-1221	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Aroclor-1232	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Aroclor-1242	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Aroclor-1248	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Aroclor-1254	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Aroclor-1260	0.096	U	0.096	ug/L		09/11/17 10:27	09/13/17 13:23	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		10 - 114			09/11/17 10:27	09/13/17 13:23	1
Tetrachloro-m-xylene	69		15 - 131			09/11/17 10:27	09/13/17 13:23	1

Client Sample Results

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

TestAmerica Job ID: 240-84617-1

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

Client Sample ID: WT-012607-090617-EE-001

Date Collected: 09/06/17 15:00

Date Received: 09/07/17 09:30

Lab Sample ID: 240-84617-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.059		0.050	mg/L		09/08/17 14:00	09/11/17 19:29	1
Nickel	0.10		0.010	mg/L		09/08/17 14:00	09/11/17 19:29	1
Lead	0.050	U	0.050	mg/L		09/08/17 14:00	09/11/17 19:29	1
Zinc	0.020	U	0.020	mg/L		09/08/17 14:00	09/11/17 19:29	1

Client Sample Results

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

TestAmerica Job ID: 240-84617-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-090617-EE-001

Date Collected: 09/06/17 15:00

Date Received: 09/07/17 09:30

Lab Sample ID: 240-84617-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		09/08/17 14:00	09/11/17 14:12	1

Client Sample Results

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

TestAmerica Job ID: 240-84617-1

General Chemistry

Client Sample ID: WT-012607-090617-EE-001

Date Collected: 09/06/17 15:00

Date Received: 09/07/17 09:30

Lab Sample ID: 240-84617-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			09/19/17 08:40	1
Cr (VI)	0.0050	U H	0.0050	mg/L			09/07/17 15:06	1
Total Suspended Solids	10		4.0	mg/L			09/11/17 09:14	1

QC Association Summary

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

TestAmerica Job ID: 240-84617-1

GC Semi VOA

Prep Batch: 294320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	3520C	
MB 240-294320/16-A	Method Blank	Total/NA	Water	3520C	
LCS 240-294320/17-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 294638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	608	294320
MB 240-294320/16-A	Method Blank	Total/NA	Water	608	294320
LCS 240-294320/17-A	Lab Control Sample	Total/NA	Water	608	294320

Metals

Prep Batch: 294120

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total Recoverable	Water	200.7	
MB 240-294120/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-294120/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 294124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	245.1	
MB 240-294124/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-294124/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 294376

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total Recoverable	Water	200.7 Rev 4.4	294120
MB 240-294120/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	294120
LCS 240-294120/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	294120

Analysis Batch: 294377

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	245.1	294124
MB 240-294124/1-A	Method Blank	Total/NA	Water	245.1	294124
LCS 240-294124/2-A	Lab Control Sample	Total/NA	Water	245.1	294124

General Chemistry

Analysis Batch: 293992

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-293992/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-293992/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 294289

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	SM 2540D	
MB 240-294289/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-294289/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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QC Association Summary

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

TestAmerica Job ID: 240-84617-1

General Chemistry (Continued)

Analysis Batch: 295349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-84617-1	WT-012607-090617-EE-001	Total/NA	Water	1664A	
MB 240-295349/1	Method Blank	Total/NA	Water	1664A	
LCS 240-295349/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-84617-1

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

Lab Sample ID: MB 240-294320/16-A

Matrix: Water

Analysis Batch: 294638

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 294320

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Aroclor-1221	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Aroclor-1232	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Aroclor-1242	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Aroclor-1248	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Aroclor-1254	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Aroclor-1260	0.10	U	0.10	ug/L		09/11/17 10:27	09/13/17 13:42	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	82		10 - 114			09/11/17 10:27	09/13/17 13:42	1
Tetrachloro-m-xylene	76		15 - 131			09/11/17 10:27	09/13/17 13:42	1

Lab Sample ID: LCS 240-294320/17-A

Matrix: Water

Analysis Batch: 294638

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 294320

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.65		ug/L		66	50 - 114
Aroclor-1260	2.50	1.99		ug/L		79	8 - 127
Surrogate	%Recovery	LCS Qualifier	Limits				
DCB Decachlorobiphenyl	89		10 - 114				
Tetrachloro-m-xylene	78		15 - 131				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-294120/1-A

Matrix: Water

Analysis Batch: 294376

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 294120

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		09/08/17 14:00	09/11/17 18:24	1
Nickel	0.010	U	0.010	mg/L		09/08/17 14:00	09/11/17 18:24	1
Lead	0.050	U	0.050	mg/L		09/08/17 14:00	09/11/17 18:24	1
Zinc	0.020	U	0.020	mg/L		09/08/17 14:00	09/11/17 18:24	1

Lab Sample ID: LCS 240-294120/2-A

Matrix: Water

Analysis Batch: 294376

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 294120

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.210		mg/L		105	85 - 115
Nickel	0.500	0.531		mg/L		106	85 - 115
Lead	0.500	0.523		mg/L		105	85 - 115
Zinc	0.500	0.538		mg/L		108	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-84617-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-294124/1-A
Matrix: Water
Analysis Batch: 294377

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 294124

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		09/08/17 14:00	09/11/17 13:47	1

Lab Sample ID: LCS 240-294124/2-A
Matrix: Water
Analysis Batch: 294377

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 294124

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00483		mg/L		97	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-295349/1
Matrix: Water
Analysis Batch: 295349

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			09/19/17 08:40	1

Lab Sample ID: LCS 240-295349/2
Matrix: Water
Analysis Batch: 295349

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	38.00		mg/L		95	78 - 114

Method: 3500-Cr B-2009 - Chromium, Hexavalent

Lab Sample ID: MB 240-293992/3
Matrix: Water
Analysis Batch: 293992

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			09/07/17 10:02	1

Lab Sample ID: LCS 240-293992/4
Matrix: Water
Analysis Batch: 293992

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.248		mg/L		99	80 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-84617-1

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

Lab Sample ID: MB 240-294289/1

Matrix: Water

Analysis Batch: 294289

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			09/11/17 09:14	1

Lab Sample ID: LCS 240-294289/2

Matrix: Water

Analysis Batch: 294289

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	66.1	65.0		mg/L		98	64 - 120

Surrogate Summary

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

TestAmerica Job ID: 240-84617-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (10-114)	TCX1 (15-131)
240-84617-1	WT-012607-090617-EE-001	66	69
LCS 240-294320/17-A	Lab Control Sample	89	78
MB 240-294320/16-A	Method Blank	82	76

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-84617-1

Client Sample ID: WT-012607-090617-EE-001

Lab Sample ID: 240-84617-1

Date Collected: 09/06/17 15:00

Matrix: Water

Date Received: 09/07/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			294320	09/11/17 10:27	CS	TAL CAN
Total/NA	Analysis	608		1	294638	09/13/17 13:23	KMG	TAL CAN
Total Recoverable	Prep	200.7			294120	09/08/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	294376	09/11/17 19:29	AS1	TAL CAN
Total/NA	Prep	245.1			294124	09/08/17 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	294377	09/11/17 14:12	DTN	TAL CAN
Total/NA	Analysis	1664A		1	295349	09/19/17 08:40	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	293992	09/07/17 15:06	JESW	TAL CAN
Total/NA	Analysis	SM 2540D		1	294289	09/11/17 09:14	JMB	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-84617-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-17 *
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

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

TestAmerica Canton

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.229.2763 Fax: 412.963.2470

MICHIGAN
190

Chain of Custody Record
24065886
222076

TestAmerica

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

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

Company Name: GMH		Client Contact	
Address: 26850 Haggerty Rd			
City/State/Zip: Farmington, CT 06031			
Phone:			
Fax:			
Project Name: RACON GWPL WIDOWS			
Site: WIDOWS, MI			
PO # 12607-TOX17-01			

Project Manager: Chris Mendenhall		Site Contact: E. Gagnier		Date: 9/6/17		COC No: 1 of 2 COCs	
Tell/Fax:		Lab Contact: D. Hedeker		Carrier: FedEx			

Analysis Turnaround Time		Sampler:	
☒ CALENDAR DAYS	☐ WORKING DAYS	For Lab Use Only:	
TAT if different from Below		Walk-in Client:	
☒ 2 weeks	☐ 1 week	Lab Sampling:	
☐ 2 days	☐ 1 day		

Sample Identification		Sample Specific Notes:	
WT - 012607-090617-EE-001		Effluent Composite	

Sample Date		Sample Type (C=Comp, G=Grab)		# of Cont.	
9/6/17 1500	G	WT	6		

Filtered Sample (Y/N)		Perform MS / MSD (Y/N)		TSS, Metals, PCBs	



240-84617 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
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-Hazardous ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown		☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months	
--	--	---	--

Special Instructions/QC Requirements & Comments:		Cooler Temp. (°C):		Obs'd:		Therm ID No.:	
Custody Seal No.:		Company: GMH		Date/Time: 9/6/17 1600		Received by: PP	
Relinquished by: E. Gagnier		Company:		Date/Time:		Received by:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:	

TestAmerica Canton Sample Receipt Form/Narrative Login # : 84617

Canton Facility

Client GHD Site Name Cooler unpacked by: POP

Cooler Received on 9-7-17 Opened on 9-7-17

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

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

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 3.2 °C Corrected Cooler Temp. 3.2 °C
 IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

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

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

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

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

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

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

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

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

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

11. Are these work share samples? Yes No

If yes, Questions 11-15 have been checked at the originating laboratory.

11. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC697954

12. Were VOAs on the COC? Yes No

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

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

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: POP

17. 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)

18. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-090617-EE-001	240-84617-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-090617-EE-001	240-84617-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-090617-EE-001	240-84617-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-86353-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

10/26/2017 5:18:39 PM

Leslie Howell, Project Manager I

leslie.howell@testamericainc.com

Designee for

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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www.testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-86353-1

Job ID: 240-86353-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-86353-1

Comments

No additional comments.

Receipt

The sample was received on 10/12/2017 9:15 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.2° C.

GC Semi VOA

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-101117-EE-04 (240-86353-1).

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

Metals

Method(s) 200.7 Rev 4.4: The CCB was greater than or equal to the requested reporting for zinc. Since the sample result(s) was/were below the requested reporting limit the result(s) was/were accepted for WT-012607-101117-EE-04 (240-86353-1).

Method(s) 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-012607-101117-EE-04 (240-86353-1) 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(s) 1664A: Analysis for Hexane Extractable Material (HEM) was performed for the following sample: (190-14679-A-2). Since the HEM result(s) was below the reporting limit (RL), the result(s) for Silica Gel Treated - Hexane Extractable Material (SGT-HEM) was reported as a non-detect. All HEM quality control criteria were met.

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

Organic Prep

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-298954.

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

TestAmerica Job ID: 240-86353-1

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.
L	A negative instrument reading had an absolute value greater than the reporting limit

General Chemistry

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

Glossary

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

Sample Summary

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

TestAmerica Job ID: 240-86353-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-86353-1	WT-012607-101117-EE-04	Water	10/11/17 14:30	10/12/17 09:15

Detection Summary

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

TestAmerica Job ID: 240-86353-1

Client Sample ID: WT-012607-101117-EE-04

Lab Sample ID: 240-86353-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.085		0.010	mg/L	1		200.7 Rev 4.4	Total
Total Suspended Solids	11		4.0	mg/L	1		SM 2540D	Recoverable Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-86353-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
3500-Cr B-2009	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	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 = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

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

TestAmerica Job ID: 240-86353-1

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

Client Sample ID: WT-012607-101117-EE-04

Date Collected: 10/11/17 14:30

Date Received: 10/12/17 09:15

Lab Sample ID: 240-86353-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Aroclor-1221	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Aroclor-1232	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Aroclor-1242	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Aroclor-1248	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Aroclor-1254	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Aroclor-1260	0.096	U	0.096	ug/L		10/13/17 11:04	10/17/17 13:04	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	60		10 - 114			10/13/17 11:04	10/17/17 13:04	1
Tetrachloro-m-xylene	51		15 - 131			10/13/17 11:04	10/17/17 13:04	1

Client Sample Results

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

TestAmerica Job ID: 240-86353-1

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

Client Sample ID: WT-012607-101117-EE-04

Date Collected: 10/11/17 14:30

Date Received: 10/12/17 09:15

Lab Sample ID: 240-86353-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		10/13/17 14:00	10/16/17 10:44	1
Nickel	0.085		0.010	mg/L		10/13/17 14:00	10/16/17 10:44	1
Lead	0.050	U	0.050	mg/L		10/13/17 14:00	10/16/17 10:44	1
Zinc	0.020	U	0.020	mg/L		10/13/17 14:00	10/16/17 10:44	1

Client Sample Results

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

TestAmerica Job ID: 240-86353-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-101117-EE-04

Date Collected: 10/11/17 14:30

Date Received: 10/12/17 09:15

Lab Sample ID: 240-86353-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		10/13/17 14:00	10/17/17 09:59	1

Client Sample Results

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

TestAmerica Job ID: 240-86353-1

General Chemistry

Client Sample ID: WT-012607-101117-EE-04

Date Collected: 10/11/17 14:30

Date Received: 10/12/17 09:15

Lab Sample ID: 240-86353-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			10/19/17 09:06	1
Cr (VI)	0.0050	U	0.0050	mg/L			10/12/17 10:51	1
Total Suspended Solids	11		4.0	mg/L			10/16/17 09:07	1

QC Association Summary

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

TestAmerica Job ID: 240-86353-1

GC Semi VOA

Prep Batch: 298954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	3520C	
MB 240-298954/21-A	Method Blank	Total/NA	Water	3520C	
LCS 240-298954/22-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 299357

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	608	298954
MB 240-298954/21-A	Method Blank	Total/NA	Water	608	298954
LCS 240-298954/22-A	Lab Control Sample	Total/NA	Water	608	298954

Metals

Prep Batch: 298908

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total Recoverable	Water	200.7	
MB 240-298908/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-298908/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-86353-1 MS	WT-012607-101117-EE-04	Total Recoverable	Water	200.7	
240-86353-1 MSD	WT-012607-101117-EE-04	Total Recoverable	Water	200.7	

Prep Batch: 298917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	245.1	
MB 240-298917/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-298917/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-86353-1 MS	WT-012607-101117-EE-04	Total/NA	Water	245.1	
240-86353-1 MSD	WT-012607-101117-EE-04	Total/NA	Water	245.1	

Analysis Batch: 299318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total Recoverable	Water	200.7 Rev 4.4	298908
MB 240-298908/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	298908
LCS 240-298908/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	298908
240-86353-1 MS	WT-012607-101117-EE-04	Total Recoverable	Water	200.7 Rev 4.4	298908
240-86353-1 MSD	WT-012607-101117-EE-04	Total Recoverable	Water	200.7 Rev 4.4	298908

Analysis Batch: 299450

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	245.1	298917
MB 240-298917/1-A	Method Blank	Total/NA	Water	245.1	298917
LCS 240-298917/2-A	Lab Control Sample	Total/NA	Water	245.1	298917
240-86353-1 MS	WT-012607-101117-EE-04	Total/NA	Water	245.1	298917
240-86353-1 MSD	WT-012607-101117-EE-04	Total/NA	Water	245.1	298917

General Chemistry

Analysis Batch: 298707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	3500-Cr B-2009	
MB 240-298707/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

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QC Association Summary

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

TestAmerica Job ID: 240-86353-1

General Chemistry (Continued)

Analysis Batch: 298707 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-298707/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 299150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	SM 2540D	
MB 240-299150/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-299150/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 299741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-86353-1	WT-012607-101117-EE-04	Total/NA	Water	1664A	
MB 240-299741/1	Method Blank	Total/NA	Water	1664A	
LCS 240-299741/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-86353-1

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

Lab Sample ID: MB 240-298954/21-A

Matrix: Water

Analysis Batch: 299357

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 298954

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Aroclor-1221	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Aroclor-1232	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Aroclor-1242	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Aroclor-1248	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Aroclor-1254	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Aroclor-1260	0.10	U	0.10	ug/L		10/13/17 11:04	10/17/17 09:54	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	70		10 - 114			10/13/17 11:04	10/17/17 09:54	1
Tetrachloro-m-xylene	56		15 - 131			10/13/17 11:04	10/17/17 09:54	1

Lab Sample ID: LCS 240-298954/22-A

Matrix: Water

Analysis Batch: 299357

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 298954

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.27		ug/L		51	50 - 114
Aroclor-1260	2.50	1.41		ug/L		56	8 - 127
Surrogate	%Recovery	LCS Qualifier	Limits				
DCB Decachlorobiphenyl	70		10 - 114				
Tetrachloro-m-xylene	57		15 - 131				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-298908/1-A

Matrix: Water

Analysis Batch: 299318

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 298908

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		10/13/17 14:00	10/16/17 11:01	1
Nickel	0.010	U	0.010	mg/L		10/13/17 14:00	10/16/17 11:01	1
Lead	0.050	U	0.050	mg/L		10/13/17 14:00	10/16/17 11:01	1
Zinc	0.020	U	0.020	mg/L		10/13/17 14:00	10/16/17 11:01	1

Lab Sample ID: LCS 240-298908/2-A

Matrix: Water

Analysis Batch: 299318

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 298908

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.192		mg/L		96	85 - 115
Nickel	0.500	0.503		mg/L		101	85 - 115
Lead	0.500	0.499		mg/L		100	85 - 115
Zinc	0.500	0.504		mg/L		101	85 - 115

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QC Sample Results

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

TestAmerica Job ID: 240-86353-1

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

Lab Sample ID: 240-86353-1 MS

Matrix: Water

Analysis Batch: 299318

Client Sample ID: WT-012607-101117-EE-04

Prep Type: Total Recoverable

Prep Batch: 298908

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chromium	0.050	U	0.200	0.247		mg/L		99	75 - 125
Nickel	0.085		0.500	0.605		mg/L		104	75 - 125
Lead	0.050	U	0.500	0.500		mg/L		100	75 - 125
Zinc	0.020	U	0.500	0.519		mg/L		104	75 - 125

Lab Sample ID: 240-86353-1 MSD

Matrix: Water

Analysis Batch: 299318

Client Sample ID: WT-012607-101117-EE-04

Prep Type: Total Recoverable

Prep Batch: 298908

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.050	U	0.200	0.247		mg/L		99	75 - 125	0	20
Nickel	0.085		0.500	0.603		mg/L		103	75 - 125	0	20
Lead	0.050	U	0.500	0.496		mg/L		99	75 - 125	1	20
Zinc	0.020	U	0.500	0.518		mg/L		104	75 - 125	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-298917/1-A

Matrix: Water

Analysis Batch: 299450

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 298917

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U L	0.00020	mg/L		10/13/17 14:00	10/17/17 09:51	1

Lab Sample ID: LCS 240-298917/2-A

Matrix: Water

Analysis Batch: 299450

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 298917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00442		mg/L		88	85 - 115

Lab Sample ID: 240-86353-1 MS

Matrix: Water

Analysis Batch: 299450

Client Sample ID: WT-012607-101117-EE-04

Prep Type: Total/NA

Prep Batch: 298917

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00020	U	0.00100	0.000952		mg/L		95	70 - 130

Lab Sample ID: 240-86353-1 MSD

Matrix: Water

Analysis Batch: 299450

Client Sample ID: WT-012607-101117-EE-04

Prep Type: Total/NA

Prep Batch: 298917

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00020	U	0.00100	0.000933		mg/L		93	70 - 130	2	20

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QC Sample Results

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

TestAmerica Job ID: 240-86353-1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-299741/1

Matrix: Water

Analysis Batch: 299741

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			10/19/17 09:06	1

Lab Sample ID: LCS 240-299741/2

Matrix: Water

Analysis Batch: 299741

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	38.60		mg/L		96	78 - 114

Method: 3500-Cr B-2009 - Chromium, Hexavalent

Lab Sample ID: MB 240-298707/3

Matrix: Water

Analysis Batch: 298707

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			10/12/17 08:38	1

Lab Sample ID: LCS 240-298707/4

Matrix: Water

Analysis Batch: 298707

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.266		mg/L		107	80 - 123

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

Lab Sample ID: MB 240-299150/1

Matrix: Water

Analysis Batch: 299150

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			10/16/17 09:07	1

Lab Sample ID: LCS 240-299150/2

Matrix: Water

Analysis Batch: 299150

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	66.1	62.0		mg/L		94	64 - 120

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Surrogate Summary

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

TestAmerica Job ID: 240-86353-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (10-114)	TCX2 (15-131)
240-86353-1	WT-012607-101117-EE-04	60	51
LCS 240-298954/22-A	Lab Control Sample	70	57
MB 240-298954/21-A	Method Blank	70	56

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-86353-1

Client Sample ID: WT-012607-101117-EE-04

Date Collected: 10/11/17 14:30

Date Received: 10/12/17 09:15

Lab Sample ID: 240-86353-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			298954	10/13/17 11:04	CS	TAL CAN
Total/NA	Analysis	608		1	299357	10/17/17 13:04	LSH	TAL CAN
Total Recoverable	Prep	200.7			298908	10/13/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	299318	10/16/17 10:44	KLC	TAL CAN
Total/NA	Prep	245.1			298917	10/13/17 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	299450	10/17/17 09:59	DSH	TAL CAN
Total/NA	Analysis	1664A		1	299741	10/19/17 09:06	JESW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	298707	10/12/17 10:51	MM	TAL CAN
Total/NA	Analysis	SM 2540D		1	299150	10/16/17 09:07	MM	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-86353-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

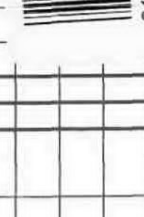
* Accreditation/Certification renewal pending - accreditation/certification considered valid.

TestAmerica Canton

Phone: 810.229.2763 Fax:

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

TAL-8210 (0713)

Client Contact Company Name: <u>GHD</u> Address: <u>26500 Argosy Rd</u> City/State/Zip: <u>Farmingdale, NY 11735</u> Phone: _____ Fax: _____		Project Manager: Chai's Meinel Tell/Fax: _____ Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Site Contact: E. Engwall Date: <u>10/11/17</u> Lab Contact: <u>D. Heuler</u> Carrier: <u>FedEx</u>		COC No: _____ of <u>2</u> COCs Sampler: _____ For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No.: <u>24005880</u>	
Project Name: RACED - GARD L. VONIC Site: <u>LIVONIA MI</u> PO # <u>12607-101417-01</u>		Sample Identification <u>WT-012607-10117-EE001</u>		Filtered Sample (Y / N) Perform MS / MSD (Y / N)		Sample Specific Notes: <u>Effluent Composite</u>	
Sample Date <u>10/11/17 1430</u>		Sample Type (C=Comp, G=Grab) <u>C</u>		Matrix <u>WT</u>		# of Cont. <u>6</u>	
							
240-86353 Chain of Custody							
Preservation Used: 1=Ice, 2=HCl, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other _____							
Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown							
Special Instructions/QC Requirements & Comments:							
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.: _____		Cooler Temp. (°C): _____		Therm ID No.: _____	
Relinquished by: <u>E. Engwall</u>		Company: <u>GHD</u>		Received by: <u>J. Heuler</u>		Company: <u>TA</u>	
Relinquished by: _____		Company: _____		Received by: _____		Company: _____	
Relinquished by: _____		Company: _____		Received by: _____		Company: _____	

Login # : 86353

TestAmerica Canton Sample Receipt Form/Narrative

Canton Facility

Client GHD Site Name _____
Cooler Received on 10/12/17 Opened on 10/12/17
FedEx: 1st Grd ☒ UPS ☐ FAS ☐ Clipper ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ☐

Cooler unpacked by:

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

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

☐ See Multiple Cooler Form

1. Cooler temperature upon receipt
IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 3.2 °C Corrected Cooler Temp. 3.2 °C
IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

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

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

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

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

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

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

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

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

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

11. Are these work share samples? ☒ Yes ☐ No

If yes, Questions 11-15 have been checked at the originating laboratory.

11. Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA

12. Were VOAs on the COC? ☒ Yes ☐ No

13. Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No ☒ NA

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

15. 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 _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. 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)

18. SAMPLE PRESERVATION

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

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
WT-012607-101117-EE-04	240-86353-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-101117-EE-04	240-86353-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-101117-EE-04	240-86353-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-88123-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

11/28/2017 9:54:12 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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results through

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www.testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-88123-1

Job ID: 240-88123-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-88123-1

Comments

No additional comments.

Receipt

The sample was received on 11/16/2017 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.2° C.

GC Semi VOA

Method(s) 608: Two surrogates are used for this analysis. The laboratory's SOP allows one of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: (LCS 240-304686/16-A) and (MB 240-304686/15-A). These results have been reported and qualified.

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-111517-EE-001 (240-88123-1). 3348692, 3154251, 3361890.

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

Metals

Method(s) 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-012607-111517-EE-001 (240-88123-1). 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

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-304686.

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

TestAmerica Job ID: 240-88123-1

Qualifiers

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
X	Surrogate is outside control limits

Metals

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

General Chemistry

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

Glossary

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

Sample Summary

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

TestAmerica Job ID: 240-88123-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-88123-1	WT-012607-111517-EE-001	Water	11/15/17 15:30	11/16/17 09:30

Detection Summary

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

TestAmerica Job ID: 240-88123-1

Client Sample ID: WT-012607-111517-EE-001

Lab Sample ID: 240-88123-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.21		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.25		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	12		4.0	mg/L	1		SM 2540D	Total
								Recoverable
								Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-88123-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
3500-Cr B-2009	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	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 = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

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

TestAmerica Job ID: 240-88123-1

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

Client Sample ID: WT-012607-111517-EE-001

Date Collected: 11/15/17 15:30

Date Received: 11/16/17 09:30

Lab Sample ID: 240-88123-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Aroclor-1221	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Aroclor-1232	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Aroclor-1242	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Aroclor-1248	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Aroclor-1254	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Aroclor-1260	0.096	U	0.096	ug/L		11/22/17 08:27	11/25/17 12:00	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	59		10 - 114			11/22/17 08:27	11/25/17 12:00	1
Tetrachloro-m-xylene	45	p	15 - 131			11/22/17 08:27	11/25/17 12:00	1

Client Sample Results

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

TestAmerica Job ID: 240-88123-1

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

Client Sample ID: WT-012607-111517-EE-001

Date Collected: 11/15/17 15:30

Date Received: 11/16/17 09:30

Lab Sample ID: 240-88123-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.21		0.050	mg/L		11/17/17 14:00	11/20/17 10:42	1
Nickel	0.25		0.010	mg/L		11/17/17 14:00	11/20/17 10:42	1
Lead	0.050	U	0.050	mg/L		11/17/17 14:00	11/20/17 10:42	1
Zinc	0.020	U	0.020	mg/L		11/17/17 14:00	11/20/17 10:42	1

Client Sample Results

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

TestAmerica Job ID: 240-88123-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-111517-EE-001

Date Collected: 11/15/17 15:30

Date Received: 11/16/17 09:30

Lab Sample ID: 240-88123-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		11/17/17 14:00	11/20/17 13:35	1

Client Sample Results

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

TestAmerica Job ID: 240-88123-1

General Chemistry

Client Sample ID: WT-012607-111517-EE-001

Date Collected: 11/15/17 15:30

Date Received: 11/16/17 09:30

Lab Sample ID: 240-88123-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			11/27/17 10:25	1
Cr (VI)	0.0050	U	0.0050	mg/L			11/16/17 11:07	1
Total Suspended Solids	12		4.0	mg/L			11/20/17 14:23	1

QC Association Summary

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

TestAmerica Job ID: 240-88123-1

GC Semi VOA

Prep Batch: 304686

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	3520C	
MB 240-304686/15-A	Method Blank	Total/NA	Water	3520C	
LCS 240-304686/16-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 304969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	608	304686
MB 240-304686/15-A	Method Blank	Total/NA	Water	608	304686
LCS 240-304686/16-A	Lab Control Sample	Total/NA	Water	608	304686

Metals

Prep Batch: 304038

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total Recoverable	Water	200.7	
MB 240-304038/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-304038/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-88123-1 MS	WT-012607-111517-EE-001	Total Recoverable	Water	200.7	
240-88123-1 MSD	WT-012607-111517-EE-001	Total Recoverable	Water	200.7	

Prep Batch: 304039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	245.1	
MB 240-304039/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-304039/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 304378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total Recoverable	Water	200.7 Rev 4.4	304038
MB 240-304038/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	304038
LCS 240-304038/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	304038
240-88123-1 MS	WT-012607-111517-EE-001	Total Recoverable	Water	200.7 Rev 4.4	304038
240-88123-1 MSD	WT-012607-111517-EE-001	Total Recoverable	Water	200.7 Rev 4.4	304038

Analysis Batch: 304409

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	245.1	304039
MB 240-304039/1-A	Method Blank	Total/NA	Water	245.1	304039
LCS 240-304039/2-A	Lab Control Sample	Total/NA	Water	245.1	304039

General Chemistry

Analysis Batch: 303815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-303815/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-303815/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

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QC Association Summary

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

TestAmerica Job ID: 240-88123-1

General Chemistry (Continued)

Analysis Batch: 304381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	SM 2540D	
MB 240-304381/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-304381/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 305130

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-88123-1	WT-012607-111517-EE-001	Total/NA	Water	1664A	
MB 240-305130/1	Method Blank	Total/NA	Water	1664A	
LCS 240-305130/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-88123-1

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

Lab Sample ID: MB 240-304686/15-A

Matrix: Water

Analysis Batch: 304969

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 304686

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1
Aroclor-1221	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1
Aroclor-1232	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1
Aroclor-1242	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1
Aroclor-1248	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1
Aroclor-1254	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1
Aroclor-1260	0.10	U	0.10	ug/L		11/22/17 08:27	11/25/17 13:57	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	125	X	10 - 114	11/22/17 08:27	11/25/17 13:57	1
Tetrachloro-m-xylene	90		15 - 131	11/22/17 08:27	11/25/17 13:57	1

Lab Sample ID: LCS 240-304686/16-A

Matrix: Water

Analysis Batch: 304969

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 304686

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	2.00		ug/L		80	50 - 114
Aroclor-1260	2.50	2.23		ug/L		89	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	123	X	10 - 114
Tetrachloro-m-xylene	98		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-304038/1-A

Matrix: Water

Analysis Batch: 304378

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 304038

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		11/17/17 14:00	11/20/17 10:33	1
Nickel	0.010	U	0.010	mg/L		11/17/17 14:00	11/20/17 10:33	1
Lead	0.050	U	0.050	mg/L		11/17/17 14:00	11/20/17 10:33	1
Zinc	0.020	U	0.020	mg/L		11/17/17 14:00	11/20/17 10:33	1

Lab Sample ID: LCS 240-304038/2-A

Matrix: Water

Analysis Batch: 304378

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 304038

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.190		mg/L		95	85 - 115
Nickel	0.500	0.483		mg/L		97	85 - 115
Lead	0.500	0.472		mg/L		94	85 - 115
Zinc	0.500	0.485		mg/L		97	85 - 115

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QC Sample Results

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

TestAmerica Job ID: 240-88123-1

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

Lab Sample ID: 240-88123-1 MS

Matrix: Water

Analysis Batch: 304378

Client Sample ID: WT-012607-111517-EE-001

Prep Type: Total Recoverable

Prep Batch: 304038

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chromium	0.21		0.200	0.411		mg/L		99	75 - 125
Nickel	0.25		0.500	0.770		mg/L		104	75 - 125
Lead	0.050	U	0.500	0.482		mg/L		96	75 - 125
Zinc	0.020	U	0.500	0.522		mg/L		104	75 - 125

Lab Sample ID: 240-88123-1 MSD

Matrix: Water

Analysis Batch: 304378

Client Sample ID: WT-012607-111517-EE-001

Prep Type: Total Recoverable

Prep Batch: 304038

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.21		0.200	0.394		mg/L		91	75 - 125	4	20
Nickel	0.25		0.500	0.742		mg/L		98	75 - 125	4	20
Lead	0.050	U	0.500	0.466		mg/L		93	75 - 125	3	20
Zinc	0.020	U	0.500	0.503		mg/L		101	75 - 125	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-304039/1-A

Matrix: Water

Analysis Batch: 304409

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 304039

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		11/17/17 14:00	11/20/17 13:32	1

Lab Sample ID: LCS 240-304039/2-A

Matrix: Water

Analysis Batch: 304409

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 304039

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00492		mg/L		98	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-305130/1

Matrix: Water

Analysis Batch: 305130

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			11/27/17 10:25	1

Lab Sample ID: LCS 240-305130/2

Matrix: Water

Analysis Batch: 305130

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	40.0	38.50		mg/L		96	78 - 114

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-88123-1

Method: 3500-Cr B-2009 - Chromium, Hexavalent

Lab Sample ID: MB 240-303815/3

Matrix: Water

Analysis Batch: 303815

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L	-		11/16/17 11:02	1

Lab Sample ID: LCS 240-303815/4

Matrix: Water

Analysis Batch: 303815

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.255		mg/L	-	102	80 - 123

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

Lab Sample ID: MB 240-304381/1

Matrix: Water

Analysis Batch: 304381

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	-		11/20/17 14:23	1

Lab Sample ID: LCS 240-304381/2

Matrix: Water

Analysis Batch: 304381

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	58.1	51.0		mg/L	-	88	64 - 120

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Surrogate Summary

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

TestAmerica Job ID: 240-88123-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (10-114)	TCX1 (15-131)
240-88123-1	WT-012607-111517-EE-001	59	45 p
LCS 240-304686/16-A	Lab Control Sample	123 X	98
MB 240-304686/15-A	Method Blank	125 X	90

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-88123-1

Client Sample ID: WT-012607-111517-EE-001

Lab Sample ID: 240-88123-1

Date Collected: 11/15/17 15:30

Matrix: Water

Date Received: 11/16/17 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			304686	11/22/17 08:27	WKD	TAL CAN
Total/NA	Analysis	608		1	304969	11/25/17 12:00	KMG	TAL CAN
Total Recoverable	Prep	200.7			304038	11/17/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	304378	11/20/17 10:42	AS1	TAL CAN
Total/NA	Prep	245.1			304039	11/17/17 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	304409	11/20/17 13:35	DSH	TAL CAN
Total/NA	Analysis	1664A		1	305130	11/27/17 10:25	CJL	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	303815	11/16/17 11:07	JESW	TAL CAN
Total/NA	Analysis	SM 2540D		1	304381	11/20/17 14:23	CJL	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-88123-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

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

TestAmerica Canton

Brighton, MI 48116
Phone: 810.229.2763 Fax: 412.963.2470

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

[illegible]

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 88123

Client GHD Site Name _____
 Cooler Received on 11/16/17 Opened on 11/16/17 Cooler unpacked by: [Signature]
 FedEx: 1st Grd EX UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

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

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

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 4.2 °C Corrected Cooler Temp. 4.2 °C
 IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

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

3. Shippers' packing slip attached to the cooler(s)? Yes No
 4. Did custody papers accompany the sample(s)? Yes No
 5. Were the custody papers relinquished & signed in the appropriate place? Yes No
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
 7. Did all bottles arrive in good condition (Unbroken)? Yes No
 8. Could all bottle labels be reconciled with the COC? Yes No
 9. Were correct bottle(s) used for the test(s) indicated? Yes No
 10. Sufficient quantity received to perform indicated analyses? Yes No
 11. Are these work share samples? Yes No

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

If yes, Questions 11-15 have been checked at the originating laboratory.
 11. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC730269
 12. Were VOAs on the COC? Yes No
 13. Were air bubbles >6 mm in any VOA vials? Yes  Larger than this. Yes No NA
 14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
 15. Was a LL Hg or Me Hg trip blank present? Yes No

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

Concerning _____

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: 211

17. 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)

18. SAMPLE PRESERVATION

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
WT-012607-111517-EE-001	240-88123-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-111517-EE-001	240-88123-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-111517-EE-001	240-88123-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-89019-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

12/20/2017 1:38:40 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-89019-1

Job ID: 240-89019-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-89019-1

Comments

The pesticides, VOCs and SVOCs are reported to the MDL.

Receipt

The samples were received on 12/7/2017 9:35 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.1° C.

GC/MS VOA

Method(s) 624: The laboratory control sample (LCS) for analytical batch 240-307302 recovered outside control limits for the following analytes: Acrolein. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method(s) 624: The following samples was received preserved with hydrochloric acid: WT-012607-120617-EE-001 (240-89019-1) and TRIP BLANK (240-89019-2). The requested target analyte list contains 2-chloroethyl vinyl ether and/or acrolein, which are acid-labile compounds that degrade in an acidic medium.

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

GC/MS Semi VOA

Method(s) 625: The continuing calibration verification (CCV) associated with batch 240-307295 recovered above the upper control limit for 4,6-Dinitro-2-methylphenol and 4-Nitrophenol. The samples associated with this CCV were non-detect for the affected analytes; therefore, the data have been reported. The following sample is impacted: WT-012607-120617-EE-001 (240-89019-1).

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

GC Semi VOA

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-120617-EE-001 (240-89019-1). 3382244, 3154251, 3361890.

Method(s) 608: The following sample was diluted due to the nature of the sample matrix: WT-012607-120617-EE-001 (240-89019-1). 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.

Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-120617-EE-001 (240-89019-1). 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(s) 7196A, SM 3500 CR B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 240-306711 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-306845.

Case Narrative

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

TestAmerica Job ID: 240-89019-1

Job ID: 240-89019-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Method(s) 3510C, 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-306842.

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

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Definitions/Glossary

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

TestAmerica Job ID: 240-89019-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
*	LCS or LCSD is outside acceptance limits.

GC/MS Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
X	Surrogate is outside control limits

Metals

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

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
U	Indicates the analyte was analyzed for but not detected.

Glossary

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

Sample Summary

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

TestAmerica Job ID: 240-89019-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-89019-1	WT-012607-120617-EE-001	Water	12/06/17 15:00	12/07/17 09:35
240-89019-2	TRIP BLANK	Water	12/06/17 00:00	12/07/17 09:35

Detection Summary

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

TestAmerica Job ID: 240-89019-1

Client Sample ID: WT-012607-120617-EE-001

Lab Sample ID: 240-89019-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	1.1		1.0	0.23	ug/L	1		624	Total/NA
1,1-Dichloroethane	1.1		1.0	0.25	ug/L	1		624	Total/NA
2,3,7,8-TCDD	NEG				NONE	1		625	Total/NA
Chromium	0.21		0.050		mg/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	0.13		0.010		mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Suspended Solids	13		4.0		mg/L	1		SM 2540D	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-89019-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-89019-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL CAN
625	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL CAN
625	Dioxin Screen (GC/MS SIM)	40CFR136A	TAL CAN
608	Organochlorine Pesticides in Water	40CFR136A	TAL CAN
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
3500-Cr B-2009	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	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 = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.1		1.0	0.23	ug/L			12/13/17 00:55	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			12/13/17 00:55	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			12/13/17 00:55	1
Xylenes, Total	1.0	U	1.0	0.24	ug/L			12/13/17 00:55	1
1,1-Dichloroethane	1.1		1.0	0.25	ug/L			12/13/17 00:55	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			12/13/17 00:55	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			12/13/17 00:55	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			12/13/17 00:55	1
Acrolein	10	U *	10	3.5	ug/L			12/13/17 00:55	1
Acrylonitrile	10	U	10	2.5	ug/L			12/13/17 00:55	1
Benzene	1.0	U	1.0	0.28	ug/L			12/13/17 00:55	1
Bromoform	1.0	U	1.0	0.43	ug/L			12/13/17 00:55	1
Bromomethane	1.0	U	1.0	0.42	ug/L			12/13/17 00:55	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			12/13/17 00:55	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			12/13/17 00:55	1
Chlorodibromomethane	1.0	U	1.0	0.25	ug/L			12/13/17 00:55	1
Chloroethane	1.0	U	1.0	0.41	ug/L			12/13/17 00:55	1
Chloroform	1.0	U	1.0	0.31	ug/L			12/13/17 00:55	1
Chloromethane	1.0	U	1.0	0.43	ug/L			12/13/17 00:55	1
2-Chloroethyl vinyl ether	2.0	U	2.0	0.65	ug/L			12/13/17 00:55	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			12/13/17 00:55	1
Dichlorobromomethane	1.0	U	1.0	0.30	ug/L			12/13/17 00:55	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			12/13/17 00:55	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			12/13/17 00:55	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			12/13/17 00:55	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			12/13/17 00:55	1
Toluene	1.0	U	1.0	0.23	ug/L			12/13/17 00:55	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			12/13/17 00:55	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			12/13/17 00:55	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			12/13/17 00:55	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			12/13/17 00:55	1
Methylene Chloride	1.0	U	1.0	0.53	ug/L			12/13/17 00:55	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/13/17 00:55	1
1,3-Dichloropropene, Total	1.0	U	1.0	0.77	ug/L			12/13/17 00:55	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	102		69 - 120		12/13/17 00:55	1
1,2-Dichloroethane-d4 (Surr)	108		61 - 138		12/13/17 00:55	1
Toluene-d8 (Surr)	117		73 - 120		12/13/17 00:55	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Client Sample ID: TRIP BLANK
Date Collected: 12/06/17 00:00
Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-2
Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/13/17 01:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			12/13/17 01:19	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			12/13/17 01:19	1
Xylenes, Total	1.0	U	1.0	0.24	ug/L			12/13/17 01:19	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			12/13/17 01:19	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			12/13/17 01:19	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			12/13/17 01:19	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			12/13/17 01:19	1
Acrolein	10	U *	10	3.5	ug/L			12/13/17 01:19	1
Acrylonitrile	10	U	10	2.5	ug/L			12/13/17 01:19	1
Benzene	1.0	U	1.0	0.28	ug/L			12/13/17 01:19	1
Bromoform	1.0	U	1.0	0.43	ug/L			12/13/17 01:19	1
Bromomethane	1.0	U	1.0	0.42	ug/L			12/13/17 01:19	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			12/13/17 01:19	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			12/13/17 01:19	1
Chlorodibromomethane	1.0	U	1.0	0.25	ug/L			12/13/17 01:19	1
Chloroethane	1.0	U	1.0	0.41	ug/L			12/13/17 01:19	1
Chloroform	1.0	U	1.0	0.31	ug/L			12/13/17 01:19	1
Chloromethane	1.0	U	1.0	0.43	ug/L			12/13/17 01:19	1
2-Chloroethyl vinyl ether	2.0	U	2.0	0.65	ug/L			12/13/17 01:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			12/13/17 01:19	1
Dichlorobromomethane	1.0	U	1.0	0.30	ug/L			12/13/17 01:19	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			12/13/17 01:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			12/13/17 01:19	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			12/13/17 01:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			12/13/17 01:19	1
Toluene	1.0	U	1.0	0.23	ug/L			12/13/17 01:19	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			12/13/17 01:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			12/13/17 01:19	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			12/13/17 01:19	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			12/13/17 01:19	1
Methylene Chloride	1.0	U	1.0	0.53	ug/L			12/13/17 01:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/13/17 01:19	1
1,3-Dichloropropene, Total	1.0	U	1.0	0.77	ug/L			12/13/17 01:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		69 - 120		12/13/17 01:19	1
1,2-Dichloroethane-d4 (Surr)	112		61 - 138		12/13/17 01:19	1
Toluene-d8 (Surr)	115		73 - 120		12/13/17 01:19	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 625 - Dioxin Screen (GC/MS SIM)

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	NEG				NONE		12/08/17 08:45	12/19/17 16:13	1

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.5	U	9.5	0.27	ug/L		12/08/17 08:41	12/12/17 21:42	1
2,4,6-Trichlorophenol	9.5	U	9.5	0.23	ug/L		12/08/17 08:41	12/12/17 21:42	1
2,4-Dichlorophenol	9.5	U	9.5	0.18	ug/L		12/08/17 08:41	12/12/17 21:42	1
2,4-Dimethylphenol	9.5	U	9.5	0.24	ug/L		12/08/17 08:41	12/12/17 21:42	1
2,4-Dinitrophenol	48	U	48	0.30	ug/L		12/08/17 08:41	12/12/17 21:42	1
2,4-Dinitrotoluene	9.5	U	9.5	0.24	ug/L		12/08/17 08:41	12/12/17 21:42	1
2,6-Dinitrotoluene	9.5	U	9.5	0.76	ug/L		12/08/17 08:41	12/12/17 21:42	1
2-Chloronaphthalene	9.5	U	9.5	0.095	ug/L		12/08/17 08:41	12/12/17 21:42	1
2-Chlorophenol	9.5	U	9.5	0.28	ug/L		12/08/17 08:41	12/12/17 21:42	1
2-Nitrophenol	9.5	U	9.5	0.27	ug/L		12/08/17 08:41	12/12/17 21:42	1
3,3'-Dichlorobenzidine	9.5	U	9.5	0.35	ug/L		12/08/17 08:41	12/12/17 21:42	1
4,6-Dinitro-2-methylphenol	48	U	48	2.3	ug/L		12/08/17 08:41	12/12/17 21:42	1
4-Bromophenyl phenyl ether	9.5	U	9.5	0.21	ug/L		12/08/17 08:41	12/12/17 21:42	1
4-Chlorophenyl phenyl ether	9.5	U	9.5	0.29	ug/L		12/08/17 08:41	12/12/17 21:42	1
4-Nitrophenol	48	U	48	0.28	ug/L		12/08/17 08:41	12/12/17 21:42	1
Acenaphthene	9.5	U	9.5	0.042	ug/L		12/08/17 08:41	12/12/17 21:42	1
Acenaphthylene	9.5	U	9.5	0.046	ug/L		12/08/17 08:41	12/12/17 21:42	1
Anthracene	9.5	U	9.5	0.084	ug/L		12/08/17 08:41	12/12/17 21:42	1
Benzidine	4.8	U	4.8	0.27	ug/L		12/08/17 08:41	12/12/17 21:42	1
Benzo[a]anthracene	9.5	U	9.5	0.028	ug/L		12/08/17 08:41	12/12/17 21:42	1
Benzo[a]pyrene	9.5	U	9.5	0.049	ug/L		12/08/17 08:41	12/12/17 21:42	1
Benzo[b]fluoranthene	9.5	U	9.5	0.038	ug/L		12/08/17 08:41	12/12/17 21:42	1
Benzo[g,h,i]perylene	9.5	U	9.5	0.044	ug/L		12/08/17 08:41	12/12/17 21:42	1
Benzo[k]fluoranthene	9.5	U	9.5	0.043	ug/L		12/08/17 08:41	12/12/17 21:42	1
Bis(2-chloroethoxy)methane	9.5	U	9.5	0.30	ug/L		12/08/17 08:41	12/12/17 21:42	1
Bis(2-chloroethyl)ether	9.5	U	9.5	0.095	ug/L		12/08/17 08:41	12/12/17 21:42	1
Bis(2-ethylhexyl) phthalate	9.5	U	9.5	1.6	ug/L		12/08/17 08:41	12/12/17 21:42	1
bis (2-chloroisopropyl) ether	9.5	U	9.5	0.38	ug/L		12/08/17 08:41	12/12/17 21:42	1
Butyl benzyl phthalate	9.5	U	9.5	0.25	ug/L		12/08/17 08:41	12/12/17 21:42	1
Chrysene	9.5	U	9.5	0.048	ug/L		12/08/17 08:41	12/12/17 21:42	1
Dibenz(a,h)anthracene	9.5	U	9.5	0.042	ug/L		12/08/17 08:41	12/12/17 21:42	1
Diethyl phthalate	9.5	U	9.5	0.57	ug/L		12/08/17 08:41	12/12/17 21:42	1
Dimethyl phthalate	9.5	U	9.5	0.28	ug/L		12/08/17 08:41	12/12/17 21:42	1
Di-n-butyl phthalate	9.5	U	9.5	1.6	ug/L		12/08/17 08:41	12/12/17 21:42	1
Di-n-octyl phthalate	9.5	U	9.5	0.22	ug/L		12/08/17 08:41	12/12/17 21:42	1
Fluoranthene	9.5	U	9.5	0.042	ug/L		12/08/17 08:41	12/12/17 21:42	1
Fluorene	9.5	U	9.5	0.039	ug/L		12/08/17 08:41	12/12/17 21:42	1
Hexachlorobenzene	9.5	U	9.5	0.081	ug/L		12/08/17 08:41	12/12/17 21:42	1
Hexachlorobutadiene	9.5	U	9.5	0.26	ug/L		12/08/17 08:41	12/12/17 21:42	1
Hexachlorocyclopentadiene	9.5	U	9.5	0.23	ug/L		12/08/17 08:41	12/12/17 21:42	1
Hexachloroethane	9.5	U	9.5	0.18	ug/L		12/08/17 08:41	12/12/17 21:42	1
Indeno[1,2,3-cd]pyrene	9.5	U	9.5	0.041	ug/L		12/08/17 08:41	12/12/17 21:42	1
Isophorone	9.5	U	9.5	0.26	ug/L		12/08/17 08:41	12/12/17 21:42	1
Naphthalene	9.5	U	9.5	0.060	ug/L		12/08/17 08:41	12/12/17 21:42	1
Nitrobenzene	9.5	U	9.5	0.038	ug/L		12/08/17 08:41	12/12/17 21:42	1
N-Nitrosodimethylamine	0.95	U	0.95	0.30	ug/L		12/08/17 08:41	12/12/17 21:42	1
N-Nitrosodi-n-propylamine	9.5	U	9.5	0.23	ug/L		12/08/17 08:41	12/12/17 21:42	1
N-Nitrosodiphenylamine	9.5	U	9.5	0.30	ug/L		12/08/17 08:41	12/12/17 21:42	1
4-Chloro-3-methylphenol	9.5	U	9.5	0.20	ug/L		12/08/17 08:41	12/12/17 21:42	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	9.5	U	9.5	0.26	ug/L		12/08/17 08:41	12/12/17 21:42	1
Phenanthrene	9.5	U	9.5	0.059	ug/L		12/08/17 08:41	12/12/17 21:42	1
Phenol	9.5	U	9.5	0.57	ug/L		12/08/17 08:41	12/12/17 21:42	1
Pyrene	9.5	U	9.5	0.040	ug/L		12/08/17 08:41	12/12/17 21:42	1
1,2-Diphenylhydrazine	0.95	U	0.95	0.28	ug/L		12/08/17 08:41	12/12/17 21:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2-Fluorophenol	40		10 - 120				12/08/17 08:41	12/12/17 21:42	1
2,4,6-Tribromophenol	100		28 - 120				12/08/17 08:41	12/12/17 21:42	1
Nitrobenzene-d5	73		32 - 120				12/08/17 08:41	12/12/17 21:42	1
Phenol-d5	25		10 - 120				12/08/17 08:41	12/12/17 21:42	1
Terphenyl-d14	55		23 - 127				12/08/17 08:41	12/12/17 21:42	1
2-Fluorobiphenyl (Surr)	83		38 - 120				12/08/17 08:41	12/12/17 21:42	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 608 - Organochlorine Pesticides in Water

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.24	U	0.24	0.062	ug/L		12/12/17 08:07	12/18/17 11:29	5
alpha-BHC	0.24	U	0.24	0.067	ug/L		12/12/17 08:07	12/18/17 11:29	5
beta-BHC	0.24	U	0.24	0.086	ug/L		12/12/17 08:07	12/18/17 11:29	5
delta-BHC	0.24	U	0.24	0.14	ug/L		12/12/17 08:07	12/18/17 11:29	5
gamma-BHC (Lindane)	0.24	U	0.24	0.062	ug/L		12/12/17 08:07	12/18/17 11:29	5
Chlordane (technical)	2.4	U	2.4	0.67	ug/L		12/12/17 08:07	12/18/17 11:29	5
4,4'-DDD	0.24	U	0.24	0.086	ug/L		12/12/17 08:07	12/18/17 11:29	5
4,4'-DDE	0.24	U	0.24	0.057	ug/L		12/12/17 08:07	12/18/17 11:29	5
4,4'-DDT	0.24	U	0.24	0.081	ug/L		12/12/17 08:07	12/18/17 11:29	5
Dieldrin	0.24	U	0.24	0.062	ug/L		12/12/17 08:07	12/18/17 11:29	5
Endosulfan I	0.24	U	0.24	0.076	ug/L		12/12/17 08:07	12/18/17 11:29	5
Endosulfan II	0.24	U	0.24	0.071	ug/L		12/12/17 08:07	12/18/17 11:29	5
Endosulfan sulfate	0.24	U	0.24	0.071	ug/L		12/12/17 08:07	12/18/17 11:29	5
Endrin	0.24	U	0.24	0.062	ug/L		12/12/17 08:07	12/18/17 11:29	5
Endrin aldehyde	0.24	U	0.24	0.086	ug/L		12/12/17 08:07	12/18/17 11:29	5
Heptachlor	0.24	U	0.24	0.067	ug/L		12/12/17 08:07	12/18/17 11:29	5
Heptachlor epoxide	0.24	U	0.24	0.071	ug/L		12/12/17 08:07	12/18/17 11:29	5
Toxaphene	9.5	U	9.5	0.93	ug/L		12/12/17 08:07	12/18/17 11:29	5
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	141	X	10 - 120				12/12/17 08:07	12/18/17 11:29	5
Tetrachloro-m-xylene	118		33 - 120				12/12/17 08:07	12/18/17 11:29	5

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Aroclor-1221	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Aroclor-1232	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Aroclor-1242	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Aroclor-1248	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Aroclor-1254	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Aroclor-1260	0.095	U	0.095		ug/L		12/13/17 07:21	12/15/17 09:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	69		10 - 114				12/13/17 07:21	12/15/17 09:57	1
Tetrachloro-m-xylene	71		15 - 131				12/13/17 07:21	12/15/17 09:57	1

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.21		0.050		mg/L		12/08/17 14:00	12/11/17 16:25	1
Nickel	0.13		0.010		mg/L		12/08/17 14:00	12/11/17 16:25	1
Lead	0.050	U	0.050		mg/L		12/08/17 14:00	12/11/17 16:25	1
Zinc	0.020	U	0.020		mg/L		12/08/17 14:00	12/11/17 16:25	1

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020		mg/L		12/08/17 14:00	12/11/17 14:29	1

Client Sample Results

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

TestAmerica Job ID: 240-89019-1

General Chemistry

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8		mg/L			12/19/17 08:35	1
Cr (VI)	0.0050	U F1	0.0050		mg/L			12/07/17 12:13	1
Total Suspended Solids	13		4.0		mg/L			12/11/17 08:51	1

QC Association Summary

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

TestAmerica Job ID: 240-89019-1

GC/MS VOA

Analysis Batch: 307302

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	624	
240-89019-2	TRIP BLANK	Total/NA	Water	624	
MB 240-307302/31	Method Blank	Total/NA	Water	624	
LCS 240-307302/32	Lab Control Sample	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 306842

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	625	
MB 240-306842/9-A	Method Blank	Total/NA	Water	3510C	
LCS 240-306842/10-A	Lab Control Sample	Total/NA	Water	3510C	

Prep Batch: 306845

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	3510C	
MB 240-306845/2-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 307295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	625	306842
MB 240-306842/9-A	Method Blank	Total/NA	Water	625	306842
LCS 240-306842/10-A	Lab Control Sample	Total/NA	Water	625	306842

Analysis Batch: 308388

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	625	306845
MB 240-306845/2-A	Method Blank	Total/NA	Water	625	306845

GC Semi VOA

Prep Batch: 307285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	608	
MB 240-307285/7-A	Method Blank	Total/NA	Water	608	
LCS 240-307285/8-A	Lab Control Sample	Total/NA	Water	608	

Prep Batch: 307462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	3520C	
MB 240-307462/7-A	Method Blank	Total/NA	Water	3520C	
LCS 240-307462/8-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 307839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	608	307462
MB 240-307462/7-A	Method Blank	Total/NA	Water	608	307462
LCS 240-307462/8-A	Lab Control Sample	Total/NA	Water	608	307462

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-89019-1

GC Semi VOA (Continued)

Analysis Batch: 308092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	608	307285
MB 240-307285/7-A	Method Blank	Total/NA	Water	608	307285
LCS 240-307285/8-A	Lab Control Sample	Total/NA	Water	608	307285

Metals

Prep Batch: 306874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	245.1	
MB 240-306874/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-306874/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-89019-1 MS	WT-012607-120617-EE-001	Total/NA	Water	245.1	
240-89019-1 MSD	WT-012607-120617-EE-001	Total/NA	Water	245.1	

Prep Batch: 306919

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total Recoverable	Water	200.7	
MB 240-306919/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-306919/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Analysis Batch: 307276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total Recoverable	Water	200.7 Rev 4.4	306919
MB 240-306919/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	306919
LCS 240-306919/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	306919

Analysis Batch: 307283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	245.1	306874
MB 240-306874/1-A	Method Blank	Total/NA	Water	245.1	306874
LCS 240-306874/2-A	Lab Control Sample	Total/NA	Water	245.1	306874
240-89019-1 MS	WT-012607-120617-EE-001	Total/NA	Water	245.1	306874
240-89019-1 MSD	WT-012607-120617-EE-001	Total/NA	Water	245.1	306874

General Chemistry

Analysis Batch: 306711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-306711/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-306711/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
240-89019-1 MS	WT-012607-120617-EE-001	Total/NA	Water	3500-Cr B-2009	
240-89019-1 MSD	WT-012607-120617-EE-001	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 307116

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	SM 2540D	
MB 240-307116/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-307116/2	Lab Control Sample	Total/NA	Water	SM 2540D	

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-89019-1

General Chemistry (Continued)

Analysis Batch: 308288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-89019-1	WT-012607-120617-EE-001	Total/NA	Water	1664A	
MB 240-308288/1	Method Blank	Total/NA	Water	1664A	
LCS 240-308288/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Lab Sample ID: MB 240-307302/31

Matrix: Water

Analysis Batch: 307302

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	0.23	ug/L			12/12/17 19:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.32	ug/L			12/12/17 19:54	1
1,1,2-Trichloroethane	1.0	U	1.0	0.34	ug/L			12/12/17 19:54	1
Xylenes, Total	1.0	U	1.0	0.24	ug/L			12/12/17 19:54	1
1,1-Dichloroethane	1.0	U	1.0	0.25	ug/L			12/12/17 19:54	1
1,1-Dichloroethene	1.0	U	1.0	0.27	ug/L			12/12/17 19:54	1
1,2-Dichloroethane	1.0	U	1.0	0.30	ug/L			12/12/17 19:54	1
1,2-Dichloropropane	1.0	U	1.0	0.30	ug/L			12/12/17 19:54	1
Acrolein	10	U	10	3.5	ug/L			12/12/17 19:54	1
Acrylonitrile	10	U	10	2.5	ug/L			12/12/17 19:54	1
Benzene	1.0	U	1.0	0.28	ug/L			12/12/17 19:54	1
Bromoform	1.0	U	1.0	0.43	ug/L			12/12/17 19:54	1
Bromomethane	1.0	U	1.0	0.42	ug/L			12/12/17 19:54	1
Carbon tetrachloride	1.0	U	1.0	0.35	ug/L			12/12/17 19:54	1
Chlorobenzene	1.0	U	1.0	0.32	ug/L			12/12/17 19:54	1
Chlorodibromomethane	1.0	U	1.0	0.25	ug/L			12/12/17 19:54	1
Chloroethane	1.0	U	1.0	0.41	ug/L			12/12/17 19:54	1
Chloroform	1.0	U	1.0	0.31	ug/L			12/12/17 19:54	1
Chloromethane	1.0	U	1.0	0.43	ug/L			12/12/17 19:54	1
2-Chloroethyl vinyl ether	2.0	U	2.0	0.65	ug/L			12/12/17 19:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.26	ug/L			12/12/17 19:54	1
Dichlorobromomethane	1.0	U	1.0	0.30	ug/L			12/12/17 19:54	1
Ethylbenzene	1.0	U	1.0	0.26	ug/L			12/12/17 19:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.26	ug/L			12/12/17 19:54	1
Tetrachloroethene	1.0	U	1.0	0.30	ug/L			12/12/17 19:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.32	ug/L			12/12/17 19:54	1
Toluene	1.0	U	1.0	0.23	ug/L			12/12/17 19:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.23	ug/L			12/12/17 19:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.31	ug/L			12/12/17 19:54	1
Trichloroethene	1.0	U	1.0	0.33	ug/L			12/12/17 19:54	1
Vinyl chloride	1.0	U	1.0	0.45	ug/L			12/12/17 19:54	1
Methylene Chloride	1.0	U	1.0	0.53	ug/L			12/12/17 19:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.29	ug/L			12/12/17 19:54	1
1,3-Dichloropropene, Total	1.0	U	1.0	0.77	ug/L			12/12/17 19:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	99		69 - 120		12/12/17 19:54	1
1,2-Dichloroethane-d4 (Surr)	108		61 - 138		12/12/17 19:54	1
Toluene-d8 (Surr)	115		73 - 120		12/12/17 19:54	1

Lab Sample ID: LCS 240-307302/32

Matrix: Water

Analysis Batch: 307302

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	20.0	22.1		ug/L		110	52 - 150
1,1-Dichloroethane	20.0	20.7		ug/L		103	59 - 155
1,1-Dichloroethene	20.0	21.2		ug/L		106	10 - 234

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Lab Sample ID: LCS 240-307302/32

Matrix: Water

Analysis Batch: 307302

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	20.0	20.5		ug/L		102	49 - 155
1,2-Dichloropropane	20.0	20.3		ug/L		102	10 - 210
Benzene	20.0	20.7		ug/L		104	37 - 151
Bromoform	20.0	16.5		ug/L		82	45 - 169
Bromomethane	20.0	22.7		ug/L		114	10 - 242
Carbon tetrachloride	20.0	17.8		ug/L		89	70 - 140
Chlorobenzene	20.0	19.7		ug/L		98	37 - 160
Chlorodibromomethane	20.0	20.1		ug/L		101	53 - 149
Chloroethane	20.0	23.2		ug/L		116	14 - 230
Chloroform	20.0	21.1		ug/L		106	51 - 138
Chloromethane	20.0	22.6		ug/L		113	10 - 273
2-Chloroethyl vinyl ether	20.0	21.5		ug/L		107	10 - 305
cis-1,3-Dichloropropene	20.0	20.6		ug/L		103	10 - 227
Dichlorobromomethane	20.0	20.3		ug/L		102	35 - 155
Ethylbenzene	20.0	20.4		ug/L		102	37 - 162
1,2-Dichlorobenzene	20.0	19.4		ug/L		97	18 - 190
Tetrachloroethene	20.0	20.2		ug/L		101	64 - 148
1,3-Dichlorobenzene	20.0	19.4		ug/L		97	59 - 156
Toluene	20.0	20.3		ug/L		102	47 - 150
1,4-Dichlorobenzene	20.0	18.4		ug/L		92	18 - 190
trans-1,3-Dichloropropene	20.0	19.7		ug/L		99	17 - 183
Trichloroethene	20.0	20.1		ug/L		100	71 - 157
Vinyl chloride	20.0	21.7		ug/L		108	10 - 251
Methylene Chloride	20.0	20.0		ug/L		100	10 - 221
trans-1,2-Dichloroethene	20.0	19.9		ug/L		100	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	108		69 - 120
1,2-Dichloroethane-d4 (Surr)	110		61 - 138
Toluene-d8 (Surr)	118		73 - 120

Method: 625 - Dioxin Screen (GC/MS SIM)

Lab Sample ID: MB 240-306845/2-A

Matrix: Water

Analysis Batch: 308388

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 306845

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	NEG				NONE		12/08/17 08:45	12/19/17 15:36	1

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 240-306842/9-A

Matrix: Water

Analysis Batch: 307295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 306842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	10	U	10	0.28	ug/L		12/08/17 08:41	12/12/17 10:07	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-306842/9-A

Matrix: Water

Analysis Batch: 307295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 306842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	10	U	10	0.24	ug/L		12/08/17 08:41	12/12/17 10:07	1
2,4-Dichlorophenol	10	U	10	0.19	ug/L		12/08/17 08:41	12/12/17 10:07	1
2,4-Dimethylphenol	10	U	10	0.25	ug/L		12/08/17 08:41	12/12/17 10:07	1
2,4-Dinitrophenol	50	U	50	0.32	ug/L		12/08/17 08:41	12/12/17 10:07	1
2,4-Dinitrotoluene	10	U	10	0.25	ug/L		12/08/17 08:41	12/12/17 10:07	1
2,6-Dinitrotoluene	10	U	10	0.80	ug/L		12/08/17 08:41	12/12/17 10:07	1
2-Chloronaphthalene	10	U	10	0.10	ug/L		12/08/17 08:41	12/12/17 10:07	1
2-Chlorophenol	10	U	10	0.29	ug/L		12/08/17 08:41	12/12/17 10:07	1
2-Nitrophenol	10	U	10	0.28	ug/L		12/08/17 08:41	12/12/17 10:07	1
3,3'-Dichlorobenzidine	10	U	10	0.37	ug/L		12/08/17 08:41	12/12/17 10:07	1
4,6-Dinitro-2-methylphenol	50	U	50	2.4	ug/L		12/08/17 08:41	12/12/17 10:07	1
4-Bromophenyl phenyl ether	10	U	10	0.22	ug/L		12/08/17 08:41	12/12/17 10:07	1
4-Chlorophenyl phenyl ether	10	U	10	0.30	ug/L		12/08/17 08:41	12/12/17 10:07	1
4-Nitrophenol	50	U	50	0.29	ug/L		12/08/17 08:41	12/12/17 10:07	1
Acenaphthene	10	U	10	0.044	ug/L		12/08/17 08:41	12/12/17 10:07	1
Acenaphthylene	10	U	10	0.048	ug/L		12/08/17 08:41	12/12/17 10:07	1
Anthracene	10	U	10	0.088	ug/L		12/08/17 08:41	12/12/17 10:07	1
Benzidine	5.0	U	5.0	0.28	ug/L		12/08/17 08:41	12/12/17 10:07	1
Benzo[a]anthracene	10	U	10	0.030	ug/L		12/08/17 08:41	12/12/17 10:07	1
Benzo[a]pyrene	10	U	10	0.051	ug/L		12/08/17 08:41	12/12/17 10:07	1
Benzo[b]fluoranthene	10	U	10	0.039	ug/L		12/08/17 08:41	12/12/17 10:07	1
Benzo[g,h,i]perylene	10	U	10	0.046	ug/L		12/08/17 08:41	12/12/17 10:07	1
Benzo[k]fluoranthene	10	U	10	0.045	ug/L		12/08/17 08:41	12/12/17 10:07	1
Bis(2-chloroethoxy)methane	10	U	10	0.32	ug/L		12/08/17 08:41	12/12/17 10:07	1
Bis(2-chloroethyl)ether	10	U	10	0.10	ug/L		12/08/17 08:41	12/12/17 10:07	1
Bis(2-ethylhexyl) phthalate	10	U	10	1.7	ug/L		12/08/17 08:41	12/12/17 10:07	1
bis (2-chloroisopropyl) ether	10	U	10	0.40	ug/L		12/08/17 08:41	12/12/17 10:07	1
Butyl benzyl phthalate	10	U	10	0.26	ug/L		12/08/17 08:41	12/12/17 10:07	1
Chrysene	10	U	10	0.050	ug/L		12/08/17 08:41	12/12/17 10:07	1
Dibenz(a,h)anthracene	10	U	10	0.045	ug/L		12/08/17 08:41	12/12/17 10:07	1
Diethyl phthalate	10	U	10	0.60	ug/L		12/08/17 08:41	12/12/17 10:07	1
Dimethyl phthalate	10	U	10	0.29	ug/L		12/08/17 08:41	12/12/17 10:07	1
Di-n-butyl phthalate	10	U	10	1.7	ug/L		12/08/17 08:41	12/12/17 10:07	1
Di-n-octyl phthalate	10	U	10	0.23	ug/L		12/08/17 08:41	12/12/17 10:07	1
Fluoranthene	10	U	10	0.045	ug/L		12/08/17 08:41	12/12/17 10:07	1
Fluorene	10	U	10	0.041	ug/L		12/08/17 08:41	12/12/17 10:07	1
Hexachlorobenzene	10	U	10	0.085	ug/L		12/08/17 08:41	12/12/17 10:07	1
Hexachlorobutadiene	10	U	10	0.27	ug/L		12/08/17 08:41	12/12/17 10:07	1
Hexachlorocyclopentadiene	10	U	10	0.24	ug/L		12/08/17 08:41	12/12/17 10:07	1
Hexachloroethane	10	U	10	0.19	ug/L		12/08/17 08:41	12/12/17 10:07	1
Indeno[1,2,3-cd]pyrene	10	U	10	0.043	ug/L		12/08/17 08:41	12/12/17 10:07	1
Isophorone	10	U	10	0.27	ug/L		12/08/17 08:41	12/12/17 10:07	1
Naphthalene	10	U	10	0.063	ug/L		12/08/17 08:41	12/12/17 10:07	1
Nitrobenzene	10	U	10	0.040	ug/L		12/08/17 08:41	12/12/17 10:07	1
N-Nitrosodimethylamine	1.0	U	1.0	0.31	ug/L		12/08/17 08:41	12/12/17 10:07	1
N-Nitrosodi-n-propylamine	10	U	10	0.24	ug/L		12/08/17 08:41	12/12/17 10:07	1
N-Nitrosodiphenylamine	10	U	10	0.31	ug/L		12/08/17 08:41	12/12/17 10:07	1
4-Chloro-3-methylphenol	10	U	10	0.21	ug/L		12/08/17 08:41	12/12/17 10:07	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 240-306842/9-A

Matrix: Water

Analysis Batch: 307295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 306842

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	10	U	10	0.27	ug/L		12/08/17 08:41	12/12/17 10:07	1
Phenanthrene	10	U	10	0.062	ug/L		12/08/17 08:41	12/12/17 10:07	1
Phenol	10	U	10	0.60	ug/L		12/08/17 08:41	12/12/17 10:07	1
Pyrene	10	U	10	0.042	ug/L		12/08/17 08:41	12/12/17 10:07	1
1,2-Diphenylhydrazine	1.0	U	1.0	0.29	ug/L		12/08/17 08:41	12/12/17 10:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	33		10 - 120	12/08/17 08:41	12/12/17 10:07	1
2,4,6-Tribromophenol	107		28 - 120	12/08/17 08:41	12/12/17 10:07	1
Nitrobenzene-d5	82		32 - 120	12/08/17 08:41	12/12/17 10:07	1
Phenol-d5	20		10 - 120	12/08/17 08:41	12/12/17 10:07	1
Terphenyl-d14	103		23 - 127	12/08/17 08:41	12/12/17 10:07	1
2-Fluorobiphenyl (Surr)	96		38 - 120	12/08/17 08:41	12/12/17 10:07	1

Lab Sample ID: LCS 240-306842/10-A

Matrix: Water

Analysis Batch: 307295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 306842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	20.0	15.7		ug/L		78	44 - 142
2,4-Dichlorophenol	20.0	17.1		ug/L		85	39 - 135
2,4-Dimethylphenol	20.0	13.3		ug/L		66	32 - 119
2,4-Dinitrophenol	40.0	33.0	J	ug/L		82	0 - 191
2,4-Dinitrotoluene	20.0	21.4		ug/L		107	39 - 139
2,6-Dinitrotoluene	20.0	20.2		ug/L		101	50 - 158
2-Chloronaphthalene	20.0	18.0		ug/L		90	60 - 118
2-Chlorophenol	20.0	14.6		ug/L		73	23 - 134
2-Nitrophenol	20.0	17.7		ug/L		89	29 - 182
3,3'-Dichlorobenzidine	40.0	43.5		ug/L		109	0 - 262
4,6-Dinitro-2-methylphenol	40.0	38.5	J	ug/L		96	0 - 181
4-Bromophenyl phenyl ether	20.0	18.3		ug/L		92	53 - 127
4-Chlorophenyl phenyl ether	20.0	18.7		ug/L		94	25 - 158
4-Nitrophenol	40.0	12.8	J	ug/L		32	0 - 132
Acenaphthene	20.0	18.0		ug/L		90	47 - 145
Acenaphthylene	20.0	17.7		ug/L		88	33 - 145
Anthracene	20.0	18.1		ug/L		91	27 - 133
Benzo[a]anthracene	20.0	17.1		ug/L		86	33 - 143
Benzo[a]pyrene	20.0	15.5		ug/L		78	17 - 163
Benzo[b]fluoranthene	20.0	15.2		ug/L		76	24 - 159
Benzo[g,h,i]perylene	20.0	14.2		ug/L		71	0 - 219
Benzo[k]fluoranthene	20.0	16.1		ug/L		80	11 - 162
Bis(2-chloroethoxy)methane	20.0	17.2		ug/L		86	33 - 184
Bis(2-chloroethyl)ether	20.0	15.9		ug/L		80	12 - 158
Bis(2-ethylhexyl) phthalate	20.0	14.6		ug/L		73	8 - 158
Butyl benzyl phthalate	20.0	11.8		ug/L		59	0 - 152
Chrysene	20.0	17.1		ug/L		86	17 - 168
Dibenz(a,h)anthracene	20.0	14.8		ug/L		74	0 - 227
Diethyl phthalate	20.0	17.3		ug/L		87	0 - 114

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 625 - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 240-306842/10-A

Matrix: Water

Analysis Batch: 307295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 306842

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	20.0	9.18	J	ug/L		46	0 - 112
Di-n-butyl phthalate	20.0	17.3		ug/L		87	1 - 118
Di-n-octyl phthalate	20.0	11.3		ug/L		56	4 - 146
Fluoranthene	20.0	18.8		ug/L		94	26 - 137
Fluorene	20.0	18.9		ug/L		94	59 - 121
Hexachlorobenzene	20.0	17.6		ug/L		88	0 - 152
Hexachlorobutadiene	20.0	15.6		ug/L		78	24 - 116
Hexachloroethane	20.0	14.8		ug/L		74	40 - 113
Indeno[1,2,3-cd]pyrene	20.0	14.5		ug/L		72	0 - 171
Isophorone	20.0	16.7		ug/L		84	21 - 196
Naphthalene	20.0	15.9		ug/L		79	21 - 133
Nitrobenzene	20.0	17.2		ug/L		86	35 - 180
N-Nitrosodi-n-propylamine	20.0	17.3		ug/L		86	0 - 230
4-Chloro-3-methylphenol	20.0	16.9		ug/L		84	22 - 147
Pentachlorophenol	40.0	35.5		ug/L		89	14 - 176
Phenanthrene	20.0	17.2		ug/L		86	54 - 120
Phenol	20.0	4.46	J	ug/L		22	5 - 112
Pyrene	20.0	18.5		ug/L		93	52 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol	37		10 - 120
2,4,6-Tribromophenol	115		28 - 120
Nitrobenzene-d5	84		32 - 120
Phenol-d5	23		10 - 120
Terphenyl-d14	92		23 - 127
2-Fluorobiphenyl (Surr)	95		38 - 120

Method: 608 - Organochlorine Pesticides in Water

Lab Sample ID: MB 240-307285/7-A

Matrix: Water

Analysis Batch: 308092

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 307285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.050	U	0.050	0.013	ug/L		12/12/17 08:07	12/18/17 10:02	1
alpha-BHC	0.050	U	0.050	0.014	ug/L		12/12/17 08:07	12/18/17 10:02	1
beta-BHC	0.050	U	0.050	0.018	ug/L		12/12/17 08:07	12/18/17 10:02	1
delta-BHC	0.050	U	0.050	0.029	ug/L		12/12/17 08:07	12/18/17 10:02	1
gamma-BHC (Lindane)	0.050	U	0.050	0.013	ug/L		12/12/17 08:07	12/18/17 10:02	1
Chlordane (technical)	0.50	U	0.50	0.14	ug/L		12/12/17 08:07	12/18/17 10:02	1
4,4'-DDD	0.050	U	0.050	0.018	ug/L		12/12/17 08:07	12/18/17 10:02	1
4,4'-DDE	0.050	U	0.050	0.012	ug/L		12/12/17 08:07	12/18/17 10:02	1
4,4'-DDT	0.050	U	0.050	0.017	ug/L		12/12/17 08:07	12/18/17 10:02	1
Dieldrin	0.050	U	0.050	0.013	ug/L		12/12/17 08:07	12/18/17 10:02	1
Endosulfan I	0.050	U	0.050	0.016	ug/L		12/12/17 08:07	12/18/17 10:02	1
Endosulfan II	0.050	U	0.050	0.015	ug/L		12/12/17 08:07	12/18/17 10:02	1
Endosulfan sulfate	0.050	U	0.050	0.015	ug/L		12/12/17 08:07	12/18/17 10:02	1
Endrin	0.050	U	0.050	0.013	ug/L		12/12/17 08:07	12/18/17 10:02	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 608 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: MB 240-307285/7-A

Matrix: Water

Analysis Batch: 308092

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 307285

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin aldehyde	0.050	U	0.050	0.018	ug/L		12/12/17 08:07	12/18/17 10:02	1
Heptachlor	0.050	U	0.050	0.014	ug/L		12/12/17 08:07	12/18/17 10:02	1
Heptachlor epoxide	0.050	U	0.050	0.015	ug/L		12/12/17 08:07	12/18/17 10:02	1
Toxaphene	2.0	U	2.0	0.20	ug/L		12/12/17 08:07	12/18/17 10:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	88		10 - 120	12/12/17 08:07	12/18/17 10:02	1
Tetrachloro-m-xylene	69		33 - 120	12/12/17 08:07	12/18/17 10:02	1

Lab Sample ID: LCS 240-307285/8-A

Matrix: Water

Analysis Batch: 308092

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 307285

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.500	0.380		ug/L		76	42 - 122
alpha-BHC	0.500	0.396		ug/L		79	37 - 134
beta-BHC	0.500	0.437		ug/L		87	17 - 147
delta-BHC	0.500	0.411		ug/L		82	19 - 140
gamma-BHC (Lindane)	0.500	0.395		ug/L		79	32 - 127
4,4'-DDD	0.500	0.453		ug/L		91	31 - 141
4,4'-DDE	0.500	0.357		ug/L		71	30 - 145
4,4'-DDT	0.500	0.463		ug/L		93	25 - 160
Dieldrin	0.500	0.412		ug/L		82	36 - 146
Endosulfan I	0.500	0.327		ug/L		65	45 - 153
Endosulfan II	0.500	0.374		ug/L		75	10 - 202
Endosulfan sulfate	0.500	0.425		ug/L		85	26 - 144
Endrin	0.500	0.433		ug/L		87	30 - 147
Heptachlor	0.500	0.380		ug/L		76	34 - 111
Heptachlor epoxide	0.500	0.386		ug/L		77	37 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	90		10 - 120
Tetrachloro-m-xylene	74		33 - 120

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

Lab Sample ID: MB 240-307462/7-A

Matrix: Water

Analysis Batch: 307839

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 307462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1
Aroclor-1221	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1
Aroclor-1232	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1
Aroclor-1242	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1
Aroclor-1248	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1
Aroclor-1254	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

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

Lab Sample ID: MB 240-307462/7-A

Matrix: Water

Analysis Batch: 307839

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 307462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1260	0.10	U	0.10		ug/L		12/13/17 07:21	12/15/17 08:06	1
Surrogate	%Recovery	MB Qualifier	Limits				Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	91		10 - 114				12/13/17 07:21	12/15/17 08:06	1
Tetrachloro-m-xylene	88		15 - 131				12/13/17 07:21	12/15/17 08:06	1

Lab Sample ID: LCS 240-307462/8-A

Matrix: Water

Analysis Batch: 307839

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 307462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	2.31		ug/L		93	50 - 114
Aroclor-1260	2.50	2.49		ug/L		99	8 - 127
Surrogate	%Recovery	LCS Qualifier	Limits				
DCB Decachlorobiphenyl	94		10 - 114				
Tetrachloro-m-xylene	90		15 - 131				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-306919/1-A

Matrix: Water

Analysis Batch: 307276

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 306919

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050		mg/L		12/08/17 14:00	12/11/17 15:16	1
Nickel	0.010	U	0.010		mg/L		12/08/17 14:00	12/11/17 15:16	1
Lead	0.050	U	0.050		mg/L		12/08/17 14:00	12/11/17 15:16	1
Zinc	0.020	U	0.020		mg/L		12/08/17 14:00	12/11/17 15:16	1

Lab Sample ID: LCS 240-306919/2-A

Matrix: Water

Analysis Batch: 307276

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 306919

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.182		mg/L		91	85 - 115
Nickel	0.500	0.464		mg/L		93	85 - 115
Lead	0.500	0.455		mg/L		91	85 - 115
Zinc	0.500	0.478		mg/L		96	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-306874/1-A

Matrix: Water

Analysis Batch: 307283

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 306874

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020		mg/L		12/08/17 14:00	12/11/17 13:26	1

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

Lab Sample ID: LCS 240-306874/2-A
Matrix: Water
Analysis Batch: 307283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 306874
%Rec. Limits

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00430		mg/L		86	85 - 115

Lab Sample ID: 240-89019-1 MS
Matrix: Water
Analysis Batch: 307283

Client Sample ID: WT-012607-120617-EE-001
Prep Type: Total/NA
Prep Batch: 306874
%Rec. Limits

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00020	U	0.00100	0.00104		mg/L		104	70 - 130

Lab Sample ID: 240-89019-1 MSD
Matrix: Water
Analysis Batch: 307283

Client Sample ID: WT-012607-120617-EE-001
Prep Type: Total/NA
Prep Batch: 306874
%Rec. Limits RPD Limit

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Mercury	0.00020	U	0.00100	0.000953		mg/L		95	70 - 130	8	20

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-308288/1
Matrix: Water
Analysis Batch: 308288

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0		mg/L			12/19/17 08:35	1

Lab Sample ID: LCS 240-308288/2
Matrix: Water
Analysis Batch: 308288

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	38.80		mg/L		97	78 - 114

Method: 3500-Cr B-2009 - Chromium, Hexavalent

Lab Sample ID: MB 240-306711/3
Matrix: Water
Analysis Batch: 306711

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050		mg/L			12/07/17 12:11	1

Lab Sample ID: LCS 240-306711/4
Matrix: Water
Analysis Batch: 306711

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.245		mg/L		98	80 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-89019-1

Method: 3500-Cr B-2009 - Chromium, Hexavalent (Continued)

Lab Sample ID: 240-89019-1 MS

Matrix: Water

Analysis Batch: 306711

Client Sample ID: WT-012607-120617-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0050	U F1	0.250	0.00657	F1	mg/L	-	3	31 - 151

Lab Sample ID: 240-89019-1 MSD

Matrix: Water

Analysis Batch: 306711

Client Sample ID: WT-012607-120617-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	0.0050	U F1	0.250	0.0050	U F1	mg/L	-	0	31 - 151	NC	20

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

Lab Sample ID: MB 240-307116/1

Matrix: Water

Analysis Batch: 307116

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0		mg/L	-		12/11/17 08:51	1

Lab Sample ID: LCS 240-307116/2

Matrix: Water

Analysis Batch: 307116

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	58.1	53.0		mg/L	-	91	64 - 120

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-89019-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (69-120)	DCA (61-138)	TOL (73-120)
240-89019-1	WT-012607-120617-EE-001	102	108	117
240-89019-2	TRIP BLANK	99	112	115
LCS 240-307302/32	Lab Control Sample	108	110	118
MB 240-307302/31	Method Blank	99	108	115

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

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

TOL = Toluene-d8 (Surr)

Method: 625 - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (10-120)	TBP (28-120)	NBZ (32-120)	PHL (10-120)	TPHL (23-127)	FBP (38-120)
240-89019-1	WT-012607-120617-EE-001	40	100	73	25	55	83
LCS 240-306842/10-A	Lab Control Sample	37	115	84	23	92	95
MB 240-306842/9-A	Method Blank	33	107	82	20	103	96

Surrogate Legend

2FP = 2-Fluorophenol

TBP = 2,4,6-Tribromophenol

NBZ = Nitrobenzene-d5

PHL = Phenol-d5

TPHL = Terphenyl-d14

FBP = 2-Fluorobiphenyl (Surr)

Method: 608 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCBP1 (10-120)	DCBP2 (10-120)	TCX1 (33-120)	TCX2 (33-120)
240-89019-1	WT-012607-120617-EE-001	153 X	141 X	120	118
LCS 240-307285/8-A	Lab Control Sample	83	90	78	74
MB 240-307285/7-A	Method Blank	80	88	73	69

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCBP2 (10-114)	TCX2 (15-131)
240-89019-1	WT-012607-120617-EE-001	69	71
LCS 240-307462/8-A	Lab Control Sample	94	90

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-89019-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCBP2 (10-114)	TCX2 (15-131)
MB 240-307462/7-A	Method Blank	91	88

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-89019-1

Client Sample ID: WT-012607-120617-EE-001

Date Collected: 12/06/17 15:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	307302	12/13/17 00:55	HMB	TAL CAN
Total/NA	Prep	625			306842	12/08/17 08:41	DVT	TAL CAN
Total/NA	Analysis	625		1	307295	12/12/17 21:42	JMG	TAL CAN
Total/NA	Prep	3510C			306845	12/08/17 08:45	DVT	TAL CAN
Total/NA	Analysis	625		1	308388	12/19/17 16:13	MRU	TAL CAN
Total/NA	Prep	3520C			307462	12/13/17 07:21	WKD	TAL CAN
Total/NA	Analysis	608		1	307839	12/15/17 09:57	KMG	TAL CAN
Total/NA	Prep	608			307285	12/12/17 08:07	WKD	TAL CAN
Total/NA	Analysis	608		5	308092	12/18/17 11:29	BPM	TAL CAN
Total Recoverable	Prep	200.7			306919	12/08/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	307276	12/11/17 16:25	KLC	TAL CAN
Total/NA	Prep	245.1			306874	12/08/17 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	307283	12/11/17 14:29	DSH	TAL CAN
Total/NA	Analysis	1664A		1	308288	12/19/17 08:35	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	306711	12/07/17 12:13	JWW	TAL CAN
Total/NA	Analysis	SM 2540D		1	307116	12/11/17 08:51	MMM	TAL CAN

Client Sample ID: TRIP BLANK

Date Collected: 12/06/17 00:00

Date Received: 12/07/17 09:35

Lab Sample ID: 240-89019-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	307302	12/13/17 01:19	HMB	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-89019-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-17 *
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-17 *

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

TestAmerica Canton

Company Name: GHD Services Inc. Address: 26850 Hagerman Rd City/State/Zip: Farley, MO 64628 Phone: 810.229.2763 Fax:		Client Contact Project Name: RACER GWP Lagoon Site: Lagoon, MI P.O.#: 12607-EE-01		Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:		Project Manager: Chris Minick Tel/Fax:		Site Contact: Engel Lab Contact: Engel Date: 12/16/17 Carrier: tedca		COC No: 1 of 2 COCs	
Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Sample Type (C=Comp, G=Grab)		Sample Date 12/16/17		Sample Time 1500		Matrix WT		# of Cont. 19	
Sample Identification WT-012607-120617-EE-001		Sample Specific Notes:		Filtered Sample (Y/N)		Perform MS/MSD (Y/N)		VOCs Metals PCBs SVOCs HCBs TSS		Job / SDG No.: 24005880	
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.											
Special Instructions/QC Requirements & Comments:											
Custody Seal Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Corrd:		Therm ID No.:		Date/Time: 12-7-17 935	
Relinquished by: Engel		Company: GHD		Date/Time: 12/16/17		Received by: POP		Company: TAL		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received by:		Company:		Date/Time:	
Relinquished by:		Company:		Date/Time:		Received in Laboratory by:		Company:		Date/Time:	

TestAmerica Canton Sample Receipt Form/Narrative Login # : 89019
Canton Facility

Client GHD Site Name _____ Cooler unpacked by: POP
Cooler Received on 12-7-17 Opened on 12-7-17
FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____
Receipt After-hours: Drop-off Date/Time _____ Storage Location _____
TestAmerica Cooler # _____ Foam Box Client Cooler Box Other _____
Packing material used: Bubble Wrap Foam Plastic Bag None Other _____
COOLANT: Wet Ice Blue Ice Dry Ice Water None
1. Cooler temperature upon receipt ☒ See Multiple Cooler Form
IR GUN# IR-8 (CF -0.3 °C) Observed Cooler Temp. ## °C Corrected Cooler Temp. ## °C
IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes No
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
-Were tamper/custody seals intact and uncompromised? Yes No NA
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. Are these work share samples? Yes No
If yes, Questions 12-16 have been checked at the originating laboratory.
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC730269
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials?  Larger than this. Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # B7126014B Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
Concerning _____

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: _____
RECEIVED 2TB NOT ON COC. WILL LOG LAST

17. 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)
18. SAMPLE PRESERVATION
Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

[illegible]

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
WT-012607-120617-EE-001	240-89019-I-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-120617-EE-001	240-89019-R-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-120617-EE-001	240-89019-S-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-90240-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

1/24/2018 12:15:39 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-90240-1

Job ID: 240-90240-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-90240-1

Comments

No additional comments.

Receipt

The sample was received on 1/11/2018 9:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.9° C.

GC Semi VOA

Method(s) 608: The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-011018-EE-001 (240-90240-1).3422343, 3154249, 3361889.

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

Metals

Method(s) 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-012607-011018-EE-001 (240-90240-1). 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

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-311427.

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

TestAmerica Job ID: 240-90240-1

Qualifiers

GC Semi VOA

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

Metals

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

General Chemistry

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

Glossary

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

Sample Summary

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

TestAmerica Job ID: 240-90240-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-90240-1	WT-012607-011018-EE-001	Water	01/10/18 15:00	01/11/18 09:20

Detection Summary

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

TestAmerica Job ID: 240-90240-1

Client Sample ID: WT-012607-011018-EE-001

Lab Sample ID: 240-90240-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.051		0.010	mg/L	1		200.7 Rev 4.4	Total
Total Suspended Solids	8.0		4.0	mg/L	1		SM 2540D	Recoverable Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-90240-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
3500-Cr B-2009	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	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 = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

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

TestAmerica Job ID: 240-90240-1

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

Client Sample ID: WT-012607-011018-EE-001

Date Collected: 01/10/18 15:00

Date Received: 01/11/18 09:20

Lab Sample ID: 240-90240-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Aroclor-1221	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Aroclor-1232	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Aroclor-1242	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Aroclor-1248	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Aroclor-1254	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Aroclor-1260	0.095	U	0.095	ug/L		01/18/18 07:49	01/22/18 10:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	58		10 - 114			01/18/18 07:49	01/22/18 10:43	1
Tetrachloro-m-xylene	76		15 - 131			01/18/18 07:49	01/22/18 10:43	1

Client Sample Results

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

TestAmerica Job ID: 240-90240-1

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

Client Sample ID: WT-012607-011018-EE-001

Date Collected: 01/10/18 15:00

Date Received: 01/11/18 09:20

Lab Sample ID: 240-90240-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		01/12/18 14:00	01/15/18 23:42	1
Nickel	0.051		0.010	mg/L		01/12/18 14:00	01/15/18 23:42	1
Lead	0.050	U	0.050	mg/L		01/12/18 14:00	01/15/18 23:42	1
Zinc	0.020	U	0.020	mg/L		01/12/18 14:00	01/15/18 23:42	1

Client Sample Results

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

TestAmerica Job ID: 240-90240-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-011018-EE-001

Date Collected: 01/10/18 15:00

Date Received: 01/11/18 09:20

Lab Sample ID: 240-90240-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		01/12/18 14:00	01/15/18 12:18	1

Client Sample Results

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

TestAmerica Job ID: 240-90240-1

General Chemistry

Client Sample ID: WT-012607-011018-EE-001

Date Collected: 01/10/18 15:00

Date Received: 01/11/18 09:20

Lab Sample ID: 240-90240-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			01/22/18 08:21	1
Cr (VI)	0.0050	U	0.0050	mg/L			01/11/18 09:57	1
Total Suspended Solids	8.0		4.0	mg/L			01/15/18 08:48	1

QC Association Summary

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

TestAmerica Job ID: 240-90240-1

GC Semi VOA

Prep Batch: 311427

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	3520C	
MB 240-311427/13-A	Method Blank	Total/NA	Water	3520C	
LCS 240-311427/14-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 311792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	608	311427
MB 240-311427/13-A	Method Blank	Total/NA	Water	608	311427
LCS 240-311427/14-A	Lab Control Sample	Total/NA	Water	608	311427

Metals

Prep Batch: 310889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total Recoverable	Water	200.7	
MB 240-310889/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-310889/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-90240-1 MS	WT-012607-011018-EE-001	Total Recoverable	Water	200.7	
240-90240-1 MSD	WT-012607-011018-EE-001	Total Recoverable	Water	200.7	

Prep Batch: 310890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	245.1	
MB 240-310890/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-310890/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-90240-1 MS	WT-012607-011018-EE-001	Total/NA	Water	245.1	
240-90240-1 MSD	WT-012607-011018-EE-001	Total/NA	Water	245.1	

Analysis Batch: 311050

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total Recoverable	Water	200.7 Rev 4.4	310889
MB 240-310889/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	310889
LCS 240-310889/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	310889
240-90240-1 MS	WT-012607-011018-EE-001	Total Recoverable	Water	200.7 Rev 4.4	310889
240-90240-1 MSD	WT-012607-011018-EE-001	Total Recoverable	Water	200.7 Rev 4.4	310889

Analysis Batch: 311066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	245.1	310890
MB 240-310890/1-A	Method Blank	Total/NA	Water	245.1	310890
LCS 240-310890/2-A	Lab Control Sample	Total/NA	Water	245.1	310890
240-90240-1 MS	WT-012607-011018-EE-001	Total/NA	Water	245.1	310890
240-90240-1 MSD	WT-012607-011018-EE-001	Total/NA	Water	245.1	310890

General Chemistry

Analysis Batch: 310728

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-310728/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-90240-1

General Chemistry (Continued)

Analysis Batch: 310728 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-310728/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 310988

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	SM 2540D	
MB 240-310988/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-310988/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 311756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-90240-1	WT-012607-011018-EE-001	Total/NA	Water	1664A	
MB 240-311756/1	Method Blank	Total/NA	Water	1664A	
LCS 240-311756/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-90240-1

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

Lab Sample ID: MB 240-311427/13-A

Matrix: Water

Analysis Batch: 311792

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 311427

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1
Aroclor-1221	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1
Aroclor-1232	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1
Aroclor-1242	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1
Aroclor-1248	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1
Aroclor-1254	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1
Aroclor-1260	0.10	U	0.10	ug/L		01/18/18 07:49	01/22/18 09:15	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	85		10 - 114	01/18/18 07:49	01/22/18 09:15	1
Tetrachloro-m-xylene	84		15 - 131	01/18/18 07:49	01/22/18 09:15	1

Lab Sample ID: LCS 240-311427/14-A

Matrix: Water

Analysis Batch: 311792

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 311427

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	2.20		ug/L		88	50 - 114
Aroclor-1260	2.50	2.43		ug/L		97	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	90		10 - 114
Tetrachloro-m-xylene	86		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-310889/1-A

Matrix: Water

Analysis Batch: 311050

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 310889

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		01/12/18 14:00	01/15/18 23:34	1
Nickel	0.010	U	0.010	mg/L		01/12/18 14:00	01/15/18 23:34	1
Lead	0.050	U	0.050	mg/L		01/12/18 14:00	01/15/18 23:34	1
Zinc	0.020	U	0.020	mg/L		01/12/18 14:00	01/15/18 23:34	1

Lab Sample ID: LCS 240-310889/2-A

Matrix: Water

Analysis Batch: 311050

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 310889

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.186		mg/L		93	85 - 115
Nickel	0.500	0.490		mg/L		98	85 - 115
Lead	0.500	0.494		mg/L		99	85 - 115
Zinc	0.500	0.504		mg/L		101	85 - 115

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QC Sample Results

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

TestAmerica Job ID: 240-90240-1

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

Lab Sample ID: 240-90240-1 MS

Matrix: Water

Analysis Batch: 311050

Client Sample ID: WT-012607-011018-EE-001

Prep Type: Total Recoverable

Prep Batch: 310889

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chromium	0.050	U	0.200	0.204		mg/L		91	75 - 125
Nickel	0.051		0.500	0.545		mg/L		99	75 - 125
Lead	0.050	U	0.500	0.480		mg/L		96	75 - 125
Zinc	0.020	U	0.500	0.510		mg/L		102	75 - 125

Lab Sample ID: 240-90240-1 MSD

Matrix: Water

Analysis Batch: 311050

Client Sample ID: WT-012607-011018-EE-001

Prep Type: Total Recoverable

Prep Batch: 310889

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.050	U	0.200	0.210		mg/L		94	75 - 125	3	20
Nickel	0.051		0.500	0.555		mg/L		101	75 - 125	2	20
Lead	0.050	U	0.500	0.491		mg/L		98	75 - 125	2	20
Zinc	0.020	U	0.500	0.508		mg/L		102	75 - 125	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-310890/1-A

Matrix: Water

Analysis Batch: 311066

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 310890

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		01/12/18 14:00	01/15/18 12:15	1

Lab Sample ID: LCS 240-310890/2-A

Matrix: Water

Analysis Batch: 311066

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 310890

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00563		mg/L		113	85 - 115

Lab Sample ID: 240-90240-1 MS

Matrix: Water

Analysis Batch: 311066

Client Sample ID: WT-012607-011018-EE-001

Prep Type: Total/NA

Prep Batch: 310890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00020	U	0.00100	0.00108		mg/L		108	70 - 130

Lab Sample ID: 240-90240-1 MSD

Matrix: Water

Analysis Batch: 311066

Client Sample ID: WT-012607-011018-EE-001

Prep Type: Total/NA

Prep Batch: 310890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00020	U	0.00100	0.00110		mg/L		110	70 - 130	2	20

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-90240-1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-311756/1

Matrix: Water

Analysis Batch: 311756

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			01/22/18 08:21	1

Lab Sample ID: LCS 240-311756/2

Matrix: Water

Analysis Batch: 311756

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

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

Method: 3500-Cr B-2009 - Chromium, Hexavalent

Lab Sample ID: MB 240-310728/3

Matrix: Water

Analysis Batch: 310728

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			01/11/18 09:53	1

Lab Sample ID: LCS 240-310728/4

Matrix: Water

Analysis Batch: 310728

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.260		mg/L		104	80 - 123

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

Lab Sample ID: MB 240-310988/1

Matrix: Water

Analysis Batch: 310988

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			01/15/18 08:48	1

Lab Sample ID: LCS 240-310988/2

Matrix: Water

Analysis Batch: 310988

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	58.1	57.0		mg/L		98	64 - 120

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-90240-1

Method: 608 - 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)
240-90240-1	WT-012607-011018-EE-001	58	76
LCS 240-311427/14-A	Lab Control Sample	90	86
MB 240-311427/13-A	Method Blank	85	84

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-90240-1

Client Sample ID: WT-012607-011018-EE-001

Lab Sample ID: 240-90240-1

Date Collected: 01/10/18 15:00

Matrix: Water

Date Received: 01/11/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			311427	01/18/18 07:49	WKD	TAL CAN
Total/NA	Analysis	608		1	311792	01/22/18 10:43	LSH	TAL CAN
Total Recoverable	Prep	200.7			310889	01/12/18 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	311050	01/15/18 23:42	AS1	TAL CAN
Total/NA	Prep	245.1			310890	01/12/18 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	311066	01/15/18 12:18	DSH	TAL CAN
Total/NA	Analysis	1664A		1	311756	01/22/18 08:21	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	310728	01/11/18 09:57	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	310988	01/15/18 08:48	MMM	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-90240-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18 *
Connecticut	State Program	1	PH-0590	12-31-17 *
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18 *
Kentucky (WW)	State Program	4	98016	12-31-17 *
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18 *
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-18 *
West Virginia DEP	State Program	3	210	12-31-18

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

TestAmerica Canton

Company Name: CHN Services Inc. Address: 26850 Haggerty Rd City/State/Zip: Farmington Hills MI 48331 Phone: Fax:		Client Contact	
Project Manager: Chris Meinckel Tel/Fax:		Site Contact: E Engle Lab Contact: J Walker Carrier: FedEx	
Analysis Turnaround Time ☐ CALENDAR DAYS ☒ WORKING DAYS TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Date: 1/10/18 COC No.: 2 COCs	
Project Name: RACER GWRP License Site: Livonia, MI PO #: 12607-TOIYN-000		Sampler: For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.: 24005880	
Sample Identification WT-012607-011018-EF-001		Sample Specific Notes: Effluent Composite	
Sample Date: 1/10/18 1500			
Sample Type: C			
Matrix: WT			
# of Cont: 6			
Filtered Sample (Y/N)			
Perform MS/MSD (Y/N)			
PCBs			
Metals			
TSS, Hex Co			
Barcode: 240-90240 Chain of Custody			
Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return to Client ☒ Dispose by Lab ☐ Archive for _____ Months	
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.			
Special Instructions/QC Requirements & Comments:			
Custody Seal Intact: ☒ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:	Therm ID No.:
Relinquished by: E. Engle	Company: GHD	Date/Time: 1/10/18 1700	Date/Time: 1-11-18 -920
Relinquished by:	Company:	Date/Time:	Date/Time:
Relinquished by:	Company:	Date/Time:	Date/Time:

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 90740

Client GHD Site Name Cooler unpacked by: POF
 Cooler Received on 1-11-18 Opened on 1-11-18

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

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

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN# IR-8 (CF -0.3 °C) Observed Cooler Temp. 5.2 °C Corrected Cooler Temp. 4.9 °C
 IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C
 IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

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

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

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

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

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

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

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

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

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

11. Are these work share samples? Yes No

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

12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC730269

13. Were VOAs on the COC? Yes No

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

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

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. 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)

18. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
WT-012607-011018-EE-001	240-90240-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-011018-EE-001	240-90240-E-1	Amber Glass 1 liter - Hydrochloric	_____	_____	_____
WT-012607-011018-EE-001	240-90240-F-1	Amber Glass 1 liter - Hydrochloric	_____	_____	_____

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-91531-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

2/26/2018 4:14:43 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-91531-1

Job ID: 240-91531-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-91531-1

Comments

No additional comments.

Receipt

The sample was received on 2/15/2018 9:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.3° C.

GC Semi VOA

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-021418-EE-001 (240-91531-1).3468458, 3154249, 3361889.

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

Metals

Method(s) 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-012607-021418-EE-001 (240-91531-1). 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

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-315748.

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

TestAmerica Job ID: 240-91531-1

Qualifiers

GC Semi VOA

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

Metals

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

General Chemistry

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

Glossary

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

Sample Summary

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

TestAmerica Job ID: 240-91531-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-91531-1	WT-012607-021418-EE-001	Water	02/14/18 14:15	02/15/18 09:20

Detection Summary

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

TestAmerica Job ID: 240-91531-1

Client Sample ID: WT-012607-021418-EE-001

Lab Sample ID: 240-91531-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.057		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.092		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
								Total
								Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-91531-1

Method	Method Description	Protocol	Laboratory
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
200.7 Rev 4.4	Metals (ICP)	EPA	TAL CAN
245.1	Mercury (CVAA)	EPA	TAL CAN
1664A	HEM and SGT-HEM	1664A	TAL CAN
3500-Cr B-2009	Chromium, Hexavalent	SM	TAL CAN
SM 2540D	Solids, Total Suspended (TSS)	SM	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 = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Client Sample Results

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

TestAmerica Job ID: 240-91531-1

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

Client Sample ID: WT-012607-021418-EE-001

Date Collected: 02/14/18 14:15

Date Received: 02/15/18 09:20

Lab Sample ID: 240-91531-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Aroclor-1221	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Aroclor-1232	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Aroclor-1242	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Aroclor-1248	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Aroclor-1254	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Aroclor-1260	0.095	U	0.095	ug/L		02/22/18 07:40	02/25/18 17:27	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	42		10 - 114			02/22/18 07:40	02/25/18 17:27	1
Tetrachloro-m-xylene	67		15 - 131			02/22/18 07:40	02/25/18 17:27	1

Client Sample Results

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

TestAmerica Job ID: 240-91531-1

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

Client Sample ID: WT-012607-021418-EE-001

Date Collected: 02/14/18 14:15

Date Received: 02/15/18 09:20

Lab Sample ID: 240-91531-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.057		0.050	mg/L		02/16/18 14:00	02/20/18 00:03	1
Nickel	0.092		0.010	mg/L		02/16/18 14:00	02/20/18 00:03	1
Lead	0.050	U	0.050	mg/L		02/16/18 14:00	02/20/18 00:03	1
Zinc	0.020	U	0.020	mg/L		02/16/18 14:00	02/20/18 00:03	1

Client Sample Results

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

TestAmerica Job ID: 240-91531-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-021418-EE-001

Date Collected: 02/14/18 14:15

Date Received: 02/15/18 09:20

Lab Sample ID: 240-91531-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	—	02/16/18 14:00	02/19/18 14:10	1

Client Sample Results

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

TestAmerica Job ID: 240-91531-1

General Chemistry

Client Sample ID: WT-012607-021418-EE-001

Date Collected: 02/14/18 14:15

Date Received: 02/15/18 09:20

Lab Sample ID: 240-91531-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			02/26/18 09:05	1
Cr (VI)	0.0050	U	0.0050	mg/L			02/15/18 11:58	1
Total Suspended Solids	4.0	U	4.0	mg/L			02/16/18 11:26	1

QC Association Summary

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

TestAmerica Job ID: 240-91531-1

GC Semi VOA

Prep Batch: 315748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	3520C	
MB 240-315748/10-A	Method Blank	Total/NA	Water	3520C	
LCS 240-315748/11-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 316048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	608	315748
MB 240-315748/10-A	Method Blank	Total/NA	Water	608	315748
LCS 240-315748/11-A	Lab Control Sample	Total/NA	Water	608	315748

Metals

Prep Batch: 315089

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total Recoverable	Water	200.7	
MB 240-315089/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-315089/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 315107

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	245.1	
MB 240-315107/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-315107/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 315331

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total Recoverable	Water	200.7 Rev 4.4	315089
MB 240-315089/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	315089
LCS 240-315089/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	315089

Analysis Batch: 315423

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	245.1	315107
MB 240-315107/1-A	Method Blank	Total/NA	Water	245.1	315107
LCS 240-315107/2-A	Lab Control Sample	Total/NA	Water	245.1	315107

General Chemistry

Analysis Batch: 314917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-314917/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-314917/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 315115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	SM 2540D	
MB 240-315115/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-315115/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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QC Association Summary

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

TestAmerica Job ID: 240-91531-1

General Chemistry (Continued)

Analysis Batch: 316101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91531-1	WT-012607-021418-EE-001	Total/NA	Water	1664A	
MB 240-316101/1	Method Blank	Total/NA	Water	1664A	
LCS 240-316101/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-91531-1

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

Lab Sample ID: MB 240-315748/10-A

Matrix: Water

Analysis Batch: 316048

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 315748

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1
Aroclor-1221	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1
Aroclor-1232	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1
Aroclor-1242	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1
Aroclor-1248	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1
Aroclor-1254	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1
Aroclor-1260	0.10	U	0.10	ug/L		02/22/18 07:40	02/25/18 13:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	79		10 - 114	02/22/18 07:40	02/25/18 13:39	1
Tetrachloro-m-xylene	81		15 - 131	02/22/18 07:40	02/25/18 13:39	1

Lab Sample ID: LCS 240-315748/11-A

Matrix: Water

Analysis Batch: 316048

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 315748

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.77		ug/L		71	50 - 114
Aroclor-1260	2.50	2.02		ug/L		81	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	79		10 - 114
Tetrachloro-m-xylene	77		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-315089/1-A

Matrix: Water

Analysis Batch: 315331

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 315089

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		02/16/18 14:00	02/19/18 22:49	1
Nickel	0.010	U	0.010	mg/L		02/16/18 14:00	02/19/18 22:49	1
Lead	0.050	U	0.050	mg/L		02/16/18 14:00	02/19/18 22:49	1
Zinc	0.020	U	0.020	mg/L		02/16/18 14:00	02/19/18 22:49	1

Lab Sample ID: LCS 240-315089/2-A

Matrix: Water

Analysis Batch: 315331

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 315089

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.200		mg/L		100	85 - 115
Nickel	0.500	0.483		mg/L		97	85 - 115
Lead	0.500	0.477		mg/L		95	85 - 115
Zinc	0.500	0.488		mg/L		98	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-91531-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-315107/1-A
Matrix: Water
Analysis Batch: 315423

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 315107

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		02/16/18 14:00	02/19/18 13:46	1

Lab Sample ID: LCS 240-315107/2-A
Matrix: Water
Analysis Batch: 315423

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 315107

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00497		mg/L		99	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-316101/1
Matrix: Water
Analysis Batch: 316101

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			02/26/18 09:05	1

Lab Sample ID: LCS 240-316101/2
Matrix: Water
Analysis Batch: 316101

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	40.10		mg/L		100	78 - 114

Method: 3500-Cr B-2009 - Chromium, Hexavalent

Lab Sample ID: MB 240-314917/3
Matrix: Water
Analysis Batch: 314917

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			02/15/18 10:02	1

Lab Sample ID: LCS 240-314917/4
Matrix: Water
Analysis Batch: 314917

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.250	0.248		mg/L		99	80 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-91531-1

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

Lab Sample ID: MB 240-315115/1

Matrix: Water

Analysis Batch: 315115

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	-		02/16/18 11:26	1

Lab Sample ID: LCS 240-315115/2

Matrix: Water

Analysis Batch: 315115

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	89.5	82.0		mg/L	-	92	64 - 120

Surrogate Summary

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

TestAmerica Job ID: 240-91531-1

Method: 608 - 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)
240-91531-1	WT-012607-021418-EE-001	42	67
LCS 240-315748/11-A	Lab Control Sample	79	77
MB 240-315748/10-A	Method Blank	79	81

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-91531-1

Client Sample ID: WT-012607-021418-EE-001

Lab Sample ID: 240-91531-1

Date Collected: 02/14/18 14:15

Matrix: Water

Date Received: 02/15/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			315748	02/22/18 07:40	WKD	TAL CAN
Total/NA	Analysis	608		1	316048	02/25/18 17:27	LSH	TAL CAN
Total Recoverable	Prep	200.7			315089	02/16/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	315331	02/20/18 00:03	AS1	TAL CAN
Total/NA	Prep	245.1			315107	02/16/18 14:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	315423	02/19/18 14:10	AJC	TAL CAN
Total/NA	Analysis	1664A		1	316101	02/26/18 09:05	MMM	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	314917	02/15/18 11:58	JESW	TAL CAN
Total/NA	Analysis	SM 2540D		1	315115	02/16/18 11:26	JWW	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

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

TestAmerica Job ID: 240-91531-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Identification Number	Expiration Date
California	State Program	9	2927	02-23-18 *
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-18
Illinois	NELAP	5	200004	07-31-18
Kansas	NELAP	7	E-10336	01-31-18 *
Kentucky (UST)	State Program	4	58	02-23-18 *
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-18
Nevada	State Program	9	OH-000482008A	07-31-18
New Jersey	NELAP	2	OH001	06-30-18
New York	NELAP	2	10975	03-31-18 *
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-18 *
Pennsylvania	NELAP	3	68-00340	08-31-18
Texas	NELAP	6	T104704517-17-9	08-31-18
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-18
Washington	State Program	10	C971	01-12-19
West Virginia DEP	State Program	3	210	12-31-18

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

TestAmerica Canton

TestAmerica Canton Sample Receipt Form/Narrative				Login # : <u>91531</u>	
Canton Facility					
Client <u>CHD</u>		Site Name _____		Cooler unpacked by: <u>[Signature]</u>	
Cooler Received on <u>2-15-18</u>		Opened on <u>2-15-18</u>			
FedEx: 1 st Grd <u>Exp</u> UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____					
Receipt After-hours: Drop-off Date/Time _____				Storage Location _____	
TestAmerica Cooler # _____		Foam Box ☐ Client Cooler ☒ Box ☐ Other ☐			
Packing material used: <u>Bubble Wrap</u>		Foam Plastic Bag ☐ None ☐ Other ☐			
COOLANT: <u>Wet Ice</u>		Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐			
1. Cooler temperature upon receipt		☐ See Multiple Cooler Form			
IR GUN# IR-8 (CF -0.3 °C) Observed Cooler Temp. <u>1.6</u> °C Corrected Cooler Temp. <u>1.3</u> °C					
IR GUN #36 (CF +0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C					
IR GUN # 627 (CF -1.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C					
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity _____		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 ☒ NA			
-Were tamper/custody seals intact and uncompromised?		Yes ☐ No ☒ NA			
3. Shippers' packing slip attached to the cooler(s)?		Yes ☐ No ☒			
4. Did custody papers accompany the sample(s)?		Yes ☐ No ☒			
5. Were the custody papers relinquished & signed in the appropriate place?		Yes ☐ No ☒			
6. Was/were the person(s) who collected the samples clearly identified on the COC?		Yes ☐ No ☒			
7. Did all bottles arrive in good condition (Unbroken)?		Yes ☐ No ☒			
8. Could all bottle labels be reconciled with the COC?		Yes ☐ No ☒			
9. Were correct bottle(s) used for the test(s) indicated?		Yes ☐ No ☒			
10. Sufficient quantity received to perform indicated analyses?		Yes ☐ No ☒			
11. Are these work share samples?		Yes ☐ No ☒			
If yes, Questions 12-16 have been checked at the originating laboratory.					
12. Were all preserved sample(s) at the correct pH upon receipt?		Yes ☒ No ☐ NA ☐ pH Strip Lot# <u>HC730269</u>			
13. Were VOAs on the COC?		Yes ☐ No ☒			
14. Were air bubbles >6 mm in any VOA vials? Larger than this.		Yes ☐ No ☒ NA ☐			
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____		Yes ☐ No ☒			
16. Was a LL Hg or Me Hg trip blank present? _____		Yes ☐ No ☒			
Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____					
Concerning _____					

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

17. 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)

18. SAMPLE PRESERVATION

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-021418-EE-001	240-91531-B-I	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-021418-EE-001	240-91531-E-I	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-021418-EE-001	240-91531-F-I	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____