



March 24, 2017

Reference No. 012607

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

Dear Ms. Jose:

**Re: DWSD Semi Annual Report – SD6 94508
(September 2016 through February 2017)
12950 Eckles Road
Livonia, Michigan 48150
Permit No.: SD6 94508**

GHD Services Inc. (GHD) is providing the attached documents for the reporting requirements of Special Discharge Permit SD6 94508 for the period of September 2016 through February 2017 for the RACER Eckles Road Site located at 12950 Eckles Road, Livonia, Michigan.

Special Discharge Permit SD6 94508 was issued in June 2011, renewed in June 2015 and is effective through June 30, 2019.

RACER has been implementing United States Environmental Protection Agency (U.S. EPA) approved pilot studies to evaluate remedial alternatives for the reduction of dissolved chromium and nickel concentrations in site groundwater. Based on these pilot studies and as approved by U.S. EPA, RACER recently 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. ISCR performance groundwater monitoring and evaluation is currently underway.

The current City of Detroit Water and Sewerage Department (DWSD) Special Discharge Permit effluent limits for the groundwater treatment plant (GWTP) are 3.98 mg/L for nickel and 2.77 mg/L for total chromium. It is noted that recent GWTP influent concentrations have averaged between 2 to 4 mg/L for nickel and 4 to 6 mg/L for total chromium since December 2016 based on laboratory analysis performed monthly. If groundwater concentrations and the GWTP influent concentrations can be reduced to below Special Discharge Permit effluent limits through targeted and full-scale chemical injections into the impacted groundwater in the vicinity of the French drain, RACER believes it will allow for modification of existing GWTP operation, while still meeting effluent limits and continuing to implement dewatering activities until final portions of the remedial alternative can be implemented and approval to discontinue dewatering (and therefore discharge to the sanitary sewer system) can be obtained from U.S. EPA. Influent testing will continue with field test kits weekly and laboratory analysis monthly in order to obtain data to allow for evaluation of any trends in nickel and chromium concentrations in the influent, and once influent concentrations are consistently below the Special Discharge Permit requirements, the GWTP operations may be modified. Effluent testing will continue as required by the Special Discharge Permit. If



approval to discontinue dewatering is received from U.S. EPA then no discharge will be necessary and the existing Discharge Permit can be terminated. The conceptual schedule for receiving approval from U.S. EPA to discontinue dewatering activities through the groundwater extraction system and hence the need for operating and discharging to the sanitary sewer system is late in 2017.

Section D: Reporting Requirements

- Reporting Period: September 1, 2016 to February 28, 2017.
- Dates of Sampling: September 14, 2016; October 19, 2016; November 29, 2016; December 21, 2016; January 17, 2017; and February 8, 2017.
- GHD notified GLWA on January 18, 2017 that the subsurface discharge line had been damaged by contractors rehabilitating portions of the former on-site sewer system. The discharge line was repaired and reconnected to a sanitary sewer manhole located approximately 130 feet west of the GWTP building.
- All samples were collected from the effluent sampling port of Tank T12.
- Total Monthly Discharges (gallons):
 - September 2016: 491,810
 - October 2016: 856,703
 - November 2016: 458,890
 - December 2016: 554,395
 - January 2017: 400,872
 - February 2017: 530,166
- Total Flow to Date (since 2000): 175,485,512 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 (734) 453-5123 if you require further information or clarification.

Sincerely,

GHD

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

Christopher J. Meincke, P.E.

CJM/ds/14/Det.

Encl.

cc: Dave Favero, RACER

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - September 2016**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
09/01/16	None	None	On-Site	45,379	
09/02/16	None	None	On-Site	41,020	
09/03/16	None	None			
09/04/16	None	None			
09/05/16	None	None	On-Site	2,217	
09/06/16	None	None	On-Site	50,706	
09/07/16	None	None	On-Site	46,826	
09/08/16	None	None	On-Site	28,405	
09/09/16	None	None			System down for weekend
09/10/16	None	None			
09/11/16	None	None			
09/12/16	None	None	On-Site	341	
09/13/16	None	None	On-Site	48,915	
09/14/16	None	None	On-site & Sampled	40,214	
09/15/16	None	None	On-Site	47,487	
09/16/16	None	None			System down for weekend
09/17/16	None	None			
09/18/16	None	None			
09/19/16	None	None	On-Site	674	
09/20/16	None	None	On-Site	56,114	
09/21/16	None	None	On-Site	43,923	
09/22/16	None	None	On-Site	39,589	
09/23/16	None	None			System down for weekend
09/24/16	None	None			
09/25/16	None	None			
09/26/16	None	None			System down
09/27/16	None	None			System down
09/28/16	None	None			System down
09/29/16	None	None			System down
09/30/16	None	None			System down

Total Monthly Discharge (gal)

491,810

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - October 2016**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
10/01/16	None	None			
10/02/16	None	None			
10/03/16	None	None	On-Site	111	
10/04/16	None	None	On-Site	43,724	
10/05/16	None	None	On-Site	50,470	
10/06/16	None	None	On-Site	35,205	
10/07/16	None	None	On-Site	38,434	
10/08/16	None	None			
10/09/16	None	None			
10/10/16	None	None	On-Site	450	
10/11/16	None	None	On-Site	64,872	
10/12/16	None	None	On-Site	67,451	
10/13/16	None	None	On-Site	74,580	
10/14/16	None	None	On-Site	55,916	
10/15/16	None	None			
10/16/16	None	None			
10/17/16	None	None	On-Site	527	
10/18/16	None	None	On-Site	76,723	
10/19/16	None	None	On-Site & Sampled	68,744	
10/20/16	None	None	On-Site	78,561	
10/21/16	None	None	On-Site	38,086	
10/22/16	None	None			
10/23/16	None	None			
10/24/16	None	None	On-Site	219	
10/25/16	None	None	On-Site	49,501	
10/26/16	None	None	On-Site	33,935	
10/27/16	None	None	On-Site	45,700	
10/28/16	None	None	On-Site	33,251	
10/29/16	None	None			
10/30/16	None	None			
10/31/16	None	None	On-Site	243	

Total Monthly Discharge (gal)

856,703

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - November 2016**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
11/01/16	None	None	On-Site	48,964	
11/02/16	None	None	On-Site	30,031	
11/03/16	None	None	On-Site	36,440	
11/04/16	None	None	On-Site	44,847	
11/05/16	None	None			
11/06/16	None	None			
11/07/16	None	None	On-Site	78	
11/08/16	None	None	On-Site	70,169	
11/09/16	None	None	On-Site	66,456	
11/10/16	None	None	On-Site	45,477	
11/11/16	None	None	On-Site	49,819	
11/12/16	None	None			
11/13/16	None	None			
11/14/16	None	None	On-Site	229	
11/15/16	None	None	On-Site	19,317	System down - low pH T5 mag lime line plugged
11/16/16	None	None			System down - sand filter actuator valve not working
11/17/16	None	None			System down - sand filter actuator valve not working
11/18/16	None	None			System down - sand filter actuator valve not working
11/19/16	None	None			
11/20/16	None	None			
11/21/16	None	None			System down - sand filter actuator valve not working
11/22/16	None	None			System down - sand filter actuator valve not working
11/23/16	None	None			System down - sand filter actuator valve not working
11/24/16	None	None			System down - sand filter actuator valve not working
11/25/16	None	None			System down - sand filter actuator valve not working
11/26/16	None	None			
11/27/16	None	None			
11/28/16	None	None			System down - sand filter actuator valve not working
11/29/16	None	None	On-Site & Sampled	1,392	
11/30/16	None	None	On-Site	45,671	

Total Monthly Discharge (gal)

458,890

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - December 2016**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
12/01/16	None	None	On-Site	41,815	
12/02/16	None	None			System shut down for long weekend
12/03/16	None	None			System shut down for long weekend
12/04/16	None	None			System shut down for long weekend
12/05/16	None	None			System shut down for long weekend
12/06/16	None	None	On-Site	801	
12/07/16	None	None	On-Site	46,863	
12/08/16	None	None	On-Site	46,626	
12/09/16	None	None	On-Site	36,188	
12/10/16	None	None			System down - out of mag lime
12/11/16	None	None			System down - out of mag lime
12/12/16	None	None			System down - out of mag lime
12/13/16	None	None			System down - out of mag lime
12/14/16	None	None			System down - out of mag lime
12/15/16	None	None	On-Site	1,176	
12/16/16	None	None	On-Site	52,646	
12/17/16	None	None			
12/18/16	None	None			
12/19/16	None	None	On-Site	1,958	
12/20/16	None	None	On-Site	48,776	
12/21/16	None	None	On-Site & Sampled	43,902	
12/22/16	None	None	On-Site	41,646	
12/23/16	None	None	On-Site	34,941	
12/24/16	None	None			
12/25/16	None	None			
12/26/16	None	None	On-Site	3,831	
12/27/16	None	None	On-Site	35,613	
12/28/16	None	None	On-Site	39,909	
12/29/16	None	None	On-Site	33,246	
12/30/16	None	None	On-Site	44,458	
12/31/16	None	None			

Total Monthly Discharge (gal)

554,395

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
01/01/17	None	None			
01/02/17	None	None	On-Site	255	
01/03/17	None	None	On-Site	47,973	
01/04/17	None	None	On-Site	36,415	
01/05/17	None	None	On-Site	36,277	
01/06/17	None	None			System down for weekend
01/07/17	None	None			
01/08/17	None	None			
01/09/17	None	None	On-Site	1,042	
01/10/17	None	None	On-Site	44,440	
01/11/17	None	None	On-Site	36,831	
01/12/17	None	None	On-Site	36,054	
01/13/17	None	None	On-Site	31,993	
01/14/17	None	None			
01/15/17	None	None			
01/16/17	None	None	On-Site	2,113	
01/17/17	None	None	On-Site & Sampled	32,184	
01/18/17	None	None			System down - discharge line breach
01/19/17	None	None			System down - discharge line breach
01/20/17	None	None			System down - discharge line breach
01/21/17	None	None			System down - discharge line breach
01/22/17	None	None			System down - discharge line breach
01/23/17	None	None			System down - discharge line breach
01/24/17	None	None			System down - discharge line breach
01/25/17	None	None	On-Site	0	
01/26/17	None	None	On-Site	37,207	
01/27/17	None	None	On-Site	37,417	
01/28/17	None	None			
01/29/17	None	None			
01/30/17	None	None	On-Site	1,058	
01/31/17	None	None	On-Site	19,613	

Total Monthly Discharge (gal)

400,872

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
02/01/17	None	None	On-Site	35,426	
02/02/17	None	None	On-Site	37,258	
02/03/17	None	None	On-Site	34,046	
02/04/17	None	None			
02/05/17	None	None			
02/06/17	None	None	On-Site	251	
02/07/17	None	None	On-Site	40,453	
02/08/17	None	None	On-Site & Sampled	34,066	
02/09/17	None	None	On-Site	36,279	
02/10/17	None	None	On-Site	33,184	
02/11/17	None	None			
02/12/17	None	None			
02/13/17	None	None	On-Site	1,982	
02/14/17	None	None	On-Site	40,004	
02/15/17	None	None	On-Site	33,823	
02/16/17	None	None	On-Site	35,804	
02/17/17	None	None	On-Site	25,552	
02/18/17	None	None			
02/19/17	None	None			
02/20/17	None	None	On-Site	212	
02/21/17	None	None	On-Site	45,561	
02/22/17	None	None	On-Site	32,805	
02/23/17	None	None	On-Site	35,052	
02/24/17	None	None	On-Site	28,408	
02/25/17	None	None			
02/26/17	None	None			
02/27/17	None	None			
02/28/17	None	None			

Total Monthly Discharge (gal)

530,166

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - September 2016**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
9/1/2016	9/1/2016	9.59	0.03	0.00	0.05	
9/2/2016	9/2/2016	9.58	0.03	0.00	0.05	
9/3/2016	9/3/2016					
9/4/2016	9/4/2016					
9/5/2016	9/5/2016	9.09	0.03	0.00	0.05	
9/6/2016	9/6/2016	9.86	0.03	0.00	0.05	
9/7/2016	9/7/2016	9.33	0.03	0.00	0.05	
9/8/2016	9/8/2016	9.58	0.03	0.00	0.05	
9/9/2016	9/9/2016					System down for weekend
9/10/2016	9/10/2016					
9/11/2016	9/11/2016					
9/12/2016	9/12/2016	8.19	0.03	0.00	0.05	
9/13/2016	9/13/2016	9.67	0.03	0.00	0.05	
9/14/2016	9/14/2016	9.59	0.03	0.00	0.05	
9/15/2016	9/15/2016	9.37	0.03	0.00	0.05	
9/16/2016	9/16/2016					System down for weekend
9/17/2016	9/17/2016					
9/18/2016	9/18/2016					
9/19/2016	9/19/2016	8.46	0.03	0.00	0.05	
9/20/2016	9/20/2016	9.66	0.03	0.00	0.05	
9/21/2016	9/21/2016	9.67	0.03	0.00	0.05	
9/22/2016	9/22/2016	9.53	0.04	0.00	0.10	
9/23/2016	9/23/2016					System down for weekend
9/24/2016	9/24/2016					
9/25/2016	9/25/2016					
9/26/2016	9/26/2016					System down
9/27/2016	9/27/2016					System down
9/28/2016	9/28/2016					System down
9/29/2016	9/29/2016					System down
9/30/2016	9/30/2016					System down

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - October 2016

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
10/1/2016	10/1/2016					
10/2/2016	10/2/2016					
10/3/2016	10/3/2016	8.05	0.03	0.00	0.05	
10/4/2016	10/4/2016	9.53	0.02	1.40	1.50	
10/5/2016	10/5/2016	9.33	0.03	0.60	0.55	
10/6/2016	10/6/2016	9.48	0.04	0.00	0.10	
10/7/2016	10/7/2016	9.39	0.04	0.00	0.10	
10/8/2016	10/8/2016					
10/9/2016	10/9/2016					
10/10/2016	10/10/2016	8.77	0.03	0.00	0.05	
10/11/2016	10/11/2016	9.59	0.03	0.00	0.05	
10/12/2016	10/12/2016	9.48	0.03	0.00	0.05	
10/13/2016	10/13/2016	9.60	0.03	0.00	0.05	
10/14/2016	10/14/2016	9.51	0.03	0.00	0.05	
10/15/2016	10/15/2016					
10/16/2016	10/16/2016					
10/17/2016	10/17/2016	8.37	0.03	0.00	0.05	
10/18/2016	10/18/2016	9.35	0.04	0.00	0.10	
10/19/2016	10/19/2016	9.29	0.06	0.00	0.15	
10/20/2016	10/20/2016	9.34	0.21	0.00	0.05	
10/21/2016	10/21/2016	9.34	0.05	0.00	0.10	
10/22/2016	10/22/2016					
10/23/2016	10/23/2016					
10/24/2016	10/24/2016	8.45	0.04	0.00	0.05	
10/25/2016	10/25/2016	9.14	0.04	0.00	0.05	
10/26/2016	10/26/2016	9.07	0.03	0.00	0.05	
10/27/2016	10/27/2016	9.04	0.04	0.00	0.05	
10/28/2016	10/28/2016	9.06	0.04	0.00	0.05	
10/29/2016	10/29/2016					
10/30/2016	10/30/2016					
10/31/2016	10/31/2016	8.25	0.03	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 - November 2016**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
11/1/2016	11/1/2016	9.13	0.03	0.00	0.05	
11/2/2016	11/2/2016	9.17	0.03	0.00	0.05	
11/3/2016	11/3/2016	9.18	0.03	0.00	0.05	
11/4/2016	11/4/2016	9.08	0.03	0.00	0.05	
11/5/2016	11/5/2016					
11/6/2016	11/6/2016					
11/7/2016	11/7/2016	7.98	0.03	0.00	0.05	
11/8/2016	11/8/2016	9.01	0.03	0.00	0.05	
11/9/2016	11/9/2016	9.07	0.03	0.00	0.05	
11/10/2016	11/10/2016	9.10	0.03	0.00	0.05	
11/11/2016	11/11/2016	9.06	0.03	0.00	0.05	
11/12/2016	11/12/2016					
11/13/2016	11/13/2016					
11/14/2016	11/14/2016	8.10	0.03	0.00	0.05	
11/15/2016	11/15/2016	8.06	0.30	0.00	0.20	System down - low pH T5 mag lime line plugged
11/16/2016	11/16/2016					System down - sand filter actuator valve not working
11/17/2016	11/17/2016					System down - sand filter actuator valve not working
11/18/2016	11/18/2016					System down - sand filter actuator valve not working
11/19/2016	11/19/2016					
11/20/2016	11/20/2016					
11/21/2016	11/21/2016					System down - sand filter actuator valve not working
11/22/2016	11/22/2016					System down - sand filter actuator valve not working
11/23/2016	11/23/2016					System down - sand filter actuator valve not working
11/24/2016	11/24/2016					System down - sand filter actuator valve not working
11/25/2016	11/25/2016					System down - sand filter actuator valve not working
11/26/2016	11/26/2016					
11/27/2016	11/27/2016					
11/28/2016	11/28/2016					System down - sand filter actuator valve not working
11/29/2016	11/29/2016	8.31	0.10	0.00	0.05	
11/30/2016	11/30/2016	9.35	0.05	0.00	0.05	

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - December 2016**

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
12/1/2016	12/1/2016	9.33	0.10	0.00	0.05	
12/2/2016	12/2/2016					System down for long weekend
12/3/2016	12/3/2016					System down for long weekend
12/4/2016	12/4/2016					System down for long weekend
12/5/2016	12/5/2016					System down for long weekend
12/6/2016	12/6/2016	8.07	0.05	0.00	0.05	
12/7/2016	12/7/2016	8.94	0.10	0.00	0.05	
12/8/2016	12/8/2016	8.86	0.10	0.00	0.05	
12/9/2016	12/9/2016	8.76	0.20	0.00	0.10	
12/10/2016	12/10/2016					System down - out of mag lime
12/11/2016	12/11/2016					System down - out of mag lime
12/12/2016	12/12/2016					System down - out of mag lime
12/13/2016	12/13/2016					System down - out of mag lime
12/14/2016	12/14/2016					System down - out of mag lime
12/15/2016	12/15/2016	7.94	0.10	0.00	0.05	
12/16/2016	12/16/2016	9.36	0.02	0.00	0.05	
12/17/2016	12/17/2016					
12/18/2016	12/18/2016					
12/19/2016	12/19/2016	8.69	0.02	0.00	0.05	
12/20/2016	12/20/2016	9.04	0.02	0.00	0.05	
12/21/2016	12/21/2016	9.28	0.02	0.00	0.05	
12/22/2016	12/22/2016	9.24	0.02	0.00	0.05	
12/23/2016	12/23/2016	9.35	0.02	0.00	0.05	
12/24/2016	12/24/2016					
12/25/2016	12/25/2016					
12/26/2016	12/26/2016	9.55	0.02	0.00	0.05	
12/27/2016	12/27/2016	9.48	0.02	0.00	0.05	
12/28/2016	12/28/2016	9.44	0.02	0.00	0.05	
12/29/2016	12/29/2016	9.36	0.02	0.00	0.05	
12/30/2016	12/30/2016	9.37	0.01	0.00	0.05	
12/31/2016	12/31/2016					

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

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
1/1/2017	1/1/2017					
1/2/2017	1/2/2017	8.48	0.01	0.00	0.05	
1/3/2017	1/3/2017	9.16	0.01	0.00	0.05	
1/4/2017	1/4/2017	9.11	0.01	0.00	0.05	
1/5/2017	1/5/2017	9.27	0.01	0.00	0.05	
1/6/2017	1/6/2017					System down for weekend
1/7/2017	1/7/2017					
1/8/2017	1/8/2017					
1/9/2017	1/9/2017	8.54	0.01	0.00	0.05	
1/10/2017	1/10/2017	9.58	0.01	0.50	0.55	
1/11/2017	1/11/2017	9.63	0.01	0.10	0.20	
1/12/2017	1/12/2017	9.43	0.01	0.15	0.25	
1/13/2017	1/13/2017	9.55	0.01	0.00	0.10	
1/14/2017	1/14/2017					
1/15/2017	1/15/2017					
1/16/2017	1/16/2017	8.91	0.01	0.00	0.05	
1/17/2017	1/17/2017	9.74	0.01	0.00	0.05	
1/18/2017	1/18/2017					System down - discharge line breech
1/19/2017	1/19/2017					System down - discharge line breech
1/20/2017	1/20/2017					System down - discharge line breech
1/21/2017	1/21/2017					System down - discharge line breech
1/22/2017	1/22/2017					System down - discharge line breech
1/23/2017	1/23/2017					System down - discharge line breech
1/24/2017	1/24/2017					System down - discharge line breech
1/25/2017	1/25/2017	7.95	0.01	0.00	0.05	
1/26/2017	1/26/2017	9.82	0.01	0.00	0.05	
1/27/2017	1/27/2017	9.55	0.01	0.00	0.05	
1/28/2017	1/28/2017					
1/29/2017	1/29/2017					
1/30/2017	1/30/2017	8.73	0.01	0.00	0.05	
1/31/2017	1/31/2017	9.01	0.01	0.00	0.10	

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

	Permit Limits	5-11.5	3.98 mg/L	N/A	2.77 mg/L	
DATE	SAMPLE DATE	pH	(mg/L) NICKEL	(mg/L) HEX Cr	(mg/L) TOTAL Cr	NOTES
2/1/2017	2/1/2017	9.71	0.01	0.00	0.05	
2/2/2017	2/2/2017	9.63	0.01	0.00	0.05	
2/3/2017	2/3/2017	9.61	0.01	0.00	0.05	
2/4/2017	2/4/2017					
2/5/2017	2/5/2017					
2/6/2017	2/6/2017	8.55	0.01	0.00	0.05	
2/7/2017	2/7/2017	9.55	0.02	0.00	0.05	
2/8/2017	2/8/2017	9.49	0.01	0.00	0.05	
2/9/2017	2/9/2017	9.45	0.02	0.00	0.05	
2/10/2017	2/10/2017	9.43	0.01	0.00	0.05	
2/11/2017	2/11/2017					
2/12/2017	2/12/2017					
2/13/2017	2/13/2017	8.82	0.01	0.00	0.05	
2/14/2017	2/14/2017	9.40	0.02	0.00	0.05	
2/15/2017	2/15/2017	9.38	0.02	0.00	0.05	
2/16/2017	2/16/2017	9.24	0.02	0.00	0.05	
2/17/2017	2/17/2017	9.17	0.01	0.00	0.05	
2/18/2017	2/18/2017					
2/19/2017	2/19/2017					
2/20/2017	2/20/2017	8.12	0.01	0.00	0.05	
2/21/2017	2/21/2017	9.11	0.01	0.00	0.05	
2/22/2017	2/22/2017	8.90	0.02	0.00	0.05	
2/23/2017	2/23/2017	8.81	0.02	0.00	0.05	
2/24/2017	2/24/2017	8.80	0.02	0.00	0.05	
2/25/2017	2/25/2017					
2/26/2017	2/26/2017					
2/27/2017	2/27/2017					System down - out of mag lime
2/28/2017	2/28/2017					System down - out of mag lime

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: 240-69504-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

9/22/2016 3:19:20 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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Sample Summary	5
Detection Summary	6
Method Summary	7
Client Sample Results	8
QC Association Summary	12
QC Sample Results	14
Surrogate Summary	17
Lab Chronicle	18
Certification Summary	19
Chain of Custody	20



Case Narrative

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

TestAmerica Job ID: 240-69504-1

Job ID: 240-69504-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-69504-1

Comments

No additional comments.

Receipt

The sample was received on 9/15/2016 9:15 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.4° 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-012607-091416-EE-001 (240-69504-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

General Chemistry

Method(s) SM 3500 CR B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 240-246959 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

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

Organic Prep

Method(s) 3520C, 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-247262.

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: 240-69504-1

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
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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 240-69504-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-69504-1	WT-012607-091416-EE-001	Water	09/14/16 15:30	09/15/16 09:15

Detection Summary

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

TestAmerica Job ID: 240-69504-1

Client Sample ID: WT-012607-091416-EE-001

Lab Sample ID: 240-69504-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.071		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.057		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Mercury	0.00024		0.00020	mg/L	1		245.1	Total
Total Suspended Solids	4.0		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: 240-69504-1

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: 240-69504-1

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

Client Sample ID: WT-012607-091416-EE-001

Date Collected: 09/14/16 15:30

Date Received: 09/15/16 09:15

Lab Sample ID: 240-69504-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Aroclor-1221	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Aroclor-1232	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Aroclor-1242	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Aroclor-1248	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Aroclor-1254	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Aroclor-1260	0.096	U	0.096	ug/L		09/17/16 10:41	09/20/16 10:25	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	77		10 - 114			09/17/16 10:41	09/20/16 10:25	1
Tetrachloro-m-xylene	40	p	15 - 131			09/17/16 10:41	09/20/16 10:25	1

Client Sample Results

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

TestAmerica Job ID: 240-69504-1

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

Client Sample ID: WT-012607-091416-EE-001

Date Collected: 09/14/16 15:30

Date Received: 09/15/16 09:15

Lab Sample ID: 240-69504-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.071		0.050	mg/L		09/16/16 14:00	09/19/16 19:15	1
Nickel	0.057		0.010	mg/L		09/16/16 14:00	09/19/16 19:15	1
Lead	0.050	U	0.050	mg/L		09/16/16 14:00	09/19/16 19:15	1
Zinc	0.020	U	0.020	mg/L		09/16/16 14:00	09/19/16 19:15	1

Client Sample Results

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

TestAmerica Job ID: 240-69504-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-091416-EE-001

Date Collected: 09/14/16 15:30

Date Received: 09/15/16 09:15

Lab Sample ID: 240-69504-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00024		0.00020	mg/L		09/16/16 14:34	09/17/16 13:27	1

Client Sample Results

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

TestAmerica Job ID: 240-69504-1

General Chemistry

Client Sample ID: WT-012607-091416-EE-001

Date Collected: 09/14/16 15:30

Date Received: 09/15/16 09:15

Lab Sample ID: 240-69504-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			09/21/16 08:58	1
Cr (VI)	0.0050	U	0.0050	mg/L			09/15/16 13:58	1
Total Suspended Solids	4.0		4.0	mg/L			09/16/16 08:34	1

QC Association Summary

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

TestAmerica Job ID: 240-69504-1

GC Semi VOA

Prep Batch: 247262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	3520C	
MB 240-247262/14-A	Method Blank	Total/NA	Water	3520C	
LCS 240-247262/15-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 247520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	608	247262
MB 240-247262/14-A	Method Blank	Total/NA	Water	608	247262
LCS 240-247262/15-A	Lab Control Sample	Total/NA	Water	608	247262

Metals

Prep Batch: 247200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	245.1	
MB 240-247200/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-247200/2-A	Lab Control Sample	Total/NA	Water	245.1	

Prep Batch: 247202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total Recoverable	Water	200.7	
MB 240-247202/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-247202/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-69504-1 MS	WT-012607-091416-EE-001	Total Recoverable	Water	200.7	
240-69504-1 MSD	WT-012607-091416-EE-001	Total Recoverable	Water	200.7	

Analysis Batch: 247417

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total Recoverable	Water	200.7 Rev 4.4	247202
LCS 240-247202/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	247202
240-69504-1 MS	WT-012607-091416-EE-001	Total Recoverable	Water	200.7 Rev 4.4	247202
240-69504-1 MSD	WT-012607-091416-EE-001	Total Recoverable	Water	200.7 Rev 4.4	247202

Analysis Batch: 247445

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	245.1	247200
MB 240-247200/1-A	Method Blank	Total/NA	Water	245.1	247200
LCS 240-247200/2-A	Lab Control Sample	Total/NA	Water	245.1	247200

Analysis Batch: 247739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-247202/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	247202

General Chemistry

Analysis Batch: 246959

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-246959/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-246959/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

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QC Association Summary

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

TestAmerica Job ID: 240-69504-1

General Chemistry (Continued)

Analysis Batch: 247101

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	SM 2540D	
MB 240-247101/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-247101/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 247766

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-69504-1	WT-012607-091416-EE-001	Total/NA	Water	1664A	
MB 240-247766/1	Method Blank	Total/NA	Water	1664A	
LCS 240-247766/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-69504-1

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

Lab Sample ID: MB 240-247262/14-A

Matrix: Water

Analysis Batch: 247520

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247262

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1
Aroclor-1221	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1
Aroclor-1232	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1
Aroclor-1242	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1
Aroclor-1248	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1
Aroclor-1254	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1
Aroclor-1260	0.10	U	0.10	ug/L		09/17/16 10:41	09/20/16 08:54	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		10 - 114	09/17/16 10:41	09/20/16 08:54	1
Tetrachloro-m-xylene	69		15 - 131	09/17/16 10:41	09/20/16 08:54	1

Lab Sample ID: LCS 240-247262/15-A

Matrix: Water

Analysis Batch: 247520

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247262

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.87		ug/L		75	50 - 114
Aroclor-1260	2.50	2.12		ug/L		85	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	65		10 - 114
Tetrachloro-m-xylene	69		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-247202/1-A

Matrix: Water

Analysis Batch: 247739

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 247202

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		09/16/16 14:00	09/21/16 03:52	1
Nickel	0.010	U	0.010	mg/L		09/16/16 14:00	09/21/16 03:52	1
Lead	0.050	U	0.050	mg/L		09/16/16 14:00	09/21/16 03:52	1
Zinc	0.020	U	0.020	mg/L		09/16/16 14:00	09/21/16 03:52	1

Lab Sample ID: LCS 240-247202/2-A

Matrix: Water

Analysis Batch: 247417

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 247202

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.202		mg/L		101	85 - 115
Nickel	0.500	0.504		mg/L		101	85 - 115
Lead	0.500	0.490		mg/L		98	85 - 115
Zinc	0.500	0.529		mg/L		106	85 - 115

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QC Sample Results

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

TestAmerica Job ID: 240-69504-1

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

Lab Sample ID: 240-69504-1 MS

Matrix: Water

Analysis Batch: 247417

Client Sample ID: WT-012607-091416-EE-001

Prep Type: Total Recoverable

Prep Batch: 247202

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chromium	0.071		0.200	0.264		mg/L		96	75 - 125
Nickel	0.057		0.500	0.547		mg/L		98	75 - 125
Lead	0.050	U	0.500	0.471		mg/L		94	75 - 125
Zinc	0.020	U	0.500	0.522		mg/L		104	75 - 125

Lab Sample ID: 240-69504-1 MSD

Matrix: Water

Analysis Batch: 247417

Client Sample ID: WT-012607-091416-EE-001

Prep Type: Total Recoverable

Prep Batch: 247202

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.071		0.200	0.260		mg/L		95	75 - 125	1	20
Nickel	0.057		0.500	0.545		mg/L		98	75 - 125	0	20
Lead	0.050	U	0.500	0.466		mg/L		93	75 - 125	1	20
Zinc	0.020	U	0.500	0.514		mg/L		103	75 - 125	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-247200/1-A

Matrix: Water

Analysis Batch: 247445

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 247200

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		09/16/16 14:00	09/17/16 12:35	1

Lab Sample ID: LCS 240-247200/2-A

Matrix: Water

Analysis Batch: 247445

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 247200

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00504		mg/L		101	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-247766/1

Matrix: Water

Analysis Batch: 247766

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	mg/L			09/21/16 08:58	1

Lab Sample ID: LCS 240-247766/2

Matrix: Water

Analysis Batch: 247766

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	40.0	34.80		mg/L		87	78 - 114

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QC Sample Results

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

TestAmerica Job ID: 240-69504-1

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

Lab Sample ID: MB 240-246959/3

Matrix: Water

Analysis Batch: 246959

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L	-		09/15/16 11:14	1

Lab Sample ID: LCS 240-246959/4

Matrix: Water

Analysis Batch: 246959

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	0.261		mg/L	-	105	80 - 118

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

Lab Sample ID: MB 240-247101/1

Matrix: Water

Analysis Batch: 247101

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L	-		09/16/16 08:34	1

Lab Sample ID: LCS 240-247101/2

Matrix: Water

Analysis Batch: 247101

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	78.0	72.0		mg/L	-	92	73 - 113

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-69504-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (10-114)	TCX2 (15-131)
240-69504-1	WT-012607-091416-EE-001	77	40 p
LCS 240-247262/15-A	Lab Control Sample	65	69
MB 240-247262/14-A	Method Blank	66	69

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-69504-1

Client Sample ID: WT-012607-091416-EE-001

Lab Sample ID: 240-69504-1

Date Collected: 09/14/16 15:30

Matrix: Water

Date Received: 09/15/16 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			247262	09/17/16 10:41	JDR	TAL CAN
Total/NA	Analysis	608		1	247520	09/20/16 10:25	KMG	TAL CAN
Total Recoverable	Prep	200.7			247202	09/16/16 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	247417	09/19/16 19:15	RKT	TAL CAN
Total/NA	Prep	245.1			247200	09/16/16 14:34	AJC	TAL CAN
Total/NA	Analysis	245.1		1	247445	09/17/16 13:27	DSH	TAL CAN
Total/NA	Analysis	1664A		1	247766	09/21/16 08:58	DTN	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	246959	09/15/16 13:58	JWW	TAL CAN
Total/NA	Analysis	SM 2540D		1	247101	09/16/16 08:34	LCN	TAL CAN

Laboratory References:

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

Certification Summary

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

TestAmerica Job ID: 240-69504-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17
Illinois	NELAP	5	200004	07-31-17
Kansas	NELAP	7	E-10336	01-31-17
Kentucky (UST)	State Program	4	58	02-23-17
Kentucky (VW)	State Program	4	98016	12-31-16 *
Minnesota	NELAP	5	039-999-348	12-31-16 *
Minnesota (Petrofund)	State Program	1	3506	07-31-17
Nevada	State Program	9	OH-000482008A	07-31-17
New Jersey	NELAP	2	OH001	06-30-17
New York	NELAP	2	10975	03-31-17
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17
Pennsylvania	NELAP	3	68-00340	08-31-17
Texas	NELAP	6	T104704517-15-5	08-31-17
USDA	Federal		P330-13-00319	11-26-16 *
Virginia	NELAP	3	460175	09-14-16 *
Washington	State Program	10	C971	01-12-17
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17

* Certification renewal pending - certification considered valid.

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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-012607-091416-EE-001	240-69504-B-I	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-091416-EE-001	240-69504-E-I	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-091416-EE-001	240-69504-F-I	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: 240-71177-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

11/2/2016 8:38:47 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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Sample Summary	5
Detection Summary	6
Method Summary	7
Client Sample Results	8
QC Association Summary	12
QC Sample Results	14
Surrogate Summary	17
Lab Chronicle	18
Certification Summary	19
Chain of Custody	20



Case Narrative

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

TestAmerica Job ID: 240-71177-1

Job ID: 240-71177-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-71177-1

Comments

No additional comments.

Receipt

The sample was received on 10/21/2016 9:30 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.8° 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-012607-101916-EE-001 (240-71177-1). 2759166, 2103100, 2719942.

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-012607-101916-EE-001 (240-71177-1). 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

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

Definitions/Glossary

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

TestAmerica Job ID: 240-71177-1

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 240-71177-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-71177-1	WT-012607-101916-EE-001	Water	10/19/16 13:15	10/21/16 09:30

Detection Summary

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

TestAmerica Job ID: 240-71177-1

Client Sample ID: WT-012607-101916-EE-001

Lab Sample ID: 240-71177-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.38		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.33		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	41		4.0	mg/L	1		SM 2540D	Total
								Recoverable
								Total/NA

This Detection Summary does not include radiochemical test results.

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Method Summary

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

TestAmerica Job ID: 240-71177-1

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: 240-71177-1

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

Client Sample ID: WT-012607-101916-EE-001

Date Collected: 10/19/16 13:15

Date Received: 10/21/16 09:30

Lab Sample ID: 240-71177-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Aroclor-1221	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Aroclor-1232	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Aroclor-1242	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Aroclor-1248	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Aroclor-1254	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Aroclor-1260	0.095	U	0.095	ug/L		10/26/16 08:52	10/30/16 17:33	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	65		10 - 114			10/26/16 08:52	10/30/16 17:33	1
Tetrachloro-m-xylene	44		15 - 131			10/26/16 08:52	10/30/16 17:33	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-71177-1

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

Client Sample ID: WT-012607-101916-EE-001

Date Collected: 10/19/16 13:15

Date Received: 10/21/16 09:30

Lab Sample ID: 240-71177-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.38		0.050	mg/L		10/24/16 14:00	10/25/16 23:15	1
Nickel	0.33		0.010	mg/L		10/24/16 14:00	10/25/16 23:15	1
Lead	0.050	U	0.050	mg/L		10/24/16 14:00	10/25/16 23:15	1
Zinc	0.020	U	0.020	mg/L		10/24/16 14:00	10/25/16 23:15	1

Client Sample Results

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

TestAmerica Job ID: 240-71177-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-101916-EE-001

Date Collected: 10/19/16 13:15

Date Received: 10/21/16 09:30

Lab Sample ID: 240-71177-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		10/24/16 14:00	10/25/16 09:40	1

Client Sample Results

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

TestAmerica Job ID: 240-71177-1

General Chemistry

Client Sample ID: WT-012607-101916-EE-001

Date Collected: 10/19/16 13:15

Date Received: 10/21/16 09:30

Lab Sample ID: 240-71177-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			11/01/16 09:11	1
Cr (VI)	0.0050	U	0.0050	mg/L			10/20/16 09:29	1
Total Suspended Solids	41		4.0	mg/L			10/25/16 09:09	1

QC Association Summary

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

TestAmerica Job ID: 240-71177-1

GC Semi VOA

Prep Batch: 253043

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	3520C	
MB 240-253043/14-A	Method Blank	Total/NA	Water	3520C	
LCS 240-253043/15-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 253619

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	608	253043
MB 240-253043/14-A	Method Blank	Total/NA	Water	608	253043
LCS 240-253043/15-A	Lab Control Sample	Total/NA	Water	608	253043

Metals

Prep Batch: 252761

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total Recoverable	Water	200.7	
MB 240-252761/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-252761/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 252763

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	245.1	
MB 240-252763/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-252763/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 252942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	245.1	252763
MB 240-252763/1-A	Method Blank	Total/NA	Water	245.1	252763
LCS 240-252763/2-A	Lab Control Sample	Total/NA	Water	245.1	252763

Analysis Batch: 253025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total Recoverable	Water	200.7 Rev 4.4	252761
MB 240-252761/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	252761
LCS 240-252761/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	252761

General Chemistry

Analysis Batch: 252292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-252292/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-252292/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 252874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	SM 2540D	
MB 240-252874/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-252874/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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QC Association Summary

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

TestAmerica Job ID: 240-71177-1

General Chemistry (Continued)

Analysis Batch: 253818

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-71177-1	WT-012607-101916-EE-001	Total/NA	Water	1664A	
MB 240-253818/1	Method Blank	Total/NA	Water	1664A	
LCS 240-253818/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-71177-1

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

Lab Sample ID: MB 240-253043/14-A

Matrix: Water

Analysis Batch: 253619

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 253043

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1
Aroclor-1221	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1
Aroclor-1232	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1
Aroclor-1242	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1
Aroclor-1248	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1
Aroclor-1254	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1
Aroclor-1260	0.10	U	0.10	ug/L		10/26/16 08:52	10/30/16 21:13	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	62		10 - 114	10/26/16 08:52	10/30/16 21:13	1
Tetrachloro-m-xylene	48		15 - 131	10/26/16 08:52	10/30/16 21:13	1

Lab Sample ID: LCS 240-253043/15-A

Matrix: Water

Analysis Batch: 253619

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 253043

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.58		ug/L		63	50 - 114
Aroclor-1260	2.50	1.56		ug/L		62	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	68		10 - 114
Tetrachloro-m-xylene	46		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-252761/1-A

Matrix: Water

Analysis Batch: 253025

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 252761

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		10/24/16 14:00	10/25/16 21:12	1
Nickel	0.010	U	0.010	mg/L		10/24/16 14:00	10/25/16 21:12	1
Lead	0.050	U	0.050	mg/L		10/24/16 14:00	10/25/16 21:12	1
Zinc	0.020	U	0.020	mg/L		10/24/16 14:00	10/25/16 21:12	1

Lab Sample ID: LCS 240-252761/2-A

Matrix: Water

Analysis Batch: 253025

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 252761

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.205		mg/L		103	85 - 115
Nickel	0.500	0.518		mg/L		104	85 - 115
Lead	0.500	0.499		mg/L		100	85 - 115
Zinc	0.500	0.534		mg/L		107	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-71177-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-252763/1-A
Matrix: Water
Analysis Batch: 252942

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 252763

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		10/24/16 14:00	10/25/16 08:47	1

Lab Sample ID: LCS 240-252763/2-A
Matrix: Water
Analysis Batch: 252942

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 252763

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00489		mg/L		98	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-253818/1
Matrix: Water
Analysis Batch: 253818

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	mg/L			11/01/16 09:11	1

Lab Sample ID: LCS 240-253818/2
Matrix: Water
Analysis Batch: 253818

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	35.20		mg/L		88	78 - 114

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

Lab Sample ID: MB 240-252292/3
Matrix: Water
Analysis Batch: 252292

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			10/20/16 09:06	1

Lab Sample ID: LCS 240-252292/4
Matrix: Water
Analysis Batch: 252292

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	0.250		mg/L		100	80 - 123

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-71177-1

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

Lab Sample ID: MB 240-252874/1

Matrix: Water

Analysis Batch: 252874

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L	-		10/25/16 09:09	1

Lab Sample ID: LCS 240-252874/2

Matrix: Water

Analysis Batch: 252874

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Suspended Solids	78.0	64.0		mg/L	-	82	64 - 120

Surrogate Summary

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

TestAmerica Job ID: 240-71177-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (10-114)	TCX2 (15-131)
240-71177-1	WT-012607-101916-EE-001	65	44
LCS 240-253043/15-A	Lab Control Sample	68	46
MB 240-253043/14-A	Method Blank	62	48

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-71177-1

Client Sample ID: WT-012607-101916-EE-001

Lab Sample ID: 240-71177-1

Date Collected: 10/19/16 13:15

Matrix: Water

Date Received: 10/21/16 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			253043	10/26/16 08:52	JDR	TAL CAN
Total/NA	Analysis	608		1	253619	10/30/16 17:33	LSH	TAL CAN
Total Recoverable	Prep	200.7			252761	10/24/16 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	253025	10/25/16 23:15	KLC	TAL CAN
Total/NA	Prep	245.1			252763	10/24/16 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	252942	10/25/16 09:40	WKD	TAL CAN
Total/NA	Analysis	1664A		1	253818	11/01/16 09:11	JW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	252292	10/20/16 09:29	LCN	TAL CAN
Total/NA	Analysis	SM 2540D		1	252874	10/25/16 09:09	JW	TAL CAN

Laboratory References:

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

Certification Summary

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

TestAmerica Job ID: 240-71177-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17
Illinois	NELAP	5	200004	07-31-17
Kansas	NELAP	7	E-10336	01-31-17
Kentucky (UST)	State Program	4	58	02-23-17
Kentucky (VW)	State Program	4	98016	12-31-16 *
Minnesota	NELAP	5	039-999-348	12-31-16 *
Minnesota (Petrofund)	State Program	1	3506	07-31-17
Nevada	State Program	9	OH-000482008A	07-31-17
New Jersey	NELAP	2	OH001	06-30-17
New York	NELAP	2	10975	03-31-17
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17
Pennsylvania	NELAP	3	68-00340	08-31-17
Texas	NELAP	6	T104704517-15-5	08-31-17
USDA	Federal		P330-13-00319	11-26-16 *
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-17
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17

* Certification renewal pending - certification considered valid.

TestAmerica Canton

Phone: 810.229.2763 Fax:

2405880

Chain of Custody Record

3.4/03.8

163798

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

[illegible]

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- 2
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- 13
- 14

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> pH	<u>Preservative</u> Added (mls)	<u>Lot #</u>
WT-012607-101916-EE-001	240-71177-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-101916-EE-001	240-71177-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-101916-EE-001	240-71177-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: 240-72632-1

Client Project/Site: 12607, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

12/6/2016 3:47:24 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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Sample Summary	5
Detection Summary	6
Method Summary	7
Client Sample Results	8
QC Association Summary	12
QC Sample Results	14
Surrogate Summary	17
Lab Chronicle	18
Certification Summary	19
Chain of Custody	20



Case Narrative

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

TestAmerica Job ID: 240-72632-1

Job ID: 240-72632-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-72632-1

Comments

A revised COC was received on November 30, 2016. At the request of GHD, the sample collection date was changed to November 29, 2016.

Receipt

The sample was received on 11/30/2016 9:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.0° C.

GC Semi VOA

Method(s) 608: The continuing calibration verification (CCV) associated with batch 240-257987 recovered above the upper control limit for Aroclor 1248. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 608: The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-112916-EE-001 (240-72632-1). Reagents: 2792418, 2596993, 2719941

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-012607-112916-EE-001 (240-72632-1). 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 240-257653.

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: 240-72632-1

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.
B	Compound was found in the blank and sample.

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 240-72632-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-72632-1	WT-012607-112916-EE-001	Water	11/29/16 15:45	11/30/16 09:20

Detection Summary

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

TestAmerica Job ID: 240-72632-1

Client Sample ID: WT-012607-112916-EE-001

Lab Sample ID: 240-72632-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.36		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.32	B	0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	41		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: 240-72632-1

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: 240-72632-1

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

Client Sample ID: WT-012607-112916-EE-001

Date Collected: 11/29/16 15:45

Date Received: 11/30/16 09:20

Lab Sample ID: 240-72632-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Aroclor-1221	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Aroclor-1232	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Aroclor-1242	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Aroclor-1248	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Aroclor-1254	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Aroclor-1260	0.095	U	0.095	ug/L		12/01/16 08:29	12/04/16 22:29	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		10 - 114			12/01/16 08:29	12/04/16 22:29	1
Tetrachloro-m-xylene	58		15 - 131			12/01/16 08:29	12/04/16 22:29	1

TestAmerica Canton

Client Sample Results

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

TestAmerica Job ID: 240-72632-1

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

Client Sample ID: WT-012607-112916-EE-001

Date Collected: 11/29/16 15:45

Date Received: 11/30/16 09:20

Lab Sample ID: 240-72632-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.36		0.050	mg/L		12/01/16 14:00	12/02/16 18:20	1
Nickel	0.32	B	0.010	mg/L		12/01/16 14:00	12/05/16 12:28	1
Lead	0.050	U	0.050	mg/L		12/01/16 14:00	12/02/16 18:20	1
Zinc	0.020	U	0.020	mg/L		12/01/16 14:00	12/02/16 18:20	1

Client Sample Results

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

TestAmerica Job ID: 240-72632-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-112916-EE-001

Date Collected: 11/29/16 15:45

Date Received: 11/30/16 09:20

Lab Sample ID: 240-72632-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	—	12/01/16 14:00	12/02/16 12:58	1

Client Sample Results

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

TestAmerica Job ID: 240-72632-1

General Chemistry

Client Sample ID: WT-012607-112916-EE-001

Date Collected: 11/29/16 15:45

Date Received: 11/30/16 09:20

Lab Sample ID: 240-72632-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			12/02/16 09:14	1
Cr (VI)	0.0050	U F1	0.0050	mg/L			11/30/16 11:44	1
Total Suspended Solids	41		4.0	mg/L			12/05/16 09:04	1

QC Association Summary

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

TestAmerica Job ID: 240-72632-1

GC Semi VOA

Prep Batch: 257653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	3520C	
MB 240-257653/14-A	Method Blank	Total/NA	Water	3520C	
LCS 240-257653/15-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 257987

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	608	257653
MB 240-257653/14-A	Method Blank	Total/NA	Water	608	257653
LCS 240-257653/15-A	Lab Control Sample	Total/NA	Water	608	257653

Metals

Prep Batch: 257677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total Recoverable	Water	200.7	
MB 240-257677/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-257677/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 257681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	245.1	
MB 240-257681/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-257681/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 258018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	245.1	257681
MB 240-257681/1-A	Method Blank	Total/NA	Water	245.1	257681
LCS 240-257681/2-A	Lab Control Sample	Total/NA	Water	245.1	257681

Analysis Batch: 258027

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total Recoverable	Water	200.7 Rev 4.4	257677
MB 240-257677/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	257677
LCS 240-257677/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	257677

Analysis Batch: 258196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total Recoverable	Water	200.7 Rev 4.4	257677

General Chemistry

Analysis Batch: 257541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-257541/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-257541/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
240-72632-1 MS	WT-012607-112916-EE-001	Total/NA	Water	3500-Cr B-2009	
240-72632-1 MSD	WT-012607-112916-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: 240-72632-1

General Chemistry (Continued)

Analysis Batch: 257844

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	1664A	
MB 240-257844/24	Method Blank	Total/NA	Water	1664A	
LCS 240-257844/25	Lab Control Sample	Total/NA	Water	1664A	

Analysis Batch: 258048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-72632-1	WT-012607-112916-EE-001	Total/NA	Water	SM 2540D	
MB 240-258048/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-258048/2	Lab Control Sample	Total/NA	Water	SM 2540D	
240-72632-1 DU	WT-012607-112916-EE-001	Total/NA	Water	SM 2540D	

QC Sample Results

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

TestAmerica Job ID: 240-72632-1

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

Lab Sample ID: MB 240-257653/14-A

Matrix: Water

Analysis Batch: 257987

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 257653

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1
Aroclor-1221	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1
Aroclor-1232	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1
Aroclor-1242	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1
Aroclor-1248	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1
Aroclor-1254	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1
Aroclor-1260	0.10	U	0.10	ug/L		12/01/16 08:29	12/05/16 00:27	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	63		10 - 114	12/01/16 08:29	12/05/16 00:27	1
Tetrachloro-m-xylene	59		15 - 131	12/01/16 08:29	12/05/16 00:27	1

Lab Sample ID: LCS 240-257653/15-A

Matrix: Water

Analysis Batch: 257987

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 257653

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.96		ug/L		79	50 - 114
Aroclor-1260	2.50	1.77		ug/L		71	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	69		10 - 114
Tetrachloro-m-xylene	66		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-257677/1-A

Matrix: Water

Analysis Batch: 258027

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 257677

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		12/01/16 14:00	12/02/16 16:37	1
Nickel	0.0152		0.010	mg/L		12/01/16 14:00	12/02/16 16:37	1
Lead	0.050	U	0.050	mg/L		12/01/16 14:00	12/02/16 16:37	1
Zinc	0.0231		0.020	mg/L		12/01/16 14:00	12/02/16 16:37	1

Lab Sample ID: LCS 240-257677/2-A

Matrix: Water

Analysis Batch: 258027

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 257677

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.200	0.203		mg/L		102	85 - 115
Nickel	0.500	0.490		mg/L		98	85 - 115
Lead	0.500	0.490		mg/L		98	85 - 115
Zinc	0.500	0.498		mg/L		100	85 - 115

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-72632-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-257681/1-A
Matrix: Water
Analysis Batch: 258018

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257681

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		12/01/16 14:00	12/02/16 12:30	1

Lab Sample ID: LCS 240-257681/2-A
Matrix: Water
Analysis Batch: 258018

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257681

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00518		mg/L		104	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-257844/24
Matrix: Water
Analysis Batch: 257844

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			12/02/16 09:14	1

Lab Sample ID: LCS 240-257844/25
Matrix: Water
Analysis Batch: 257844

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	39.40		mg/L		98	78 - 114

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

Lab Sample ID: MB 240-257541/3
Matrix: Water
Analysis Batch: 257541

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

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			11/30/16 11:42	1

Lab Sample ID: LCS 240-257541/4
Matrix: Water
Analysis Batch: 257541

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

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

Lab Sample ID: 240-72632-1 MS
Matrix: Water
Analysis Batch: 257541

Client Sample ID: WT-012607-112916-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	0.0419	F1	mg/L		17	31 - 151

TestAmerica Canton

QC Sample Results

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

TestAmerica Job ID: 240-72632-1

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

Lab Sample ID: 240-72632-1 MSD

Matrix: Water

Analysis Batch: 257541

Client Sample ID: WT-012607-112916-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	0.0431	F1	mg/L	-	17	31 - 151	3	20

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

Lab Sample ID: MB 240-258048/1

Matrix: Water

Analysis Batch: 258048

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	-		12/05/16 09:04	1

Lab Sample ID: LCS 240-258048/2

Matrix: Water

Analysis Batch: 258048

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	33.4	28.0		mg/L	-	84	64 - 120

Lab Sample ID: 240-72632-1 DU

Matrix: Water

Analysis Batch: 258048

Client Sample ID: WT-012607-112916-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	41		42.0		mg/L	-	2	10

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-72632-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (10-114)	TCX2 (15-131)
240-72632-1	WT-012607-112916-EE-001	51	58
LCS 240-257653/15-A	Lab Control Sample	69	66
MB 240-257653/14-A	Method Blank	63	59

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

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

TestAmerica Job ID: 240-72632-1

Client Sample ID: WT-012607-112916-EE-001

Lab Sample ID: 240-72632-1

Date Collected: 11/29/16 15:45

Matrix: Water

Date Received: 11/30/16 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			257653	12/01/16 08:29	KEH	TAL CAN
Total/NA	Analysis	608		1	257987	12/04/16 22:29	LSH	TAL CAN
Total Recoverable	Prep	200.7			257677	12/01/16 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	258027	12/02/16 18:20	KLC	TAL CAN
Total Recoverable	Prep	200.7			257677	12/01/16 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	258196	12/05/16 12:28	KLC	TAL CAN
Total/NA	Prep	245.1			257681	12/01/16 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	258018	12/02/16 12:58	WKD	TAL CAN
Total/NA	Analysis	1664A		1	257844	12/02/16 09:14	DTN	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	257541	11/30/16 11:44	LCN	TAL CAN
Total/NA	Analysis	SM 2540D		1	258048	12/05/16 09:04	CL	TAL CAN

Laboratory References:

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

Certification Summary

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

TestAmerica Job ID: 240-72632-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17
Illinois	NELAP	5	200004	07-31-17
Kansas	NELAP	7	E-10336	01-31-17 *
Kentucky (UST)	State Program	4	58	02-23-17
Kentucky (VW)	State Program	4	98016	12-31-16 *
Minnesota	NELAP	5	039-999-348	12-31-16 *
Minnesota (Petrofund)	State Program	1	3506	07-31-17
Nevada	State Program	9	OH-000482008A	07-31-17
New Jersey	NELAP	2	OH001	06-30-17
New York	NELAP	2	10975	03-31-17
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17
Pennsylvania	NELAP	3	68-00340	08-31-17
Texas	NELAP	6	T104704517-15-5	08-31-17
USDA	Federal		P330-13-00319	11-26-16 *
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-17
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17

* Certification renewal pending - certification considered valid.

TestAmerica Canton

TestAmerica Michigan
10448 Citation Drive
Suite 200
Brighton, MI 48116
Phone: 810.223.2763 Fax:

2400 5880

4.0/4.0 Chain of Custody Record

TestAmerica

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

164090

9/28/16

TAL-8210 (0713)

Company Name: GRD Services Inc.		Client Contact:		Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:		Site Contact: Raula Fleischer		Date: 11/28/16		COC No: 1 of 1 COCs	
Address:		Tel/Fax:		Analysis Turnaround Time		Lab Contact: Denise Heather Carrier		Carrier: FedEx		Sampler:	
City/State/Zip:				☐ CALENDAR DAYS ☐ WORKING DAYS						For Lab Use Only:	
Phone:				TAT if different from Below						Walk-In Client:	
Fax:				☒ 2 weeks						Lab Sampling:	
Project Name: RACEP Lagoon Unit				☐ 1 week						Job / SDG No.:	
Site: Livonia, MI				☐ 2 days							
PO # 12607-020-701416				☐ 1 day							
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=Grp)		Matrix		# of Cont.	
WT-012607-112416-EE-001		9/28/16 15:45		9/28/16 11:30		C		WT		6	
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other											
Possible Hazard Identification:											
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.											
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown											
Special Instructions/QC Requirements & Comments:											
Custody Seals Intact: ☐ Yes ☐ No											
Relinquished by: Ed Engle											
Relinquished by: GAD											
Relinquished by:											
Relinquished by:											
Custody Seal No.:											
Received by: 9/28/16											
Received by: 16:30											
Received by:											
Received in Laboratory by:											
Company: GAD											
Company:											
Company:											
Company:											
Cooler Temp. (°C): Obs'd: 9/28/16											
Cor'd: 9/28/16											
Therm ID No.:											
Date/Time: 11/30/16 9:20											
Date/Time:											
Date/Time:											
Date/Time:											

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

24005880

4.014.0

Chain of Custody Record

TestAmerica

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

TAL-8210 (0713)

[illegible]

TestAmerica Canton Sample Receipt Form/Narrative

Login # : 72632

Canton Facility

Client GHID Site Name _____ Cooler unpacked by: DSD
 Cooler Received on 11/30/16 Opened on 11/30/16
 FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time

Storage Location

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

1. Cooler temperature upon receipt

☐ See Multiple Cooler FormIR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 4.0 °C Corrected Cooler Temp. 4.0 °C

IR GUN #36 (CF +1.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity

Yes No

-Were custody seals on the outside of the cooler(s) signed & dated?

Yes No NA

-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

Yes No

3. Shippers' packing slip attached to the cooler(s)?

Yes No

4. Did custody papers accompany the sample(s)?

Yes No

5. Were the custody papers relinquished & signed in the appropriate place?

Yes No

6. Was/were the person(s) who collected the samples clearly identified on the COC?

Yes No

7. Did all bottles arrive in good condition (Unbroken)?

Yes No

8. Could all bottle labels be reconciled with the COC?

Yes No

9. Were correct bottle(s) used for the test(s) indicated?

Yes No

10. Sufficient quantity received to perform indicated analyses?

Yes No

11. Are these work share samples?

Yes No

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

11. Were sample(s) at the correct pH upon receipt?

Yes No NA pH Strip Lot# HC682547

12. Were VOAs on the COC?

Yes No

13. Were air bubbles >6 mm in any VOA vials?

Yes No NA

14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot

Yes No

15. Was a LL Hg or Me Hg trip blank present?

Yes No

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

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

15. 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)

16. 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-012607-112816-EE-001	240-72632-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-112816-EE-001	240-72632-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-112816-EE-001	240-72632-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: 240-73669-1

Client Project/Site: 12607-021, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

1/5/2017 12:10:06 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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results through

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www.testamericainc.com

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

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

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Sample Summary	5
Detection Summary	6
Method Summary	7
Client Sample Results	8
QC Association Summary	18
QC Sample Results	21
Surrogate Summary	30
Lab Chronicle	32
Certification Summary	33
Chain of Custody	34



Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Job ID: 240-73669-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-73669-1

Comments

No additional comments.

Receipt

The samples were received on 12/22/2016 11:20 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.6° C.

GC/MS VOA

Method(s) 624: The following sample was received preserved with hydrochloric acid: WT-012607-122116-EE-001 (240-73669-1) and TRIP BLANK (240-73669-2). The requested target analyte list contains 2-chloroethyl vinyl ether and/or acrolein, which may degrade in an acidic medium.

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

GC/MS Semi VOA

Method(s) 625: The DFTPP associated with analytical batch 261556 had one ion ratio outside acceptance criteria. Because the analysis involved (dioxin screen) is a qualitative analysis only and a 2,3,7,8-TCDD standard gave a peak containing the appropriate dioxin ions, sample analysis proceeded. The following samples were affected: WT-012607-122116-EE-001 (240-73669-1), (DFTPP 240-261556/1), (STD 240-261556/2) and (MB 240-260756/3-A).

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

GC Semi VOA

Method(s) 608: The continuing calibration verification (CCV) associated with batch 240-261082 recovered above the upper control limit for 4,4'-DDT and Endosulfan I, Toxaphene Peak 1. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following sample is impacted: WT-012607-122116-EE-001 (240-73669-1).

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

Metals

Method(s) 200.7 Rev 4.4, 6010B: The reporting limit (RL) provided for the following sample falls below the laboratory's verified standard quantitation limit: WT-012607-122116-EE-001 (240-73669-1). Results reported below the verified standard quantitation limit have less certainty (i.e., are estimated) and must be used at the client's discretion. The continuing calibration blanks and method blanks may not support the lower RL.

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 240-260733.

Method(s) 608: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-260739.

Method(s) 3510C, 625: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-260753.

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: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Qualifiers

GC/MS VOA

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

GC/MS Semi VOA

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

GC Semi VOA

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

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.
F2	MS/MSD RPD exceeds control 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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-73669-1	WT-012607-122116-EE-001	Water	12/21/16 15:00	12/22/16 11:20
240-73669-2	TRIP BLANK	Water	12/21/16 00:00	12/22/16 11:20

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Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Client Sample ID: WT-012607-122116-EE-001

Lab Sample ID: 240-73669-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
1,1,1-Trichloroethane	2.1		1.0	ug/L	1		624	Total/NA
1,1-Dichloroethane	1.9		1.0	ug/L	1		624	Total/NA
2,3,7,8-TCDD	NEG			NONE	1		625	Total/NA
Nickel	0.049		0.010	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Suspended Solids	6.0		4.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-73669-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Method	Method Description	Protocol	Laboratory
624	Volatile Organic Compounds (GC/MS)	40CFR136A	TAL CAN
625	Semivolatile Organic Compounds (GC/MS)	40CFR136A	TAL CAN
625	Dioxin Screen (GC/MS SIM)	40CFR136A	TAL CAN
608	Polychlorinated Biphenyls (PCBs) (GC)	40CFR136A	TAL CAN
608	Organochlorine Pesticides in Water	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: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	2.1		1.0	ug/L			12/23/16 03:01	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,1,2-Trichloroethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
Xylenes, Total	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,1-Dichloroethane	1.9		1.0	ug/L			12/23/16 03:01	1
1,1-Dichloroethene	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,2-Dichloroethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,2-Dichloropropane	1.0	U	1.0	ug/L			12/23/16 03:01	1
Acrolein	10	U	10	ug/L			12/23/16 03:01	1
Acrylonitrile	10	U	10	ug/L			12/23/16 03:01	1
Benzene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Bromoform	1.0	U	1.0	ug/L			12/23/16 03:01	1
Bromomethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
Carbon tetrachloride	1.0	U	1.0	ug/L			12/23/16 03:01	1
Chlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Chlorodibromomethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
Chloroethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
Chloroform	1.0	U	1.0	ug/L			12/23/16 03:01	1
Chloromethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
2-Chloroethyl vinyl ether	2.0	U	2.0	ug/L			12/23/16 03:01	1
cis-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Dichlorobromomethane	1.0	U	1.0	ug/L			12/23/16 03:01	1
Ethylbenzene	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,2-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Tetrachloroethene	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,3-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Toluene	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,4-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:01	1
trans-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Trichloroethene	1.0	U	1.0	ug/L			12/23/16 03:01	1
Vinyl chloride	1.0	U	1.0	ug/L			12/23/16 03:01	1
Methylene Chloride	1.0	U	1.0	ug/L			12/23/16 03:01	1
trans-1,2-Dichloroethene	1.0	U	1.0	ug/L			12/23/16 03:01	1
1,3-Dichloropropene, Total	1.0	U	1.0	ug/L			12/23/16 03:01	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	93		73 - 120		12/23/16 03:01	1
1,2-Dichloroethane-d4 (Surr)	96		63 - 132		12/23/16 03:01	1
Toluene-d8 (Surr)	97		73 - 124		12/23/16 03:01	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: TRIP BLANK

Date Collected: 12/21/16 00:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-2

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,1,2-Trichloroethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
Xylenes, Total	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,1-Dichloroethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,1-Dichloroethene	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,2-Dichloroethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,2-Dichloropropane	1.0	U	1.0	ug/L			12/23/16 03:25	1
Acrolein	10	U	10	ug/L			12/23/16 03:25	1
Acrylonitrile	10	U	10	ug/L			12/23/16 03:25	1
Benzene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Bromoform	1.0	U	1.0	ug/L			12/23/16 03:25	1
Bromomethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
Carbon tetrachloride	1.0	U	1.0	ug/L			12/23/16 03:25	1
Chlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Chlorodibromomethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
Chloroethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
Chloroform	1.0	U	1.0	ug/L			12/23/16 03:25	1
Chloromethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
2-Chloroethyl vinyl ether	2.0	U	2.0	ug/L			12/23/16 03:25	1
cis-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Dichlorobromomethane	1.0	U	1.0	ug/L			12/23/16 03:25	1
Ethylbenzene	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,2-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Tetrachloroethene	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,3-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Toluene	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,4-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/16 03:25	1
trans-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Trichloroethene	1.0	U	1.0	ug/L			12/23/16 03:25	1
Vinyl chloride	1.0	U	1.0	ug/L			12/23/16 03:25	1
Methylene Chloride	1.0	U	1.0	ug/L			12/23/16 03:25	1
trans-1,2-Dichloroethene	1.0	U	1.0	ug/L			12/23/16 03:25	1
1,3-Dichloropropene, Total	1.0	U	1.0	ug/L			12/23/16 03:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	92		73 - 120		12/23/16 03:25	1
1,2-Dichloroethane-d4 (Surr)	101		63 - 132		12/23/16 03:25	1
Toluene-d8 (Surr)	95		73 - 124		12/23/16 03:25	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	NEG			NONE		12/23/16 08:39	01/03/17 16:58	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2,4,6-Trichlorophenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2,4-Dichlorophenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2,4-Dimethylphenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2,4-Dinitrophenol	48	U	48	ug/L		12/23/16 08:29	12/27/16 23:19	1
2,4-Dinitrotoluene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2,6-Dinitrotoluene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2-Chloronaphthalene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2-Chlorophenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
2-Nitrophenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
3,3'-Dichlorobenzidine	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
4,6-Dinitro-2-methylphenol	48	U	48	ug/L		12/23/16 08:29	12/27/16 23:19	1
4-Bromophenyl phenyl ether	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
4-Chlorophenyl phenyl ether	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
4-Nitrophenol	48	U	48	ug/L		12/23/16 08:29	12/27/16 23:19	1
Acenaphthene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Acenaphthylene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Anthracene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Benzidine	4.8	U	4.8	ug/L		12/23/16 08:29	12/27/16 23:19	1
Benzo[a]anthracene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Benzo[a]pyrene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Benzo[b]fluoranthene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Benzo[g,h,i]perylene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Benzo[k]fluoranthene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Bis(2-chloroethoxy)methane	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Bis(2-chloroethyl)ether	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Bis(2-ethylhexyl) phthalate	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
bis (2-chloroisopropyl) ether	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Butyl benzyl phthalate	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Chrysene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Dibenz(a,h)anthracene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Diethyl phthalate	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Dimethyl phthalate	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Di-n-butyl phthalate	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Di-n-octyl phthalate	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Fluoranthene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Fluorene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Hexachlorobenzene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Hexachlorobutadiene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Hexachlorocyclopentadiene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Hexachloroethane	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Indeno[1,2,3-cd]pyrene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Isophorone	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Naphthalene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Nitrobenzene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
N-Nitrosodimethylamine	0.95	U	0.95	ug/L		12/23/16 08:29	12/27/16 23:19	1
N-Nitrosodi-n-propylamine	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
N-Nitrosodiphenylamine	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
4-Chloro-3-methylphenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Phenanthrene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Phenol	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
Pyrene	9.5	U	9.5	ug/L		12/23/16 08:29	12/27/16 23:19	1
1,2-Diphenylhydrazine	0.95	U	0.95	ug/L		12/23/16 08:29	12/27/16 23:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
2-Fluorophenol	46		10 - 120			12/23/16 08:29	12/27/16 23:19	1
2,4,6-Tribromophenol	92		35 - 125			12/23/16 08:29	12/27/16 23:19	1
Nitrobenzene-d5	78		36 - 120			12/23/16 08:29	12/27/16 23:19	1
Phenol-d5	28		10 - 120			12/23/16 08:29	12/27/16 23:19	1
Terphenyl-d14	50		17 - 120			12/23/16 08:29	12/27/16 23:19	1
2-Fluorobiphenyl (Surr)	82		42 - 120			12/23/16 08:29	12/27/16 23:19	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Method: 608 - Organochlorine Pesticides in Water

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
alpha-BHC	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
beta-BHC	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
delta-BHC	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
gamma-BHC (Lindane)	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Chlordane (technical)	0.48	U	0.48	ug/L		12/23/16 07:31	12/28/16 16:14	1
4,4'-DDD	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
4,4'-DDE	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
4,4'-DDT	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Dieldrin	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Endosulfan I	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Endosulfan II	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Endosulfan sulfate	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Endrin	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Endrin aldehyde	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Heptachlor	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Heptachlor epoxide	0.048	U	0.048	ug/L		12/23/16 07:31	12/28/16 16:14	1
Toxaphene	1.9	U	1.9	ug/L		12/23/16 07:31	12/28/16 16:14	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	86		10 - 120			12/23/16 07:31	12/28/16 16:14	1
Tetrachloro-m-xylene	81		33 - 120			12/23/16 07:31	12/28/16 16:14	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Aroclor-1221	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Aroclor-1232	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Aroclor-1242	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Aroclor-1248	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Aroclor-1254	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Aroclor-1260	0.095	U	0.095	ug/L		12/23/16 07:17	12/28/16 21:41	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	61		10 - 114			12/23/16 07:17	12/28/16 21:41	1
Tetrachloro-m-xylene	62		15 - 131			12/23/16 07:17	12/28/16 21:41	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		12/23/16 14:00	12/28/16 21:21	1
Nickel	0.049		0.010	mg/L		12/23/16 14:00	12/28/16 21:21	1
Lead	0.050	U	0.050	mg/L		12/23/16 14:00	12/28/16 21:21	1
Zinc	0.020	U	0.020	mg/L		12/23/16 14:00	12/28/16 21:21	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	—	12/23/16 14:00	12/27/16 12:34	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

General Chemistry

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			01/04/17 09:17	1
Cr (VI)	0.0050	U F1 F2	0.0050	mg/L			12/22/16 12:00	1
Total Suspended Solids	6.0		4.0	mg/L			12/23/16 09:29	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

GC/MS VOA

Analysis Batch: 260607

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	624	
240-73669-2	TRIP BLANK	Total/NA	Water	624	
MB 240-260607/30	Method Blank	Total/NA	Water	624	
LCS 240-260607/34	Lab Control Sample	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 260753

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	625	
MB 240-260753/9-A	Method Blank	Total/NA	Water	3510C	
LCS 240-260753/10-A	Lab Control Sample	Total/NA	Water	3510C	

Prep Batch: 260756

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	3510C	
MB 240-260756/3-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 260940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	625	260753
MB 240-260753/9-A	Method Blank	Total/NA	Water	625	260753
LCS 240-260753/10-A	Lab Control Sample	Total/NA	Water	625	260753

Analysis Batch: 261556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	625	260756
MB 240-260756/3-A	Method Blank	Total/NA	Water	625	260756

GC Semi VOA

Prep Batch: 260733

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	3520C	
MB 240-260733/11-A	Method Blank	Total/NA	Water	3520C	
LCS 240-260733/12-A	Lab Control Sample	Total/NA	Water	3520C	

Prep Batch: 260739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	608	
MB 240-260739/3-A	Method Blank	Total/NA	Water	608	
LCS 240-260739/4-A	Lab Control Sample	Total/NA	Water	608	

Analysis Batch: 261082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	608	260739
MB 240-260739/3-A	Method Blank	Total/NA	Water	608	260739
LCS 240-260739/4-A	Lab Control Sample	Total/NA	Water	608	260739

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

GC Semi VOA (Continued)

Analysis Batch: 261144

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	608	260733
MB 240-260733/11-A	Method Blank	Total/NA	Water	608	260733
LCS 240-260733/12-A	Lab Control Sample	Total/NA	Water	608	260733

Metals

Prep Batch: 260786

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total Recoverable	Water	200.7	
MB 240-260786/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-260786/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Prep Batch: 260790

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	245.1	
MB 240-260790/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-260790/2-A	Lab Control Sample	Total/NA	Water	245.1	

Analysis Batch: 261013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	245.1	260790
MB 240-260790/1-A	Method Blank	Total/NA	Water	245.1	260790
LCS 240-260790/2-A	Lab Control Sample	Total/NA	Water	245.1	260790

Analysis Batch: 261243

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total Recoverable	Water	200.7 Rev 4.4	260786
MB 240-260786/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	260786
LCS 240-260786/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	260786

General Chemistry

Analysis Batch: 260650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-260650/3	Method Blank	Total/NA	Water	3500-Cr B-2009	
LCS 240-260650/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
240-73669-1 MS	WT-012607-122116-EE-001	Total/NA	Water	3500-Cr B-2009	
240-73669-1 MSD	WT-012607-122116-EE-001	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 260771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	SM 2540D	
MB 240-260771/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-260771/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 261695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-73669-1	WT-012607-122116-EE-001	Total/NA	Water	1664A	
MB 240-261695/1	Method Blank	Total/NA	Water	1664A	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

General Chemistry (Continued)

Analysis Batch: 261695 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-261695/2	Lab Control Sample	Total/NA	Water	1664A	

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: MB 240-260607/30

Matrix: Water

Analysis Batch: 260607

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,1,2-Trichloroethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
Xylenes, Total	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,1-Dichloroethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,1-Dichloroethene	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,2-Dichloroethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,2-Dichloropropane	1.0	U	1.0	ug/L			12/22/16 20:42	1
Acrolein	10	U	10	ug/L			12/22/16 20:42	1
Acrylonitrile	10	U	10	ug/L			12/22/16 20:42	1
Benzene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Bromoform	1.0	U	1.0	ug/L			12/22/16 20:42	1
Bromomethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
Carbon tetrachloride	1.0	U	1.0	ug/L			12/22/16 20:42	1
Chlorobenzene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Chlorodibromomethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
Chloroethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
Chloroform	1.0	U	1.0	ug/L			12/22/16 20:42	1
Chloromethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
2-Chloroethyl vinyl ether	2.0	U	2.0	ug/L			12/22/16 20:42	1
cis-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Dichlorobromomethane	1.0	U	1.0	ug/L			12/22/16 20:42	1
Ethylbenzene	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,2-Dichlorobenzene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Tetrachloroethene	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,3-Dichlorobenzene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Toluene	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,4-Dichlorobenzene	1.0	U	1.0	ug/L			12/22/16 20:42	1
trans-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Trichloroethene	1.0	U	1.0	ug/L			12/22/16 20:42	1
Vinyl chloride	1.0	U	1.0	ug/L			12/22/16 20:42	1
Methylene Chloride	1.0	U	1.0	ug/L			12/22/16 20:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	ug/L			12/22/16 20:42	1
1,3-Dichloropropene, Total	1.0	U	1.0	ug/L			12/22/16 20:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	91		73 - 120		12/22/16 20:42	1
1,2-Dichloroethane-d4 (Surr)	96		63 - 132		12/22/16 20:42	1
Toluene-d8 (Surr)	93		73 - 124		12/22/16 20:42	1

Lab Sample ID: LCS 240-260607/34

Matrix: Water

Analysis Batch: 260607

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	20.0	19.5		ug/L		97	52 - 150
1,1-Dichloroethane	20.0	19.5		ug/L		97	59 - 155
1,1-Dichloroethene	20.0	21.0		ug/L		105	10 - 234

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: LCS 240-260607/34

Matrix: Water

Analysis Batch: 260607

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloroethane	20.0	18.9		ug/L		95	49 - 155
1,2-Dichloropropane	20.0	20.6		ug/L		103	10 - 210
Benzene	20.0	20.7		ug/L		104	37 - 151
Bromoform	20.0	19.7		ug/L		99	45 - 169
Bromomethane	20.0	21.5		ug/L		107	10 - 242
Carbon tetrachloride	20.0	18.2		ug/L		91	70 - 140
Chlorobenzene	20.0	20.0		ug/L		100	37 - 160
Chlorodibromomethane	20.0	21.4		ug/L		107	53 - 149
Chloroethane	20.0	23.4		ug/L		117	14 - 230
Chloroform	20.0	20.0		ug/L		100	51 - 138
Chloromethane	20.0	20.1		ug/L		101	10 - 273
2-Chloroethyl vinyl ether	20.0	19.3		ug/L		97	10 - 305
cis-1,3-Dichloropropene	20.0	20.9		ug/L		105	10 - 227
Dichlorobromomethane	20.0	18.6		ug/L		93	35 - 155
Ethylbenzene	20.0	20.8		ug/L		104	37 - 162
1,2-Dichlorobenzene	20.0	19.2		ug/L		96	18 - 190
Tetrachloroethene	20.0	20.2		ug/L		101	64 - 148
1,3-Dichlorobenzene	20.0	19.2		ug/L		96	59 - 156
Toluene	20.0	20.2		ug/L		101	47 - 150
1,4-Dichlorobenzene	20.0	19.2		ug/L		96	18 - 190
trans-1,3-Dichloropropene	20.0	20.1		ug/L		101	17 - 183
Trichloroethene	20.0	20.2		ug/L		101	71 - 157
Vinyl chloride	20.0	21.7		ug/L		108	10 - 251
Methylene Chloride	20.0	20.8		ug/L		104	10 - 221
trans-1,2-Dichloroethene	20.0	22.6		ug/L		113	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	100		73 - 120
1,2-Dichloroethane-d4 (Surr)	95		63 - 132
Toluene-d8 (Surr)	98		73 - 124

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

Lab Sample ID: MB 240-260756/3-A

Matrix: Water

Analysis Batch: 261556

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260756

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	NEG			NONE		12/23/16 08:39	01/03/17 16:39	1

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

Lab Sample ID: MB 240-260753/9-A

Matrix: Water

Analysis Batch: 260940

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260753

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: MB 240-260753/9-A

Matrix: Water

Analysis Batch: 260940

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260753

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2,4-Dichlorophenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2,4-Dimethylphenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2,4-Dinitrophenol	50	U	50	ug/L		12/23/16 08:29	12/27/16 10:39	1
2,4-Dinitrotoluene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2,6-Dinitrotoluene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2-Chloronaphthalene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2-Chlorophenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
2-Nitrophenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
3,3'-Dichlorobenzidine	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
4,6-Dinitro-2-methylphenol	50	U	50	ug/L		12/23/16 08:29	12/27/16 10:39	1
4-Bromophenyl phenyl ether	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
4-Chlorophenyl phenyl ether	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
4-Nitrophenol	50	U	50	ug/L		12/23/16 08:29	12/27/16 10:39	1
Acenaphthene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Acenaphthylene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Anthracene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Benzidine	5.0	U	5.0	ug/L		12/23/16 08:29	12/27/16 10:39	1
Benzo[a]anthracene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Benzo[a]pyrene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Benzo[b]fluoranthene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Benzo[g,h,i]perylene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Benzo[k]fluoranthene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Bis(2-chloroethoxy)methane	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Bis(2-chloroethyl)ether	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Bis(2-ethylhexyl) phthalate	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
bis (2-chloroisopropyl) ether	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Butyl benzyl phthalate	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Chrysene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Dibenz(a,h)anthracene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Diethyl phthalate	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Dimethyl phthalate	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Di-n-butyl phthalate	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Di-n-octyl phthalate	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Fluoranthene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Fluorene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Hexachlorobenzene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Hexachlorobutadiene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Hexachlorocyclopentadiene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Hexachloroethane	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Indeno[1,2,3-cd]pyrene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Isophorone	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Naphthalene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Nitrobenzene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
N-Nitrosodimethylamine	1.0	U	1.0	ug/L		12/23/16 08:29	12/27/16 10:39	1
N-Nitrosodi-n-propylamine	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
N-Nitrosodiphenylamine	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
4-Chloro-3-methylphenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: MB 240-260753/9-A

Matrix: Water

Analysis Batch: 260940

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260753

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Phenanthrene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Phenol	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
Pyrene	10	U	10	ug/L		12/23/16 08:29	12/27/16 10:39	1
1,2-Diphenylhydrazine	1.0	U	1.0	ug/L		12/23/16 08:29	12/27/16 10:39	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	60		10 - 120	12/23/16 08:29	12/27/16 10:39	1
2,4,6-Tribromophenol	79		35 - 125	12/23/16 08:29	12/27/16 10:39	1
Nitrobenzene-d5	82		36 - 120	12/23/16 08:29	12/27/16 10:39	1
Phenol-d5	38		10 - 120	12/23/16 08:29	12/27/16 10:39	1
Terphenyl-d14	104		17 - 120	12/23/16 08:29	12/27/16 10:39	1
2-Fluorobiphenyl (Surr)	85		42 - 120	12/23/16 08:29	12/27/16 10:39	1

Lab Sample ID: LCS 240-260753/10-A

Matrix: Water

Analysis Batch: 260940

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 260753

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	20.0	13.9		ug/L		69	44 - 142
2,4-Dichlorophenol	20.0	16.1		ug/L		81	39 - 135
2,4-Dimethylphenol	20.0	15.1		ug/L		76	32 - 119
2,4-Dinitrophenol	40.0	32.2	J	ug/L		80	0 - 191
2,4-Dinitrotoluene	20.0	18.8		ug/L		94	39 - 139
2,6-Dinitrotoluene	20.0	18.9		ug/L		94	50 - 158
2-Chloronaphthalene	20.0	15.2		ug/L		76	60 - 118
2-Chlorophenol	20.0	16.4		ug/L		82	23 - 134
2-Nitrophenol	20.0	17.2		ug/L		86	29 - 182
3,3'-Dichlorobenzidine	40.0	34.4		ug/L		86	0 - 262
4,6-Dinitro-2-methylphenol	40.0	34.1	J	ug/L		85	0 - 181
4-Bromophenyl phenyl ether	20.0	16.9		ug/L		84	53 - 127
4-Chlorophenyl phenyl ether	20.0	17.0		ug/L		85	25 - 158
4-Nitrophenol	40.0	13.5	J	ug/L		34	0 - 132
Acenaphthene	20.0	16.5		ug/L		83	47 - 145
Acenaphthylene	20.0	15.9		ug/L		79	33 - 145
Anthracene	20.0	16.5		ug/L		83	27 - 133
Benzo[a]anthracene	20.0	16.3		ug/L		81	33 - 143
Benzo[a]pyrene	20.0	17.6		ug/L		88	17 - 163
Benzo[b]fluoranthene	20.0	16.8		ug/L		84	24 - 159
Benzo[g,h,i]perylene	20.0	16.8		ug/L		84	0 - 219
Benzo[k]fluoranthene	20.0	18.6		ug/L		93	11 - 162
Bis(2-chloroethoxy)methane	20.0	16.9		ug/L		84	33 - 184
Bis(2-chloroethyl)ether	20.0	17.6		ug/L		88	12 - 158
Bis(2-ethylhexyl) phthalate	20.0	17.1		ug/L		86	8 - 158
Butyl benzyl phthalate	20.0	13.8		ug/L		69	0 - 152
Chrysene	20.0	16.6		ug/L		83	17 - 168
Dibenz(a,h)anthracene	20.0	16.0		ug/L		80	0 - 227
Diethyl phthalate	20.0	15.9		ug/L		79	0 - 114

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: LCS 240-260753/10-A

Matrix: Water

Analysis Batch: 260940

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 260753

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	20.0	11.6		ug/L		58	0 - 112
Di-n-butyl phthalate	20.0	16.4		ug/L		82	1 - 118
Di-n-octyl phthalate	20.0	17.6		ug/L		88	4 - 146
Fluoranthene	20.0	16.6		ug/L		83	26 - 137
Fluorene	20.0	16.9		ug/L		84	59 - 121
Hexachlorobenzene	20.0	15.7		ug/L		79	0 - 152
Hexachlorobutadiene	20.0	13.4		ug/L		67	24 - 116
Hexachloroethane	20.0	13.0		ug/L		65	40 - 113
Indeno[1,2,3-cd]pyrene	20.0	17.0		ug/L		85	0 - 171
Isophorone	20.0	17.0		ug/L		85	21 - 196
Naphthalene	20.0	15.1		ug/L		76	21 - 133
Nitrobenzene	20.0	17.3		ug/L		87	35 - 180
N-Nitrosodi-n-propylamine	20.0	17.3		ug/L		86	0 - 230
4-Chloro-3-methylphenol	20.0	16.8		ug/L		84	22 - 147
Pentachlorophenol	40.0	23.5		ug/L		59	14 - 176
Phenanthrene	20.0	16.4		ug/L		82	54 - 120
Phenol	20.0	8.03	J	ug/L		40	5 - 112
Pyrene	20.0	16.7		ug/L		83	52 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol	61		10 - 120
2,4,6-Tribromophenol	93		35 - 125
Nitrobenzene-d5	85		36 - 120
Phenol-d5	39		10 - 120
Terphenyl-d14	94		17 - 120
2-Fluorobiphenyl (Surr)	88		42 - 120

Method: 608 - Organochlorine Pesticides in Water

Lab Sample ID: MB 240-260739/3-A

Matrix: Water

Analysis Batch: 261082

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260739

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
alpha-BHC	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
beta-BHC	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
delta-BHC	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
gamma-BHC (Lindane)	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Chlordane (technical)	0.50	U	0.50	ug/L		12/23/16 07:31	12/28/16 15:02	1
4,4'-DDD	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
4,4'-DDE	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
4,4'-DDT	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Dieldrin	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Endosulfan I	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Endosulfan II	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Endosulfan sulfate	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Endrin	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Method: 608 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: MB 240-260739/3-A

Matrix: Water

Analysis Batch: 261082

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260739

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endrin aldehyde	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Heptachlor	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Heptachlor epoxide	0.050	U	0.050	ug/L		12/23/16 07:31	12/28/16 15:02	1
Toxaphene	2.0	U	2.0	ug/L		12/23/16 07:31	12/28/16 15:02	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	89		10 - 120	12/23/16 07:31	12/28/16 15:02	1
Tetrachloro-m-xylene	87		33 - 120	12/23/16 07:31	12/28/16 15:02	1

Lab Sample ID: LCS 240-260739/4-A

Matrix: Water

Analysis Batch: 261082

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 260739

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aldrin	0.500	0.532		ug/L		106	42 - 122
alpha-BHC	0.500	0.528		ug/L		106	37 - 134
beta-BHC	0.500	0.492		ug/L		98	17 - 147
delta-BHC	0.500	0.470		ug/L		94	19 - 140
gamma-BHC (Lindane)	0.500	0.527		ug/L		105	32 - 127
4,4'-DDD	0.500	0.557		ug/L		111	31 - 141
4,4'-DDE	0.500	0.567		ug/L		113	30 - 145
4,4'-DDT	0.500	0.558		ug/L		112	25 - 160
Dieldrin	0.500	0.543		ug/L		109	36 - 146
Endosulfan I	0.500	0.401		ug/L		80	45 - 153
Endosulfan II	0.500	0.455		ug/L		91	10 - 202
Endosulfan sulfate	0.500	0.524		ug/L		105	26 - 144
Endrin	0.500	0.519		ug/L		104	30 - 147
Heptachlor	0.500	0.505		ug/L		101	34 - 111
Heptachlor epoxide	0.500	0.524		ug/L		105	37 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	107		10 - 120
Tetrachloro-m-xylene	96		33 - 120

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

Lab Sample ID: MB 240-260733/11-A

Matrix: Water

Analysis Batch: 261144

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260733

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1
Aroclor-1221	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1
Aroclor-1232	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1
Aroclor-1242	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1
Aroclor-1248	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1
Aroclor-1254	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: MB 240-260733/11-A

Matrix: Water

Analysis Batch: 261144

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260733

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1260	0.10	U	0.10	ug/L		12/23/16 07:17	12/28/16 21:58	1
Surrogate	%Recovery	MB Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	64		10 - 114			12/23/16 07:17	12/28/16 21:58	1
Tetrachloro-m-xylene	57		15 - 131			12/23/16 07:17	12/28/16 21:58	1

Lab Sample ID: LCS 240-260733/12-A

Matrix: Water

Analysis Batch: 261144

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 260733

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
Aroclor-1016	2.50	1.58		ug/L		63	50 - 114	
Aroclor-1260	2.50	1.89		ug/L		76	8 - 127	
Surrogate	%Recovery	LCS Qualifier	Limits					
DCB Decachlorobiphenyl	76		10 - 114					
Tetrachloro-m-xylene	65		15 - 131					

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-260786/1-A

Matrix: Water

Analysis Batch: 261243

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 260786

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		12/23/16 14:00	12/28/16 19:40	1
Nickel	0.010	U	0.010	mg/L		12/23/16 14:00	12/28/16 19:40	1
Lead	0.050	U	0.050	mg/L		12/23/16 14:00	12/28/16 19:40	1
Zinc	0.020	U	0.020	mg/L		12/23/16 14:00	12/28/16 19:40	1

Lab Sample ID: LCS 240-260786/2-A

Matrix: Water

Analysis Batch: 261243

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 260786

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits	
Chromium	0.200	0.189		mg/L		94	85 - 115	
Nickel	0.500	0.493		mg/L		99	85 - 115	
Lead	0.500	0.485		mg/L		97	85 - 115	
Zinc	0.500	0.491		mg/L		98	85 - 115	

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-260790/1-A

Matrix: Water

Analysis Batch: 261013

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 260790

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		12/23/16 14:00	12/27/16 11:50	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Lab Sample ID: LCS 240-260790/2-A

Matrix: Water

Analysis Batch: 261013

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 260790

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00467		mg/L		93	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-261695/1

Matrix: Water

Analysis Batch: 261695

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	mg/L			01/04/17 09:17	1

Lab Sample ID: LCS 240-261695/2

Matrix: Water

Analysis Batch: 261695

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	39.70		mg/L		99	78 - 114

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

Lab Sample ID: MB 240-260650/3

Matrix: Water

Analysis Batch: 260650

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			12/22/16 11:57	1

Lab Sample ID: LCS 240-260650/4

Matrix: Water

Analysis Batch: 260650

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

Lab Sample ID: 240-73669-1 MS

Matrix: Water

Analysis Batch: 260650

Client Sample ID: WT-012607-122116-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 F2	0.250	0.0359	F1	mg/L		14	31 - 151

Lab Sample ID: 240-73669-1 MSD

Matrix: Water

Analysis Batch: 260650

Client Sample ID: WT-012607-122116-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 F2	0.250	0.0484	F1 F2	mg/L		19	31 - 151	30	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Lab Sample ID: MB 240-260771/1

Matrix: Water

Analysis Batch: 260771

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	-		12/23/16 09:29	1

Lab Sample ID: LCS 240-260771/2

Matrix: Water

Analysis Batch: 260771

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	33.4	27.0		mg/L	-	81	64 - 120

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)		
		BFB (73-120)	12DCE (63-132)	TOL (73-124)
240-73669-1	WT-012607-122116-EE-001	93	96	97
240-73669-2	TRIP BLANK	92	101	95
LCS 240-260607/34	Lab Control Sample	100	95	98
MB 240-260607/30	Method Blank	91	96	93

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)

12DCE = 1,2-Dichloroethane-d4 (Surr)

TOL = Toluene-d8 (Surr)

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)					
		2FP (10-120)	TBP (35-125)	NBZ (36-120)	PHL (10-120)	TPH (17-120)	FBP (42-120)
240-73669-1	WT-012607-122116-EE-001	46	92	78	28	50	82
LCS 240-260753/10-A	Lab Control Sample	61	93	85	39	94	88
MB 240-260753/9-A	Method Blank	60	79	82	38	104	85

Surrogate Legend

2FP = 2-Fluorophenol

TBP = 2,4,6-Tribromophenol

NBZ = Nitrobenzene-d5

PHL = Phenol-d5

TPH = Terphenyl-d14

FBP = 2-Fluorobiphenyl (Surr)

Method: 608 - Organochlorine Pesticides in Water

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		DCB1 (10-120)	DCB2 (10-120)	TCX1 (33-120)	TCX2 (33-120)
240-73669-1	WT-012607-122116-EE-001	86	97	81	93
LCS 240-260739/4-A	Lab Control Sample	107	120	96	107
MB 240-260739/3-A	Method Blank	89	103	87	101

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

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

Matrix: Water

Prep Type: Total/NA

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)	
		DCB1 (10-114)	TCX1 (15-131)
240-73669-1	WT-012607-122116-EE-001	61	62
LCS 240-260733/12-A	Lab Control Sample	76	65

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (10-114)	TCX1 (15-131)
MB 240-260733/11-A	Method Blank	64	57

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Client Sample ID: WT-012607-122116-EE-001

Date Collected: 12/21/16 15:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	260607	12/23/16 03:01	TJL1	TAL CAN
Total/NA	Prep	625			260753	12/23/16 08:29	KEH	TAL CAN
Total/NA	Analysis	625		1	260940	12/27/16 23:19	JMG	TAL CAN
Total/NA	Prep	3510C			260756	12/23/16 08:39	KEH	TAL CAN
Total/NA	Analysis	625		1	261556	01/03/17 16:58	MRU	TAL CAN
Total/NA	Prep	608			260739	12/23/16 07:31	SDE	TAL CAN
Total/NA	Analysis	608		1	261082	12/28/16 16:14	BPM	TAL CAN
Total/NA	Prep	3520C			260733	12/23/16 07:17	SDE	TAL CAN
Total/NA	Analysis	608		1	261144	12/28/16 21:41	KMG	TAL CAN
Total Recoverable	Prep	200.7			260786	12/23/16 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	261243	12/28/16 21:21	AMM2	TAL CAN
Total/NA	Prep	245.1			260790	12/23/16 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	261013	12/27/16 12:34	WKD	TAL CAN
Total/NA	Analysis	1664A		1	261695	01/04/17 09:17	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	260650	12/22/16 12:00	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	260771	12/23/16 09:29	JESW	TAL CAN

Client Sample ID: TRIP BLANK

Date Collected: 12/21/16 00:00

Date Received: 12/22/16 11:20

Lab Sample ID: 240-73669-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	260607	12/23/16 03:25	TJL1	TAL CAN

Laboratory References:

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

Certification Summary

Client: GHD Services Inc.
Project/Site: 12607-021, RACER Eckles Rd

TestAmerica Job ID: 240-73669-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17 *
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17
Illinois	NELAP	5	200004	07-31-17
Kansas	NELAP	7	E-10336	01-31-17 *
Kentucky (UST)	State Program	4	58	02-23-17 *
Kentucky (VW)	State Program	4	98016	12-31-16 *
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17
Nevada	State Program	9	OH-000482008A	07-31-17
New Jersey	NELAP	2	OH001	06-30-17
New York	NELAP	2	10975	03-31-17 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17 *
Pennsylvania	NELAP	3	68-00340	08-31-17
Texas	NELAP	6	T104704517-15-5	08-31-17
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-17 *
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17

* Certification renewal pending - certification considered valid.

TestAmerica Canton

4-6/4.6

Chain of Custody Record

24005880

148770

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

Company Name: GND Services Inc		Client Contact		Project Manager: Rawl Fleisher		Site Contact: Rawl Fleisher		Date: 12/11/16		COC No: 1 of 1 COCs	
Address:		City/State/Zip:		Tel/Fax: Denise Heuklov		Lab Contact: Denise Heuklov		Carrier: FedEx		Sampler:	
Phone:		Fax:		Analysis Turnaround Time		For Lab Use Only:		Walk-in Client:		Lab Sampling:	
Project Name: RACER GWPLUONIA		Site: LIVONIA, MI		PO # 12607-021		Job / SDG No.:		Job / SDG No.:		Sample Specific Notes:	
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.	
WT-612607-122116-EE-001		12/11/16		1500		C		WT		14	
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.		Return to Client		Disposal by Lab		Archive for	
Special Instructions/QC Requirements & Comments:		Custody Seal No.:		Relinquished by: Eugene		Relinquished by:		Relinquished by:		Relinquished by:	
Received by: Regen Henderson		Date/Time: 12/11/16 1600		Company: TA		Received by:		Date/Time: 12/22/16 1120		Company:	
Received in Laboratory by:		Date/Time:		Company:		Received in Laboratory by:		Date/Time:		Company:	

TestAmerica Canton Sample Receipt Form/Narrative

 Login # : 73669
Canton Facility

 Client GHD Site Name _____ Cooler unpacked by: Regan Steaderson
 Cooler Received on 12-22-16 Opened on 12-22-16
 FedEx: 1st Grd Exp UPS FAS Stetson Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time

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

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
 IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 4.6 °C Corrected Cooler Temp. 4.6 °C
 IR GUN# 56 (CF +1.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1 Yes ☒ No ☐
 -Were custody seals on the outside of the cooler(s) signed & dated? Yes ☒ No ☐ NA
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes ☒ No ☐
3. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐
 4. Did custody papers accompany the sample(s)? Yes ☒ No ☐
 5. Were the custody papers relinquished & signed in the appropriate place? Yes ☒ No ☐
 6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes ☒ No ☐
 7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐
 8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐
 9. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐
 10. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐
 11. Are these work share samples? Yes ☒ No ☐
 If yes, Questions 11-15 have been checked at the originating laboratory.
11. Were sample(s) at the correct pH upon receipt? Yes ☒ No ☐ NA pH Strip Lot# HC682547
 12. Were VOAs on the COC? Yes ☒ No ☐
 13. Were air bubbles >6 mm in any VOA vials? Yes ☒ No ☐ NA
 14. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 362441UB Yes ☒ No ☐
 15. Was a LL Hg or Me Hg trip blank present? Yes ☒ No ☐

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

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

Received trip blank & not on COC
15. 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)

16. 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-012607-122116-EE-001	240-73669-F-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-122116-EE-001	240-73669-M-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-122116-EE-001	240-73669-N-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: 240-74481-1

Client Project/Site: 12607-020, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

1/25/2017 10:25:39 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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Sample Summary	5
Detection Summary	6
Method Summary	7
Client Sample Results	8
QC Association Summary	12
QC Sample Results	14
Surrogate Summary	17
Lab Chronicle	18
Certification Summary	19
Chain of Custody	20



Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Job ID: 240-74481-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-74481-1

Comments

No additional comments.

Receipt

The sample was received on 1/18/2017 9:20 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.4° 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-012607-011717-EE-001 (240-74481-1).2881013, 2596993, 2719940.

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-012607-011717-EE-001 (240-74481-1). 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 additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep

Method(s) 3520C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-263443.

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: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-74481-1	WT-012607-011717-EE-001	Water	01/17/17 15:30	01/18/17 09:20

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Client Sample ID: WT-012607-011717-EE-001

Lab Sample ID: 240-74481-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.026		0.010	mg/L	1		200.7 Rev 4.4	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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

Client Sample ID: WT-012607-011717-EE-001

Date Collected: 01/17/17 15:30

Date Received: 01/18/17 09:20

Lab Sample ID: 240-74481-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Aroclor-1221	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Aroclor-1232	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Aroclor-1242	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Aroclor-1248	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Aroclor-1254	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Aroclor-1260	0.095	U	0.095	ug/L		01/19/17 08:13	01/23/17 19:05	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	70		10 - 114			01/19/17 08:13	01/23/17 19:05	1
Tetrachloro-m-xylene	71		15 - 131			01/19/17 08:13	01/23/17 19:05	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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

Client Sample ID: WT-012607-011717-EE-001

Date Collected: 01/17/17 15:30

Date Received: 01/18/17 09:20

Lab Sample ID: 240-74481-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		01/19/17 14:00	01/20/17 09:46	1
Nickel	0.026		0.010	mg/L		01/19/17 14:00	01/20/17 09:46	1
Lead	0.050	U	0.050	mg/L		01/19/17 14:00	01/20/17 09:46	1
Zinc	0.020	U	0.020	mg/L		01/19/17 14:00	01/20/17 09:46	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-011717-EE-001

Date Collected: 01/17/17 15:30

Date Received: 01/18/17 09:20

Lab Sample ID: 240-74481-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		01/19/17 14:00	01/20/17 15:38	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

General Chemistry

Client Sample ID: WT-012607-011717-EE-001

Date Collected: 01/17/17 15:30

Date Received: 01/18/17 09:20

Lab Sample ID: 240-74481-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			01/23/17 08:32	1
Cr (VI)	0.0050	U	0.0050	mg/L			01/18/17 14:02	1
Total Suspended Solids	4.0	U	4.0	mg/L			01/19/17 09:58	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

GC Semi VOA

Prep Batch: 263443

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	3520C	
MB 240-263443/8-A	Method Blank	Total/NA	Water	3520C	
LCS 240-263443/9-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 263912

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	608	263443
MB 240-263443/8-A	Method Blank	Total/NA	Water	608	263443
LCS 240-263443/9-A	Lab Control Sample	Total/NA	Water	608	263443

Metals

Prep Batch: 263505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total Recoverable	Water	200.7	
MB 240-263505/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-263505/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-74481-1 MS	WT-012607-011717-EE-001	Total Recoverable	Water	200.7	
240-74481-1 MSD	WT-012607-011717-EE-001	Total Recoverable	Water	200.7	

Prep Batch: 263509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	245.1	
MB 240-263509/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-263509/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-74481-1 MS	WT-012607-011717-EE-001	Total/NA	Water	245.1	
240-74481-1 MSD	WT-012607-011717-EE-001	Total/NA	Water	245.1	

Analysis Batch: 263653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total Recoverable	Water	200.7 Rev 4.4	263505
MB 240-263505/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	263505
LCS 240-263505/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	263505
240-74481-1 MS	WT-012607-011717-EE-001	Total Recoverable	Water	200.7 Rev 4.4	263505
240-74481-1 MSD	WT-012607-011717-EE-001	Total Recoverable	Water	200.7 Rev 4.4	263505

Analysis Batch: 263799

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	245.1	263509
MB 240-263509/1-A	Method Blank	Total/NA	Water	245.1	263509
LCS 240-263509/2-A	Lab Control Sample	Total/NA	Water	245.1	263509
240-74481-1 MS	WT-012607-011717-EE-001	Total/NA	Water	245.1	263509
240-74481-1 MSD	WT-012607-011717-EE-001	Total/NA	Water	245.1	263509

General Chemistry

Analysis Batch: 263326

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-263326/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

General Chemistry (Continued)

Analysis Batch: 263326 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-263326/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 263479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	SM 2540D	
MB 240-263479/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-263479/2	Lab Control Sample	Total/NA	Water	SM 2540D	

Analysis Batch: 263819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-74481-1	WT-012607-011717-EE-001	Total/NA	Water	1664A	
MB 240-263819/1	Method Blank	Total/NA	Water	1664A	
LCS 240-263819/2	Lab Control Sample	Total/NA	Water	1664A	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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

Lab Sample ID: MB 240-263443/8-A

Matrix: Water

Analysis Batch: 263912

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 263443

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1
Aroclor-1221	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1
Aroclor-1232	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1
Aroclor-1242	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1
Aroclor-1248	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1
Aroclor-1254	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1
Aroclor-1260	0.10	U	0.10	ug/L		01/19/17 08:13	01/23/17 19:23	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	82		10 - 114	01/19/17 08:13	01/23/17 19:23	1
Tetrachloro-m-xylene	84		15 - 131	01/19/17 08:13	01/23/17 19:23	1

Lab Sample ID: LCS 240-263443/9-A

Matrix: Water

Analysis Batch: 263912

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 263443

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	2.30		ug/L		92	50 - 114
Aroclor-1260	2.50	2.46		ug/L		99	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	91		10 - 114
Tetrachloro-m-xylene	89		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-263505/1-A

Matrix: Water

Analysis Batch: 263653

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 263505

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		01/19/17 14:00	01/20/17 09:03	1
Nickel	0.010	U	0.010	mg/L		01/19/17 14:00	01/20/17 09:03	1
Lead	0.050	U	0.050	mg/L		01/19/17 14:00	01/20/17 09:03	1
Zinc	0.020	U	0.020	mg/L		01/19/17 14:00	01/20/17 09:03	1

Lab Sample ID: LCS 240-263505/2-A

Matrix: Water

Analysis Batch: 263653

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 263505

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.191		mg/L		96	85 - 115
Nickel	0.500	0.480		mg/L		96	85 - 115
Lead	0.500	0.472		mg/L		94	85 - 115
Zinc	0.500	0.484		mg/L		97	85 - 115

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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

Lab Sample ID: 240-74481-1 MS

Matrix: Water

Analysis Batch: 263653

Client Sample ID: WT-012607-011717-EE-001

Prep Type: Total Recoverable

Prep Batch: 263505

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec.
Chromium	0.050	U	0.200	0.236		mg/L		101	75 - 125	
Nickel	0.026		0.500	0.541		mg/L		103	75 - 125	
Lead	0.050	U	0.500	0.493		mg/L		99	75 - 125	
Zinc	0.020	U	0.500	0.519		mg/L		104	75 - 125	

Lab Sample ID: 240-74481-1 MSD

Matrix: Water

Analysis Batch: 263653

Client Sample ID: WT-012607-011717-EE-001

Prep Type: Total Recoverable

Prep Batch: 263505

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.050	U	0.200	0.242		mg/L		104	75 - 125	2	20
Nickel	0.026		0.500	0.542		mg/L		103	75 - 125	0	20
Lead	0.050	U	0.500	0.494		mg/L		99	75 - 125	0	20
Zinc	0.020	U	0.500	0.519		mg/L		104	75 - 125	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-263509/1-A

Matrix: Water

Analysis Batch: 263799

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 263509

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		01/19/17 14:00	01/20/17 15:34	1

Lab Sample ID: LCS 240-263509/2-A

Matrix: Water

Analysis Batch: 263799

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 263509

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00527		mg/L		105	85 - 115

Lab Sample ID: 240-74481-1 MS

Matrix: Water

Analysis Batch: 263799

Client Sample ID: WT-012607-011717-EE-001

Prep Type: Total/NA

Prep Batch: 263509

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec.
Mercury	0.00020	U	0.00100	0.00118		mg/L		118	70 - 130	

Lab Sample ID: 240-74481-1 MSD

Matrix: Water

Analysis Batch: 263799

Client Sample ID: WT-012607-011717-EE-001

Prep Type: Total/NA

Prep Batch: 263509

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00020	U	0.00100	0.00116		mg/L		116	70 - 130	2	20

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-263819/1

Matrix: Water

Analysis Batch: 263819

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	mg/L			01/23/17 08:32	1

Lab Sample ID: LCS 240-263819/2

Matrix: Water

Analysis Batch: 263819

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	39.50		mg/L		99	78 - 114

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

Lab Sample ID: MB 240-263326/3

Matrix: Water

Analysis Batch: 263326

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			01/18/17 12:38	1

Lab Sample ID: LCS 240-263326/4

Matrix: Water

Analysis Batch: 263326

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	0.242		mg/L		97	80 - 123

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

Lab Sample ID: MB 240-263479/1

Matrix: Water

Analysis Batch: 263479

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L			01/19/17 09:58	1

Lab Sample ID: LCS 240-263479/2

Matrix: Water

Analysis Batch: 263479

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	56.8	50.0		mg/L		88	64 - 120

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB1 (10-114)	TCX1 (15-131)
240-74481-1	WT-012607-011717-EE-001	70	71
LCS 240-263443/9-A	Lab Control Sample	91	89
MB 240-263443/8-A	Method Blank	82	84

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Client Sample ID: WT-012607-011717-EE-001

Lab Sample ID: 240-74481-1

Date Collected: 01/17/17 15:30

Matrix: Water

Date Received: 01/18/17 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			263443	01/19/17 08:13	KEH	TAL CAN
Total/NA	Analysis	608		1	263912	01/23/17 19:05	LSH	TAL CAN
Total Recoverable	Prep	200.7			263505	01/19/17 14:00	AJC	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	263653	01/20/17 09:46	KLC	TAL CAN
Total/NA	Prep	245.1			263509	01/19/17 14:00	AJC	TAL CAN
Total/NA	Analysis	245.1		1	263799	01/20/17 15:38	DSH	TAL CAN
Total/NA	Analysis	1664A		1	263819	01/23/17 08:32	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	263326	01/18/17 14:02	JESW	TAL CAN
Total/NA	Analysis	SM 2540D		1	263479	01/19/17 09:58	CL	TAL CAN

Laboratory References:

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

Certification Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-74481-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2927	04-30-17 *
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17
Illinois	NELAP	5	200004	07-31-17
Kansas	NELAP	7	E-10336	01-31-17 *
Kentucky (UST)	State Program	4	58	02-23-17 *
Kentucky (VW)	State Program	4	98016	12-31-16 *
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17
Nevada	State Program	9	OH-000482008A	07-31-17
New Jersey	NELAP	2	OH001	06-30-17
New York	NELAP	2	10975	03-31-17 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17 *
Pennsylvania	NELAP	3	68-00340	08-31-17
Texas	NELAP	6	T104704517-15-5	08-31-17
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17

* Certification renewal pending - certification considered valid.

TestAmerica Canton

TestAmerica Canton Sample Receipt Form/Narrative Login # : 74481

Canton Facility AD Site Name 11/8/17 Cooler unpacked by: [Signature]

Cooler Received on 11/8/17 Opened on 11/8/17

FedEx: 1st Grd. Exp. UPS FAS Stetson Client Drop Off TestAmerica Courier Other [Signature]

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

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

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

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF +0 °C) Observed Cooler Temp. 3.4 °C Corrected Cooler Temp. 3.4 °C

IR GUN #36 (CF +1.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No

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

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

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

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

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

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

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

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

11. Are these work share samples? Yes No

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

11. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC682547

12. Were VOAs on the COC? Yes No

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

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

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

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

Concerning _____

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: [Signature]

15. 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)

16. 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-012607-011717-EE-001	240-74481-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-011717-EE-001	240-74481-E-1	Amber Glass 1 liter Wide - Sulfuric	_____	_____	_____
WT-012607-011717-EE-001	240-74481-F-1	Amber Glass 1 liter Wide - Sulfuric	_____	_____	_____

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: 240-75437-1

Client Project/Site: 12607-020, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

2/16/2017 11:01:32 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.

Table of Contents

Cover Page	1
Table of Contents	2
Case Narrative	3
Definitions/Glossary	4
Sample Summary	5
Detection Summary	6
Method Summary	7
Client Sample Results	8
QC Association Summary	12
QC Sample Results	14
Surrogate Summary	17
Lab Chronicle	18
Certification Summary	19
Chain of Custody	20



Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Job ID: 240-75437-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-75437-1

Comments

No additional comments.

Receipt

The sample was received on 2/9/2017 10:20 AM; the sample 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: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-020817-EE-001 (240-75437-1). 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 240-266589.

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: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
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
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: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-75437-1	WT-012607-020817-EE-001	Water	02/08/17 15:30	02/09/17 10:20

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Client Sample ID: WT-012607-020817-EE-001

Lab Sample ID: 240-75437-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Nickel	0.079		0.010	mg/L	1		200.7 Rev 4.4	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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

Client Sample ID: WT-012607-020817-EE-001

Date Collected: 02/08/17 15:30

Date Received: 02/09/17 10:20

Lab Sample ID: 240-75437-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Aroclor-1221	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Aroclor-1232	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Aroclor-1242	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Aroclor-1248	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Aroclor-1254	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Aroclor-1260	0.096	U	0.096	ug/L		02/13/17 08:11	02/15/17 11:45	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	60		10 - 114			02/13/17 08:11	02/15/17 11:45	1
Tetrachloro-m-xylene	67		15 - 131			02/13/17 08:11	02/15/17 11:45	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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

Client Sample ID: WT-012607-020817-EE-001

Date Collected: 02/08/17 15:30

Date Received: 02/09/17 10:20

Lab Sample ID: 240-75437-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		02/10/17 15:00	02/13/17 16:25	1
Nickel	0.079		0.010	mg/L		02/10/17 15:00	02/13/17 16:25	1
Lead	0.050	U	0.050	mg/L		02/10/17 15:00	02/13/17 16:25	1
Zinc	0.020	U	0.020	mg/L		02/10/17 15:00	02/13/17 16:25	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-020817-EE-001

Date Collected: 02/08/17 15:30

Date Received: 02/09/17 10:20

Lab Sample ID: 240-75437-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	—	02/10/17 15:00	02/13/17 13:07	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

General Chemistry

Client Sample ID: WT-012607-020817-EE-001

Date Collected: 02/08/17 15:30

Date Received: 02/09/17 10:20

Lab Sample ID: 240-75437-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			02/10/17 08:29	1
Cr (VI)	0.0050	U	0.0050	mg/L			02/09/17 14:22	1
Total Suspended Solids	4.0	U	4.0	mg/L			02/15/17 11:13	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

GC Semi VOA

Prep Batch: 266589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	3520C	
MB 240-266589/19-A	Method Blank	Total/NA	Water	3520C	
LCS 240-266589/20-A	Lab Control Sample	Total/NA	Water	3520C	

Analysis Batch: 266914

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	608	266589
MB 240-266589/19-A	Method Blank	Total/NA	Water	608	266589
LCS 240-266589/20-A	Lab Control Sample	Total/NA	Water	608	266589

Metals

Prep Batch: 266406

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total Recoverable	Water	200.7	
MB 240-266406/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 240-266406/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
240-75437-1 MS	WT-012607-020817-EE-001	Total Recoverable	Water	200.7	
240-75437-1 MSD	WT-012607-020817-EE-001	Total Recoverable	Water	200.7	

Prep Batch: 266407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	245.1	
MB 240-266407/1-A	Method Blank	Total/NA	Water	245.1	
LCS 240-266407/2-A	Lab Control Sample	Total/NA	Water	245.1	
240-75437-1 MS	WT-012607-020817-EE-001	Total/NA	Water	245.1	
240-75437-1 MSD	WT-012607-020817-EE-001	Total/NA	Water	245.1	

Analysis Batch: 266663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	245.1	266407
MB 240-266407/1-A	Method Blank	Total/NA	Water	245.1	266407
LCS 240-266407/2-A	Lab Control Sample	Total/NA	Water	245.1	266407
240-75437-1 MS	WT-012607-020817-EE-001	Total/NA	Water	245.1	266407
240-75437-1 MSD	WT-012607-020817-EE-001	Total/NA	Water	245.1	266407

Analysis Batch: 266675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total Recoverable	Water	200.7 Rev 4.4	266406
MB 240-266406/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	266406
LCS 240-266406/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	266406
240-75437-1 MS	WT-012607-020817-EE-001	Total Recoverable	Water	200.7 Rev 4.4	266406
240-75437-1 MSD	WT-012607-020817-EE-001	Total Recoverable	Water	200.7 Rev 4.4	266406

General Chemistry

Analysis Batch: 266315

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	3500-Cr B-2009	
MB 240-266315/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

General Chemistry (Continued)

Analysis Batch: 266315 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-266315/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 266393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	1664A	
MB 240-266393/1	Method Blank	Total/NA	Water	1664A	
LCS 240-266393/2	Lab Control Sample	Total/NA	Water	1664A	

Analysis Batch: 267017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-75437-1	WT-012607-020817-EE-001	Total/NA	Water	SM 2540D	
MB 240-267017/1	Method Blank	Total/NA	Water	SM 2540D	
LCS 240-267017/2	Lab Control Sample	Total/NA	Water	SM 2540D	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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

Lab Sample ID: MB 240-266589/19-A

Matrix: Water

Analysis Batch: 266914

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266589

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1
Aroclor-1221	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1
Aroclor-1232	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1
Aroclor-1242	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1
Aroclor-1248	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1
Aroclor-1254	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1
Aroclor-1260	0.10	U	0.10	ug/L		02/13/17 08:11	02/15/17 07:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	41		10 - 114	02/13/17 08:11	02/15/17 07:19	1
Tetrachloro-m-xylene	66		15 - 131	02/13/17 08:11	02/15/17 07:19	1

Lab Sample ID: LCS 240-266589/20-A

Matrix: Water

Analysis Batch: 266914

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.71		ug/L		68	50 - 114
Aroclor-1260	2.50	1.51		ug/L		60	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	67		10 - 114
Tetrachloro-m-xylene	68		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-266406/1-A

Matrix: Water

Analysis Batch: 266675

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 266406

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		02/10/17 15:00	02/13/17 16:15	1
Nickel	0.010	U	0.010	mg/L		02/10/17 15:00	02/13/17 16:15	1
Lead	0.050	U	0.050	mg/L		02/10/17 15:00	02/13/17 16:15	1
Zinc	0.020	U	0.020	mg/L		02/10/17 15:00	02/13/17 16:15	1

Lab Sample ID: LCS 240-266406/2-A

Matrix: Water

Analysis Batch: 266675

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 266406

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.189		mg/L		95	85 - 115
Nickel	0.500	0.476		mg/L		95	85 - 115
Lead	0.500	0.472		mg/L		94	85 - 115
Zinc	0.500	0.488		mg/L		98	85 - 115

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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

Lab Sample ID: 240-75437-1 MS

Matrix: Water

Analysis Batch: 266675

Client Sample ID: WT-012607-020817-EE-001

Prep Type: Total Recoverable

Prep Batch: 266406

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec.
Chromium	0.050	U	0.200	0.199		mg/L		96	75 - 125	
Nickel	0.079		0.500	0.573		mg/L		99	75 - 125	
Lead	0.050	U	0.500	0.479		mg/L		96	75 - 125	
Zinc	0.020	U	0.500	0.495		mg/L		99	75 - 125	

Lab Sample ID: 240-75437-1 MSD

Matrix: Water

Analysis Batch: 266675

Client Sample ID: WT-012607-020817-EE-001

Prep Type: Total Recoverable

Prep Batch: 266406

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.050	U	0.200	0.189		mg/L		91	75 - 125	5	20
Nickel	0.079		0.500	0.550		mg/L		94	75 - 125	4	20
Lead	0.050	U	0.500	0.461		mg/L		92	75 - 125	4	20
Zinc	0.020	U	0.500	0.490		mg/L		98	75 - 125	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-266407/1-A

Matrix: Water

Analysis Batch: 266663

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 266407

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		02/10/17 15:00	02/13/17 12:59	1

Lab Sample ID: LCS 240-266407/2-A

Matrix: Water

Analysis Batch: 266663

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 266407

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00440		mg/L		88	85 - 115

Lab Sample ID: 240-75437-1 MS

Matrix: Water

Analysis Batch: 266663

Client Sample ID: WT-012607-020817-EE-001

Prep Type: Total/NA

Prep Batch: 266407

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits	%Rec.
Mercury	0.00020	U	0.00100	0.000982		mg/L		98	70 - 130	

Lab Sample ID: 240-75437-1 MSD

Matrix: Water

Analysis Batch: 266663

Client Sample ID: WT-012607-020817-EE-001

Prep Type: Total/NA

Prep Batch: 266407

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00020	U	0.00100	0.000899		mg/L		90	70 - 130	9	20

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-266393/1

Matrix: Water

Analysis Batch: 266393

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	5.0	U	5.0	mg/L			02/10/17 08:29	1

Lab Sample ID: LCS 240-266393/2

Matrix: Water

Analysis Batch: 266393

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	34.30		mg/L		86	78 - 114

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

Lab Sample ID: MB 240-266315/3

Matrix: Water

Analysis Batch: 266315

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Cr (VI)	0.0050	U	0.0050	mg/L			02/09/17 12:36	1

Lab Sample ID: LCS 240-266315/4

Matrix: Water

Analysis Batch: 266315

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

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

Lab Sample ID: MB 240-267017/1

Matrix: Water

Analysis Batch: 267017

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L			02/15/17 11:13	1

Lab Sample ID: LCS 240-267017/2

Matrix: Water

Analysis Batch: 267017

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	33.4	29.0		mg/L		87	64 - 120

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (10-114)	TCX2 (15-131)
240-75437-1	WT-012607-020817-EE-001	60	67
LCS 240-266589/20-A	Lab Control Sample	67	68
MB 240-266589/19-A	Method Blank	41	66

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Client Sample ID: WT-012607-020817-EE-001

Lab Sample ID: 240-75437-1

Date Collected: 02/08/17 15:30

Matrix: Water

Date Received: 02/09/17 10:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			266589	02/13/17 08:11	SDE	TAL CAN
Total/NA	Analysis	608		1	266914	02/15/17 11:45	CSC	TAL CAN
Total Recoverable	Prep	200.7			266406	02/10/17 15:00	WKD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	266675	02/13/17 16:25	RKT	TAL CAN
Total/NA	Prep	245.1			266407	02/10/17 15:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	266663	02/13/17 13:07	WKD	TAL CAN
Total/NA	Analysis	1664A		1	266393	02/10/17 08:29	DTN	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	266315	02/09/17 14:22	JWW	TAL CAN
Total/NA	Analysis	SM 2540D		1	267017	02/15/17 11:13	CL	TAL CAN

Laboratory References:

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

Certification Summary

Client: GHD Services Inc.
Project/Site: 12607-020, RACER Eckles Rd

TestAmerica Job ID: 240-75437-1

Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2927	04-30-17 *
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-17 *
Illinois	NELAP	5	200004	07-31-17
Kansas	NELAP	7	E-10336	02-28-17 *
Kentucky (UST)	State Program	4	58	02-23-18
Kentucky (VW)	State Program	4	98016	12-31-16 *
Minnesota	NELAP	5	039-999-348	12-31-17
Minnesota (Petrofund)	State Program	1	3506	07-31-17
Nevada	State Program	9	OH-000482008A	07-31-17
New Jersey	NELAP	2	OH001	06-30-17 *
New York	NELAP	2	10975	03-31-17 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-17 *
Pennsylvania	NELAP	3	68-00340	08-31-17
Texas	NELAP	6	T104704517-15-5	08-31-17
USDA	Federal		P330-16-00404	12-28-19
Virginia	NELAP	3	460175	09-14-17
Washington	State Program	10	C971	01-12-18
West Virginia DEP	State Program	3	210	12-31-16 *
Wisconsin	State Program	5	999518190	08-31-17

* Certification renewal pending - certification considered valid.

TestAmerica Canton

[illegible]

Login # : 75137

Cooler unpacked by:

Client GHD Site Name _____

Cooler Received on 29.17 Opened on 29.17

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

Receipt After-hours: Drop-off Date/Time	Storage Location
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TestAmerica Cooler #	Foam Box	Client Cooler	Box	Other
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Packing material used: Bubble Wrap Foam Plastic Bag None Other _____

COOLANT: Wet Ice Blue Ice Dry Ice Water None

☐ See Multiple Cooler Form

1. Cooler temperature upon receipt

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

IR GUN #36 (CF +1.1°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity _____ Yes ☒ No

-Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes ☒ No

3. Shippers' packing slip attached to the cooler(s)?

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

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

5. Were the custody papers relinquished & signed in the appropriate place? 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 ☒

11. Are these work share samples?
If yes, Questions 11-15 have been checked at the originating laboratory.

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

12. Were VOAs on the COC? Yes ☒ No ☐

12. Were VOAs on the COC?	Yes	No
13. Were air bubbles ≥ 6 mm in any VOA vials?	Yes	No

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

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

15. Was a U, Hg or Me Hg trip blank present? Yes ☐ No ☒

15. Was a LL Hg or Me Hg trip blank present? _____ Yes ☒ No ☐
Contacted PM _____ Date _____ by _____ via Verbal ☒ Voice ☐

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

Concerning _____

Samples processed by:

15. SAMPLE CONDITION

15. 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)

16. 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-021607-020817-EE-001	240-75437-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-021607-020817-EE-001	240-75437-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-021607-020817-EE-001	240-75437-F-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____