



September 28, 2018

Reference No. 012607

Ms. Tessy Jose
City of Detroit
Great Lakes Water Authority
Industrial Waste Control Division
303 S. Livernois Avenue
Detroit, Michigan 48209

Dear Ms. Jose:

**Re: DWSD Semi Annual Report – SD6 94508
(March 2018 through August 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 March 2018 through August 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 implemented 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 with follow-up targeted ISCR injections conducted in 2017. ISCR performance groundwater monitoring and evaluation were conducted through 2017 with supplemental groundwater samples collected in 2018.

The Specific Pollutant Prohibitions provided in the general Great Lakes Water Authority (GLWA) Special Discharge Permit Application are 5.0 mg/L for nickel and 25.0 mg/l for chromium. The current City of Detroit Water and Sewerage Department (DWSD) Special Discharge Permit effluent limits for the Eckles Road Site groundwater treatment plant (GWTP) are 3.98 mg/L for nickel and 2.77 mg/L for total chromium, which are more stringent than the general limits. It is noted that recent GWTP influent concentrations have been less than the permit effluent limits based on laboratory analysis performed weekly since January 2018. A summary of the GWTP influent sample results is provided in Table 1 and on Figure 1. The GWTP influent concentrations have remained below Special Discharge Permit effluent limits due to the ISCR injections and, therefore, RACER is proposing to modify the existing GWTP operation to eliminate portions of the treatment process. RACER plans to continuing to implement dewatering activities until final portions of the remedial alternative can be implemented and approval to discontinue dewatering (and therefore discontinue discharge to the sanitary sewer system) can be obtained from U.S. EPA. Influent testing for chromium and nickel will continue with field test kits and



laboratory analysis weekly. 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 in 2019.

It is noted that the schedule to obtain approval from U.S. EPA to discontinue groundwater extraction has been complicated by recent sampling results. Based on experience at other RACER sites where chrome plating operation formerly occurred and there were releases from those operations, RACER collected groundwater samples to evaluate the potential presence of Per- and Polyfluoroalkyl Substances (PFAS) in groundwater at the Site. Based on detections of specific PFAS, the GWTP influent and effluent were also sampled for the analysis of PFAS in June 2018 and August 2018. A summary of results is presented in Table 2.

Section D: Reporting Requirements

- Reporting Period: March 1, 2018 to August 30, 2018.
- Dates of Sampling: March 7, 2018; April 4, 2018; May 2, 2018; June 13, 2018; July 11, 2018; and August 8, 2018. Laboratory analytical report are attached.
- The groundwater treatment plant had a scheduled shut down for a one week period in May and for a one week period around the July 4th Holiday period.
- All samples were collected from the effluent sampling port of Tank T12.
- Total Monthly Discharges (gallons):
 - March 2018: 689,946
 - April 2018: 821,663
 - May 2018: 716,109
 - June 2018: 745,179
 - July 2018: 732,406
 - August 2018: 655,810
- Total Flow to Date (since 2000): 184,983,563 gallons.
- Signature of GHD's authorized representative who is knowledgeable of the remediation Site's discharge.

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



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

Sincerely,

GHD

A handwritten signature in blue ink, appearing to read "CJ Meincke", with a stylized flourish at the end.

Christopher J. Meincke, P.E.

CJM/ds/18

Encl.

cc: Dave Favero, RACER

Figure 1
GWTP Influent Concentrations - Eckles Road Site

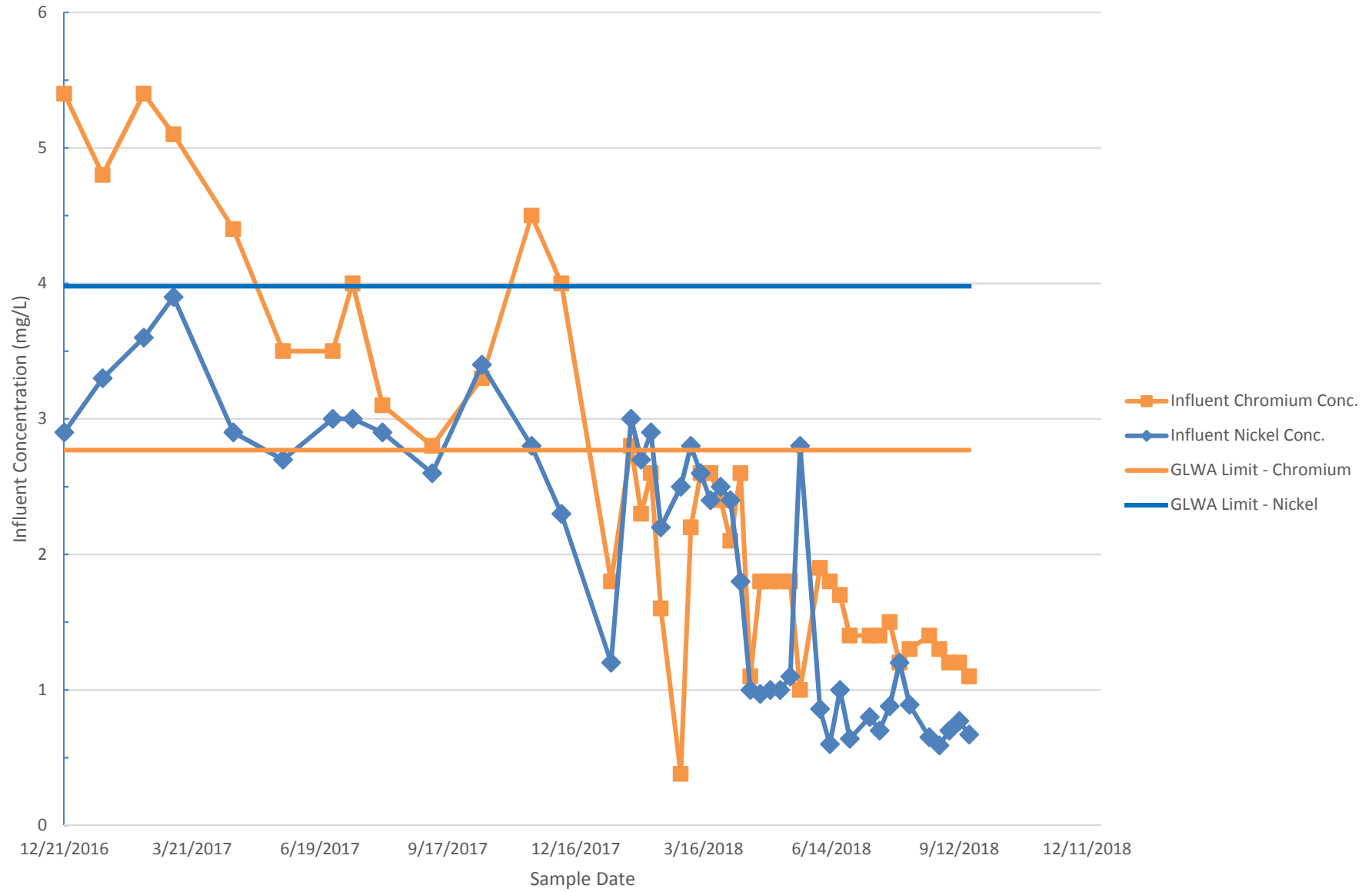


Table 1

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

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-012607-030718-EE-002	WT-012607-031418-EE-002	WT-012607-032118-EE-102	WT-012607-032818-EE-002	WT-012607-040418-EE-002	WT-012607-041118-EE-002	WT-012607-041818-EE-002
Sample Date:		Effluent Limits	3/7/2018	3/14/2018	3/21/2018	3/28/2018	4/4/2018	4/11/2018	4/18/2018
Sample Type:									
Parameters		Units							
Metals									
Chromium	mg/L	2.77	2.2	2.6	2.6	2.4	2.1	2.6	1.1
Chromium VI (hexavalent)	mg/L		0.038 H	2.4	2.1	2.1	1.9	1.7	0.76
Nickel	mg/L	3.98	2.8	2.6	2.4	2.5	2.4	1.8	1.0

Notes:

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"--" - 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-012607-042518-EE-002	WT-012607-050218-EE-002	WT-012607-050918-EE-002	WT-012607-051618-EE-002	WT-012607-052318-EE-002	WT-012607-060618-EE-002	W-012607-061318-EE-002
Sample Date:		Effluent Limits	4/25/2018	5/2/2018	5/9/2018	5/16/2018	5/23/2018	6/6/2018	6/13/2018
Sample Type:									
Parameters		Units							
Metals									
Chromium	mg/L	2.77	1.8	1.8	1.8	1.8	1.0	1.9	1.8
Chromium VI (hexavalent)	mg/L		1.1	1.5	1.7	1.5	0.63	0.18	1.6
Nickel	mg/L	3.98	0.97	1.0	1.0	1.1	2.8	0.86	0.60

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	W-012607-062018-EE-002	W-012607-062718-EE-002	WT-012607-071118-EE-002	WT-012607-071818-EE-002	WT-012607-072518-EE-002	WT-012607-080118-EE-002	WT-012607-080818-EE-002
Sample Date:		Effluent Limits	6/20/2018	6/27/2018	7/11/2018	7/18/2018	7/25/2018	8/1/2018	8/8/2018
Sample Type:									
Parameters									
Metals		Units							
Chromium	mg/L	2.77	1.7	1.4	1.4	1.4	1.5	1.2	1.3
Chromium VI (hexavalent)	mg/L		1.5	0.96	1.7	1.3	1.3	1.0	1.2
Nickel	mg/L	3.98	1.0	0.64	0.80	0.70	0.88	1.2	0.89

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
Sample Identification:		Special Discharge Permit	WW-012607-082218-EE-002	WW-012607-082918-EE-002	WW-012607-090518-EE-002	W-012607-091218-EE-002	W-012607-091918-EE-002
Sample Date:		Effluent Limits	8/22/2018	8/29/2018	9/5/2018	9/12/2018	9/19/2018
Sample Type:							
Parameters	Units						
Metals							
Chromium	mg/L	2.77	1.4	1.3	1.2	1.2	1.1
Chromium VI (hexavalent)	mg/L		1.2	0.23	0.12	0.76	1.1
Nickel	mg/L	3.98	0.65	0.59	0.70	0.77	0.67

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 2

Analytical Results of Groundwater Treatment Plant Samples
Area 1 PFAS Evaluation
Eckles Road Site
Livonia, Michigan

AOI:	MDEQ ⁽²⁾	Area 01	Area 01	Area 01	Area 01
Sample Location:	Residential	GWTP Effluent	GWTP Effluent	GWTP Influent	GWTP Influent
Sample Identification:	Drinking Water	GW-12607A-052418-SK-026	GW-12607-081018-SK-029	GW-12607A-052418-SK-025	GW-12607-081018-SK-028
Sample Date:	Criteria	5/24/2018	8/10/2018	5/24/2018	8/10/2018
Sample Type:					
	Units				
Perfluorinated Hydrocarbons					
Perfluorohexanoic acid (PFHxA)	ng/L	2.0 U	2.0	1.8	2.0
Perfluorobutane sulfonic acid (PFBS)	ng/L	3.3	2.6	3.0	1.8 U
Perfluorobutanoic acid (PFBA)	ng/L	14	11	16	16
Perfluorodecanesulfonic acid (PFDS)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluorodecanoic acid (PFDA)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluorododecanoic acid (PFDoDA)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluoroheptane sulfonic acid (PFHpS)	ng/L	2.0 U	2.2	1.8 U	2.0
Perfluoroheptanoic acid (PFHpA)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluorohexane sulfonic acid (PFHxS)	ng/L	5.2	5.7	5.1	5.6
Perfluorononane sulfonic acid (PFNS)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluorononanoic acid (PFNA)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluorooctane sulfonamide (FOSA)	ng/L	2.0 U	1.8 U	1.8 U	1.8 U
Perfluorooctane sulfonic acid (PFOS)	ng/L	70	86	96	81
Perfluorooctanoic acid (PFOA)	ng/L	70	5.0	5.0	4.5
Perfluoropentane sulfonic acid (PFPeS)	ng/L		2.0 U	1.8 U	1.8 U
Perfluoropentanoic acid (PFPeA)	ng/L		2.0 U	1.8 U	1.8 U
Perfluorotetradecanoic acid (PFTeDA)	ng/L		2.0 U	1.8 U	1.8 U
Perfluorotridecanoic acid (PFTTrDA)	ng/L		2.0 U	1.8 U	1.8 U
Perfluoroundecanoic acid (PFUnA)	ng/L		2.0 U	1.8 U	1.8 U
Fluorotelomer sulfonic acid (4:2)	ng/L		20 U	18 U	18 U
Fluorotelomer sulfonic acid(8:2)	ng/L		20 U	18 U	18 U
N-Ethyl perfluorooctane sulfonamidoacetic acid	ng/L		20 U	18 U	18 U
N-Methyl perfluorooctane sulfonamido acetic acid	ng/L		20 U	18 U	18 U
Sodium 1H,1H,2H,2H-perfluorooctane sulfonate (6:2)	ng/L		20 U	18 U	18 U
Sum of Perfluoro-n-Octanoic acid and Perfluorooctane sulfonate	ng/L	70	91	101	85.5
					115.5

Notes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

PFH - Perfluorinated Hydrocarbons

PFAS - Perfluoroalkyl and Polyfluoroalkyl Substances

(2) Michigan Department of Environmental Quality (MDEQ) drinking water criterion for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS), effective January 10, 2018

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
03/01/18	None	None	On-Site	54,889	
03/02/18	None	None	On-Site	32,919	
03/03/18	None	None			
03/04/18	None	None			
03/05/18	None	None	On-Site	1,353	
03/06/18	None	None	On-Site	28,507	
03/07/18	None	None	On-Site & Sampled	6,031	Effluent - WT-012607-030718-EE-001 Influent - WT-012607-030718-EE-002
03/08/18	None	None	On-Site	53,291	
03/09/18	None	None	On-Site	52,933	
03/10/18	None	None			
03/11/18	None	None			
03/12/18	None	None	On-Site	8,919	
03/13/18	None	None	On-Site	58,391	
03/14/18	None	None	On-Site	40,174	
03/15/18	None	None	On-Site	40,271	
03/16/18	None	None	On-Site	22,336	
03/17/18	None	None			
03/18/18	None	None			
03/19/18	None	None	On-Site	0	
03/20/18	None	None	On-Site	46,043	
03/21/18	None	None	On-Site	41,589	
03/22/18	None	None	On-Site	48,083	
03/23/18	None	None	On-Site	33,174	
03/24/18	None	None			
03/25/18	None	None			
03/26/18	None	None	On-Site	1,118	
03/27/18	None	None	On-Site	48,725	
03/28/18	GLWA Inspection	None	On-Site	35,605	
03/29/18	None	None	On-Site	35,595	
03/30/18	None	None			System shutdown for low groundwater elevations
03/31/18	None	None			

Total Monthly Discharge (gal) 689,946

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
04/01/18	None	None			
04/02/18	None	None	On-Site	1,221	
04/03/18	None	None	On-Site	51,526	
04/04/18	None	None	On-Site & Sampled	35,664	
04/05/18	None	None	On-Site	39,598	
04/06/18	None	None	On-Site	42,802	
04/07/18	None	None			
04/08/18	None	None			
04/09/18	None	None	On-Site	217	
04/10/18	None	None	On-Site	30,935	
04/11/18	None	None	On-Site	54,880	
04/12/18	None	None	On-Site	34,609	
04/13/18	None	None	On-Site	43,246	
04/14/18	None	None			
04/15/18	None	None			
04/16/18	None	None	On-Site	1,981	
04/17/18	None	None	On-Site	48,326	
04/18/18	None	None	On-Site	70,497	
04/19/18	None	None	On-Site	59,331	
04/20/18	None	None	On-Site	63,774	
04/21/18	None	None			
04/22/18	None	None			
04/23/18	None	None	On-Site	0	
04/24/18	None	None	On-Site	72,514	
04/25/18	None	None	On-Site	57,142	
04/26/18	None	None	On-Site	42,597	
04/27/18	None	None	On-Site	70,220	
04/28/18	None	None			
04/29/18	None	None			
04/30/18	None	None	On-Site	583	

Total Monthly Discharge (gal)

821,663

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
05/01/18	None	None	On-Site	78,969	
05/02/18	None	None	On-Site & Sampled	47,202	
05/03/18	None	None	On-Site	53,616	
05/04/18	None	None	On-Site	39,839	
05/05/18	None	None			
05/06/18	None	None			
05/07/18	None	None	On-Site	2,571	
05/08/18	None	None	On-Site	58,115	
05/09/18	None	None	On-Site	64,104	
05/10/18	None	None	On-Site	53,674	
05/11/18	None	None	On-Site	42,776	
05/12/18	None	None			
05/13/18	None	None			
05/14/18	None	None			
05/15/18	None	None	On-Site	5,895	
05/16/18	None	None	On-Site	68,899	
05/17/18	None	None	On-Site	57,801	
05/18/18	None	None	On-Site	61,148	
05/19/18	None	None			
05/20/18	None	None			
05/21/18	None	None	On-Site	204	
05/22/18	None	None	On-Site	13,291	
05/23/18	None	None	On-Site	15,801	
05/24/18	None	None	On-Site	52,204	
05/25/18	None	None			Scheduled System Shutdown
05/26/18	None	None			Scheduled System Shutdown
05/27/18	None	None			Scheduled System Shutdown
05/28/18	None	None			Scheduled System Shutdown
05/29/18	None	None			Scheduled System Shutdown
05/30/18	None	None			Scheduled System Shutdown
05/31/18	None	None			Scheduled System Shutdown

Total Monthly Discharge (gal)

716,109

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
06/01/18	None	None			
06/02/18	None	None			
06/03/18	None	None			
06/04/18	None	None	On-Site	1,821	
06/05/18	None	None	On-Site	16,273	
06/06/18	None	None	On-Site	72,657	
06/07/18	None	None	On-Site	51,572	
06/08/18	None	None	On-Site	65,217	
06/09/18	None	None			
06/10/18	None	None			
06/11/18	None	None	On-Site	311	
06/12/18	None	None	On-Site	71,531	
06/13/18	None	None	On-Site & Sampled	58,650	
06/14/18	None	None	On-Site	47,232	
06/15/18	None	None	On-Site	9,687	
06/16/18	None	None			
06/17/18	None	None			
06/18/18	None	None	On-Site	0	
06/19/18	None	None	On-Site	61,560	
06/20/18	None	None	On-Site	59,646	
06/21/18	None	None	On-Site	57,991	
06/22/18	None	None	On-Site	48,607	
06/23/18	None	None			
06/24/18	None	None			
06/25/18	None	None	On-Site	1,238	
06/26/18	None	None	On-Site	69,950	
06/27/18	None	None	On-Site	51,236	
06/28/18	None	None			
06/29/18	None	None			
06/30/18	None	None			

Total Monthly Discharge (gal)

745,179

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
07/01/18	None	None			
07/02/18	None	None			System down - Holiday/sludge pump maintenance
07/03/18	None	None			System down - Holiday/sludge pump maintenance
07/04/18	None	None			System down - Holiday/sludge pump maintenance
07/05/18	None	None			System down - Holiday/sludge pump maintenance
07/06/18	None	None			System down - Holiday/sludge pump maintenance
07/07/18	None	None			
07/08/18	None	None			
07/09/18	None	None	On-Site	1,852	
07/10/18	None	None	On-Site	59,312	
07/11/18	None	None	On-Site & Sampled	56,863	
07/12/18	None	None	On-Site	68,166	
07/13/18	None	None	On-Site	42,187	
07/14/18	None	None			
07/15/18	None	None			
07/16/18	None	None	On-Site	1,181	
07/17/18	None	None	On-Site	55,055	
07/18/18	None	None	On-Site	59,209	
07/19/18	None	None	On-Site	56,239	
07/20/18	None	None	On-Site	41,645	
07/21/18	None	None			
07/22/18	None	None			
07/23/18	None	None	On-Site	2,672	
07/24/18	None	None	On-Site	66,113	
07/25/18	None	None	On-Site	58,351	
07/26/18	None	None	On-Site	41,661	
07/27/18	None	None	On-Site	59,174	
07/28/18	None	None			
07/29/18	None	None			
07/30/18	None	None	On-Site	270	
07/31/18	None	None	On-Site	62,456	

Total Monthly Discharge (gal)

732,406

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
08/01/18	None	None	On-Site	35,908	
08/02/18	None	None	On-Site	45,097	
08/03/18	None	None	On-Site	52,164	
08/04/18	None	None			
08/05/18	None	None			
08/06/18	None	None	On-Site	1,345	
08/07/18	None	None	On-Site	60,482	
08/08/18	None	None	On-Site & Sampled	48,772	
08/09/18	None	None			
08/10/18	None	None			
08/11/18	None	None			
08/12/18	None	None			
08/13/18	None	None			
08/14/18	None	None			
08/15/18	None	None	On-Site	11,879	
08/16/18	None	None	On-Site	47,101	
08/17/18	None	None	On-Site	58,004	
08/18/18	None	None			
08/19/18	None	None			
08/20/18	None	None	On-Site	430	
08/21/18	None	None	On-Site	51,506	
08/22/18	None	None	On-Site	56,662	
08/23/18	None	None	On-Site	58,223	
08/24/18	None	None	On-Site	20,555	
08/25/18	None	None			
08/26/18	None	None			
08/27/18	None	None	On-Site	0	
08/28/18	None	None	On-Site	22,514	
08/29/18	None	None	On-Site	14,890	
08/30/18	None	None	On-Site	37,925	
08/31/18	None	None	On-Site	32,353	

Total Monthly Discharge (gal)

655,810

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
3/1/2018	3/1/2018	9.30	0.01	0.00	0.05	
3/2/2018	3/2/2018	9.37	0.01	0.00	0.05	
3/3/2018	3/3/2018					
3/4/2018	3/4/2018					
3/5/2018	3/5/2018	8.29	0.01	0.00	0.05	
3/6/2018	3/6/2018	9.29	0.01	0.00	0.05	
3/7/2018	3/7/2018	9.35	0.01	0.00	0.05	
3/8/2018	3/8/2018	9.44	0.01	0.00	0.05	
3/9/2018	3/9/2018	9.51	0.01	0.00	0.05	
3/10/2018	3/10/2018					
3/11/2018	3/11/2018					
3/12/2018	3/12/2018	8.63	0.01	0.00	0.05	
3/13/2018	3/13/2018	9.32	0.01	0.00	0.05	
3/14/2018	3/14/2018	9.41	0.01	0.00	0.05	
3/15/2018	3/15/2018	9.43	0.06	0.00	0.05	
3/16/2018	3/16/2018	9.30	0.02	0.00	0.05	
3/17/2018	3/17/2018					
3/18/2018	3/18/2018					
3/19/2018	3/19/2018	8.21	0.02	0.00	0.05	
3/20/2018	3/20/2018	9.81	0.18	0.70	0.80	
3/21/2018	3/21/2018	9.62	0.20	0.00	0.05	
3/22/2018	3/22/2018	9.42	0.02	0.00	0.05	
3/23/2018	3/23/2018	9.62	0.02	0.00	0.05	
3/24/2018	3/24/2018					
3/25/2018	3/25/2018					
3/26/2018	3/26/2018	8.52	0.02	0.00	0.05	
3/27/2018	3/27/2018	9.19	0.03	0.00	0.05	
3/28/2018	3/28/2018	9.14	0.03	0.00	0.05	
3/29/2018	3/29/2018	9.17	0.03	0.40	0.50	
3/30/2018	3/30/2018					System shutdown for low groundwater elevations
3/31/2018	3/31/2018					

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - April 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
4/1/2018	4/1/2018					
4/2/2018	4/2/2018	8.35	0.15	0.10	0.10	
4/3/2018	4/3/2018	9.04	0.03	0.00	0.05	
4/4/2018	4/4/2018	9.02	0.25	0.00	0.05	
4/5/2018	4/5/2018	9.08	0.05	0.00	0.05	
4/6/2018	4/6/2018	8.96	0.02	0.00	0.05	
4/7/2018	4/7/2018					
4/8/2018	4/8/2018					
4/9/2018	4/9/2018	8.04	0.02	0.00	0.05	
4/10/2018	4/10/2018	9.34	0.02	0.00	0.05	
4/11/2018	4/11/2018	9.35	0.10	0.00	0.05	
4/12/2018	4/12/2018	9.35	0.03	0.00	0.05	
4/13/2018	4/13/2018	9.29	0.02	0.00	0.05	
4/14/2018	4/14/2018					
4/15/2018	4/15/2018					
4/16/2018	4/16/2018	8.09	0.02	0.00	0.05	
4/17/2018	4/17/2018	9.16	0.20	0.00	0.05	
4/18/2018	4/18/2018	9.04	0.03	0.00	0.05	
4/19/2018	4/19/2018	9.36	0.20	0.00	0.05	
4/20/2018	4/20/2018	9.28	0.03	0.00	0.05	
4/21/2018	4/21/2018					
4/22/2018	4/22/2018					
4/23/2018	4/23/2018	8.16	0.02	0.00	0.05	
4/24/2018	4/24/2018	9.38	0.10	0.00	0.05	
4/25/2018	4/25/2018	9.23	0.15	0.00	0.05	
4/26/2018	4/26/2018	9.22	0.12	0.00	0.05	
4/27/2018	4/27/2018	9.54	0.15	0.00	0.05	
4/28/2018	4/28/2018					
4/29/2018	4/29/2018					
4/30/2018	4/30/2018	7.70	0.15	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 - May 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
5/1/2018	5/1/2018	9.34	0.15	0.00	0.05	
5/2/2018	5/2/2018	9.50	0.15	0.00	0.05	
5/3/2018	5/3/2018	9.53	0.10	0.00	0.05	
5/4/2018	5/4/2018	9.50	0.10	0.00	0.05	
5/5/2018	5/5/2018					
5/6/2018	5/6/2018					
5/7/2018	5/7/2018	8.56	0.10	0.00	0.05	
5/8/2018	5/8/2018	9.90	0.15	0.00	0.05	
5/9/2018	5/9/2018	10.24	0.10	0.00	0.05	
5/10/2018	5/10/2018	10.42	0.10	0.00	0.05	
5/11/2018	5/11/2018	10.35	0.05	0.00	0.05	
5/12/2018	5/12/2018					
5/13/2018	5/13/2018					
5/14/2018	5/14/2018					
5/15/2018	5/15/2018	8.96	0.05	0.00	0.05	
5/16/2018	5/16/2018	10.25	0.15	0.00	0.05	
5/17/2018	5/17/2018	10.32	0.10	0.00	0.05	
5/18/2018	5/18/2018	10.31	0.30	0.00	0.10	
5/19/2018	5/19/2018					
5/20/2018	5/20/2018					
5/21/2018	5/21/2018	9.12	0.25	0.00	0.10	
5/22/2018	5/22/2018	9.62	0.10	0.00	0.05	
5/23/2018	5/23/2018	9.57	0.10	0.00	0.05	
5/24/2018	5/24/2018	10.44	0.15	0.00	0.05	
5/25/2018	5/25/2018					Scheduled System Shutdown
5/26/2018	5/26/2018					Scheduled System Shutdown
5/27/2018	5/27/2018					Scheduled System Shutdown
5/28/2018	5/28/2018					Scheduled System Shutdown
5/29/2018	5/29/2018					Scheduled System Shutdown
5/30/2018	5/30/2018					Scheduled System Shutdown
5/31/2018	5/31/2018					Scheduled System Shutdown

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - June 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
6/1/2018	6/1/2018					
6/2/2018	6/2/2018					
6/3/2018	6/3/2018					
6/4/2018	6/4/2018	8.36	0.10	0.00	0.05	
6/5/2018	6/5/2018	9.45	0.10	0.00	0.05	
6/6/2018	6/6/2018	10.20	0.10	0.00	0.05	
6/7/2018	6/7/2018	10.66	0.10	0.00	0.05	
6/8/2018	6/8/2018	10.71	0.20	0.00	0.05	
6/9/2018	6/9/2018					
6/10/2018	6/10/2018					
6/11/2018	6/11/2018	9.29	0.15	0.00	0.15	
6/12/2018	6/12/2018	9.64	0.10	0.00	0.05	
6/13/2018	6/13/2018	9.34	0.04	0.00	0.05	
6/14/2018	6/14/2018	9.33	0.10	0.00	0.05	
6/15/2018	6/15/2018	9.27	0.10	0.00	0.05	
6/16/2018	6/16/2018					
6/17/2018	6/17/2018					
6/18/2018	6/18/2018	8.11	0.10	0.00	0.05	
6/19/2018	6/19/2018	9.36	0.10	0.50	0.60	
6/20/2018	6/20/2018	9.14	0.10	0.00	0.05	
6/21/2018	6/21/2018	9.36	0.11	0.00	0.05	
6/22/2018	6/22/2018	9.36	0.10	0.00	0.05	
6/23/2018	6/23/2018					
6/24/2018	6/24/2018					
6/25/2018	6/25/2018	8.32	0.10	0.00	0.05	
6/26/2018	6/26/2018	9.04	0.10	0.00	0.05	
6/27/2018	6/27/2018	9.07	0.15	0.00	0.05	
6/28/2018	6/28/2018					
6/29/2018	6/29/2018					
6/30/2018	6/30/2018					

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - July 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
7/1/2018	7/1/2018					
7/2/2018	7/2/2018					System down - Holiday/sludge pump maintenance
7/3/2018	7/3/2018					System down - Holiday/sludge pump maintenance
7/4/2018	7/4/2018					System down - Holiday/sludge pump maintenance
7/5/2018	7/5/2018					System down - Holiday/sludge pump maintenance
7/6/2018	7/6/2018					System down - Holiday/sludge pump maintenance
7/7/2018	7/7/2018					
7/8/2018	7/8/2018					
7/9/2018	7/9/2018	8.10	0.08	0.00	0.05	
7/10/2018	7/10/2018	9.53	0.14	0.00	0.05	
7/11/2018	7/11/2018	9.63	0.09	0.00	0.05	
7/12/2018	7/12/2018	9.51	0.10	0.00	0.05	
7/13/2018	7/13/2018	9.75	0.10	0.00	0.05	
7/14/2018	7/14/2018					
7/15/2018	7/15/2018					
7/16/2018	7/16/2018	8.51	0.10	0.00	0.05	
7/17/2018	7/17/2018	9.54	0.10	0.00	0.05	
7/18/2018	7/18/2018	9.42	0.09	0.00	0.05	
7/19/2018	7/19/2018	9.51	0.05	0.00	0.05	
7/20/2018	7/20/2018	9.40	0.10	0.00	0.05	
7/21/2018	7/21/2018					
7/22/2018	7/22/2018					
7/23/2018	7/23/2018	8.21	0.10	0.00	0.05	
7/24/2018	7/24/2018	9.29	0.07	0.00	0.05	
7/25/2018	7/25/2018	9.06	0.09	0.00	0.05	
7/26/2018	7/26/2018	9.25	0.18	0.00	0.05	
7/27/2018	7/27/2018	9.37	0.10	0.00	0.05	
7/28/2018	7/28/2018					
7/29/2018	7/29/2018					
7/30/2018	7/30/2018	8.14	0.09	0.00	0.05	
7/31/2018	7/31/2018	8.82	0.08	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 - August 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
8/1/2018	8/1/2018	8.77	0.15	0.00	0.05	
8/2/2018	8/2/2018	9.33	0.20	0.00	0.05	
8/3/2018	8/3/2018	9.44	0.15	0.00	0.05	
8/4/2018	8/4/2018					
8/5/2018	8/5/2018					
8/6/2018	8/6/2018	7.80	0.10	0.00	0.05	
8/7/2018	8/7/2018	8.99	0.20	0.90	1.00	
8/8/2018	8/8/2018	9.00	0.10	0.00	0.05	
8/9/2018	8/9/2018					
8/10/2018	8/10/2018					
8/11/2018	8/11/2018					
8/12/2018	8/12/2018					
8/13/2018	8/13/2018					
8/14/2018	8/14/2018					
8/15/2018	8/15/2018	7.90	0.10	0.00	0.05	
8/16/2018	8/16/2018	9.12	0.12	0.00	0.05	
8/17/2018	8/17/2018	9.33	0.15	0.00	0.05	
8/18/2018	8/18/2018					
8/19/2018	8/19/2018					
8/20/2018	8/20/2018	8.12	0.15	0.00	0.05	
8/21/2018	8/21/2018	9.14	0.11	0.00	0.05	
8/22/2018	8/22/2018	9.18	0.15	0.00	0.05	
8/23/2018	8/23/2018	9.50	0.08	0.00	0.05	
8/24/2018	8/24/2018					
8/25/2018	8/25/2018					
8/26/2018	8/26/2018					
8/27/2018	8/27/2018	9.22	0.09	0.40	0.50	
8/28/2018	8/28/2018	10.48	0.09	0.00	0.05	
8/29/2018	8/29/2018	10.81	0.06	0.00	0.05	
8/30/2018	8/30/2018	10.83	0.05	0.00	0.05	
8/31/2018	8/31/2018	10.77	0.10	0.00	0.05	

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-92479-1

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:

3/20/2018 3:21:10 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: 240-92479-1

Job ID: 240-92479-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-92479-1

Comments

No additional comments.

Receipt

The samples were received on 3/8/2018 10:15 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.3° 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-012607-030718-EE-001 (240-92479-1) and (LCS 240-317787/17-A). 3488777, 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) fall below the laboratory's verified standard quantitation limit. The continuing calibration blanks and method blanks may not support the lower PQL.

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

General Chemistry

Method(s) SM 3500 CR B: The following samples were received past the 24 hour holding time for hexavalent chromium: WT-012607-030718-EE-001 (240-92479-1) and WT-012607-030718-EE-002 (240-92479-2).

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 240-317787.

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: 240-92479-1

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: 240-92479-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-92479-1	WT-012607-030718-EE-001	Water	03/07/18 09:00	03/08/18 10:15
240-92479-2	WT-012607-030718-EE-002	Water	03/07/18 09:10	03/08/18 10:15

Detection Summary

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

TestAmerica Job ID: 240-92479-1

Client Sample ID: WT-012607-030718-EE-001

Lab Sample ID: 240-92479-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.13		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.28		0.010	mg/L	1		200.7 Rev 4.4	Recoverable Total
Total Suspended Solids	23		4.0	mg/L	1		SM 2540D	Recoverable Total/NA

Client Sample ID: WT-012607-030718-EE-002

Lab Sample ID: 240-92479-2

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	2.2		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	2.8		0.010	mg/L	1		200.7 Rev 4.4	Recoverable Total
Cr (VI)	0.038	H	0.0050	mg/L	1		3500-Cr B-2009	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: 240-92479-1

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: 240-92479-1

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

Client Sample ID: WT-012607-030718-EE-001

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Aroclor-1221	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Aroclor-1232	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Aroclor-1242	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Aroclor-1248	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Aroclor-1254	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Aroclor-1260	0.095	U	0.095	ug/L		03/09/18 07:47	03/12/18 15:07	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	70		10 - 114			03/09/18 07:47	03/12/18 15:07	1
Tetrachloro-m-xylene	67		15 - 131			03/09/18 07:47	03/12/18 15:07	1

Client Sample Results

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

TestAmerica Job ID: 240-92479-1

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

Client Sample ID: WT-012607-030718-EE-001

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.13		0.050	mg/L		03/09/18 14:00	03/13/18 13:27	1
Nickel	0.28		0.010	mg/L		03/09/18 14:00	03/13/18 13:27	1
Lead	0.050	U	0.050	mg/L		03/09/18 14:00	03/13/18 13:27	1
Zinc	0.020	U	0.020	mg/L		03/09/18 14:00	03/13/18 13:27	1

Client Sample Results

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

TestAmerica Job ID: 240-92479-1

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

Client Sample ID: WT-012607-030718-EE-002

Date Collected: 03/07/18 09:10

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-2

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	2.2		0.050	mg/L		03/09/18 14:00	03/14/18 05:22	1
Nickel	2.8		0.010	mg/L		03/09/18 14:00	03/14/18 05:22	1

Client Sample Results

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

TestAmerica Job ID: 240-92479-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-030718-EE-001

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		03/09/18 14:00	03/12/18 12:06	1

Client Sample Results

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

TestAmerica Job ID: 240-92479-1

General Chemistry

Client Sample ID: WT-012607-030718-EE-001

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			03/20/18 08:40	1
Cr (VI)	0.0050	U H	0.0050	mg/L			03/08/18 13:58	1
Total Suspended Solids	23		4.0	mg/L			03/12/18 11:14	1

Client Sample Results

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

TestAmerica Job ID: 240-92479-1

General Chemistry

Client Sample ID: WT-012607-030718-EE-002

Date Collected: 03/07/18 09:10

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-2

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.038	H	0.0050	mg/L			03/08/18 13:59	1

QC Association Summary

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

TestAmerica Job ID: 240-92479-1

GC Semi VOA

Prep Batch: 317787

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	3520C	
MB 240-317787/16-A	Method Blank	Total/NA	Water	3520C	
LCS 240-317787/17-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 318096

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	608	317787
MB 240-317787/16-A	Method Blank	Total/NA	Water	608	317787
LCS 240-317787/17-A	Lab Control Sample	Total/NA	Water	608	317787

Metals

Prep Batch: 317794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-2	WT-012607-030718-EE-002	Total Recoverable	Water	200.7	
MB 240-317794/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-317794/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 317813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total Recoverable	Water	200.7	
MB 240-317813/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-317813/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 317826

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	245.1	
MB 240-317826/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-317826/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 318135

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	245.1	317826
MB 240-317826/1-A	Method Blank	Total/NA	Water	245.1	317826
LCS 240-317826/2-A	Lab Control Sample	Total/NA	Water	245.1	317826

Analysis Batch: 318329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total Recoverable	Water	200.7 Rev 4.4	317813
240-92479-2	WT-012607-030718-EE-002	Total Recoverable	Water	200.7 Rev 4.4	317794
MB 240-317813/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	317813
LCS 240-317794/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	317794
LCS 240-317813/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	317813

Analysis Batch: 318488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-317794/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	317794

TestAmerica Canton

QC Association Summary

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

TestAmerica Job ID: 240-92479-1

General Chemistry

Analysis Batch: 317692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	3500-Cr B-2009	
240-92479-2	WT-012607-030718-EE-002	Total/NA	Water	3500-Cr B-2009	
MB 240-317692/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-317692/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 318080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	SM 2540D	
MB 240-318080/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-318080/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 319224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92479-1	WT-012607-030718-EE-001	Total/NA	Water	1664A	
MB 240-319224/1	Method Blank	Total/NA	Water	1664A	
LCS 240-319224/2	Lab Control Sample	Total/NA	Water	1664A	
LCSD 240-319224/3	Lab Control Sample Dup	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-92479-1

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

Lab Sample ID: MB 240-317787/16-A

Matrix: Water

Analysis Batch: 318096

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 317787

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1
Aroclor-1221	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1
Aroclor-1232	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1
Aroclor-1242	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1
Aroclor-1248	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1
Aroclor-1254	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1
Aroclor-1260	0.10	U	0.10	ug/L		03/09/18 07:48	03/12/18 12:50	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	77		10 - 114	03/09/18 07:48	03/12/18 12:50	1
Tetrachloro-m-xylene	68		15 - 131	03/09/18 07:48	03/12/18 12:50	1

Lab Sample ID: LCS 240-317787/17-A

Matrix: Water

Analysis Batch: 318096

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317787

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.43		ug/L		57	50 - 114
Aroclor-1260	2.50	1.64		ug/L		65	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	62		10 - 114
Tetrachloro-m-xylene	57		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-317794/1-A

Matrix: Water

Analysis Batch: 318488

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 317794

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		03/09/18 14:00	03/14/18 15:33	1
Nickel	0.010	U	0.010	mg/L		03/09/18 14:00	03/14/18 15:33	1

Lab Sample ID: LCS 240-317794/2-A

Matrix: Water

Analysis Batch: 318329

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 317794

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.187		mg/L		94	85 - 115
Nickel	0.500	0.485		mg/L		97	85 - 115

Lab Sample ID: MB 240-317813/1-A

Matrix: Water

Analysis Batch: 318329

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 317813

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		03/09/18 14:00	03/13/18 12:05	1

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QC Sample Results

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

TestAmerica Job ID: 240-92479-1

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

Lab Sample ID: MB 240-317813/1-A

Matrix: Water

Analysis Batch: 318329

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 317813

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Nickel	0.010	U	0.010	mg/L		03/09/18 14:00	03/13/18 12:05	1
Lead	0.050	U	0.050	mg/L		03/09/18 14:00	03/13/18 12:05	1
Zinc	0.020	U	0.020	mg/L		03/09/18 14:00	03/13/18 12:05	1

Lab Sample ID: LCS 240-317813/2-A

Matrix: Water

Analysis Batch: 318329

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 317813

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.194		mg/L		97	85 - 115
Nickel	0.500	0.500		mg/L		100	85 - 115
Lead	0.500	0.489		mg/L		98	85 - 115
Zinc	0.500	0.508		mg/L		102	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-317826/1-A

Matrix: Water

Analysis Batch: 318135

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 317826

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		03/09/18 14:00	03/12/18 11:33	1

Lab Sample ID: LCS 240-317826/2-A

Matrix: Water

Analysis Batch: 318135

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 317826

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00510		mg/L		102	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-319224/1

Matrix: Water

Analysis Batch: 319224

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			03/20/18 08:40	1

Lab Sample ID: LCS 240-319224/2

Matrix: Water

Analysis Batch: 319224

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	36.60		mg/L		92	78 - 114

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-92479-1

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

Lab Sample ID: LCSD 240-319224/3

Matrix: Water

Analysis Batch: 319224

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
HEM	40.0	35.50		mg/L		89	78 - 114	3	11

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

Lab Sample ID: MB 240-317692/3

Matrix: Water

Analysis Batch: 317692

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			03/08/18 10:50	1

Lab Sample ID: LCS 240-317692/4

Matrix: Water

Analysis Batch: 317692

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	0.274		mg/L		110	80 - 123

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

Lab Sample ID: MB 240-318080/1

Matrix: Water

Analysis Batch: 318080

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			03/12/18 11:14	1

Lab Sample ID: LCS 240-318080/2

Matrix: Water

Analysis Batch: 318080

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	22.6	19.0		mg/L		84	64 - 120

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-92479-1

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)
240-92479-1	WT-012607-030718-EE-001	70	67
LCS 240-317787/17-A	Lab Control Sample	62	57
MB 240-317787/16-A	Method Blank	77	68

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-92479-1

Client Sample ID: WT-012607-030718-EE-001

Date Collected: 03/07/18 09:00

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			317787	03/09/18 07:47	WKD	TAL CAN
Total/NA	Analysis	608		1	318096	03/12/18 15:07	LSH	TAL CAN
Total Recoverable	Prep	200.7			317813	03/09/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	318329	03/13/18 13:27	RKT	TAL CAN
Total/NA	Prep	245.1			317826	03/09/18 14:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	318135	03/12/18 12:06	AJC	TAL CAN
Total/NA	Analysis	1664A		1	319224	03/20/18 08:40	JESW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	317692	03/08/18 13:58	MMM	TAL CAN
Total/NA	Analysis	SM 2540D		1	318080	03/12/18 11:14	CJL	TAL CAN

Client Sample ID: WT-012607-030718-EE-002

Date Collected: 03/07/18 09:10

Date Received: 03/08/18 10:15

Lab Sample ID: 240-92479-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	200.7			317794	03/09/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	318329	03/14/18 05:22	RKT	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	317692	03/08/18 13:59	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: 240-92479-1

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	02-23-19
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	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
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	02-23-19
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

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

Company Name: GND Services Inc.		Client Contact		Project Manager: Chris Winkler		Site Contact: Engel		Date: 3/7/18		COC No: 1 of 2 COCs	
Address: 26850 Plasterville		City/State/Zip: Farmland, OH 43331		Phone: (419) 293-3400		Fax: (419) 293-3400		Lab Contact: D. H. G.		Carrier:	
Project Name: RACON GND LUMINA		Site: Livonia, MI		PO #: 012607-T01418-03		Analysis Turnaround Time ☒ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below: STD		For Lab Use Only: Walk-in Client: ☐ Lab Sampling: ☐		Sampler:	
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:				
WT - 012607-030718-ET-001		3/7/18	900	WT	WT	1	Effluent Comp				
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-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months									
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd: _____		Therm ID No.:					
Relinquished by: Engel		Company: GND		Date/Time: 3/7/18		Received by: Engel		Company: TAL		Date/Time: 3/8/18	
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 # : <u>92479</u>
Canton Facility				
Client <u>GAD</u>	Site Name _____	Cooler unpacked by: <u>Bob</u>		
Cooler Received on <u>3-8-18</u>	Opened on <u>3-8-18</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 <u>Client Cooler</u>	Box _____	Other _____	
Packing material used: <u>Bubble Wrap</u> Foam <u>Plastic Bag</u>		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>3.6</u> °C Corrected Cooler Temp. <u>3.3</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 <u>1</u> Yes No				
-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA				
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No				
-Were tamper/custody seals intact and uncompromised? Yes No NA				
3. Shippers' packing slip attached to the cooler(s)? Yes No				
4. Did custody papers accompany the sample(s)? Yes No				
5. Were the custody papers relinquished & signed in the appropriate place? Yes No				
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No				
7. Did all bottles arrive in good condition (Unbroken)? Yes No				
8. Could all bottle labels be reconciled with the COC? Yes No				
9. Were correct bottle(s) used for the test(s) indicated? Yes No				
10. Sufficient quantity received to perform indicated analyses? Yes No				
11. Are these work share samples? Yes No				
If yes, Questions 12-16 have been checked at the originating laboratory.				
12. Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# <u>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 _____				

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</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-030718-EE-001	240-92479-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-030718-EE-001	240-92479-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-030718-EE-001	240-92479-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-030718-EE-0032	240-92479-B-2	Plastic 500ml - with Nitric Acid	<2	_____	_____

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-93642-1

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:

4/16/2018 6:07:25 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: 240-93642-1

Job ID: 240-93642-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-93642-1

Comments

No additional comments.

Receipt

The sample was received on 4/5/2018 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.9° 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-012607-040418-EE-001 (240-93642-1), (LCS 240-321499/7-A) and (MB 240-321499/6-A).3522517, 3449339, 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, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-040418-EE-001 (240-93642-1)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 240-321499.

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: 240-93642-1

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: 240-93642-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-93642-1	WT-012607-040418-EE-001	Water	04/04/18 14:00	04/05/18 09:30

Detection Summary

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

TestAmerica Job ID: 240-93642-1

Client Sample ID: WT-012607-040418-EE-001

Lab Sample ID: 240-93642-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.090		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.32		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	11		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: 240-93642-1

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: 240-93642-1

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

Client Sample ID: WT-012607-040418-EE-001

Date Collected: 04/04/18 14:00

Date Received: 04/05/18 09:30

Lab Sample ID: 240-93642-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Aroclor-1221	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Aroclor-1232	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Aroclor-1242	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Aroclor-1248	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Aroclor-1254	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Aroclor-1260	0.095	U	0.095	ug/L		04/06/18 07:41	04/10/18 11:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		10 - 114			04/06/18 07:41	04/10/18 11:14	1
Tetrachloro-m-xylene	52		15 - 131			04/06/18 07:41	04/10/18 11:14	1

Client Sample Results

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

TestAmerica Job ID: 240-93642-1

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

Client Sample ID: WT-012607-040418-EE-001

Date Collected: 04/04/18 14:00

Date Received: 04/05/18 09:30

Lab Sample ID: 240-93642-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.090		0.050	mg/L		04/06/18 14:00	04/09/18 16:24	1
Nickel	0.32		0.010	mg/L		04/06/18 14:00	04/09/18 16:24	1
Lead	0.050	U	0.050	mg/L		04/06/18 14:00	04/09/18 16:24	1
Zinc	0.020	U	0.020	mg/L		04/06/18 14:00	04/09/18 16:24	1

Client Sample Results

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

TestAmerica Job ID: 240-93642-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-040418-EE-001

Date Collected: 04/04/18 14:00

Date Received: 04/05/18 09:30

Lab Sample ID: 240-93642-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		04/06/18 12:00	04/09/18 16:38	1

Client Sample Results

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

TestAmerica Job ID: 240-93642-1

General Chemistry

Client Sample ID: WT-012607-040418-EE-001

Date Collected: 04/04/18 14:00

Date Received: 04/05/18 09:30

Lab Sample ID: 240-93642-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			04/13/18 10:07	1
Cr (VI)	0.0050	U	0.0050	mg/L			04/05/18 12:09	1
Total Suspended Solids	11		4.0	mg/L			04/10/18 10:25	1

QC Association Summary

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

TestAmerica Job ID: 240-93642-1

GC Semi VOA

Prep Batch: 321499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	3520C	
MB 240-321499/6-A	Method Blank	Total/NA	Water	3520C	
LCS 240-321499/7-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 321885

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	608	321499
MB 240-321499/6-A	Method Blank	Total/NA	Water	608	321499
LCS 240-321499/7-A	Lab Control Sample	Total/NA	Water	608	321499

Metals

Prep Batch: 321547

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total Recoverable	Water	200.7	
MB 240-321547/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-321547/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 321552

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	245.1	
MB 240-321552/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-321552/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 321777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total Recoverable	Water	200.7 Rev 4.4	321547
MB 240-321547/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	321547
LCS 240-321547/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	321547

Analysis Batch: 321874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	245.1	321552
MB 240-321552/1-A	Method Blank	Total/NA	Water	245.1	321552
LCS 240-321552/2-A	Lab Control Sample	Total/NA	Water	245.1	321552

General Chemistry

Analysis Batch: 321386

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-321386/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-321386/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 321911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	SM 2540D	
MB 240-321911/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-321911/2	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: 240-93642-1

General Chemistry (Continued)

Analysis Batch: 322425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-93642-1	WT-012607-040418-EE-001	Total/NA	Water	1664A	
MB 240-322425/1	Method Blank	Total/NA	Water	1664A	
LCS 240-322425/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-93642-1

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

Lab Sample ID: MB 240-321499/6-A

Matrix: Water

Analysis Batch: 321885

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 321499

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1
Aroclor-1221	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1
Aroclor-1232	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1
Aroclor-1242	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1
Aroclor-1248	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1
Aroclor-1254	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1
Aroclor-1260	0.10	U	0.10	ug/L		04/06/18 07:41	04/10/18 14:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	76		10 - 114	04/06/18 07:41	04/10/18 14:55	1
Tetrachloro-m-xylene	53		15 - 131	04/06/18 07:41	04/10/18 14:55	1

Lab Sample ID: LCS 240-321499/7-A

Matrix: Water

Analysis Batch: 321885

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 321499

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.41		ug/L		57	50 - 114
Aroclor-1260	2.50	2.02		ug/L		81	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	83		10 - 114
Tetrachloro-m-xylene	50		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-321547/1-A

Matrix: Water

Analysis Batch: 321777

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 321547

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		04/06/18 14:00	04/09/18 11:49	1
Nickel	0.010	U	0.010	mg/L		04/06/18 14:00	04/09/18 11:49	1
Lead	0.050	U	0.050	mg/L		04/06/18 14:00	04/09/18 11:49	1
Zinc	0.020	U	0.020	mg/L		04/06/18 14:00	04/09/18 11:49	1

Lab Sample ID: LCS 240-321547/2-A

Matrix: Water

Analysis Batch: 321777

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 321547

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.196		mg/L		98	85 - 115
Nickel	0.500	0.497		mg/L		99	85 - 115
Lead	0.500	0.488		mg/L		98	85 - 115
Zinc	0.500	0.507		mg/L		101	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-93642-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-321552/1-A
Matrix: Water
Analysis Batch: 321874

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 321552

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		04/06/18 12:00	04/09/18 16:10	1

Lab Sample ID: LCS 240-321552/2-A
Matrix: Water
Analysis Batch: 321874

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 321552

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00439		mg/L		88	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-322425/1
Matrix: Water
Analysis Batch: 322425

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			04/13/18 10:07	1

Lab Sample ID: LCS 240-322425/2
Matrix: Water
Analysis Batch: 322425

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	42.70		mg/L		107	78 - 114

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

Lab Sample ID: MB 240-321386/3
Matrix: Water
Analysis Batch: 321386

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			04/05/18 09:47	1

Lab Sample ID: LCS 240-321386/4
Matrix: Water
Analysis Batch: 321386

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	0.247		mg/L		99	80 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-93642-1

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

Lab Sample ID: MB 240-321911/1

Matrix: Water

Analysis Batch: 321911

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	-		04/10/18 10:25	1

Lab Sample ID: LCS 240-321911/2

Matrix: Water

Analysis Batch: 321911

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	82.0	78.0		mg/L	-	95	64 - 120

Surrogate Summary

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

TestAmerica Job ID: 240-93642-1

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)
240-93642-1	WT-012607-040418-EE-001	62	52
LCS 240-321499/7-A	Lab Control Sample	83	50
MB 240-321499/6-A	Method Blank	76	53

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-93642-1

Client Sample ID: WT-012607-040418-EE-001

Lab Sample ID: 240-93642-1

Date Collected: 04/04/18 14:00

Matrix: Water

Date Received: 04/05/18 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			321499	04/06/18 07:41	WKD	TAL CAN
Total/NA	Analysis	608		1	321885	04/10/18 11:14	LSH	TAL CAN
Total Recoverable	Prep	200.7			321547	04/06/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	321777	04/09/18 16:24	AS1	TAL CAN
Total/NA	Prep	245.1			321552	04/06/18 12:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	321874	04/09/18 16:38	AJC	TAL CAN
Total/NA	Analysis	1664A		1	322425	04/13/18 10:07	JESW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	321386	04/05/18 12:09	JESW	TAL CAN
Total/NA	Analysis	SM 2540D		1	321911	04/10/18 10:25	JESW	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: 240-93642-1

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	02-23-19
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	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
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	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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
Canton Facility

Login # : 93642

Client GAP Site Name _____ Cooler unpacked by: POP

Cooler Received on 4-5-18 Opened on 4-5-18

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

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

TestAmerica Cooler # TA Foam Box ☐ Client Cooler ☐ Box ☐ Other ☐

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

COOLANT: Wet Ice Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐

☐ See Multiple Cooler Form

- Cooler temperature upon receipt
 IR GUN# IR-8 (CF +0.1 °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 2.9 °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

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

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

Tests that are not
checked for pH by
Receiving:

VOAs
Oil and Grease
TOC

- If yes, Questions 12-16 have been checked at the originating laboratory.
- Were all preserved sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA pH Strip Lot# HC732776
- Were VOAs on the COC? ☒ Yes ☐ No
- Were air bubbles >6 mm in any VOA vials? ☒ Yes ☐ No ☒ NA Larger than this.
- Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ ☒ Yes ☐ No
- Was a LL Hg or Me Hg trip blank present? ☒ Yes ☐ No

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

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

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

19. SAMPLE PRESERVATION

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

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-012607-040418-EE-001	240-93642-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-040418-EE-001	240-93642-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-040418-EE-001	240-93642-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: 240-95370-1

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:

5/23/2018 8:29:38 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

LINKS

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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: 240-95370-1

Job ID: 240-95370-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-95370-1

Comments

No additional comments.

Receipt

The sample was received on 5/10/2018 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7° C.

GC Semi VOA

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

Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-050918-EE-001 (240-95370-1). 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 240-326360.

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: 240-95370-1

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.

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: 240-95370-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-95370-1	WT-012607-050918-EE-001	Water	05/09/18 16:30	05/10/18 09:40

Detection Summary

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

TestAmerica Job ID: 240-95370-1

Client Sample ID: WT-012607-050918-EE-001

Lab Sample ID: 240-95370-1

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	0.036		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Cr (VI)	0.0067	F1	0.0050	mg/L	1		3500-Cr B-2009	Total
Total Suspended Solids	15		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: 240-95370-1

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
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	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"

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

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: 240-95370-1

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

Client Sample ID: WT-012607-050918-EE-001

Date Collected: 05/09/18 16:30

Date Received: 05/10/18 09:40

Lab Sample ID: 240-95370-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Aroclor-1221	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Aroclor-1232	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Aroclor-1242	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Aroclor-1248	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Aroclor-1254	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Aroclor-1260	0.096	U	0.096	ug/L		05/11/18 06:23	05/15/18 16:21	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	27	p	10 - 114			05/11/18 06:23	05/15/18 16:21	1
Tetrachloro-m-xylene	45		15 - 131			05/11/18 06:23	05/15/18 16:21	1

Client Sample Results

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

TestAmerica Job ID: 240-95370-1

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

Client Sample ID: WT-012607-050918-EE-001

Date Collected: 05/09/18 16:30

Date Received: 05/10/18 09:40

Lab Sample ID: 240-95370-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.059		0.050	mg/L		05/11/18 14:00	05/14/18 15:55	1
Nickel	0.036		0.010	mg/L		05/11/18 14:00	05/14/18 15:55	1
Lead	0.050	U	0.050	mg/L		05/11/18 14:00	05/14/18 15:55	1
Zinc	0.020	U	0.020	mg/L		05/11/18 14:00	05/14/18 15:55	1

Client Sample Results

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

TestAmerica Job ID: 240-95370-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-050918-EE-001

Date Collected: 05/09/18 16:30

Date Received: 05/10/18 09:40

Lab Sample ID: 240-95370-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		05/11/18 12:00	05/14/18 14:43	1

Client Sample Results

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

TestAmerica Job ID: 240-95370-1

General Chemistry

Client Sample ID: WT-012607-050918-EE-001

Date Collected: 05/09/18 16:30

Date Received: 05/10/18 09:40

Lab Sample ID: 240-95370-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			05/22/18 15:04	1
Cr (VI)	0.0067	F1	0.0050	mg/L			05/10/18 11:10	1
Total Suspended Solids	15		4.0	mg/L			05/14/18 08:29	1

QC Association Summary

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

TestAmerica Job ID: 240-95370-1

GC Semi VOA

Prep Batch: 326360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	3520C	
MB 240-326360/15-A	Method Blank	Total/NA	Water	3520C	
LCS 240-326360/16-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 326925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	608	326360
MB 240-326360/15-A	Method Blank	Total/NA	Water	608	326360
LCS 240-326360/16-A	Lab Control Sample	Total/NA	Water	608	326360

Metals

Prep Batch: 326422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total Recoverable	Water	200.7	
MB 240-326422/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-326422/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 326426

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	245.1	
MB 240-326426/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-326426/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 326735

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	245.1	326426
MB 240-326426/1-A	Method Blank	Total/NA	Water	245.1	326426
LCS 240-326426/2-A	Lab Control Sample	Total/NA	Water	245.1	326426

Analysis Batch: 326748

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total Recoverable	Water	200.7 Rev 4.4	326422
MB 240-326422/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	326422
LCS 240-326422/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	326422

General Chemistry

Analysis Batch: 326226

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	3500-Cr B-2009	
240-95370-1 MS	WT-012607-050918-EE-001	Total/NA	Water	3500-Cr B-2009	
240-95370-1 MSD	WT-012607-050918-EE-001	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 326638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	SM 2540D	
MB 240-326638/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-326638/2	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: 240-95370-1

General Chemistry (Continued)

Analysis Batch: 327960

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-95370-1	WT-012607-050918-EE-001	Total/NA	Water	1664A	
MB 240-327960/1	Method Blank	Total/NA	Water	1664A	
MB 240-327960/24	Method Blank	Total/NA	Water	1664A	
LCS 240-327960/2	Lab Control Sample	Total/NA	Water	1664A	
LCS 240-327960/25	Lab Control Sample	Total/NA	Water	1664A	
240-95370-1 MS	WT-012607-050918-EE-001	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-95370-1

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

Lab Sample ID: MB 240-326360/15-A

Matrix: Water

Analysis Batch: 326925

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 326360

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1
Aroclor-1221	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1
Aroclor-1232	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1
Aroclor-1242	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1
Aroclor-1248	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1
Aroclor-1254	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1
Aroclor-1260	0.10	U	0.10	ug/L		05/11/18 06:23	05/15/18 14:45	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		10 - 114	05/11/18 06:23	05/15/18 14:45	1
Tetrachloro-m-xylene	74		15 - 131	05/11/18 06:23	05/15/18 14:45	1

Lab Sample ID: LCS 240-326360/16-A

Matrix: Water

Analysis Batch: 326925

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 326360

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.75		ug/L		70	50 - 114
Aroclor-1260	2.50	1.62		ug/L		65	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	51		10 - 114
Tetrachloro-m-xylene	60		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-326422/1-A

Matrix: Water

Analysis Batch: 326748

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 326422

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		05/11/18 14:00	05/14/18 14:44	1
Nickel	0.010	U	0.010	mg/L		05/11/18 14:00	05/14/18 14:44	1
Lead	0.050	U	0.050	mg/L		05/11/18 14:00	05/14/18 14:44	1
Zinc	0.020	U	0.020	mg/L		05/11/18 14:00	05/14/18 14:44	1

Lab Sample ID: LCS 240-326422/2-A

Matrix: Water

Analysis Batch: 326748

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 326422

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.193		mg/L		97	85 - 115
Nickel	0.500	0.494		mg/L		99	85 - 115
Lead	0.500	0.497		mg/L		99	85 - 115
Zinc	0.500	0.491		mg/L		98	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95370-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-326426/1-A
Matrix: Water
Analysis Batch: 326735

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 326426

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		05/11/18 12:00	05/14/18 14:14	1

Lab Sample ID: LCS 240-326426/2-A
Matrix: Water
Analysis Batch: 326735

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 326426

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00475		mg/L		95	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-327960/1
Matrix: Water
Analysis Batch: 327960

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			05/22/18 09:59	1

Lab Sample ID: MB 240-327960/24
Matrix: Water
Analysis Batch: 327960

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			05/22/18 14:51	1

Lab Sample ID: LCS 240-327960/2
Matrix: Water
Analysis Batch: 327960

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	33.60		mg/L		84	78 - 114

Lab Sample ID: LCS 240-327960/25
Matrix: Water
Analysis Batch: 327960

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

Lab Sample ID: 240-95370-1 MS
Matrix: Water
Analysis Batch: 327960

Client Sample ID: WT-012607-050918-EE-001
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	4.8	U	38.4	34.61		mg/L		90	78 - 114

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-95370-1

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

Lab Sample ID: 240-95370-1 MS

Matrix: Water

Analysis Batch: 326226

Client Sample ID: WT-012607-050918-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cr (VI)	0.0067	F1	0.250	0.0107	F1	mg/L	-	2	31 - 151

Lab Sample ID: 240-95370-1 MSD

Matrix: Water

Analysis Batch: 326226

Client Sample ID: WT-012607-050918-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)	0.0067	F1	0.250	0.00938	F1	mg/L	-	1	31 - 151	13	20

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

Lab Sample ID: MB 240-326638/1

Matrix: Water

Analysis Batch: 326638

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	-		05/14/18 08:29	1

Lab Sample ID: LCS 240-326638/2

Matrix: Water

Analysis Batch: 326638

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	33.7	36.0		mg/L	-	107	64 - 120

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-95370-1

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)
240-95370-1	WT-012607-050918-EE-001	27 p	45
LCS 240-326360/16-A	Lab Control Sample	51	60
MB 240-326360/15-A	Method Blank	62	74

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-95370-1

Client Sample ID: WT-012607-050918-EE-001

Lab Sample ID: 240-95370-1

Date Collected: 05/09/18 16:30

Matrix: Water

Date Received: 05/10/18 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			326360	05/11/18 06:23	SDE	TAL CAN
Total/NA	Analysis	608		1	326925	05/15/18 16:21	LSH	TAL CAN
Total Recoverable	Prep	200.7			326422	05/11/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	326748	05/14/18 15:55	KLC	TAL CAN
Total/NA	Prep	245.1			326426	05/11/18 12:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	326735	05/14/18 14:43	AJC	TAL CAN
Total/NA	Analysis	1664A		1	327960	05/22/18 15:04	JESW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	326226	05/10/18 11:10	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	326638	05/14/18 08:29	LKG	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: 240-95370-1

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	02-23-19
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	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
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	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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

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WI-NC-099

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-012607-050918-EE-001	240-95370-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-050918-EE-001	240-95370-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-050918-EE-001	240-95370-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: 240-97027-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

26850 Haggerty Rd.

Farmington Hills, Michigan 48331

Attn: Ms. Ruth Mickle



Authorized for release by:

6/26/2018 9:10:01 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: 240-97027-1

Job ID: 240-97027-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-97027-1

Comments

No additional comments.

Receipt

The samples were received on 6/14/2018 9:10 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.8° C.

GC Semi VOA

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

Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-061318-EE-001 (240-97027-1). The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 245.1: The continuing calibration verification (CCV) associated with batch 240-332600 recovered above the upper control limit for Mercury. The samples associated with this CCV were below the requested Reporting limit for the affected analytes; therefore, the data have been reported. The following sample is impacted: WT-012607-061318-EE-001 (240-97027-1).

Method(s) 245.1: The laboratory control sample (LCS) for preparation batch 240-331849 and analytical batch 240-332600 recovered outside control limits for Mercury. These analytes were biased high in the LCS and were below the requested reporting limit in the associated samples; therefore, the data have been reported.

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

General Chemistry

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

Organic Prep

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-332259.

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: 240-97027-1

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.
*	LCS or LCSD is outside acceptance limits.
^	ICV,CCV,ICB,CCB, ISA, ISB, CRI, CRA, DLCK or MRL standard: Instrument related QC is outside acceptance limits.

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: 240-97027-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-97027-1	WT-012607-061318-EE-001	Water	06/13/18 17:10	06/14/18 09:10

Detection Summary

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

TestAmerica Job ID: 240-97027-1

Client Sample ID: WT-012607-061318-EE-001

Lab Sample ID: 240-97027-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.042		0.010	mg/L	1		200.7 Rev 4.4	Total
Total Suspended Solids	6.0		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: 240-97027-1

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
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	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"

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

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: 240-97027-1

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

Client Sample ID: WT-012607-061318-EE-001

Date Collected: 06/13/18 17:10

Date Received: 06/14/18 09:10

Lab Sample ID: 240-97027-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Aroclor-1221	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Aroclor-1232	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Aroclor-1242	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Aroclor-1248	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Aroclor-1254	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Aroclor-1260	0.095	U	0.095	ug/L		06/19/18 06:54	06/21/18 09:31	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	37		10 - 114			06/19/18 06:54	06/21/18 09:31	1
Tetrachloro-m-xylene	50		15 - 131			06/19/18 06:54	06/21/18 09:31	1

Client Sample Results

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

TestAmerica Job ID: 240-97027-1

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

Client Sample ID: WT-012607-061318-EE-001

Date Collected: 06/13/18 17:10

Date Received: 06/14/18 09:10

Lab Sample ID: 240-97027-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		06/15/18 14:00	06/19/18 00:28	1
Nickel	0.042		0.010	mg/L		06/15/18 14:00	06/19/18 00:28	1
Lead	0.050	U	0.050	mg/L		06/15/18 14:00	06/19/18 00:28	1
Zinc	0.020	U	0.020	mg/L		06/15/18 14:00	06/19/18 00:28	1

Client Sample Results

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

TestAmerica Job ID: 240-97027-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-061318-EE-001

Date Collected: 06/13/18 17:10

Date Received: 06/14/18 09:10

Lab Sample ID: 240-97027-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U * ^	0.00020	mg/L		06/15/18 14:00	06/20/18 16:48	1

Client Sample Results

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

TestAmerica Job ID: 240-97027-1

General Chemistry

Client Sample ID: WT-012607-061318-EE-001

Date Collected: 06/13/18 17:10

Date Received: 06/14/18 09:10

Lab Sample ID: 240-97027-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			06/25/18 08:15	1
Cr (VI)	0.0050	U	0.0050	mg/L			06/14/18 10:58	1
Total Suspended Solids	6.0		4.0	mg/L			06/20/18 09:26	1

QC Association Summary

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

TestAmerica Job ID: 240-97027-1

GC Semi VOA

Prep Batch: 332259

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	3520C	
MB 240-332259/17-A	Method Blank	Total/NA	Water	3520C	
LCS 240-332259/18-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 332646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	608	332259
MB 240-332259/17-A	Method Blank	Total/NA	Water	608	332259
LCS 240-332259/18-A	Lab Control Sample	Total/NA	Water	608	332259

Metals

Prep Batch: 331846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total Recoverable	Water	200.7	
MB 240-331846/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-331846/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-97027-1 MS	WT-012607-061318-EE-001	Total Recoverable	Water	200.7	
240-97027-1 MSD	WT-012607-061318-EE-001	Total Recoverable	Water	200.7	

Prep Batch: 331849

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	245.1	
MB 240-331849/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-331849/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 332160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total Recoverable	Water	200.7 Rev 4.4	331846
MB 240-331846/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	331846
LCS 240-331846/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	331846
240-97027-1 MS	WT-012607-061318-EE-001	Total Recoverable	Water	200.7 Rev 4.4	331846
240-97027-1 MSD	WT-012607-061318-EE-001	Total Recoverable	Water	200.7 Rev 4.4	331846

Analysis Batch: 332600

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	245.1	331849
MB 240-331849/1-A	Method Blank	Total/NA	Water	245.1	331849
LCS 240-331849/2-A	Lab Control Sample	Total/NA	Water	245.1	331849

General Chemistry

Analysis Batch: 331609

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-331609/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-331609/4	Lab Control Sample	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: 240-97027-1

General Chemistry (Continued)

Analysis Batch: 332495

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	SM 2540D	
MB 240-332495/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-332495/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 333252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-97027-1	WT-012607-061318-EE-001	Total/NA	Water	1664A	
MB 240-333252/1	Method Blank	Total/NA	Water	1664A	
LCS 240-333252/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-97027-1

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

Lab Sample ID: MB 240-332259/17-A

Matrix: Water

Analysis Batch: 332646

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 332259

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1
Aroclor-1221	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1
Aroclor-1232	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1
Aroclor-1242	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1
Aroclor-1248	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1
Aroclor-1254	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1
Aroclor-1260	0.10	U	0.10	ug/L		06/19/18 06:54	06/21/18 08:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	70		10 - 114	06/19/18 06:54	06/21/18 08:04	1
Tetrachloro-m-xylene	56		15 - 131	06/19/18 06:54	06/21/18 08:04	1

Lab Sample ID: LCS 240-332259/18-A

Matrix: Water

Analysis Batch: 332646

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 332259

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.72		ug/L		69	50 - 114
Aroclor-1260	2.50	2.12		ug/L		85	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	81		10 - 114
Tetrachloro-m-xylene	63		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-331846/1-A

Matrix: Water

Analysis Batch: 332160

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 331846

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		06/15/18 14:00	06/19/18 00:08	1
Nickel	0.010	U	0.010	mg/L		06/15/18 14:00	06/19/18 00:08	1
Lead	0.050	U	0.050	mg/L		06/15/18 14:00	06/19/18 00:08	1
Zinc	0.020	U	0.020	mg/L		06/15/18 14:00	06/19/18 00:08	1

Lab Sample ID: LCS 240-331846/2-A

Matrix: Water

Analysis Batch: 332160

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 331846

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.189		mg/L		94	85 - 115
Nickel	0.500	0.481		mg/L		96	85 - 115
Lead	0.500	0.470		mg/L		94	85 - 115
Zinc	0.500	0.492		mg/L		98	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-97027-1

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

Lab Sample ID: 240-97027-1 MS

Matrix: Water

Analysis Batch: 332160

Client Sample ID: WT-012607-061318-EE-001

Prep Type: Total Recoverable

Prep Batch: 331846

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chromium	0.050	U	0.200	0.227		mg/L		98	75 - 125
Nickel	0.042		0.500	0.556		mg/L		103	75 - 125
Lead	0.050	U	0.500	0.484		mg/L		97	75 - 125
Zinc	0.020	U	0.500	0.529		mg/L		106	75 - 125

Lab Sample ID: 240-97027-1 MSD

Matrix: Water

Analysis Batch: 332160

Client Sample ID: WT-012607-061318-EE-001

Prep Type: Total Recoverable

Prep Batch: 331846

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.050	U	0.200	0.219		mg/L		94	75 - 125	4	20
Nickel	0.042		0.500	0.539		mg/L		99	75 - 125	3	20
Lead	0.050	U	0.500	0.470		mg/L		94	75 - 125	3	20
Zinc	0.020	U	0.500	0.510		mg/L		102	75 - 125	4	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-331849/1-A

Matrix: Water

Analysis Batch: 332600

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 331849

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U ^	0.00020	mg/L		06/15/18 14:00	06/20/18 16:38	1

Lab Sample ID: LCS 240-331849/2-A

Matrix: Water

Analysis Batch: 332600

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 331849

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00582	* ^	mg/L		116	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-333252/1

Matrix: Water

Analysis Batch: 333252

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			06/25/18 08:15	1

Lab Sample ID: LCS 240-333252/2

Matrix: Water

Analysis Batch: 333252

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	40.0	39.00		mg/L		98	78 - 114

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-97027-1

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

Lab Sample ID: MB 240-331609/3

Matrix: Water

Analysis Batch: 331609

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	-		06/14/18 08:38	1

Lab Sample ID: LCS 240-331609/4

Matrix: Water

Analysis Batch: 331609

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	0.288		mg/L	-	115	80 - 123

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

Lab Sample ID: MB 240-332495/1

Matrix: Water

Analysis Batch: 332495

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L	-		06/20/18 09:26	1

Lab Sample ID: LCS 240-332495/2

Matrix: Water

Analysis Batch: 332495

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	22.6	23.0		mg/L	-	102	64 - 120

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-97027-1

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)
240-97027-1	WT-012607-061318-EE-001	37	50
LCS 240-332259/18-A	Lab Control Sample	81	63
MB 240-332259/17-A	Method Blank	70	56

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-97027-1

Client Sample ID: WT-012607-061318-EE-001

Lab Sample ID: 240-97027-1

Date Collected: 06/13/18 17:10

Matrix: Water

Date Received: 06/14/18 09:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			332259	06/19/18 06:54	SDE	TAL CAN
Total/NA	Analysis	608		1	332646	06/21/18 09:31	KMG	TAL CAN
Total Recoverable	Prep	200.7			331846	06/15/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	332160	06/19/18 00:28	KLC	TAL CAN
Total/NA	Prep	245.1			331849	06/15/18 14:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	332600	06/20/18 16:48	AJC	TAL CAN
Total/NA	Analysis	1664A		1	333252	06/25/18 08:15	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	331609	06/14/18 10:58	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	332495	06/20/18 09:26	ACR	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: 240-97027-1

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	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
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	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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

Client Contact Company Name: GWT Address: 26850 Argos Center Dr. City/State/Zip: Farmington Hills, MI 48331 Phone: (248) 693-3400 Fax: (248) 693-3400 Project Name: RACER GWRPHOME Site: Livonia, MI PO #: 012607-T01418-03		Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other:		Project Manager: Chris McEwen Tel/Fax:		Site Contact: E. Engler Lab Contact: D. Hecker		Date: 6/13/18 Carrier: FedEx		COQ No: 2 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 Time		Sample Date		Matrix	
Sample Identification		Sample Type		Sample Time		Sample Date		Matrix		# of Cont.	
WT-012607-061318-EE-001		C		1710		6/13/18		WT		6	
Sample Specific Notes:		TSS, Metals, PCBs, PFAS		Perform MS/MSD (Y/N)		Filtered Sample (Y/N)		240-97027 Chain of Custody		Effluent Composite	
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 8 ☐ Unknown											
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact: ☐ Yes ☐ No				Cooler Temp. (°C): Obs'd:				Therm ID No.:			
Relinquished by: E. Engler				Company: GWT				Date/Time: 6/13/18 1730			
Relinquished by:				Company:				Date/Time:			
Relinquished by:				Company:				Date/Time:			

TestAmerica Canton Sample Receipt Form/Narrative Login # : 47027

Canton Facility

Client GHD Site Name Cooler unpacked by: Bob

Cooler Received on 6-14-18 Opened on 6-14-18

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

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

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp. 2.8 °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# HC740840

13. Were VOAs on the COC? Yes No

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

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

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

Contacted PM Date by via Verbal Voice Mail Other

Concerning

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES Samples processed by: Bob

18. SAMPLE CONDITION

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

Sample(s) were received in a broken container.

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

19. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

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

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-012607-061318-EE-001	240-97027-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-061318-EE-001	240-97027-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-061318-EE-001	240-97027-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: 240-98430-1

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:

7/25/2018 10:39:51 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: 240-98430-1

Job ID: 240-98430-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-98430-1

Comments

No additional comments.

Receipt

The sample was received on 7/12/2018 9:50 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8° C.

GC Semi VOA

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

Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-071118-EE-001 (240-98430-1). 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 240-336318.

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: 240-98430-1

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: 240-98430-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-98430-1	WT-012607-071118-EE-001	Water	07/11/18 15:30	07/12/18 09:50

Detection Summary

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

TestAmerica Job ID: 240-98430-1

Client Sample ID: WT-012607-071118-EE-001

Lab Sample ID: 240-98430-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.066		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.069		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	20		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: 240-98430-1

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
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	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"

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

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: 240-98430-1

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

Client Sample ID: WT-012607-071118-EE-001

Date Collected: 07/11/18 15:30

Date Received: 07/12/18 09:50

Lab Sample ID: 240-98430-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Aroclor-1221	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Aroclor-1232	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Aroclor-1242	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Aroclor-1248	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Aroclor-1254	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Aroclor-1260	0.095	U	0.095	ug/L		07/16/18 06:52	07/18/18 12:46	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	57		10 - 114			07/16/18 06:52	07/18/18 12:46	1
Tetrachloro-m-xylene	55		15 - 131			07/16/18 06:52	07/18/18 12:46	1

Client Sample Results

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

TestAmerica Job ID: 240-98430-1

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

Client Sample ID: WT-012607-071118-EE-001

Date Collected: 07/11/18 15:30

Date Received: 07/12/18 09:50

Lab Sample ID: 240-98430-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.066		0.050	mg/L		07/13/18 14:00	07/16/18 20:23	1
Nickel	0.069		0.010	mg/L		07/13/18 14:00	07/16/18 20:23	1
Lead	0.050	U	0.050	mg/L		07/13/18 14:00	07/16/18 20:23	1
Zinc	0.020	U	0.020	mg/L		07/13/18 14:00	07/16/18 20:23	1

Client Sample Results

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

TestAmerica Job ID: 240-98430-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-071118-EE-001

Date Collected: 07/11/18 15:30

Date Received: 07/12/18 09:50

Lab Sample ID: 240-98430-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		07/13/18 12:00	07/16/18 17:35	1

Client Sample Results

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

TestAmerica Job ID: 240-98430-1

General Chemistry

Client Sample ID: WT-012607-071118-EE-001

Date Collected: 07/11/18 15:30

Date Received: 07/12/18 09:50

Lab Sample ID: 240-98430-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			07/24/18 08:28	1
Cr (VI)	0.0050	U	0.0050	mg/L			07/12/18 15:01	1
Total Suspended Solids	20		4.0	mg/L			07/14/18 11:34	1

QC Association Summary

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

TestAmerica Job ID: 240-98430-1

GC Semi VOA

Prep Batch: 336318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	3520C	
MB 240-336318/18-A	Method Blank	Total/NA	Water	3520C	
LCS 240-336318/19-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 336722

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	608	336318
MB 240-336318/18-A	Method Blank	Total/NA	Water	608	336318
LCS 240-336318/19-A	Lab Control Sample	Total/NA	Water	608	336318

Metals

Prep Batch: 336100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total Recoverable	Water	200.7	
MB 240-336100/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-336100/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 336101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	245.1	
MB 240-336101/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-336101/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 336568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total Recoverable	Water	200.7 Rev 4.4	336100

Analysis Batch: 336579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	245.1	336101
MB 240-336101/1-A	Method Blank	Total/NA	Water	245.1	336101
LCS 240-336101/2-A	Lab Control Sample	Total/NA	Water	245.1	336101

Analysis Batch: 336644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-336100/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	336100
LCS 240-336100/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	336100

General Chemistry

Analysis Batch: 335979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-335979/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-335979/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
240-98430-1 MS	WT-012607-071118-EE-001	Total/NA	Water	3500-Cr B-2009	
240-98430-1 MSD	WT-012607-071118-EE-001	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: 240-98430-1

General Chemistry (Continued)

Analysis Batch: 336240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	SM 2540D	
MB 240-336240/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-336240/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 337660

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-98430-1	WT-012607-071118-EE-001	Total/NA	Water	1664A	
MB 240-337660/1	Method Blank	Total/NA	Water	1664A	
LCS 240-337660/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-98430-1

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

Lab Sample ID: MB 240-336318/18-A

Matrix: Water

Analysis Batch: 336722

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 336318

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Aroclor-1221	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Aroclor-1232	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Aroclor-1242	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Aroclor-1248	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Aroclor-1254	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Aroclor-1260	0.10	U	0.10	ug/L		07/16/18 06:52	07/18/18 09:54	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		10 - 114			07/16/18 06:52	07/18/18 09:54	1
Tetrachloro-m-xylene	52		15 - 131			07/16/18 06:52	07/18/18 09:54	1

Lab Sample ID: LCS 240-336318/19-A

Matrix: Water

Analysis Batch: 336722

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 336318

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.36		ug/L		54	50 - 114
Aroclor-1260	2.50	1.67		ug/L		67	8 - 127
Surrogate	%Recovery	LCS Qualifier	Limits				
DCB Decachlorobiphenyl	62		10 - 114				
Tetrachloro-m-xylene	49		15 - 131				

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-336100/1-A

Matrix: Water

Analysis Batch: 336644

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 336100

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		07/13/18 14:00	07/17/18 11:44	1
Nickel	0.010	U	0.010	mg/L		07/13/18 14:00	07/17/18 11:44	1
Lead	0.050	U	0.050	mg/L		07/13/18 14:00	07/17/18 11:44	1
Zinc	0.020	U	0.020	mg/L		07/13/18 14:00	07/17/18 11:44	1

Lab Sample ID: LCS 240-336100/2-A

Matrix: Water

Analysis Batch: 336644

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 336100

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.204		mg/L		102	85 - 115
Nickel	0.500	0.523		mg/L		105	85 - 115
Lead	0.500	0.501		mg/L		100	85 - 115
Zinc	0.500	0.536		mg/L		107	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-98430-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-336101/1-A
Matrix: Water
Analysis Batch: 336579

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 336101

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		07/13/18 12:00	07/16/18 17:14	1

Lab Sample ID: LCS 240-336101/2-A
Matrix: Water
Analysis Batch: 336579

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 336101

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00545		mg/L		109	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-337660/1
Matrix: Water
Analysis Batch: 337660

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			07/24/18 08:28	1

Lab Sample ID: LCS 240-337660/2
Matrix: Water
Analysis Batch: 337660

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	42.00		mg/L		105	78 - 114

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

Lab Sample ID: MB 240-335979/3
Matrix: Water
Analysis Batch: 335979

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			07/12/18 14:59	1

Lab Sample ID: LCS 240-335979/4
Matrix: Water
Analysis Batch: 335979

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	0.240		mg/L		96	80 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-98430-1

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

Lab Sample ID: MB 240-336240/1

Matrix: Water

Analysis Batch: 336240

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	-		07/14/18 11:34	1

Lab Sample ID: LCS 240-336240/2

Matrix: Water

Analysis Batch: 336240

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	22.6	22.0		mg/L	-	97	64 - 120

Surrogate Summary

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

TestAmerica Job ID: 240-98430-1

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)
240-98430-1	WT-012607-071118-EE-001	57	55
LCS 240-336318/19-A	Lab Control Sample	62	49
MB 240-336318/18-A	Method Blank	66	52

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-98430-1

Client Sample ID: WT-012607-071118-EE-001

Lab Sample ID: 240-98430-1

Date Collected: 07/11/18 15:30

Matrix: Water

Date Received: 07/12/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			336318	07/16/18 06:52	SDE	TAL CAN
Total/NA	Analysis	608		1	336722	07/18/18 12:46	LSH	TAL CAN
Total Recoverable	Prep	200.7			336100	07/13/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	336568	07/16/18 20:23	KLC	TAL CAN
Total/NA	Prep	245.1			336101	07/13/18 12:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	336579	07/16/18 17:35	AJC	TAL CAN
Total/NA	Analysis	1664A		1	337660	07/24/18 08:28	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	335979	07/12/18 15:01	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	336240	07/14/18 11:34	ACR	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: 240-98430-1

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	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
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	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
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 # : 98430

Canton Facility

Client GHD

Site Name

Cooler unpacked by:

Cooler Received on 7/12/18Opened on 7/12/18FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other

Receipt After-hours: Drop-off Date/Time

Storage Location

TestAmerica Cooler # TA Foam Box Client Cooler Box OtherPacking material used: Bubble Wrap Foam Plastic Bag None OtherCOOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

☐ See Multiple Cooler FormIR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 0.8 °C Corrected Cooler Temp. 0.8 °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 1Yes 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# HC740840

13. Were VOAs on the COC?

Yes No14. 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 _____

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

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

JK

18. SAMPLE CONDITION

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

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

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

19. SAMPLE PRESERVATION

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

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

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-012607-071118-EE-001	240-98430-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-071118-EE-001	240-98430-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-071118-EE-001	240-98430-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: 240-99653-1

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:

8/20/2018 9:06:25 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: 240-99653-1

Job ID: 240-99653-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-99653-1

Comments

No additional comments.

Receipt

The sample was received on 8/9/2018 9:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.4° C.

GC Semi VOA

Method(s) 608: The initial calibration verification (ICV) associated with batch 240-341315 recovered above the upper control limit for 1221. samples associated with this ICV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: WT-012607-080818-EE-001 (240-99653-1).

Method(s) 608: The following sample was diluted due to the nature of the sample matrix: WT-012607-080818-EE-001 (240-99653-1). Elevated reporting limits (RLs) are provided.

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-080818-EE-001 (240-99653-1).3733589, 3449339, 3715673.

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-012607-080818-EE-001 (240-99653-1). 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 240-340531.

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: 240-99653-1

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
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: 240-99653-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-99653-1	WT-012607-080818-EE-001	Water	08/08/18 17:40	08/09/18 09:20

Detection Summary

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

TestAmerica Job ID: 240-99653-1

Client Sample ID: WT-012607-080818-EE-001

Lab Sample ID: 240-99653-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.075		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.089		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	30		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: 240-99653-1

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
200.7	Preparation, Total Recoverable Metals	EPA	TAL CAN
245.1	Preparation, Mercury	EPA	TAL CAN
3520C	Liquid-Liquid Extraction (Continuous)	SW846	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"

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

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: 240-99653-1

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

Client Sample ID: WT-012607-080818-EE-001

Date Collected: 08/08/18 17:40

Date Received: 08/09/18 09:20

Lab Sample ID: 240-99653-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Aroclor-1221	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Aroclor-1232	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Aroclor-1242	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Aroclor-1248	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Aroclor-1254	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Aroclor-1260	0.48	U	0.48	ug/L		08/13/18 08:03	08/17/18 09:15	5
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67		10 - 114			08/13/18 08:03	08/17/18 09:15	5
Tetrachloro-m-xylene	49		15 - 131			08/13/18 08:03	08/17/18 09:15	5

Client Sample Results

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

TestAmerica Job ID: 240-99653-1

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

Client Sample ID: WT-012607-080818-EE-001

Date Collected: 08/08/18 17:40

Date Received: 08/09/18 09:20

Lab Sample ID: 240-99653-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.075		0.050	mg/L		08/10/18 14:00	08/14/18 00:08	1
Nickel	0.089		0.010	mg/L		08/10/18 14:00	08/14/18 00:08	1
Lead	0.050	U	0.050	mg/L		08/10/18 14:00	08/14/18 00:08	1
Zinc	0.020	U	0.020	mg/L		08/10/18 14:00	08/14/18 00:08	1

Client Sample Results

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

TestAmerica Job ID: 240-99653-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-080818-EE-001

Date Collected: 08/08/18 17:40

Date Received: 08/09/18 09:20

Lab Sample ID: 240-99653-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		08/10/18 14:00	08/14/18 13:27	1

Client Sample Results

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

TestAmerica Job ID: 240-99653-1

General Chemistry

Client Sample ID: WT-012607-080818-EE-001

Date Collected: 08/08/18 17:40

Date Received: 08/09/18 09:20

Lab Sample ID: 240-99653-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			08/17/18 09:24	1
Cr (VI)	0.0050	U F1	0.0050	mg/L			08/09/18 10:34	1
Total Suspended Solids	30		4.0	mg/L			08/13/18 09:16	1

QC Association Summary

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

TestAmerica Job ID: 240-99653-1

GC Semi VOA

Prep Batch: 340531

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	3520C	
MB 240-340531/20-A	Method Blank	Total/NA	Water	3520C	
LCS 240-340531/21-A	Lab Control Sample	Total/NA	Water	3520C	
LCSD 240-340531/22-A	Lab Control Sample Dup	Total/NA	Water	3520C	

Analysis Batch: 341072

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-340531/20-A	Method Blank	Total/NA	Water	608	340531
LCS 240-340531/21-A	Lab Control Sample	Total/NA	Water	608	340531
LCSD 240-340531/22-A	Lab Control Sample Dup	Total/NA	Water	608	340531

Analysis Batch: 341315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	608	340531

Metals

Prep Batch: 340334

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total Recoverable	Water	200.7	
MB 240-340334/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-340334/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 340338

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	245.1	
MB 240-340338/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-340338/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 340617

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total Recoverable	Water	200.7 Rev 4.4	340334
MB 240-340334/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	340334
LCS 240-340334/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	340334

Analysis Batch: 340980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	245.1	340338
MB 240-340338/1-A	Method Blank	Total/NA	Water	245.1	340338
LCS 240-340338/2-A	Lab Control Sample	Total/NA	Water	245.1	340338

General Chemistry

Analysis Batch: 340121

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-340121/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-340121/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
240-99653-1 MS	WT-012607-080818-EE-001	Total/NA	Water	3500-Cr B-2009	
240-99653-1 MSD	WT-012607-080818-EE-001	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: 240-99653-1

General Chemistry (Continued)

Analysis Batch: 340564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	SM 2540D	
MB 240-340564/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-340564/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 341374

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-99653-1	WT-012607-080818-EE-001	Total/NA	Water	1664A	
MB 240-341374/1	Method Blank	Total/NA	Water	1664A	
LCS 240-341374/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-99653-1

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

Lab Sample ID: MB 240-340531/20-A

Matrix: Water

Analysis Batch: 341072

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 340531

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1
Aroclor-1221	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1
Aroclor-1232	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1
Aroclor-1242	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1
Aroclor-1248	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1
Aroclor-1254	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1
Aroclor-1260	0.10	U	0.10	ug/L		08/13/18 08:03	08/15/18 17:04	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	67		10 - 114	08/13/18 08:03	08/15/18 17:04	1
Tetrachloro-m-xylene	48		15 - 131	08/13/18 08:03	08/15/18 17:04	1

Lab Sample ID: LCS 240-340531/21-A

Matrix: Water

Analysis Batch: 341072

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 340531

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.60		ug/L		64	50 - 114
Aroclor-1260	2.50	1.45		ug/L		58	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	61		10 - 114
Tetrachloro-m-xylene	46		15 - 131

Lab Sample ID: LCSD 240-340531/22-A

Matrix: Water

Analysis Batch: 341072

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 340531

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	Limits	RPD	RPD Limit
Aroclor-1016	2.50	1.54		ug/L		62	50 - 114	4	30
Aroclor-1260	2.50	1.59		ug/L		64	8 - 127	4	30

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
DCB Decachlorobiphenyl	65		10 - 114
Tetrachloro-m-xylene	44		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-340334/1-A

Matrix: Water

Analysis Batch: 340617

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 340334

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		08/10/18 14:00	08/13/18 23:00	1
Nickel	0.010	U	0.010	mg/L		08/10/18 14:00	08/13/18 23:00	1
Lead	0.050	U	0.050	mg/L		08/10/18 14:00	08/13/18 23:00	1
Zinc	0.020	U	0.020	mg/L		08/10/18 14:00	08/13/18 23:00	1

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QC Sample Results

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

TestAmerica Job ID: 240-99653-1

Lab Sample ID: LCS 240-340334/2-A
Matrix: Water
Analysis Batch: 340617

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 340334

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%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	0.457		mg/L		91	85 - 115
Zinc	0.500	0.521		mg/L		104	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-340338/1-A
Matrix: Water
Analysis Batch: 340980

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 340338

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		08/10/18 14:00	08/14/18 13:02	1

Lab Sample ID: LCS 240-340338/2-A
Matrix: Water
Analysis Batch: 340980

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 340338

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00426		mg/L		85	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-341374/1
Matrix: Water
Analysis Batch: 341374

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			08/17/18 09:24	1

Lab Sample ID: LCS 240-341374/2
Matrix: Water
Analysis Batch: 341374

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	39.80		mg/L		100	78 - 114

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

Lab Sample ID: MB 240-340121/3
Matrix: Water
Analysis Batch: 340121

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			08/09/18 10:32	1

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QC Sample Results

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

TestAmerica Job ID: 240-99653-1

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

Lab Sample ID: LCS 240-340121/4

Matrix: Water

Analysis Batch: 340121

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	0.257		mg/L		103	80 - 123

Lab Sample ID: 240-99653-1 MS

Matrix: Water

Analysis Batch: 340121

Client Sample ID: WT-012607-080818-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	0.0669	F1	mg/L		27	31 - 151

Lab Sample ID: 240-99653-1 MSD

Matrix: Water

Analysis Batch: 340121

Client Sample ID: WT-012607-080818-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	0.0669	F1	mg/L		27	31 - 151	0	20

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

Lab Sample ID: MB 240-340564/1

Matrix: Water

Analysis Batch: 340564

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			08/13/18 09:16	1

Lab Sample ID: LCS 240-340564/2

Matrix: Water

Analysis Batch: 340564

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	22.6	20.0		mg/L		88	64 - 120

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-99653-1

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)
240-99653-1	WT-012607-080818-EE-001	67	49
LCS 240-340531/21-A	Lab Control Sample	61	46
LCSD 240-340531/22-A	Lab Control Sample Dup	65	44
MB 240-340531/20-A	Method Blank	67	48

Surrogate Legend

DCBP = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-99653-1

Client Sample ID: WT-012607-080818-EE-001

Lab Sample ID: 240-99653-1

Date Collected: 08/08/18 17:40

Matrix: Water

Date Received: 08/09/18 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			340531	08/13/18 08:03	SDE	TAL CAN
Total/NA	Analysis	608		5	341315	08/17/18 09:15	LSH	TAL CAN
Total Recoverable	Prep	200.7			340334	08/10/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	340617	08/14/18 00:08	WKD	TAL CAN
Total/NA	Prep	245.1			340338	08/10/18 14:00	MBB	TAL CAN
Total/NA	Analysis	245.1		1	340980	08/14/18 13:27	AJC	TAL CAN
Total/NA	Analysis	1664A		1	341374	08/17/18 09:24	MMM	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	340121	08/09/18 10:34	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	340564	08/13/18 09:16	MAC	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: 240-99653-1

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	02-23-19
Connecticut	State Program	1	PH-0590	12-31-19
Florida	NELAP	4	E87225	06-30-19
Illinois	NELAP	5	200004	07-31-18 *
Kansas	NELAP	7	E-10336	01-31-19
Kentucky (UST)	State Program	4	58	02-23-19
Kentucky (WW)	State Program	4	98016	12-31-18
Minnesota	NELAP	5	039-999-348	12-31-18
Minnesota (Petrofund)	State Program	1	3506	07-31-19
Nevada	State Program	9	OH00048	07-31-19
New Jersey	NELAP	2	OH001	06-30-19
New York	NELAP	2	10975	03-31-19
Ohio VAP	State Program	5	CL0024	09-06-19
Oregon	NELAP	10	4062	02-23-19
Pennsylvania	NELAP	3	68-00340	08-31-19 *
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 Michigan
10440 Citation Drive
Suite 200
Brighton, MI 48115
Phone: 810.229.2763 Fax:

Chain of Custody Record

238533

TestAmerica

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

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

Company Name GAT		Client Contact		Project Manager: Chris Menckel		Site Contact: E. Engner		Date: 8/2/18		COC No: 2 of 2 COCs	
Address: 26850 Weyerberg Rd		Tel/Fax:		Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS		Lab Contact:		Carrier: FedEx		Sampler	
City/State/Zip: Farmington Hills MI				TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Perform MS / MSD (Y / N)		For Lab Use Only: Walk-in Client: Lab Sampling		Job / SDG No	
Phone: (248) 893-3400						Filtered Sample (Y / N)		Sample Specific Notes			
Fax: (248) 893-3400											
Project Name: RACON - GATPLIVIA											
Site:											
P.O.#:											
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
WT-012607-080818-EC-001		8/2/18		1740		C		WT		6	
 240-99653 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 Components Section if the lab is to dispose of the sample											
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown											
Special Instructions/QC Requirements & Comments:											
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return to Client ☒ Disposal by Lab ☐ Archive for _____ Months											
Custody Seals Intact: ☐ Yes ☒ No		Custody Seal No		Cooler Temp (°C) Obs'd: _____		Cor'd		Therm ID No			
Relinquished by Chris Engner		Company GAT		Date/Time 8/2/18		Received by PP		Company TAL		Date/Time 8/2/18	
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 Canton Facility				Login # : <u>99653</u>
Client <u>CHD</u>		Site Name <u>—</u>		Cooler unpacked by: <u>POD</u>
Cooler Received on <u>8-9-18</u>		Opened on <u>8-9-18</u>		
FedEx: 1 st Grd ☒ Exp ☐ UPS ☐ FAS ☐ Clipper ☐ Client Drop Off ☐ TestAmerica Courier ☐ Other ☐				
Receipt After-hours: Drop-off Date/Time			Storage Location	
TestAmerica Cooler # <u>TA</u> Foam Box ☐ Client Cooler ☐ Box ☐ Other ☐ Packing material used: <u>Bubble Wrap</u> Foam ☐ <u>Plastic Bag</u> 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 °C) Observed Cooler Temp. <u>24</u> °C Corrected Cooler Temp. <u>24</u> °C IR GUN #36 (CF -0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C				
2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> Yes ☒ No ☐ -Were the seals on the outside of the cooler(s) signed & dated? Yes ☒ No ☐ NA ☐ -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes ☒ No ☐ 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>HC849161</u>				
13. Were VOAs on the COC? Yes ☒ No ☐ NA ☐				
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 _____				

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

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

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-012607-080818-EE-001	240-99653-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-080818-EE-001	240-99653-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-080818-EE-001	240-99653-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____