



April 6, 2016

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 2015 through February 2016)
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 2015 through February 2016 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 the proposed remedial alternative consists 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.

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 3 mg/L for nickel and 9 to 10 mg/L for total chromium since December 2015 based on field tests performed weekly. If groundwater concentrations and the GWTP influent concentrations can be reduced to below Special Discharge Permit effluent limits through targeted 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, to continue to maintain dewatering activities until final portions of the remedial alternative can be implemented and approval to discontinue dewatering (and therefore operation of the GWTP) can be obtained from U.S. EPA. If this approval 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 from the GWTP is late in 2017.

SECTION D: REPORTING REQUIREMENTS

- Reporting Period: September 1, 2015 to February 29, 2016
- Dates of Sampling: September 9, 2015; October 21, 2015; November 18, 2015; December 21, 2015; January 6, 2016; and February 3, 2016.
- All samples were collected from the effluent sampling port of Tank T12
- Total Monthly Discharges (gallons):
 - September 2015: 971,941
 - October 2015: 846,752
 - November 2015: 647,371
 - December 2015: 609,263
 - January 2016: 664,639
 - February 2016: 660,207
- Total Flow to Date: 168,704,211 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 Services Inc.



Christopher J. Meincke, P.E.

CM/ds/12/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 2015**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
09/01/15	None	None	On-Site	33,411	
09/02/15	None	None	On-Site	63,425	
09/03/15	None	None	On-Site	54,413	
09/04/15	None	None	On-Site	57,439	
09/05/15	None	None			
09/06/15	None	None			
09/07/15	None	None	On-Site	345	
09/08/15	None	None	On-Site	68,612	
09/09/15	None	None	On-site & Sampled	61,438	
09/10/15	None	None	On-Site	54,589	
09/11/15	None	None	On-Site	53,494	
09/12/15	None	None			
09/13/15	None	None			
09/14/15	None	None	On-Site	855	
09/15/15	None	None	On-Site	58,039	
09/16/15	None	None	On-Site	53,271	
09/17/15	None	None	On-Site	58,203	
09/18/15	None	None	On-Site	56,059	
09/19/15	None	None			
09/20/15	None	None			
09/21/15	None	None	On-Site	641	
09/22/15	None	None	On-Site	64,687	
09/23/15	None	None	On-Site	52,400	System shut down - out of mag lime
09/24/15	None	None	On-Site	4,979	
09/25/15	None	None	On-Site	56,806	
09/26/15	None	None			
09/27/15	None	None			
09/28/15	None	None	On-Site	215	
09/29/15	None	None	On-Site	60,246	
09/30/15	None	None	On-Site	58,374	

Total Monthly Discharge (gal)

971,941

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log - October 2015

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
10/01/15	None	None	On-Site	38,875	
10/02/15	None	None			System down for weekend
10/03/15	None	None			
10/04/15	None	None			
10/05/15	None	None	On-Site	276	
10/06/15	None	None	On-Site	55,797	
10/07/15	None	None	On-Site	51,455	
10/08/15	None	None	On-Site	51,226	
10/09/15	None	None	On-Site	52,986	
10/10/15	None	None			
10/11/15	None	None			
10/12/15	None	None	On-Site	488	
10/13/15	None	None	On-Site	57,889	
10/14/15	None	None	On-Site	48,077	
10/15/15	None	None	On-Site	6,356	System down - low pH T5
10/16/15	None	None			
10/17/15	None	None			
10/18/15	None	None			
10/19/15	None	None	On-Site	0	
10/20/15	None	None	On-Site	84910	
10/21/15	None	None	On-site & Sampled	70303	
10/22/15	None	None	On-Site	57110	
10/23/15	None	None	On-Site	61520	
10/24/15	None	None			
10/25/15	None	None			
10/26/15	None	None	On-Site	362	
10/27/15	None	None	On-Site	66547	
10/28/15	None	None	On-Site	47089	
10/29/15	None	None	On-Site	50189	
10/30/15	None	None	On-Site	45297	
10/31/15	None	None			

Total Monthly Discharge (gal) 846,752

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - November 2015**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
11/01/15	None	None			
11/02/15	None	None	On-Site	379	
11/03/15	None	None	On-Site	55,236	
11/04/15	None	None	On-Site	44,444	
11/05/15	None	None	On-Site	42,914	
11/06/15	None	None	On-Site	40,792	
11/07/15	None	None			
11/08/15	None	None			
11/09/15	None	None	On-Site	347	
11/10/15	None	None	On-Site	37,864	
11/11/15	None	None	On-Site	59,618	
11/12/15	None	None	On-Site	40,110	
11/13/15	None	None	On-Site	43,180	
11/14/15	None	None			
11/15/15	None	None			
11/16/15	None	None	On-Site	2,557	
11/17/15	None	None	On-Site	72,750	
11/18/15	None	None	On-site & Sampled	26,427	
11/19/15	None	None	On-Site	47,580	
11/20/15	None	None	On-Site	40,762	
11/21/15	None	None			
11/22/15	None	None			
11/23/15	None	None	On-Site	1,906	
11/24/15	None	None	On-Site	46,195	
11/25/15	None	None	On-Site	44,310	
11/26/15	None	None			Thanksgiving Break
11/27/15	None	None			Thanksgiving Break
11/28/15	None	None			
11/29/15	None	None			
11/30/15	None	None			

Total Monthly Discharge (gal)

647,371

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log - December 2015**

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
12/01/15	None	None	On-Site	440	
12/02/15	None	None	On-Site	48,718	
12/03/15	None	None	On-Site	41,414	
12/04/15	None	None	On-Site	40,427	
12/05/15	None	None			
12/06/15	None	None			
12/07/15	None	None	On-Site	1,939	
12/08/15	None	None	On-Site	53,589	
12/09/15	None	None	On-Site	40,597	
12/10/15	None	None	On-Site	44,477	
12/11/15	None	None	On-Site	39,063	
12/12/15	None	None			
12/13/15	None	None			
12/14/15	None	None			System down - out of mag lime
12/15/15	None	None			System down - out of mag lime
12/16/15	None	None			System down - out of mag lime
12/17/15	None	None	On-Site	534	
12/18/15	None	None	On-Site	38,027	
12/19/15	None	None			
12/20/15	None	None			
12/21/15	None	None	On-site & Sampled	165	
12/22/15	None	None	On-Site	45,703	
12/23/15	None	None	On-Site	55,438	
12/24/15	None	None	On-Site	32,064	
12/25/15	None	None			System shut down for Christmas weekend
12/26/15	None	None			
12/27/15	None	None			
12/28/15	None	None	On-Site	300	
12/29/15	None	None	On-Site	46,671	
12/30/15	None	None	On-Site	41,995	
12/31/15	None	None	On-Site	37,702	System shut down for New Years weekend

Total Monthly Discharge (gal)

609,263

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
01/01/16	None	None			
01/02/16	None	None			
01/03/16	None	None			
01/04/16	None	None	On-Site	525	
01/05/16	None	None	On-Site	45,225	
01/06/16	None	None	On-site & Sampled	38,557	
01/07/16	None	None	On-Site	38,712	
01/08/16	None	None	On-Site	43,392	
01/09/16	None	None			
01/10/16	None	None			
01/11/16	None	None	On-Site	330	
01/12/16	None	None	On-Site	53,977	
01/13/16	None	None	On-Site	46,468	
01/14/16	None	None	On-Site	50,042	
01/15/16	None	None	On-Site	42,251	
01/16/16	None	None			
01/17/16	None	None			
01/18/16	None	None			
01/19/16	None	None	On-Site	336	
01/20/16	None	None	On-Site	55,083	
01/21/16	None	None	On-Site	47,492	
01/22/16	None	None	On-Site	48,091	
01/23/16	None	None			
01/24/16	None	None			
01/25/16	None	None	On-Site	394	
01/26/16	None	None	On-Site	55,167	
01/27/16	None	None	On-Site	52,435	
01/28/16	None	None	On-Site	46,162	Shut system down for weekend
01/29/16	None	None			
01/30/16	None	None			
01/31/16	None	None			

Total Monthly Discharge (gal)

664,639

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

Date	Inspection Visits	Changes or Replacements of Treatment System	Samples Taken	Quantities of Groundwater Discharged / Day - GAL	Notes
02/01/16	None	None	On-Site	67	
02/02/16	None	None	On-Site	56,367	
02/03/16	None	None	On-site & Sampled	38,829	
02/04/16	None	None	On-Site	44,245	
02/05/16	None	None	On-Site	46,648	
02/06/16	None	None			
02/07/16	None	None			
02/08/16	None	None	On-Site	1,084	
02/09/16	None	None	On-Site	49,609	
02/10/16	None	None	On-Site	38,867	
02/11/16	None	None	On-Site	40,297	
02/12/16	None	None	On-Site	41,052	
02/13/16	None	None			
02/14/16	None	None			
02/15/16	None	None			
02/16/16	None	None	On-Site	366	
02/17/16	None	None	On-Site	48,056	
02/18/16	None	None	On-Site	36,607	
02/19/16	None	None	On-Site	50,996	
02/20/16	None	None			
02/21/16	None	None			
02/22/16	None	None	On-Site	392	
02/23/16	None	None	On-Site	53,367	
02/24/16	None	None	On-Site	41,918	
02/25/16	None	None	On-Site	31,733	
02/26/16	None	None	On-Site	37,988	
02/27/16	None	None			
02/28/16	None	None			
02/29/16	None	None	On-Site	1,719	

Total Monthly Discharge (gal)

660,207

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - September 2015**

	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
9/1/2015	9/1/2015	9.62	0.10	0.00	0.20	
9/2/2015	9/2/2015	9.96	0.10	0.00	0.15	
9/3/2015	9/3/2015	9.96	0.06	0.00	0.05	
9/4/2015	9/4/2015	9.92	0.09	0.00	0.15	
9/5/2015	9/5/2015					
9/6/2015	9/6/2015					
9/7/2015	9/7/2015	8.65	0.10	0.00	0.15	
9/8/2015	9/8/2015	9.51	0.10	0.00	0.05	
9/9/2015	9/9/2015	9.54	0.07	0.00	0.05	
9/10/2015	9/10/2015	9.56	0.11	0.00	0.20	
9/11/2015	9/11/2015	9.57	0.08	0.00	0.20	
9/12/2015	9/12/2015					
9/13/2015	9/13/2015					
9/14/2015	9/14/2015	8.42	0.10	0.00	0.25	
9/15/2015	9/15/2015	9.18	0.22	0.00	0.25	
9/16/2015	9/16/2015	9.22	0.13	0.00	0.20	
9/17/2015	9/17/2015	9.24	0.10	0.00	0.15	
9/18/2015	9/18/2015	9.23	0.10	0.00	0.10	
9/19/2015	9/19/2015					
9/20/2015	9/20/2015					
9/21/2015	9/21/2015	8.39	0.30	0.00	0.10	
9/22/2015	9/22/2015	9.11	0.08	0.00	0.20	
9/23/2015	9/23/2015	9.09	0.12	0.00	0.25	
9/24/2015	9/24/2015	8.65	0.09	0.00	0.10	
9/25/2015	9/25/2015	9.34	0.05	0.00	0.10	
9/26/2015	9/26/2015					
9/27/2015	9/27/2015					
9/28/2015	9/28/2015	8.40	0.05	0.00	0.05	
9/29/2015	9/29/2015	9.68	0.06	0.00	0.10	
9/30/2015	9/30/2015	9.57	0.06	0.00	0.20	

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - October 2015

	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
10/1/2015	10/1/2015	9.55	0.07	0.00	0.30	
10/2/2015	10/2/2015					System down for weekend
10/3/2015	10/3/2015					
10/4/2015	10/4/2015					
10/5/2015	10/5/2015	8.43	0.10	0.00	0.20	
10/6/2015	10/6/2015	9.48	0.12	0.00	0.25	
10/7/2015	10/7/2015	9.52	0.10	0.00	0.18	
10/8/2015	10/8/2015	9.57	0.09	0.00	0.15	
10/9/2015	10/9/2015	9.60	0.10	0.00	0.15	
10/10/2015	10/10/2015					
10/11/2015	10/11/2015					
10/12/2015	10/12/2015	8.33	0.10	0.00	0.10	
10/13/2015	10/13/2015	9.45	0.03	0.00	0.05	
10/14/2015	10/14/2015	9.50	0.02	0.00	0.05	
10/15/2015	10/15/2015	9.48	0.10	0.00	0.20	
10/16/2015	10/16/2015					System down - low pH T5
10/17/2015	10/17/2015					
10/18/2015	10/18/2015					
10/19/2015	10/19/2015	8.24	0.20	0.00	0.10	
10/20/2015	10/20/2015	9.74	0.05	0.00	0.05	
10/21/2015	10/21/2015	9.60	0.05	0.00	0.05	
10/22/2015	10/22/2015	8.14	1.38	0.00	0.40	System down - low pH T5, air line loose
10/23/2015	10/23/2015	9.64	0.05	0.00	0.05	
10/24/2015	10/24/2015					
10/25/2015	10/25/2015					
10/26/2015	10/26/2015	8.55	0.04	0.00	0.05	
10/27/2015	10/27/2015	9.39	0.04	0.00	0.10	
10/28/2015	10/28/2015	9.34	0.07	0.00	0.10	
10/29/2015	10/29/2015	9.23	0.05	0.00	0.15	
10/30/2015	10/30/2015	9.21	0.05	0.00	0.10	
10/31/2015	10/31/2015					

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - November 2015**

	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
11/1/2015	11/1/2015					
11/2/2015	11/2/2015	8.44	0.05	0.00	0.05	
11/3/2015	11/3/2015	9.41	0.05	0.00	0.05	
11/4/2015	11/4/2015	9.40	0.05	0.00	0.10	
11/5/2015	11/5/2015	9.39	0.08	0.00	0.10	
11/6/2015	11/6/2015	9.29	0.09	0.00	0.10	
11/7/2015	11/7/2015					
11/8/2015	11/8/2015					
11/9/2015	11/9/2015	8.48	0.06	0.00	0.05	
11/10/2015	11/10/2015	9.28	0.05	0.00	0.10	
11/11/2015	11/11/2015	9.18	0.11	0.00	0.15	
11/12/2015	11/12/2015	9.15	0.09	0.00	0.20	
11/13/2015	11/13/2015	9.05	0.09	0.00	0.15	
11/14/2015	11/14/2015					
11/15/2015	11/15/2015					
11/16/2015	11/16/2015	7.89	0.08	0.00	0.05	
11/17/2015	11/17/2015	9.05	0.09	0.00	0.20	
11/18/2015	11/18/2015	9.08	0.08	0.00	0.25	
11/19/2015	11/19/2015	9.01	0.11	0.00	0.20	
11/20/2015	11/20/2015	9.04	0.10	0.00	0.20	
11/21/2015	11/21/2015					
11/22/2015	11/22/2015					
11/23/2015	11/23/2015	8.73	0.13	0.00	0.25	
11/24/2015	11/24/2015	9.14	0.08	0.00	0.25	
11/25/2015	11/25/2015	9.08	0.10	0.00	0.25	
11/26/2015	11/26/2015					Thanksgiving break
11/27/2015	11/27/2015					Thanksgiving break
11/28/2015	11/28/2015					
11/29/2015	11/29/2015					
11/30/2015	11/30/2015					

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - December 2015**

	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
12/1/2015	12/1/2015	8.19	0.08	0.00	0.35	
12/2/2015	12/2/2015	9.10	0.12	0.00	0.70	
12/3/2015	12/3/2015	9.28	0.08	0.00	0.25	
12/4/2015	12/4/2015	9.20	0.11	0.00	0.35	
12/5/2015	12/5/2015					
12/6/2015	12/6/2015					
12/7/2015	12/7/2015	7.84	0.09	0.00	2.00	
12/8/2015	12/8/2015	9.01	0.11	0.00	0.40	
12/9/2015	12/9/2015	9.01	0.16	0.00	1.00	
12/10/2015	12/10/2015	9.19	0.15	0.00	0.90	
12/11/2015	12/11/2015	9.34	0.08	0.00	0.40	
12/12/2015	12/12/2015					
12/13/2015	12/13/2015					
12/14/2015	12/14/2015					System down - out of mag lime
12/15/2015	12/15/2015					System down - out of mag lime
12/16/2015	12/16/2015					System down - out of mag lime
12/17/2015	12/17/2015	8.49	0.26	0.00	0.60	
12/18/2015	12/18/2015	9.49	0.05	0.00	0.05	
12/19/2015	12/19/2015					
12/20/2015	12/20/2015					
12/21/2015	12/21/2015	8.62	0.03	0.00	0.10	
12/22/2015	12/22/2015	9.62	0.03	0.00	0.05	
12/23/2015	12/23/2015	9.50	0.02	0.00	0.05	
12/24/2015	12/24/2015	9.42	0.03	0.00	0.05	
12/25/2015	12/25/2015					System shut down for Christmas weekend
12/26/2015	12/26/2015					
12/27/2015	12/27/2015					
12/28/2015	12/28/2015	8.29	0.03	0.00	0.05	
12/29/2015	12/29/2015	9.77	0.03	0.00	0.05	
12/30/2015	12/30/2015	9.79	0.03	0.00	0.05	
12/31/2015	12/31/2015	9.70	0.03	0.00	0.05	System shut down for New Years weekend

SECTION D: REPORTING REQUIREMENTS/b) iii)
12950 Eckles Road
Livonia, MI 48150
Permit No.: SD6-94508
Maintenance Log- ISCO Sample Analyses - January 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
1/1/2016	1/1/2016					
1/2/2016	1/2/2016					
1/3/2016	1/3/2016					
1/4/2016	1/4/2016	8.56	0.05	0.00	0.10	
1/5/2016	1/5/2016	9.61	0.03	0.00	0.05	
1/6/2016	1/6/2016	9.48	0.03	0.00	0.05	
1/7/2016	1/7/2016	9.50	0.03	0.00	0.10	
1/8/2016	1/8/2016	9.42	0.05	0.00	0.15	
1/9/2016	1/9/2016					
1/10/2016	1/10/2016					
1/11/2016	1/11/2016	8.57	0.04	0.00	0.05	
1/12/2016	1/12/2016	9.46	0.03	0.00	0.10	
1/13/2016	1/13/2016	9.43	0.03	0.00	0.05	
1/14/2016	1/14/2016	9.48	0.03	0.00	0.05	
1/15/2016	1/15/2016	9.44	0.04	0.00	0.10	
1/16/2016	1/16/2016					
1/17/2016	1/17/2016					
1/18/2016	1/18/2016					
1/19/2016	1/19/2016	8.02	0.05	0.00	0.10	
1/20/2016	1/20/2016	9.49	0.03	0.00	0.05	
1/21/2016	1/21/2016	9.50	0.04	0.00	0.05	
1/22/2016	1/22/2016	9.43	0.05	0.00	0.10	
1/23/2016	1/23/2016					
1/24/2016	1/24/2016					
1/25/2016	1/25/2016	8.57	0.04	0.00	0.05	
1/26/2016	1/26/2016	9.66	0.05	0.00	0.10	
1/27/2016	1/27/2016	9.59	0.05	0.00	0.20	
1/28/2016	1/28/2016	9.50	0.04	0.00	0.05	Shut down system for weekend
1/29/2016	1/29/2016					
1/30/2016	1/30/2016					
1/31/2016	1/31/2016					

SECTION D: REPORTING REQUIREMENTS/b) iii)**12950 Eckles Road****Livonia, MI 48150****Permit No.: SD6-94508****Maintenance Log- ISCO Sample Analyses - February 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
2/1/2016	2/1/2016	8.33	0.04	0.00	0.05	
2/2/2016	2/2/2016	9.63	0.03	0.00	0.05	
2/3/2016	2/3/2016	9.64	0.03	0.00	0.05	
2/4/2016	2/4/2016	9.62	0.04	0.00	0.10	
2/5/2016	2/5/2016	9.56	0.03	0.00	0.05	
2/6/2016	2/6/2016					
2/7/2016	2/7/2016					
2/8/2016	2/8/2016	8.36	0.04	0.00	0.10	
2/9/2016	2/9/2016	9.47	0.04	0.00	0.05	
2/10/2016	2/10/2016	9.43	0.04	0.00	0.05	
2/11/2016	2/11/2016	9.39	0.03	0.00	0.05	
2/12/2016	2/12/2016	9.38	0.03	0.00	0.05	
2/13/2016	2/13/2016					
2/14/2016	2/14/2016					
2/15/2016	2/15/2016					
2/16/2016	2/16/2016	8.08	0.05	0.00	0.10	
2/17/2016	2/17/2016	9.10	0.04	0.00	0.10	
2/18/2016	2/18/2016	9.17	0.03	0.00	0.05	
2/19/2016	2/19/2016	9.17	0.03	0.00	0.05	
2/20/2016	2/20/2016					
2/21/2016	2/21/2016					
2/22/2016	2/22/2016	8.06	0.05	0.00	0.10	
2/23/2016	2/23/2016	9.02	0.03	0.00	0.05	
2/24/2016	2/24/2016	8.97	0.03	0.00	0.05	
2/25/2016	2/25/2016	9.05	0.05	0.00	0.10	
2/26/2016	2/26/2016	9.11	0.04	0.00	0.10	
2/27/2016	2/27/2016					
2/28/2016	2/28/2016					
2/29/2016	2/29/2016	8.18	0.04	0.00	0.05	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Canton

4101 Shuffel Street NW

North Canton, OH 44720

Tel: (330)497-9396

TestAmerica Job ID: 240-55225-1

Client Project/Site: 12607-01-012, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

9/18/2015 8:33:19 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Job ID: 240-55225-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 12607-01-012, RACER Eckles Rd

Report Number: 240-55225-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 09/10/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.8 C.

POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-012607-090915-EE-001 (240-55225-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 09/11/2015 and analyzed on 09/14/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-197081.

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

TOTAL RECOVERABLE METALS (ICP)

Sample WT-012607-090915-EE-001 (240-55225-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 09/11/2015 and analyzed on 09/14/2015.

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Job ID: 240-55225-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-090915-EE-001 (240-55225-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

MERCURY

Sample WT-012607-090915-EE-001 (240-55225-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 09/11/2015 and analyzed on 09/14/2015.

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

HEM AND SGT-HEM

Sample WT-012607-090915-EE-001 (240-55225-1) was analyzed for HEM and SGT-HEM in accordance with EPA Method 1664A. The samples were analyzed on 09/17/2015.

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

TOTAL SUSPENDED SOLIDS

Sample WT-012607-090915-EE-001 (240-55225-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 09/11/2015.

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

HEXAVALENT CHROMIUM

Sample WT-012607-090915-EE-001 (240-55225-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR B. The samples were analyzed on 09/10/2015.

Cr (VI) failed the recovery criteria low for the MS of sample WT-012607-090915-EE-001MS (240-55225-1) in batch 240-196971.

Cr (VI) failed the recovery criteria low for the MSD of sample WT-012607-090915-EE-001MSD (240-55225-1) in batch 240-196971.

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: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Qualifiers

GC Semi VOA

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

Metals

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

General Chemistry

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, 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: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-55225-1	WT-012607-090915-EE-001	Water	09/09/15 15:00	09/10/15 10:00

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Client Sample ID: WT-012607-090915-EE-001

Lab Sample ID: 240-55225-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.17		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.14		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	21		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: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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

Client Sample ID: WT-012607-090915-EE-001

Date Collected: 09/09/15 15:00

Date Received: 09/10/15 10:00

Lab Sample ID: 240-55225-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Aroclor-1221	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Aroclor-1232	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Aroclor-1242	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Aroclor-1248	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Aroclor-1254	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Aroclor-1260	0.095	U	0.095	ug/L		09/11/15 05:06	09/14/15 15:06	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	54		10 - 114			09/11/15 05:06	09/14/15 15:06	1
Tetrachloro-m-xylene	53		15 - 131			09/11/15 05:06	09/14/15 15:06	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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

Client Sample ID: WT-012607-090915-EE-001

Date Collected: 09/09/15 15:00

Date Received: 09/10/15 10:00

Lab Sample ID: 240-55225-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.17		0.050	mg/L		09/11/15 09:02	09/14/15 13:24	1
Nickel	0.14		0.010	mg/L		09/11/15 09:02	09/14/15 13:24	1
Lead	0.050	U	0.050	mg/L		09/11/15 09:02	09/14/15 13:24	1
Zinc	0.020	U	0.020	mg/L		09/11/15 09:02	09/14/15 13:24	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-090915-EE-001

Date Collected: 09/09/15 15:00

Date Received: 09/10/15 10:00

Lab Sample ID: 240-55225-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		09/11/15 14:00	09/14/15 14:30	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

General Chemistry

Client Sample ID: WT-012607-090915-EE-001

Date Collected: 09/09/15 15:00

Date Received: 09/10/15 10:00

Lab Sample ID: 240-55225-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			09/17/15 10:06	1
Cr (VI)	0.0050	U F1	0.0050	mg/L			09/10/15 10:38	1
Total Suspended Solids	21		4.0	mg/L			09/11/15 09:48	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

GC Semi VOA

Prep Batch: 197081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	3520C	
LCS 240-197081/8-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-197081/7-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 197285

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-197081/7-A	Method Blank	Total/NA	Water	608	197081

Analysis Batch: 197287

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	608	197081
MB 240-197081/7-A	Method Blank	Total/NA	Water	608	197081

Analysis Batch: 197560

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-197081/8-A	Lab Control Sample	Total/NA	Water	608	197081

Metals

Prep Batch: 197132

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total Recoverable	Water	200.7	
LCS 240-197132/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-197132/1-A	Method Blank	Total Recoverable	Water	200.7	

Prep Batch: 197143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	245.1	
LCS 240-197143/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-197143/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 197430

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	245.1	197143
LCS 240-197143/2-A	Lab Control Sample	Total/NA	Water	245.1	197143
MB 240-197143/1-A	Method Blank	Total/NA	Water	245.1	197143

Analysis Batch: 197540

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total Recoverable	Water	200.7 Rev 4.4	197132
LCS 240-197132/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	197132
MB 240-197132/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	197132

General Chemistry

Analysis Batch: 196971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	3500-Cr B-2009	
240-55225-1 MS	WT-012607-090915-EE-001	Total/NA	Water	3500-Cr B-2009	
240-55225-1 MSD	WT-012607-090915-EE-001	Total/NA	Water	3500-Cr B-2009	

TestAmerica Canton

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

General Chemistry (Continued)

Analysis Batch: 196971 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-196971/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
MB 240-196971/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 197156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	SM 2540D	
LCS 240-197156/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-197156/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 197944

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55225-1	WT-012607-090915-EE-001	Total/NA	Water	1664A	
LCS 240-197944/2	Lab Control Sample	Total/NA	Water	1664A	
MB 240-197944/1	Method Blank	Total/NA	Water	1664A	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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

Lab Sample ID: MB 240-197081/7-A

Matrix: Water

Analysis Batch: 197285

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 197081

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1016	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1221	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1221	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1232	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1232	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1242	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1242	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1248	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1248	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1254	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1254	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1260	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1
Aroclor-1260	0.10	U	0.10	ug/L		09/11/15 05:06	09/14/15 16:55	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	51		10 - 114	09/11/15 05:06	09/14/15 16:55	1
DCB Decachlorobiphenyl	51		10 - 114	09/11/15 05:06	09/14/15 16:55	1
Tetrachloro-m-xylene	52		15 - 131	09/11/15 05:06	09/14/15 16:55	1
Tetrachloro-m-xylene	52		15 - 131	09/11/15 05:06	09/14/15 16:55	1

Lab Sample ID: LCS 240-197081/8-A

Matrix: Water

Analysis Batch: 197560

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 197081

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor-1016	2.50	1.51		ug/L		60	50 - 114
Aroclor-1260	2.50	1.63		ug/L		65	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	68		10 - 114
Tetrachloro-m-xylene	58		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-197132/1-A

Matrix: Water

Analysis Batch: 197540

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 197132

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		09/11/15 09:02	09/14/15 12:39	1
Nickel	0.010	U	0.010	mg/L		09/11/15 09:02	09/14/15 12:39	1
Lead	0.050	U	0.050	mg/L		09/11/15 09:02	09/14/15 12:39	1
Zinc	0.020	U	0.020	mg/L		09/11/15 09:02	09/14/15 12:39	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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

Lab Sample ID: LCS 240-197132/2-A

Matrix: Water

Analysis Batch: 197540

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 197132

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.200		mg/L		100	85 - 115
Nickel	0.500	0.509		mg/L		102	85 - 115
Lead	0.500	0.495		mg/L		99	85 - 115
Zinc	0.500	0.523		mg/L		105	85 - 115

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-197143/1-A

Matrix: Water

Analysis Batch: 197430

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 197143

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		09/11/15 14:00	09/14/15 13:37	1

Lab Sample ID: LCS 240-197143/2-A

Matrix: Water

Analysis Batch: 197430

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 197143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00481		mg/L		96	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-197944/1

Matrix: Water

Analysis Batch: 197944

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			09/17/15 10:06	1

Lab Sample ID: LCS 240-197944/2

Matrix: Water

Analysis Batch: 197944

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	40.0	31.9		mg/L		80	78 - 114

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

Lab Sample ID: MB 240-196971/3

Matrix: Water

Analysis Batch: 196971

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			09/10/15 10:36	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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

Lab Sample ID: LCS 240-196971/4

Matrix: Water

Analysis Batch: 196971

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 - 118

Lab Sample ID: 240-55225-1 MS

Matrix: Water

Analysis Batch: 196971

Client Sample ID: WT-012607-090915-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	0.0050	U F1	mg/L		0	41 - 136

Lab Sample ID: 240-55225-1 MSD

Matrix: Water

Analysis Batch: 196971

Client Sample ID: WT-012607-090915-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	0.0050	U F1	0.250	0.0050	U F1	mg/L		0	41 - 136	NC	20

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

Lab Sample ID: MB 240-197156/1

Matrix: Water

Analysis Batch: 197156

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L			09/11/15 09:48	1

Lab Sample ID: LCS 240-197156/2

Matrix: Water

Analysis Batch: 197156

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	68.6	69.0		mg/L		101	73 - 113

TestAmerica Canton

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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)	DCB2 (10-114)	TCX2 (15-131)	TCX2 (15-131)
240-55225-1	WT-012607-090915-EE-001	54	54	53	53
LCS 240-197081/8-A	Lab Control Sample	68	68	58	58
MB 240-197081/7-A	Method Blank	51	51	52	52

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

Client Sample ID: WT-012607-090915-EE-001

Lab Sample ID: 240-55225-1

Date Collected: 09/09/15 15:00

Matrix: Water

Date Received: 09/10/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			197081	09/11/15 05:06	CSC	TAL CAN
Total/NA	Analysis	608		1	197287	09/14/15 15:06	HMB	TAL CAN
Total Recoverable	Prep	200.7			197132	09/11/15 09:02	WKD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	197540	09/14/15 13:24	WAL	TAL CAN
Total/NA	Prep	245.1			197143	09/11/15 14:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	197430	09/14/15 14:30	AMM2	TAL CAN
Total/NA	Analysis	1664A		1	197944	09/17/15 10:06	GNR	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	196971	09/10/15 10:38	NJE	TAL CAN
Total/NA	Analysis	SM 2540D		1	197156	09/11/15 09:48	JWW	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: 12607-01-012, RACER Eckles Rd

TestAmerica Job ID: 240-55225-1

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	12-31-15
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16
Kentucky (VW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	09-30-15 *
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	10-31-15 *
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica Canton

**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-55225 Chain of Custody

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

Chain of Custody Record

105131

TestAmerica

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

Regulatory Program:		Project Manager:		Client Contact		Site Contact:		Date:		COC No.							
☐ DW	☐ NPDES	☐ RCRA	☐ Other:	Tell/Fax:		Lab Contact:	Carrier:	Date:	COC No.:	Sampler:	COCs						
Company Name: GHD - RACER Address: 14496 Shelburne Rd., Suite 200 City/State/Zip: Plymouth, MA 01960 Phone: (734) 453-5123 Fax: (734) 453-5201 Project Name: RACER Livonia GWTP Site: Livonia PO # 12607-T01Y15-003						For Lab Use Only: Walk-In Client: Lab Sampling: Job / SDG No.: Sample Specific Notes:											
Analysis Turnaround Time ☐ CALENDAR DAYS ☒ WORKING DAYS TAT if different from Below ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day																	
Sample Identification						Sample Date		Sample Time		Sample Type (C=Comp, G=Grab)		Matrix		# of Cont.			
WT-012607-090915-EE-001						9/9/15		1500		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						Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) ☐ Return to Client ☐ Disposal by Lab ☐ Archive for _____ Months					
Relinquished by: E.R. Engwen						Received by: Alex Cohen						Date/Time: 9/10/15 1000					
Relinquished by:						Received by:						Date/Time:					
Relinquished by:						Received in Laboratory by:						Date/Time:					

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

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-012607-090915-EE-001	240-55225-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-090915-EE-001	240-55225-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-090915-EE-001	240-55225-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: 240-56916-1

Client Project/Site: 12607-012, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

11/3/2015 4:13:06 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Job ID: 240-56916-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 12607, RACER Eckles Rd

Report Number: 240-56916-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 10/22/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.1 C.

POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-012607-102115-EE-001 (240-56916-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 10/24/2015 and analyzed on 10/26/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-203486.

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

TOTAL RECOVERABLE METALS (ICP)

Sample WT-012607-102115-EE-001 (240-56916-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 10/23/2015 and analyzed on 10/26/2015.

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Job ID: 240-56916-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-102115-EE-001 (240-56916-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

MERCURY

Sample WT-012607-102115-EE-001 (240-56916-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 10/23/2015 and analyzed on 10/24/2015.

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

HEM AND SGT-HEM

Sample WT-012607-102115-EE-001 (240-56916-1) was analyzed for HEM and SGT-HEM in accordance with EPA Method 1664A. The samples were analyzed on 11/03/2015.

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

TOTAL SUSPENDED SOLIDS

Sample WT-012607-102115-EE-001 (240-56916-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 10/26/2015.

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

HEXAVALENT CHROMIUM

Sample WT-012607-102115-EE-001 (240-56916-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR B. The samples were analyzed on 10/22/2015.

No 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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-56916-1	WT-012607-102115-EE-001	Water	10/21/15 15:15	10/22/15 09:30

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Client Sample ID: WT-012607-102115-EE-001

Lab Sample ID: 240-56916-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.061		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.082		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	4.0		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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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

Client Sample ID: WT-012607-102115-EE-001

Date Collected: 10/21/15 15:15

Date Received: 10/22/15 09:30

Lab Sample ID: 240-56916-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Aroclor-1221	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Aroclor-1232	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Aroclor-1242	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Aroclor-1248	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Aroclor-1254	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Aroclor-1260	0.095	U	0.095	ug/L		10/24/15 08:51	10/26/15 21:19	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 114			10/24/15 08:51	10/26/15 21:19	1
Tetrachloro-m-xylene	50		15 - 131			10/24/15 08:51	10/26/15 21:19	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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

Client Sample ID: WT-012607-102115-EE-001

Date Collected: 10/21/15 15:15

Date Received: 10/22/15 09:30

Lab Sample ID: 240-56916-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.061		0.050	mg/L		10/23/15 11:21	10/26/15 19:25	1
Nickel	0.082		0.010	mg/L		10/23/15 11:21	10/26/15 19:25	1
Lead	0.050	U	0.050	mg/L		10/23/15 11:21	10/26/15 19:25	1
Zinc	0.020	U	0.020	mg/L		10/23/15 11:21	10/26/15 19:25	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-102115-EE-001

Date Collected: 10/21/15 15:15

Date Received: 10/22/15 09:30

Lab Sample ID: 240-56916-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	—	10/23/15 14:00	10/24/15 11:13	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

General Chemistry

Client Sample ID: WT-012607-102115-EE-001

Date Collected: 10/21/15 15:15

Date Received: 10/22/15 09:30

Lab Sample ID: 240-56916-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			11/03/15 09:33	1
Cr (VI)	0.0050	U	0.0050	mg/L			10/22/15 11:53	1
Total Suspended Solids	4.0		4.0	mg/L			10/26/15 13:02	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

GC Semi VOA

Prep Batch: 203486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	3520C	
LCS 240-203486/14-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-203486/13-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 203739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	608	203486
LCS 240-203486/14-A	Lab Control Sample	Total/NA	Water	608	203486
MB 240-203486/13-A	Method Blank	Total/NA	Water	608	203486

Metals

Prep Batch: 203355

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total Recoverable	Water	200.7	
LCS 240-203355/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-203355/1-A	Method Blank	Total Recoverable	Water	200.7	

Prep Batch: 203360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	245.1	
LCS 240-203360/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-203360/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 203613

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	245.1	203360
LCS 240-203360/2-A	Lab Control Sample	Total/NA	Water	245.1	203360
MB 240-203360/1-A	Method Blank	Total/NA	Water	245.1	203360

Analysis Batch: 203677

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total Recoverable	Water	200.7 Rev 4.4	203355
LCS 240-203355/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	203355
MB 240-203355/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	203355

General Chemistry

Analysis Batch: 203162

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	3500-Cr B-2009	
240-56916-1 MS	WT-012607-102115-EE-001	Total/NA	Water	3500-Cr B-2009	
240-56916-1 MSD	WT-012607-102115-EE-001	Total/NA	Water	3500-Cr B-2009	
LCS 240-203162/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
MB 240-203162/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 203703

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	SM 2540D	
LCS 240-203703/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

General Chemistry (Continued)

Analysis Batch: 203703 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-203703/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 204957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-56916-1	WT-012607-102115-EE-001	Total/NA	Water	1664A	
LCS 240-204957/2	Lab Control Sample	Total/NA	Water	1664A	
MB 240-204957/1	Method Blank	Total/NA	Water	1664A	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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

Lab Sample ID: MB 240-203486/13-A

Matrix: Water

Analysis Batch: 203739

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 203486

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1
Aroclor-1221	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1
Aroclor-1232	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1
Aroclor-1242	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1
Aroclor-1248	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1
Aroclor-1254	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1
Aroclor-1260	0.10	U	0.10	ug/L		10/24/15 08:51	10/26/15 22:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	72		10 - 114	10/24/15 08:51	10/26/15 22:32	1
Tetrachloro-m-xylene	58		15 - 131	10/24/15 08:51	10/26/15 22:32	1

Lab Sample ID: LCS 240-203486/14-A

Matrix: Water

Analysis Batch: 203739

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 203486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.74		ug/L		70	50 - 114
Aroclor-1260	2.50	1.85		ug/L		74	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	57		10 - 114
Tetrachloro-m-xylene	65		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-203355/1-A

Matrix: Water

Analysis Batch: 203677

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 203355

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		10/23/15 11:21	10/26/15 19:10	1
Nickel	0.010	U	0.010	mg/L		10/23/15 11:21	10/26/15 19:10	1
Lead	0.050	U	0.050	mg/L		10/23/15 11:21	10/26/15 19:10	1
Zinc	0.020	U	0.020	mg/L		10/23/15 11:21	10/26/15 19:10	1

Lab Sample ID: LCS 240-203355/2-A

Matrix: Water

Analysis Batch: 203677

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 203355

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.206		mg/L		103	85 - 115
Nickel	0.500	0.524		mg/L		105	85 - 115
Lead	0.500	0.499		mg/L		100	85 - 115
Zinc	0.500	0.547		mg/L		109	85 - 115

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-203360/1-A
Matrix: Water
Analysis Batch: 203613

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 203360

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		10/23/15 14:00	10/24/15 10:45	1

Lab Sample ID: LCS 240-203360/2-A
Matrix: Water
Analysis Batch: 203613

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 203360

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00495		mg/L		99	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-204957/1
Matrix: Water
Analysis Batch: 204957

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			11/03/15 09:33	1

Lab Sample ID: LCS 240-204957/2
Matrix: Water
Analysis Batch: 204957

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	32.5		mg/L		81	78 - 114

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

Lab Sample ID: MB 240-203162/3
Matrix: Water
Analysis Batch: 203162

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			10/22/15 11:50	1

Lab Sample ID: LCS 240-203162/4
Matrix: Water
Analysis Batch: 203162

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 - 118

Lab Sample ID: 240-56916-1 MS
Matrix: Water
Analysis Batch: 203162

Client Sample ID: WT-012607-102115-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	0.250	0.213		mg/L		85	41 - 136

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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

Lab Sample ID: 240-56916-1 MSD

Matrix: Water

Analysis Batch: 203162

Client Sample ID: WT-012607-102115-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	0.250	0.223		mg/L		89	41 - 136	5	20

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

Lab Sample ID: MB 240-203703/1

Matrix: Water

Analysis Batch: 203703

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			10/26/15 13:02	1

Lab Sample ID: LCS 240-203703/2

Matrix: Water

Analysis Batch: 203703

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	68.6	65.0		mg/L		95	73 - 113

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

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)
240-56916-1	WT-012607-102115-EE-001	50	50
LCS 240-203486/14-A	Lab Control Sample	57	65
MB 240-203486/13-A	Method Blank	72	58

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Client Sample ID: WT-012607-102115-EE-001

Lab Sample ID: 240-56916-1

Date Collected: 10/21/15 15:15

Matrix: Water

Date Received: 10/22/15 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			203486	10/24/15 08:51	YDN	TAL CAN
Total/NA	Analysis	608		1	203739	10/26/15 21:19	HMB	TAL CAN
Total Recoverable	Prep	200.7			203355	10/23/15 11:21	WKD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	203677	10/26/15 19:25	KLC	TAL CAN
Total/NA	Prep	245.1			203360	10/23/15 14:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	203613	10/24/15 11:13	WAL	TAL CAN
Total/NA	Analysis	1664A		1	204957	11/03/15 09:33	GNR	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	203162	10/22/15 11:53	DTN	TAL CAN
Total/NA	Analysis	SM 2540D		1	203703	10/26/15 13:02	JWW	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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-56916-1

Laboratory: TestAmerica Canton

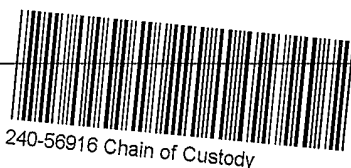
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

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	12-31-15
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16
Kentucky (VW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	10-30-15 *
New York	NELAP	2	10975	03-31-16
Ohio VAP	State Program	5	CL0024	10-31-15 *
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica Canton

**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



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

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login # : 5016

Client G+D-Racer Site Name _____ Cooler unpacked by: Alex Culver
Cooler Received on 10/22/15 Opened on 10/22/15
FedEx: 1st Grd ☒ 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
IR GUN# 53 (CF +0.1 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN# 48 (CF -0.3 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C ☐ See Multiple
IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C Cooler Form
IR GUN# 8 (CF -0.5 °C) Observed Cooler Temp. 3.6 °C Corrected Cooler Temp. 3.1 °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 ☒
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. Were sample(s) at the correct pH upon receipt? Yes ☒ No NA pH Strip Lot# HC554612
12. Were VOAs on the COC? Yes ☒ No
13. Were air bubbles >6 mm in any VOA vials? Yes ☒ No ☒
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # _____ 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</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-102115-EE-001	240-56916-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-102115-EE-001	240-56916-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-102115-EE-001	240-56916-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: 240-58125-1

Client Project/Site: 12607-012, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

12/3/2015 1:24:04 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Job ID: 240-58125-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 12607-012, RACER Eckles Rd

Report Number: 240-58125-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 11/19/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.3 C.

POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-012607-111815-EE-001 (240-58125-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 11/21/2015 and analyzed on 12/03/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

The following sample was diluted due to the nature of the sample matrix: WT-012607-111815-EE-001 (240-58125-1). Elevated reporting limits (RLs) are provided.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-207901.

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

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Job ID: 240-58125-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

TOTAL RECOVERABLE METALS (ICP)

Sample WT-012607-111815-EE-001 (240-58125-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 11/20/2015 and analyzed on 11/25/2015.

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

MERCURY

Sample WT-012607-111815-EE-001 (240-58125-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 11/20/2015 and analyzed on 11/23/2015.

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

HEM AND SGT-HEM

Sample WT-012607-111815-EE-001 (240-58125-1) was analyzed for HEM and SGT-HEM in accordance with EPA Method 1664A. The samples were analyzed on 11/30/2015.

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

TOTAL SUSPENDED SOLIDS

Sample WT-012607-111815-EE-001 (240-58125-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 11/21/2015.

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

HEXAVALENT CHROMIUM

Sample WT-012607-111815-EE-001 (240-58125-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR B. The samples were analyzed on 11/19/2015.

No 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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-58125-1	WT-012607-111815-EE-001	Water	11/18/15 15:00	11/19/15 09:20

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Client Sample ID: WT-012607-111815-EE-001

Lab Sample ID: 240-58125-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.67		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.41		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	46		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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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

Client Sample ID: WT-012607-111815-EE-001

Date Collected: 11/18/15 15:00

Date Received: 11/19/15 09:20

Lab Sample ID: 240-58125-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Aroclor-1221	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Aroclor-1232	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Aroclor-1242	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Aroclor-1248	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Aroclor-1254	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Aroclor-1260	0.19	U	0.19	ug/L		11/21/15 09:04	12/03/15 09:55	2
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	66		10 - 114			11/21/15 09:04	12/03/15 09:55	2
Tetrachloro-m-xylene	64		15 - 131			11/21/15 09:04	12/03/15 09:55	2

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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

Client Sample ID: WT-012607-111815-EE-001

Date Collected: 11/18/15 15:00

Date Received: 11/19/15 09:20

Lab Sample ID: 240-58125-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.67		0.050	mg/L		11/20/15 09:47	11/25/15 02:00	1
Nickel	0.41		0.010	mg/L		11/20/15 09:47	11/25/15 02:00	1
Lead	0.050	U	0.050	mg/L		11/20/15 09:47	11/25/15 02:00	1
Zinc	0.020	U	0.020	mg/L		11/20/15 09:47	11/25/15 02:00	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-111815-EE-001

Date Collected: 11/18/15 15:00

Date Received: 11/19/15 09:20

Lab Sample ID: 240-58125-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		11/20/15 14:00	11/23/15 12:31	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

General Chemistry

Client Sample ID: WT-012607-111815-EE-001

Date Collected: 11/18/15 15:00

Date Received: 11/19/15 09:20

Lab Sample ID: 240-58125-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.7	U	4.7	mg/L			11/30/15 07:30	1
Cr (VI)	0.0050	U	0.0050	mg/L			11/19/15 11:56	1
Total Suspended Solids	46		4.0	mg/L			11/21/15 10:55	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

GC Semi VOA

Prep Batch: 207901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	3520C	
LCS 240-207901/15-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-207901/14-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 208202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-207901/15-A	Lab Control Sample	Total/NA	Water	608	207901
MB 240-207901/14-A	Method Blank	Total/NA	Water	608	207901

Analysis Batch: 209245

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	608	207901

Metals

Prep Batch: 207768

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total Recoverable	Water	200.7	
LCS 240-207768/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-207768/1-A	Method Blank	Total Recoverable	Water	200.7	

Prep Batch: 207771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	245.1	
LCS 240-207771/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-207771/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 208147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	245.1	207771
LCS 240-207771/2-A	Lab Control Sample	Total/NA	Water	245.1	207771
MB 240-207771/1-A	Method Blank	Total/NA	Water	245.1	207771

Analysis Batch: 208507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total Recoverable	Water	200.7 Rev 4.4	207768
LCS 240-207768/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	207768
MB 240-207768/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	207768

General Chemistry

Analysis Batch: 207532

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	3500-Cr B-2009	
LCS 240-207532/33	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
MB 240-207532/32	Method Blank	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 207913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	SM 2540D	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

General Chemistry (Continued)

Analysis Batch: 207913 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-207913/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-207913/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 208752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-58125-1	WT-012607-111815-EE-001	Total/NA	Water	1664A	
LCS 240-208752/2	Lab Control Sample	Total/NA	Water	1664A	
MB 240-208752/1	Method Blank	Total/NA	Water	1664A	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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

Lab Sample ID: MB 240-207901/14-A

Matrix: Water

Analysis Batch: 208202

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 207901

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1
Aroclor-1221	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1
Aroclor-1232	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1
Aroclor-1242	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1
Aroclor-1248	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1
Aroclor-1254	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1
Aroclor-1260	0.10	U	0.10	ug/L		11/21/15 09:04	11/24/15 09:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	57		10 - 114	11/21/15 09:04	11/24/15 09:51	1
Tetrachloro-m-xylene	38		15 - 131	11/21/15 09:04	11/24/15 09:51	1

Lab Sample ID: LCS 240-207901/15-A

Matrix: Water

Analysis Batch: 208202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 207901

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.46		ug/L		58	50 - 114
Aroclor-1260	2.50	1.60		ug/L		64	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	66		10 - 114
Tetrachloro-m-xylene	42		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-207768/1-A

Matrix: Water

Analysis Batch: 208507

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 207768

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		11/20/15 09:47	11/25/15 00:26	1
Nickel	0.010	U	0.010	mg/L		11/20/15 09:47	11/25/15 00:26	1
Lead	0.050	U	0.050	mg/L		11/20/15 09:47	11/25/15 00:26	1
Zinc	0.020	U	0.020	mg/L		11/20/15 09:47	11/25/15 00:26	1

Lab Sample ID: LCS 240-207768/2-A

Matrix: Water

Analysis Batch: 208507

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 207768

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.186		mg/L		93	85 - 115
Nickel	0.500	0.476		mg/L		95	85 - 115
Lead	0.500	0.465		mg/L		93	85 - 115
Zinc	0.500	0.497		mg/L		99	85 - 115

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-207771/1-A
Matrix: Water
Analysis Batch: 208147

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 207771

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		11/20/15 14:00	11/23/15 11:56	1

Lab Sample ID: LCS 240-207771/2-A
Matrix: Water
Analysis Batch: 208147

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 207771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00491		mg/L		98	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-208752/1
Matrix: Water
Analysis Batch: 208752

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			11/30/15 07:30	1

Lab Sample ID: LCS 240-208752/2
Matrix: Water
Analysis Batch: 208752

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
HEM	40.0	38.5		mg/L		96	78 - 114

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

Lab Sample ID: MB 240-207532/32
Matrix: Water
Analysis Batch: 207532

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			11/19/15 09:01	1

Lab Sample ID: LCS 240-207532/33
Matrix: Water
Analysis Batch: 207532

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	0.241		mg/L		96	80 - 118

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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

Lab Sample ID: MB 240-207913/1

Matrix: Water

Analysis Batch: 207913

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Solids	4.0	U	4.0	mg/L			11/21/15 10:55	1

Lab Sample ID: LCS 240-207913/2

Matrix: Water

Analysis Batch: 207913

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	74.4	67.0		mg/L		90	73 - 113

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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)
240-58125-1	WT-012607-111815-EE-001	66	64
LCS 240-207901/15-A	Lab Control Sample	66	42
MB 240-207901/14-A	Method Blank	57	38

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

Client Sample ID: WT-012607-111815-EE-001

Lab Sample ID: 240-58125-1

Date Collected: 11/18/15 15:00

Matrix: Water

Date Received: 11/19/15 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			207901	11/21/15 09:04	CSC	TAL CAN
Total/NA	Analysis	608		2	209245	12/03/15 09:55	HMB	TAL CAN
Total Recoverable	Prep	200.7			207768	11/20/15 09:47	WKD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	208507	11/25/15 02:00	RKT	TAL CAN
Total/NA	Prep	245.1			207771	11/20/15 14:00	WKD	TAL CAN
Total/NA	Analysis	245.1		1	208147	11/23/15 12:31	WAL	TAL CAN
Total/NA	Analysis	1664A		1	208752	11/30/15 07:30	LKG	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	207532	11/19/15 11:56	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	207913	11/21/15 10:55	JWW	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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-58125-1

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	12-31-15
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16
Kentucky (VW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	11-30-15 *
New York	NELAP	2	10975	03-31-16
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

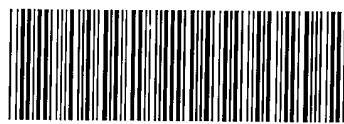
TestAmerica Canton

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THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



240-58125 Chain of Custody

Project Manager:		Site Contact:		Date: 11/15/15		COC No: 105132	
Tel/Fax:		Lab Contact: RACER Fisher		Carrier: FEDEX		COCs	
Analysis Turnaround Time		Sample Type (C=Comp, G=Grab)		Sample Time		# of Cont.	
Sample Date		Sample Matrix		Sample Specific Notes:			
WT-012607-10115-EE-001		C		11/15/15 1500		WT	
PCB's		Metals		TSS, Cu (UI)			
Perform MS / MSD (Y / N)		Filtered Sample (Y / N)					
Return to Client		Disposal by Lab		Archive for		Months	
Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		1 3 4 1					
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	
Special Instructions/QC Requirements & Comments:							
Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Cor'd:		Therm ID No.:	
Relinquished by: Env-Eye		Received by: GHD Service		Date/Time: 11/15/15		Date/Time: 11/19/15 920	
Relinquished by:		Received by:		Date/Time:		Date/Time:	
Relinquished by:		Received in Laboratory by:		Date/Time:		Date/Time:	

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-012607-111815-EE-001	240-58125-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-111815-EE-001	240-58125-E-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-111815-EE-001	240-58125-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: 240-59364-1

Client Project/Site: 12607-012, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

12/31/2015 2:52:15 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Job ID: 240-59364-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 12607-012, RACER Eckles Rd

Report Number: 240-59364-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 12/22/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.0 C.

A trip blank was submitted for analysis with these samples; however, it was not listed on the Chain of Custody (COC).

VOLATILE ORGANIC COMPOUNDS (GCMS)

Samples WT-012607-122115-EE-001 (240-59364-1) and TRIP BLANK (240-59364-2) were analyzed for volatile organic compounds (GCMS) in accordance with EPA Method 624. The samples were analyzed on 12/24/2015.

The preservative used can degrade acidic medium compounds: 2-chloroethyl vinyl ether and/or acrolein.

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

SEMIVOLATILE ORGANIC COMPOUNDS (GCMS)

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for semivolatile organic compounds (GCMS) in accordance with EPA Method 625. The samples were prepared on 12/23/2015 and analyzed on 12/29/2015.

Surrogates are added during the extraction process prior to dilution. When the sample is diluted, surrogate recoveries are diluted out and no corrective action is required.

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Job ID: 240-59364-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD).

The continuing calibration verification (CCV) associated with batch 212368 recovered above the upper control limit for 4,6-Dinitro-2-methylphenol and Benzidine. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

The DFTPP associated with analytical batch 212558 had two ion ratios 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.

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

DIOXIN SCREEN

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for Dioxin Screen in accordance with EPA Method 625 Dioxin Screen. The samples were prepared on 12/23/2015 and analyzed on 12/29/2015.

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

POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 12/23/2015 and analyzed on 12/27/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD).

The following samples required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-122115-EE-001 (240-59364-1).2343299, 2103098, 2333858.

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

CHLORINATED PESTICIDES

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for chlorinated pesticides in accordance with EPA Method 608. The samples were prepared on 12/23/2015 and analyzed on 12/30/2015.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD).

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

TOTAL RECOVERABLE METALS (ICP)

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 12/23/2015 and analyzed on 12/24/2015.

Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-122115-EE-001 (240-59364-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

MERCURY

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Job ID: 240-59364-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared and analyzed on 12/23/2015.

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

HEM AND SGT-HEM

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for HEM and SGT-HEM in accordance with EPA Method 1664A. The samples were analyzed on 12/31/2015.

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

TOTAL SUSPENDED SOLIDS

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 12/24/2015.

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

HEXAVALENT CHROMIUM

Sample WT-012607-122115-EE-001 (240-59364-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR B. The samples were analyzed on 12/22/2015.

Cr (VI) failed the recovery criteria low for the MS of sample WT-012607-122115-EE-001MS (240-59364-1) in batch 240-211956.

Cr (VI) failed the recovery criteria low for the MSD of sample WT-012607-122115-EE-001MSD (240-59364-1) in batch 240-211956.

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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.
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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-59364-1	WT-012607-122115-EE-001	Water	12/21/15 12:30	12/22/15 11:00
240-59364-2	TRIP BLANK	Water	12/21/15 00:00	12/22/15 11:00

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Client Sample ID: WT-012607-122115-EE-001

Lab Sample ID: 240-59364-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
2,3,7,8-TCDD	NEG			ng/uL	1		625	Total/NA
Chromium	0.11		0.050	mg/L	1		200.7 Rev 4.4	Total Recoverable
Nickel	0.078		0.010	mg/L	1		200.7 Rev 4.4	Total Recoverable
Total Suspended Solids	17		4.0	mg/L	1		SM 2540D	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-59364-2

No Detections.

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,1,2-Trichloroethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
Xylenes, Total	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,1-Dichloroethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,1-Dichloroethene	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,2-Dichloroethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,2-Dichloropropane	1.0	U	1.0	ug/L			12/24/15 01:04	1
Acrolein	10	U	10	ug/L			12/24/15 01:04	1
Acrylonitrile	10	U	10	ug/L			12/24/15 01:04	1
Benzene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Bromoform	1.0	U	1.0	ug/L			12/24/15 01:04	1
Bromomethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
Carbon tetrachloride	1.0	U	1.0	ug/L			12/24/15 01:04	1
Chlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Chlorodibromomethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
Chloroethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
Chloroform	1.0	U	1.0	ug/L			12/24/15 01:04	1
Chloromethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
2-Chloroethyl vinyl ether	2.0	U	2.0	ug/L			12/24/15 01:04	1
cis-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Dichlorobromomethane	1.0	U	1.0	ug/L			12/24/15 01:04	1
Ethylbenzene	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,2-Dichlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Tetrachloroethene	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,3-Dichlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Toluene	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,4-Dichlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:04	1
trans-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Trichloroethene	1.0	U	1.0	ug/L			12/24/15 01:04	1
Vinyl chloride	1.0	U	1.0	ug/L			12/24/15 01:04	1
Methylene Chloride	1.0	U	1.0	ug/L			12/24/15 01:04	1
trans-1,2-Dichloroethene	1.0	U	1.0	ug/L			12/24/15 01:04	1
1,3-Dichloropropene, Total	1.0	U	1.0	ug/L			12/24/15 01:04	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		61 - 120		12/24/15 01:04	1
1,2-Dichloroethane-d4 (Surr)	83		78 - 125		12/24/15 01:04	1
Toluene-d8 (Surr)	98		80 - 120		12/24/15 01:04	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: TRIP BLANK

Date Collected: 12/21/15 00:00

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-2

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,1,2-Trichloroethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
Xylenes, Total	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,1-Dichloroethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,1-Dichloroethene	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,2-Dichloroethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,2-Dichloropropane	1.0	U	1.0	ug/L			12/24/15 01:27	1
Acrolein	10	U	10	ug/L			12/24/15 01:27	1
Acrylonitrile	10	U	10	ug/L			12/24/15 01:27	1
Benzene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Bromoform	1.0	U	1.0	ug/L			12/24/15 01:27	1
Bromomethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
Carbon tetrachloride	1.0	U	1.0	ug/L			12/24/15 01:27	1
Chlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Chlorodibromomethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
Chloroethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
Chloroform	1.0	U	1.0	ug/L			12/24/15 01:27	1
Chloromethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
2-Chloroethyl vinyl ether	2.0	U	2.0	ug/L			12/24/15 01:27	1
cis-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Dichlorobromomethane	1.0	U	1.0	ug/L			12/24/15 01:27	1
Ethylbenzene	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,2-Dichlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Tetrachloroethene	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,3-Dichlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Toluene	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,4-Dichlorobenzene	1.0	U	1.0	ug/L			12/24/15 01:27	1
trans-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Trichloroethene	1.0	U	1.0	ug/L			12/24/15 01:27	1
Vinyl chloride	1.0	U	1.0	ug/L			12/24/15 01:27	1
Methylene Chloride	1.0	U	1.0	ug/L			12/24/15 01:27	1
trans-1,2-Dichloroethene	1.0	U	1.0	ug/L			12/24/15 01:27	1
1,3-Dichloropropene, Total	1.0	U	1.0	ug/L			12/24/15 01:27	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	84		61 - 120		12/24/15 01:27	1
1,2-Dichloroethane-d4 (Surr)	85		78 - 125		12/24/15 01:27	1
Toluene-d8 (Surr)	94		80 - 120		12/24/15 01:27	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	NEG			ng/uL		12/23/15 08:58	12/29/15 21:42	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2,4,6-Trichlorophenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2,4-Dichlorophenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2,4-Dimethylphenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2,4-Dinitrophenol	48	U	48	ug/L		12/23/15 08:56	12/29/15 00:43	1
2,4-Dinitrotoluene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2,6-Dinitrotoluene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2-Chloronaphthalene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2-Chlorophenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
2-Nitrophenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
3,3'-Dichlorobenzidine	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
4,6-Dinitro-2-methylphenol	48	U	48	ug/L		12/23/15 08:56	12/29/15 00:43	1
4-Bromophenyl phenyl ether	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
4-Chlorophenyl phenyl ether	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
4-Nitrophenol	48	U	48	ug/L		12/23/15 08:56	12/29/15 00:43	1
Acenaphthene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Acenaphthylene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Anthracene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Benzidine	4.8	U	4.8	ug/L		12/23/15 08:56	12/29/15 00:43	1
Benzo[a]anthracene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Benzo[a]pyrene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Benzo[b]fluoranthene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Benzo[g,h,i]perylene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Benzo[k]fluoranthene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Bis(2-chloroethoxy)methane	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Bis(2-chloroethyl)ether	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Bis(2-ethylhexyl) phthalate	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
bis (2-chloroisopropyl) ether	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Butyl benzyl phthalate	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Chrysene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Dibenz(a,h)anthracene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Diethyl phthalate	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Dimethyl phthalate	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Di-n-butyl phthalate	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Di-n-octyl phthalate	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Fluoranthene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Fluorene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Hexachlorobenzene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Hexachlorobutadiene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Hexachlorocyclopentadiene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Hexachloroethane	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Indeno[1,2,3-cd]pyrene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Isophorone	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Naphthalene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Nitrobenzene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
N-Nitrosodimethylamine	0.95	U	0.95	ug/L		12/23/15 08:56	12/29/15 00:43	1
N-Nitrosodi-n-propylamine	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
N-Nitrosodiphenylamine	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
4-Chloro-3-methylphenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Phenanthrene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Phenol	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
Pyrene	9.5	U	9.5	ug/L		12/23/15 08:56	12/29/15 00:43	1
1,2-Diphenylhydrazine	0.95	U	0.95	ug/L		12/23/15 08:56	12/29/15 00:43	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
2-Fluorophenol	37		10 - 135			12/23/15 08:56	12/29/15 00:43	1
2,4,6-Tribromophenol	87		10 - 142			12/23/15 08:56	12/29/15 00:43	1
Nitrobenzene-d5	83		44 - 110			12/23/15 08:56	12/29/15 00:43	1
Phenol-d5	20		10 - 132			12/23/15 08:56	12/29/15 00:43	1
Terphenyl-d14	59		24 - 135			12/23/15 08:56	12/29/15 00:43	1
2-Fluorobiphenyl (Surr)	84		38 - 110			12/23/15 08:56	12/29/15 00:43	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Method: 608 - Organochlorine Pesticides in Water

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
alpha-BHC	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
beta-BHC	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
delta-BHC	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
gamma-BHC (Lindane)	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Chlordane (technical)	0.48	U	0.48	ug/L		12/23/15 05:05	12/30/15 15:22	1
Chlordane (technical) Peak 1	0.48	U	0.48	ug/L		12/23/15 05:05	12/30/15 15:22	1
Chlordane (technical) Peak 2	0.48	U	0.48	ug/L		12/23/15 05:05	12/30/15 15:22	1
Chlordane (technical) Peak 3	0.48	U	0.48	ug/L		12/23/15 05:05	12/30/15 15:22	1
Chlordane (technical) Peak 4	0.48	U	0.48	ug/L		12/23/15 05:05	12/30/15 15:22	1
4,4'-DDD	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
4,4'-DDE	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
4,4'-DDT	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Dieldrin	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Endosulfan I	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Endosulfan II	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Endosulfan sulfate	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Endrin	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Endrin aldehyde	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Heptachlor	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Heptachlor epoxide	0.048	U	0.048	ug/L		12/23/15 05:05	12/30/15 15:22	1
Toxaphene	1.9	U	1.9	ug/L		12/23/15 05:05	12/30/15 15:22	1
Toxaphene Peak 1	1.9	U	1.9	ug/L		12/23/15 05:05	12/30/15 15:22	1
Toxaphene Peak 2	1.9	U	1.9	ug/L		12/23/15 05:05	12/30/15 15:22	1
Toxaphene Peak 3	1.9	U	1.9	ug/L		12/23/15 05:05	12/30/15 15:22	1
Toxaphene Peak 4	1.9	U	1.9	ug/L		12/23/15 05:05	12/30/15 15:22	1
Toxaphene Peak 5	1.9	U	1.9	ug/L		12/23/15 05:05	12/30/15 15:22	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	91		10 - 151			12/23/15 05:05	12/30/15 15:22	1
Tetrachloro-m-xylene	72		10 - 151			12/23/15 05:05	12/30/15 15:22	1

TestAmerica Canton

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1
Aroclor-1221	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1
Aroclor-1232	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1
Aroclor-1242	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1
Aroclor-1248	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1
Aroclor-1254	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1
Aroclor-1260	0.095	U	0.095	ug/L		12/23/15 05:00	12/27/15 15:17	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	57		10 - 114	12/23/15 05:00	12/27/15 15:17	1
Tetrachloro-m-xylene	59		15 - 131	12/23/15 05:00	12/27/15 15:17	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.11		0.050	mg/L		12/23/15 08:25	12/24/15 15:15	1
Nickel	0.078		0.010	mg/L		12/23/15 08:25	12/24/15 15:15	1
Lead	0.050	U	0.050	mg/L		12/23/15 08:25	12/24/15 15:15	1
Zinc	0.020	U	0.020	mg/L		12/23/15 08:25	12/24/15 15:15	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	-	12/23/15 08:23	12/23/15 14:11	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

General Chemistry

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.9	U	4.9	mg/L			12/31/15 08:13	1
Cr (VI)	0.0050	U F1	0.0050	mg/L			12/22/15 12:11	1
Total Suspended Solids	17		4.0	mg/L			12/24/15 10:48	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

GC/MS VOA

Analysis Batch: 212202

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	624	
240-59364-2	TRIP BLANK	Total/NA	Water	624	
LCS 240-212202/6	Lab Control Sample	Total/NA	Water	624	
MB 240-212202/5	Method Blank	Total/NA	Water	624	

GC/MS Semi VOA

Prep Batch: 212099

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	625	
LCS 240-212099/11-A	Lab Control Sample	Total/NA	Water	3510C	
MB 240-212099/10-A	Method Blank	Total/NA	Water	3510C	

Prep Batch: 212100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	3510C	
MB 240-212100/3-A	Method Blank	Total/NA	Water	3510C	

Analysis Batch: 212368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	625	212099
LCS 240-212099/11-A	Lab Control Sample	Total/NA	Water	625	212099
MB 240-212099/10-A	Method Blank	Total/NA	Water	625	212099

Analysis Batch: 212558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	625	212100
MB 240-212100/3-A	Method Blank	Total/NA	Water	625	212100

GC Semi VOA

Prep Batch: 212049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	3520C	
LCS 240-212049/11-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-212049/10-A	Method Blank	Total/NA	Water	3520C	

Prep Batch: 212052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	608	
LCS 240-212052/3-A	Lab Control Sample	Total/NA	Water	608	
MB 240-212052/2-A	Method Blank	Total/NA	Water	608	

Analysis Batch: 212346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	608	212049
LCS 240-212049/11-A	Lab Control Sample	Total/NA	Water	608	212049
MB 240-212049/10-A	Method Blank	Total/NA	Water	608	212049

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

GC Semi VOA (Continued)

Analysis Batch: 212598

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	608	212052
LCS 240-212052/3-A	Lab Control Sample	Total/NA	Water	608	212052
MB 240-212052/2-A	Method Blank	Total/NA	Water	608	212052

Metals

Prep Batch: 212076

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	245.1	
LCS 240-212076/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-212076/1-A	Method Blank	Total/NA	Water	245.1	

Prep Batch: 212084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total Recoverable	Water	200.7	
LCS 240-212084/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-212084/1-A	Method Blank	Total Recoverable	Water	200.7	

Analysis Batch: 212196

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	245.1	212076
LCS 240-212076/2-A	Lab Control Sample	Total/NA	Water	245.1	212076
MB 240-212076/1-A	Method Blank	Total/NA	Water	245.1	212076

Analysis Batch: 212434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total Recoverable	Water	200.7 Rev 4.4	212084
LCS 240-212084/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	212084
MB 240-212084/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	212084

General Chemistry

Analysis Batch: 211956

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	3500-Cr B-2009	
240-59364-1 MS	WT-012607-122115-EE-001	Total/NA	Water	3500-Cr B-2009	
240-59364-1 MSD	WT-012607-122115-EE-001	Total/NA	Water	3500-Cr B-2009	
LCS 240-211956/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
MB 240-211956/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 212301

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	SM 2540D	
240-59364-1 DU	WT-012607-122115-EE-001	Total/NA	Water	SM 2540D	
LCS 240-212301/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-212301/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 212707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59364-1	WT-012607-122115-EE-001	Total/NA	Water	1664A	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

General Chemistry (Continued)

Analysis Batch: 212707 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-212707/2	Lab Control Sample	Total/NA	Water	1664A	
MB 240-212707/1	Method Blank	Total/NA	Water	1664A	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: MB 240-212202/5

Matrix: Water

Analysis Batch: 212202

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			12/23/15 17:10	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,1,2-Trichloroethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
Xylenes, Total	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,1-Dichloroethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,1-Dichloroethene	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,2-Dichloroethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,2-Dichloropropane	1.0	U	1.0	ug/L			12/23/15 17:10	1
Acrolein	10	U	10	ug/L			12/23/15 17:10	1
Acrylonitrile	10	U	10	ug/L			12/23/15 17:10	1
Benzene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Bromoform	1.0	U	1.0	ug/L			12/23/15 17:10	1
Bromomethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
Carbon tetrachloride	1.0	U	1.0	ug/L			12/23/15 17:10	1
Chlorobenzene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Chlorodibromomethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
Chloroethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
Chloroform	1.0	U	1.0	ug/L			12/23/15 17:10	1
Chloromethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
2-Chloroethyl vinyl ether	2.0	U	2.0	ug/L			12/23/15 17:10	1
cis-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Dichlorobromomethane	1.0	U	1.0	ug/L			12/23/15 17:10	1
Ethylbenzene	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,2-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Tetrachloroethene	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,3-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Toluene	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,4-Dichlorobenzene	1.0	U	1.0	ug/L			12/23/15 17:10	1
trans-1,3-Dichloropropene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Trichloroethene	1.0	U	1.0	ug/L			12/23/15 17:10	1
Vinyl chloride	1.0	U	1.0	ug/L			12/23/15 17:10	1
Methylene Chloride	1.0	U	1.0	ug/L			12/23/15 17:10	1
trans-1,2-Dichloroethene	1.0	U	1.0	ug/L			12/23/15 17:10	1
1,3-Dichloropropene, Total	1.0	U	1.0	ug/L			12/23/15 17:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	89		61 - 120		12/23/15 17:10	1
1,2-Dichloroethane-d4 (Surr)	85		78 - 125		12/23/15 17:10	1
Toluene-d8 (Surr)	95		80 - 120		12/23/15 17:10	1

Lab Sample ID: LCS 240-212202/6

Matrix: Water

Analysis Batch: 212202

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2-Trichloroethane	20.0	22.0		ug/L		110	52 - 150
1,1-Dichloroethane	20.0	21.8		ug/L		109	59 - 155
1,1-Dichloroethene	20.0	19.9		ug/L		99	10 - 234

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: LCS 240-212202/6

Matrix: Water

Analysis Batch: 212202

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	18.2		ug/L		91	49 - 155
1,2-Dichloropropane	20.0	22.4		ug/L		112	10 - 210
Benzene	20.0	21.7		ug/L		109	37 - 151
Bromoform	20.0	22.2		ug/L		111	45 - 169
Bromomethane	20.0	16.4		ug/L		82	10 - 242
Carbon tetrachloride	20.0	23.7		ug/L		119	70 - 140
Chlorobenzene	20.0	21.0		ug/L		105	37 - 160
Chlorodibromomethane	20.0	21.2		ug/L		106	53 - 149
Chloroethane	20.0	18.5		ug/L		92	14 - 230
Chloroform	20.0	21.0		ug/L		105	51 - 138
Chloromethane	20.0	13.5		ug/L		67	10 - 273
2-Chloroethyl vinyl ether	20.0	24.2		ug/L		121	10 - 305
cis-1,3-Dichloropropene	20.0	22.1		ug/L		110	10 - 227
Dichlorobromomethane	20.0	21.2		ug/L		106	35 - 155
Ethylbenzene	20.0	21.4		ug/L		107	37 - 162
1,2-Dichlorobenzene	20.0	19.6		ug/L		98	18 - 190
Tetrachloroethene	20.0	19.7		ug/L		99	64 - 148
1,3-Dichlorobenzene	20.0	19.8		ug/L		99	59 - 156
Toluene	20.0	21.3		ug/L		107	47 - 150
1,4-Dichlorobenzene	20.0	19.5		ug/L		97	18 - 190
trans-1,3-Dichloropropene	20.0	23.6		ug/L		118	17 - 183
Trichloroethene	20.0	19.4		ug/L		97	71 - 157
Vinyl chloride	20.0	15.1		ug/L		75	10 - 251
Methylene Chloride	20.0	19.0		ug/L		95	10 - 221
trans-1,2-Dichloroethene	20.0	21.4		ug/L		107	54 - 156

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	95		61 - 120
1,2-Dichloroethane-d4 (Surr)	86		78 - 125
Toluene-d8 (Surr)	101		80 - 120

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

Lab Sample ID: MB 240-212100/3-A

Matrix: Water

Analysis Batch: 212558

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212100

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,3,7,8-TCDD	NEG			ng/uL		12/23/15 08:58	12/29/15 21:05	1

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

Lab Sample ID: MB 240-212099/10-A

Matrix: Water

Analysis Batch: 212368

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212099

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: MB 240-212099/10-A

Matrix: Water

Analysis Batch: 212368

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212099

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
2,4,6-Trichlorophenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2,4-Dichlorophenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2,4-Dimethylphenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2,4-Dinitrophenol	50	U	50	ug/L		12/23/15 08:56	12/28/15 12:51	1
2,4-Dinitrotoluene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2,6-Dinitrotoluene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2-Chloronaphthalene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2-Chlorophenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
2-Nitrophenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
3,3'-Dichlorobenzidine	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
4,6-Dinitro-2-methylphenol	50	U	50	ug/L		12/23/15 08:56	12/28/15 12:51	1
4-Bromophenyl phenyl ether	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
4-Chlorophenyl phenyl ether	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
4-Nitrophenol	50	U	50	ug/L		12/23/15 08:56	12/28/15 12:51	1
Acenaphthene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Acenaphthylene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Anthracene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Benzidine	5.0	U	5.0	ug/L		12/23/15 08:56	12/28/15 12:51	1
Benzo[a]anthracene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Benzo[a]pyrene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Benzo[b]fluoranthene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Benzo[g,h,i]perylene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Benzo[k]fluoranthene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Bis(2-chloroethoxy)methane	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Bis(2-chloroethyl)ether	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Bis(2-ethylhexyl) phthalate	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
bis (2-chloroisopropyl) ether	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Butyl benzyl phthalate	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Chrysene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Dibenz(a,h)anthracene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Diethyl phthalate	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Dimethyl phthalate	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Di-n-butyl phthalate	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Di-n-octyl phthalate	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Fluoranthene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Fluorene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Hexachlorobenzene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Hexachlorobutadiene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Hexachlorocyclopentadiene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Hexachloroethane	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Indeno[1,2,3-cd]pyrene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Isophorone	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Naphthalene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Nitrobenzene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
N-Nitrosodimethylamine	1.0	U	1.0	ug/L		12/23/15 08:56	12/28/15 12:51	1
N-Nitrosodi-n-propylamine	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
N-Nitrosodiphenylamine	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
4-Chloro-3-methylphenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: MB 240-212099/10-A

Matrix: Water

Analysis Batch: 212368

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212099

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Pentachlorophenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Phenanthrene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Phenol	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
Pyrene	10	U	10	ug/L		12/23/15 08:56	12/28/15 12:51	1
1,2-Diphenylhydrazine	1.0	U	1.0	ug/L		12/23/15 08:56	12/28/15 12:51	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
2-Fluorophenol	65		10 - 135	12/23/15 08:56	12/28/15 12:51	1
2,4,6-Tribromophenol	75		10 - 142	12/23/15 08:56	12/28/15 12:51	1
Nitrobenzene-d5	78		44 - 110	12/23/15 08:56	12/28/15 12:51	1
Phenol-d5	52		10 - 132	12/23/15 08:56	12/28/15 12:51	1
Terphenyl-d14	94		24 - 135	12/23/15 08:56	12/28/15 12:51	1
2-Fluorobiphenyl (Surr)	79		38 - 110	12/23/15 08:56	12/28/15 12:51	1

Lab Sample ID: LCS 240-212099/11-A

Matrix: Water

Analysis Batch: 212368

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 212099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
1,2,4-Trichlorobenzene	20.0	17.0		ug/L		85	44 - 142
2,4-Dichlorophenol	20.0	17.6		ug/L		88	39 - 135
2,4-Dimethylphenol	20.0	16.2		ug/L		81	32 - 119
2,4-Dinitrophenol	40.0	32.4	J	ug/L		81	0 - 191
2,4-Dinitrotoluene	20.0	20.1		ug/L		100	39 - 139
2,6-Dinitrotoluene	20.0	18.2		ug/L		91	50 - 158
2-Chloronaphthalene	20.0	16.6		ug/L		83	60 - 118
2-Chlorophenol	20.0	17.5		ug/L		87	23 - 134
2-Nitrophenol	20.0	19.8		ug/L		99	29 - 182
3,3'-Dichlorobenzidine	40.0	38.1		ug/L		95	0 - 262
4,6-Dinitro-2-methylphenol	40.0	46.2	J	ug/L		115	0 - 181
4-Bromophenyl phenyl ether	20.0	17.5		ug/L		88	53 - 127
4-Chlorophenyl phenyl ether	20.0	17.9		ug/L		89	25 - 158
4-Nitrophenol	40.0	24.8	J	ug/L		62	0 - 132
Acenaphthene	20.0	16.7		ug/L		83	47 - 145
Acenaphthylene	20.0	17.6		ug/L		88	33 - 145
Anthracene	20.0	17.8		ug/L		89	27 - 133
Benzo[a]anthracene	20.0	17.7		ug/L		88	33 - 143
Benzo[a]pyrene	20.0	19.0		ug/L		95	17 - 163
Benzo[b]fluoranthene	20.0	18.0		ug/L		90	24 - 159
Benzo[g,h,i]perylene	20.0	18.2		ug/L		91	0 - 219
Benzo[k]fluoranthene	20.0	18.8		ug/L		94	11 - 162
Bis(2-chloroethoxy)methane	20.0	17.6		ug/L		88	33 - 184
Bis(2-chloroethyl)ether	20.0	17.0		ug/L		85	12 - 158
Bis(2-ethylhexyl) phthalate	20.0	19.5		ug/L		98	8 - 158
Butyl benzyl phthalate	20.0	18.5		ug/L		93	0 - 152
Chrysene	20.0	18.1		ug/L		90	17 - 168
Dibenz(a,h)anthracene	20.0	19.4		ug/L		97	0 - 227
Diethyl phthalate	20.0	17.8		ug/L		89	0 - 114

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: LCS 240-212099/11-A

Matrix: Water

Analysis Batch: 212368

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 212099

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dimethyl phthalate	20.0	16.8		ug/L		84	0 - 112
Di-n-butyl phthalate	20.0	19.5		ug/L		97	1 - 118
Di-n-octyl phthalate	20.0	18.5		ug/L		93	4 - 146
Fluoranthene	20.0	19.1		ug/L		95	26 - 137
Fluorene	20.0	17.0		ug/L		85	59 - 121
Hexachlorobenzene	20.0	18.4		ug/L		92	0 - 152
Hexachlorobutadiene	20.0	17.4		ug/L		87	24 - 116
Hexachloroethane	20.0	16.4		ug/L		82	40 - 113
Indeno[1,2,3-cd]pyrene	20.0	18.5		ug/L		93	0 - 171
Isophorone	20.0	17.8		ug/L		89	21 - 196
Naphthalene	20.0	16.7		ug/L		84	21 - 133
Nitrobenzene	20.0	17.1		ug/L		86	35 - 180
N-Nitrosodi-n-propylamine	20.0	17.8		ug/L		89	0 - 230
4-Chloro-3-methylphenol	20.0	17.5		ug/L		88	22 - 147
Pentachlorophenol	40.0	29.8		ug/L		74	14 - 176
Phenanthrene	20.0	17.7		ug/L		88	54 - 120
Phenol	20.0	10.6		ug/L		53	5 - 112
Pyrene	20.0	17.4		ug/L		87	52 - 115

Surrogate	LCS %Recovery	LCS Qualifier	Limits
2-Fluorophenol	73		10 - 135
2,4,6-Tribromophenol	99		10 - 142
Nitrobenzene-d5	91		44 - 110
Phenol-d5	57		10 - 132
Terphenyl-d14	94		24 - 135
2-Fluorobiphenyl (Surr)	89		38 - 110

Method: 608 - Organochlorine Pesticides in Water

Lab Sample ID: MB 240-212052/2-A

Matrix: Water

Analysis Batch: 212598

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212052

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aldrin	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
alpha-BHC	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
beta-BHC	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
delta-BHC	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
gamma-BHC (Lindane)	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Chlordane (technical)	0.50	U	0.50	ug/L		12/23/15 05:05	12/30/15 14:37	1
Chlordane (technical) Peak 1	0.50	U	0.50	ug/L		12/23/15 05:05	12/30/15 14:37	1
Chlordane (technical) Peak 2	0.50	U	0.50	ug/L		12/23/15 05:05	12/30/15 14:37	1
Chlordane (technical) Peak 3	0.50	U	0.50	ug/L		12/23/15 05:05	12/30/15 14:37	1
Chlordane (technical) Peak 4	0.50	U	0.50	ug/L		12/23/15 05:05	12/30/15 14:37	1
4,4'-DDD	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
4,4'-DDE	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
4,4'-DDT	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Dieldrin	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Method: 608 - Organochlorine Pesticides in Water (Continued)

Lab Sample ID: MB 240-212052/2-A

Matrix: Water

Analysis Batch: 212598

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212052

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Endosulfan I	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Endosulfan II	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Endosulfan sulfate	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Endrin	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Endrin aldehyde	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Heptachlor	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Heptachlor epoxide	0.050	U	0.050	ug/L		12/23/15 05:05	12/30/15 14:37	1
Toxaphene	2.0	U	2.0	ug/L		12/23/15 05:05	12/30/15 14:37	1
Toxaphene Peak 1	2.0	U	2.0	ug/L		12/23/15 05:05	12/30/15 14:37	1
Toxaphene Peak 2	2.0	U	2.0	ug/L		12/23/15 05:05	12/30/15 14:37	1
Toxaphene Peak 3	2.0	U	2.0	ug/L		12/23/15 05:05	12/30/15 14:37	1
Toxaphene Peak 4	2.0	U	2.0	ug/L		12/23/15 05:05	12/30/15 14:37	1
Toxaphene Peak 5	2.0	U	2.0	ug/L		12/23/15 05:05	12/30/15 14:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	82		10 - 151	12/23/15 05:05	12/30/15 14:37	1
Tetrachloro-m-xylene	83		10 - 151	12/23/15 05:05	12/30/15 14:37	1

Lab Sample ID: LCS 240-212052/3-A

Matrix: Water

Analysis Batch: 212598

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 212052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aldrin	0.500	0.481		ug/L		96	42 - 122
alpha-BHC	0.500	0.539		ug/L		108	37 - 134
beta-BHC	0.500	0.485		ug/L		97	17 - 147
delta-BHC	0.500	0.350		ug/L		70	19 - 140
gamma-BHC (Lindane)	0.500	0.503		ug/L		101	32 - 127
4,4'-DDD	0.500	0.545		ug/L		109	31 - 141
4,4'-DDE	0.500	0.528		ug/L		106	30 - 145
4,4'-DDT	0.500	0.543		ug/L		109	25 - 160
Dieldrin	0.500	0.497		ug/L		99	36 - 146
Endosulfan I	0.500	0.429		ug/L		86	45 - 153
Endosulfan II	0.500	0.439		ug/L		88	10 - 202
Endosulfan sulfate	0.500	0.502		ug/L		100	26 - 144
Endrin	0.500	0.448		ug/L		90	30 - 147
Heptachlor	0.500	0.469		ug/L		94	34 - 111
Heptachlor epoxide	0.500	0.487		ug/L		97	37 - 142

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	97		10 - 151
Tetrachloro-m-xylene	91		10 - 151

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: MB 240-212049/10-A

Matrix: Water

Analysis Batch: 212346

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 212049

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1
Aroclor-1221	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1
Aroclor-1232	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1
Aroclor-1242	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1
Aroclor-1248	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1
Aroclor-1254	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1
Aroclor-1260	0.10	U	0.10	ug/L		12/23/15 05:00	12/27/15 17:42	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	73		10 - 114	12/23/15 05:00	12/27/15 17:42	1
Tetrachloro-m-xylene	66		15 - 131	12/23/15 05:00	12/27/15 17:42	1

Lab Sample ID: LCS 240-212049/11-A

Matrix: Water

Analysis Batch: 212346

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 212049

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.63		ug/L		65	50 - 114
Aroclor-1260	2.50	1.79		ug/L		72	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	75		10 - 114
Tetrachloro-m-xylene	66		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-212084/1-A

Matrix: Water

Analysis Batch: 212434

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 212084

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		12/23/15 08:25	12/24/15 13:41	1
Nickel	0.010	U	0.010	mg/L		12/23/15 08:25	12/24/15 13:41	1
Lead	0.050	U	0.050	mg/L		12/23/15 08:25	12/24/15 13:41	1
Zinc	0.020	U	0.020	mg/L		12/23/15 08:25	12/24/15 13:41	1

Lab Sample ID: LCS 240-212084/2-A

Matrix: Water

Analysis Batch: 212434

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 212084

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.195		mg/L		97	85 - 115
Nickel	0.500	0.490		mg/L		98	85 - 115
Lead	0.500	0.481		mg/L		96	85 - 115
Zinc	0.500	0.499		mg/L		100	85 - 115

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-212076/1-A
Matrix: Water
Analysis Batch: 212196

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 212076

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		12/23/15 08:15	12/23/15 13:24	1

Lab Sample ID: LCS 240-212076/2-A
Matrix: Water
Analysis Batch: 212196

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 212076

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00543		mg/L		109	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-212707/1
Matrix: Water
Analysis Batch: 212707

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			12/31/15 08:13	1

Lab Sample ID: LCS 240-212707/2
Matrix: Water
Analysis Batch: 212707

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	39.9		mg/L		100	78 - 114

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

Lab Sample ID: MB 240-211956/3
Matrix: Water
Analysis Batch: 211956

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			12/22/15 12:05	1

Lab Sample ID: LCS 240-211956/4
Matrix: Water
Analysis Batch: 211956

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	0.262		mg/L		105	80 - 118

Lab Sample ID: 240-59364-1 MS
Matrix: Water
Analysis Batch: 211956

Client Sample ID: WT-012607-122115-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	0.0050	U F1	mg/L		0	41 - 136

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Lab Sample ID: 240-59364-1 MSD

Matrix: Water

Analysis Batch: 211956

Client Sample ID: WT-012607-122115-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cr (VI)	0.0050	U F1	0.250	0.0050	U F1	mg/L	-	0	41 - 136	NC	20

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

Lab Sample ID: MB 240-212301/1

Matrix: Water

Analysis Batch: 212301

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	-		12/24/15 10:48	1

Lab Sample ID: LCS 240-212301/2

Matrix: Water

Analysis Batch: 212301

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	74.4	76.0		mg/L	-	102	73 - 113

Lab Sample ID: 240-59364-1 DU

Matrix: Water

Analysis Batch: 212301

Client Sample ID: WT-012607-122115-EE-001

Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Suspended Solids	17		16.0		mg/L	-	6	10

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Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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 (61-120)	12DCE (78-125)	TOL (80-120)
240-59364-1	WT-012607-122115-EE-001	89	83	98
240-59364-2	TRIP BLANK	84	85	94
LCS 240-212202/6	Lab Control Sample	95	86	101
MB 240-212202/5	Method Blank	89	85	95

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 (10-135)	TBP (10-142)	NBZ (44-110)	PHL (10-132)	TPH (24-135)	FBP (38-110)
240-59364-1	WT-012607-122115-EE-001	37	87	83	20	59	84
LCS 240-212099/11-A	Lab Control Sample	73	99	91	57	94	89
MB 240-212099/10-A	Method Blank	65	75	78	52	94	79

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 (10-151)	DCB2 (10-151)	TCX1 (10-151)	TCX2 (10-151)
240-59364-1	WT-012607-122115-EE-001	91	84	72	73
LCS 240-212052/3-A	Lab Control Sample	97	88	91	93
MB 240-212052/2-A	Method Blank	82	79	83	81

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)	
		DCB2 (10-114)	TCX2 (15-131)
240-59364-1	WT-012607-122115-EE-001	57	59
LCS 240-212049/11-A	Lab Control Sample	75	66

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Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	DCB2 (10-114)	TCX2 (15-131)
MB 240-212049/10-A	Method Blank	73	66

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

Client Sample ID: WT-012607-122115-EE-001

Date Collected: 12/21/15 12:30

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	212202	12/24/15 01:04	TJL1	TAL CAN
Total/NA	Prep	625			212099	12/23/15 08:56	JDR	TAL CAN
Total/NA	Analysis	625		1	212368	12/29/15 00:43	JMG	TAL CAN
Total/NA	Prep	3510C			212100	12/23/15 08:58	JDR	TAL CAN
Total/NA	Analysis	625		1	212558	12/29/15 21:42	MRU	TAL CAN
Total/NA	Prep	3520C			212049	12/23/15 05:00	CSC	TAL CAN
Total/NA	Analysis	608		1	212346	12/27/15 15:17	LSH	TAL CAN
Total/NA	Prep	608			212052	12/23/15 05:05	CSC	TAL CAN
Total/NA	Analysis	608		1	212598	12/30/15 15:22	BPM	TAL CAN
Total Recoverable	Prep	200.7			212084	12/23/15 08:25	WKD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	212434	12/24/15 15:15	RKT	TAL CAN
Total/NA	Prep	245.1			212076	12/23/15 08:23	WKD	TAL CAN
Total/NA	Analysis	245.1		1	212196	12/23/15 14:11	WKD	TAL CAN
Total/NA	Analysis	1664A		1	212707	12/31/15 08:13	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	211956	12/22/15 12:11	LCN	TAL CAN
Total/NA	Analysis	SM 2540D		1	212301	12/24/15 10:48	JWW	TAL CAN

Client Sample ID: TRIP BLANK

Date Collected: 12/21/15 00:00

Date Received: 12/22/15 11:00

Lab Sample ID: 240-59364-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	624		1	212202	12/24/15 01:27	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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59364-1

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	12-31-15
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16
Kentucky (VW)	State Program	4	98016	12-31-15
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-15
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	06-30-16
New York	NELAP	2	10975	03-31-16
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-16
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica Canton

CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



240-59364 Chain of Custody

TestAmerica Canton Sample Receipt Form/Narrative				Login #: <u>593104</u>	
Canton Facility					
Client <u>GHD Services</u>		Site Name _____		Cooler unpacked by: <u>Alex C.</u>	
Cooler Received on: <u>12/22/15</u>		Opened on <u>12/22/15</u>			
FedEx: 1 st 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: <u>Bubble Wrap</u>		Foam ☐ Plastic Bag ☐ None ☐ Other _____			
COOLANT: <u>Wet Ice</u>		Blue Ice ☐ Dry Ice ☐ Water ☐ None ☐			
1. Cooler temperature upon receipt					
IR GUN# 53 (CF +0.1 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
IR GUN# 48 (CF -0.3 °C)		Observed Cooler Temp. <u>3.3</u> °C		Corrected Cooler Temp. <u>3.0</u> °C	
IR GUN# 5 (CF +0.4 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
IR GUN# 8 (CF -0.5 °C)		Observed Cooler Temp. _____ °C		Corrected Cooler Temp. _____ °C	
☐ See Multiple Cooler Form					
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity <u>1</u> ☒ 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. Were sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA pH Strip Lot# <u>HC559158</u>					
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 # <u>B5234WB</u> ☒ 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 <u>Trip blank included not on CAC (40ml vial)</u> 	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</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-122115-EE-001	240-59364-F-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-122115-EE-001	240-59364-K-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-122115-EE-001	240-59364-L-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-122115-EE-001	240-59364-M-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-122115-EE-001	240-59364-N-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: 240-59668-1

Client Project/Site: 12607-012, RACER Eckles Rd

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

1/18/2016 2:10:58 PM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Job ID: 240-59668-1

Laboratory: TestAmerica Canton

Narrative

CASE NARRATIVE

Client: GHD Services Inc.

Project: 12607-012, RACER Eckles Rd

Report Number: 240-59668-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 01/07/2016; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 3.4 C.

POLYCHLORINATED BIPHENYLS (PCBS)

Sample WT-012607-010616-EE-01 (240-59668-1) was analyzed for polychlorinated biphenyls (PCBs) in accordance with EPA Method 608. The samples were prepared on 01/08/2016 and analyzed on 01/12/2016.

Surrogates are added during the extraction process prior to dilution. When the sample dilution is 5X or greater, surrogate recoveries are diluted out and no corrective action is required. All of the samples in this data set analyzed for PCBs were subjected to the sulfuric acid cleanup procedure before instrumental analysis, per EPA Method 3665A.

The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-010616-EE-01 (240-59668-1). 2354904, 2103100, 2283703.

Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-213486.

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

Case Narrative

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Job ID: 240-59668-1 (Continued)

Laboratory: TestAmerica Canton (Continued)

TOTAL RECOVERABLE METALS (ICP)

Sample WT-012607-010616-EE-01 (240-59668-1) was analyzed for total recoverable metals (ICP) in accordance with EPA Method 200.7. The samples were prepared on 01/08/2016 and analyzed on 01/11/2016.

Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-010616-EE-01 (240-59668-1). The continuing calibration blanks and method blanks may not support the lower PQL.

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

MERCURY

Sample WT-012607-010616-EE-01 (240-59668-1) was analyzed for mercury in accordance with EPA Method 245.1. The samples were prepared on 01/08/2016 and analyzed on 01/15/2016.

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

HEM AND SGT-HEM

Sample WT-012607-010616-EE-01 (240-59668-1) was analyzed for HEM and SGT-HEM in accordance with EPA Method 1664A. The samples were analyzed on 01/15/2016.

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

TOTAL SUSPENDED SOLIDS

Sample WT-012607-010616-EE-01 (240-59668-1) was analyzed for total suspended solids in accordance with SM 2540D. The samples were analyzed on 01/08/2016.

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

HEXAVALENT CHROMIUM

Sample WT-012607-010616-EE-01 (240-59668-1) was analyzed for hexavalent chromium in accordance with SM 3500 CR B. The samples were analyzed on 01/07/2016.

Cr (VI) failed the recovery criteria low for the MS of sample WT-012607-010616-EE-01MS (240-59668-1) in batch 240-213385.

Cr (VI) failed the recovery criteria low for the MSD of sample WT-012607-010616-EE-01MSD (240-59668-1) in batch 240-213385. Cr (VI) exceeded the RPD limit. 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.

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Qualifiers

GC Semi VOA

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

Metals

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

General Chemistry

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery is outside acceptance limits.
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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-59668-1	WT-012607-010616-EE-01	Water	01/06/16 14:30	01/07/16 09:20

Detection Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Client Sample ID: WT-012607-010616-EE-01

Lab Sample ID: 240-59668-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.065		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.066		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	9.0		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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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

Client Sample ID: WT-012607-010616-EE-01

Date Collected: 01/06/16 14:30

Date Received: 01/07/16 09:20

Lab Sample ID: 240-59668-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1
Aroclor-1221	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1
Aroclor-1232	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1
Aroclor-1242	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1
Aroclor-1248	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1
Aroclor-1254	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1
Aroclor-1260	0.096	U	0.096	ug/L		01/08/16 08:10	01/12/16 13:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	50		10 - 114	01/08/16 08:10	01/12/16 13:35	1
Tetrachloro-m-xylene	42		15 - 131	01/08/16 08:10	01/12/16 13:35	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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

Client Sample ID: WT-012607-010616-EE-01

Date Collected: 01/06/16 14:30

Date Received: 01/07/16 09:20

Lab Sample ID: 240-59668-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.065		0.050	mg/L		01/08/16 08:04	01/11/16 12:33	1
Nickel	0.066		0.010	mg/L		01/08/16 08:04	01/11/16 12:33	1
Lead	0.050	U	0.050	mg/L		01/08/16 08:04	01/11/16 12:33	1
Zinc	0.020	U	0.020	mg/L		01/08/16 08:04	01/11/16 12:33	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-010616-EE-01

Date Collected: 01/06/16 14:30

Date Received: 01/07/16 09:20

Lab Sample ID: 240-59668-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		01/08/16 08:18	01/15/16 08:08	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

General Chemistry

Client Sample ID: WT-012607-010616-EE-01

Date Collected: 01/06/16 14:30

Date Received: 01/07/16 09:20

Lab Sample ID: 240-59668-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			01/15/16 07:53	1
Cr (VI)	0.0050	U F1 F2	0.0050	mg/L			01/07/16 11:31	1
Total Suspended Solids	9.0		4.0	mg/L			01/08/16 10:27	1

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

GC Semi VOA

Prep Batch: 213486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	3520C	
LCS 240-213486/3-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-213486/2-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 213751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	608	213486
LCS 240-213486/3-A	Lab Control Sample	Total/NA	Water	608	213486
MB 240-213486/2-A	Method Blank	Total/NA	Water	608	213486

Metals

Prep Batch: 213484

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total Recoverable	Water	200.7	
LCS 240-213484/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-213484/1-A	Method Blank	Total Recoverable	Water	200.7	

Prep Batch: 213487

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	245.1	
LCS 240-213487/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-213487/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 213662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total Recoverable	Water	200.7 Rev 4.4	213484
LCS 240-213484/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	213484
MB 240-213484/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	213484

Analysis Batch: 214276

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	245.1	213487
LCS 240-213487/2-A	Lab Control Sample	Total/NA	Water	245.1	213487
MB 240-213487/1-A	Method Blank	Total/NA	Water	245.1	213487

General Chemistry

Analysis Batch: 213385

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	3500-Cr B-2009	
240-59668-1 MS	WT-012607-010616-EE-01	Total/NA	Water	3500-Cr B-2009	
240-59668-1 MSD	WT-012607-010616-EE-01	Total/NA	Water	3500-Cr B-2009	
LCS 240-213385/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
MB 240-213385/3	Method Blank	Total/NA	Water	3500-Cr B-2009	

Analysis Batch: 213520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	SM 2540D	
LCS 240-213520/2	Lab Control Sample	Total/NA	Water	SM 2540D	

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QC Association Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

General Chemistry (Continued)

Analysis Batch: 213520 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-213520/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 214234

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59668-1	WT-012607-010616-EE-01	Total/NA	Water	1664A	
LCS 240-214234/2	Lab Control Sample	Total/NA	Water	1664A	
MB 240-214234/1	Method Blank	Total/NA	Water	1664A	

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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

Lab Sample ID: MB 240-213486/2-A

Matrix: Water

Analysis Batch: 213751

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 213486

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1
Aroclor-1221	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1
Aroclor-1232	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1
Aroclor-1242	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1
Aroclor-1248	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1
Aroclor-1254	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1
Aroclor-1260	0.10	U	0.10	ug/L		01/08/16 08:10	01/12/16 13:52	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	73		10 - 114	01/08/16 08:10	01/12/16 13:52	1
Tetrachloro-m-xylene	67		15 - 131	01/08/16 08:10	01/12/16 13:52	1

Lab Sample ID: LCS 240-213486/3-A

Matrix: Water

Analysis Batch: 213751

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 213486

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.79		ug/L		71	50 - 114
Aroclor-1260	2.50	1.92		ug/L		77	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	87		10 - 114
Tetrachloro-m-xylene	70		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-213484/1-A

Matrix: Water

Analysis Batch: 213662

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 213484

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		01/08/16 08:04	01/11/16 10:38	1
Nickel	0.010	U	0.010	mg/L		01/08/16 08:04	01/11/16 10:38	1
Lead	0.050	U	0.050	mg/L		01/08/16 08:04	01/11/16 10:38	1
Zinc	0.020	U	0.020	mg/L		01/08/16 08:04	01/11/16 10:38	1

Lab Sample ID: LCS 240-213484/2-A

Matrix: Water

Analysis Batch: 213662

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 213484

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.203		mg/L		102	85 - 115
Nickel	0.500	0.509		mg/L		102	85 - 115
Lead	0.500	0.511		mg/L		102	85 - 115
Zinc	0.500	0.525		mg/L		105	85 - 115

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QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-213487/1-A
Matrix: Water
Analysis Batch: 214276

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 213487

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		01/08/16 08:18	01/15/16 08:03	1

Lab Sample ID: LCS 240-213487/2-A
Matrix: Water
Analysis Batch: 214276

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 213487

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00500	0.00505		mg/L		101	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-214234/1
Matrix: Water
Analysis Batch: 214234

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			01/15/16 07:33	1

Lab Sample ID: LCS 240-214234/2
Matrix: Water
Analysis Batch: 214234

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	39.1		mg/L		98	78 - 114

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

Lab Sample ID: MB 240-213385/3
Matrix: Water
Analysis Batch: 213385

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			01/07/16 11:30	1

Lab Sample ID: LCS 240-213385/4
Matrix: Water
Analysis Batch: 213385

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	0.258		mg/L		103	80 - 118

Lab Sample ID: 240-59668-1 MS
Matrix: Water
Analysis Batch: 213385

Client Sample ID: WT-012607-010616-EE-01
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	0.00920	F1	mg/L		4	41 - 136

TestAmerica Canton

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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

Lab Sample ID: 240-59668-1 MSD

Matrix: Water

Analysis Batch: 213385

Client Sample ID: WT-012607-010616-EE-01

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	0.0118	F1 F2	mg/L	—	5	41 - 136	25	20

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

Lab Sample ID: MB 240-213520/1

Matrix: Water

Analysis Batch: 213520

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	—		01/08/16 10:27	1

Lab Sample ID: LCS 240-213520/2

Matrix: Water

Analysis Batch: 213520

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	74.4	61.0		mg/L	—	82	73 - 113

Surrogate Summary

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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)
240-59668-1	WT-012607-010616-EE-01	50	42
LCS 240-213486/3-A	Lab Control Sample	87	70
MB 240-213486/2-A	Method Blank	73	67

Surrogate Legend

DCB = DCB Decachlorobiphenyl

TCX = Tetrachloro-m-xylene

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

Client Sample ID: WT-012607-010616-EE-01

Lab Sample ID: 240-59668-1

Date Collected: 01/06/16 14:30

Matrix: Water

Date Received: 01/07/16 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			213486	01/08/16 08:10	CSC	TAL CAN
Total/NA	Analysis	608		1	213751	01/12/16 13:35	KMG	TAL CAN
Total Recoverable	Prep	200.7			213484	01/08/16 08:04	WAL	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	213662	01/11/16 12:33	KLC	TAL CAN
Total/NA	Prep	245.1			213487	01/08/16 08:18	WAL	TAL CAN
Total/NA	Analysis	245.1		1	214276	01/15/16 08:08	DSH	TAL CAN
Total/NA	Analysis	1664A		1	214234	01/15/16 07:53	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	213385	01/07/16 11:31	BLW	TAL CAN
Total/NA	Analysis	SM 2540D		1	213520	01/08/16 10:27	GNR	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: 12607-012, RACER Eckles Rd

TestAmerica Job ID: 240-59668-1

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
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16 *
Kentucky (VW)	State Program	4	98016	12-31-16
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-16
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	06-30-16
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-16 *
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16 *
West Virginia DEP	State Program	3	210	12-31-15 *
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

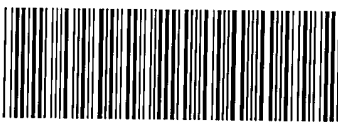
TestAmerica Canton

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

CHAIN OF CUSTODY AND RECEIVING DOCUMENTS



240-59668 Chain of Custody

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

Client Contact Company Name: <u>GHD Services, Inc.</u> Address: <u>14496 Sheldon Rd, Suite 200</u> City/State/Zip: <u>Plymouth, MI 48170</u> Phone: <u>(734) 453-5123</u> Fax: <u>(734) 453-5301</u> Project Name: <u>RACER Livonia, GWTP</u> Site: <u>Livonia MI</u> P O # <u>12607-101415-003</u>		Project Manager: Tel/Fax: _____ Analysis Turnaround Time ☐ CALENDAR DAYS ☐ WORKING DAYS TAT if different from Below _____ ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		Site Contact: Lab Contact: <u>Rawa Fleischer</u> Date: <u>1/6/2016</u> Carrier: <u>FEDEX</u> COC No: _____ of _____ COCs Sampler: _____ For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No.: _____	
Sample Identification Sample Date: <u>1/6/16</u> Sample Time: <u>1430</u> Sample Type: <u>C</u> Matrix: <u>WT</u> # of Cont.: <u>6</u>		Filtered Sample (Y/N) <u>✓</u> Perform MS / MSD (Y / N) <u>✓</u> Sample Specific Notes:		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: <u>Erin Egnel</u> Relinquished by: _____ Relinquished by: _____		Custody Seal No.: _____ Company: <u>GHD Services</u> Date/Time: <u>1/6/16 1530</u> Company: _____ Date/Time: _____ Company: _____ Date/Time: _____		Cooler Temp. (°C): Obs'd: _____ Cor'd: _____ Therm ID No.: _____ Date/Time: <u>1-7-16</u> <u>920</u> Date/Time: _____ Date/Time: _____	

TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login #: 59668

Client GHD Site Name _____ Cooler unpacked by: _____
Cooler Received on 1-7-16 Opened on 1-7-16
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
IR GUN# 53 (CF +0.1 °C) - Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
IR GUN# 48 (CF -0.3 °C) - Observed Cooler Temp. 3.7 °C Corrected Cooler Temp. 3.4 °C ☐ See Multiple
IR GUN# 5 (CF +0.4 °C) - Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C Cooler Form
IR GUN# 8 (CF -0.5 °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. Were sample(s) at the correct pH upon receipt? ☒ Yes ☐ No NA pH Strip Lot# HC559158
 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</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-010616-EE-01	240-59668-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-010616-EE-01	240-59668-E-1	Amber Glass 1-liter - Sulfuric Acid	_____	_____	_____
WT-012607-010616-EE-01	240-59668-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: 240-60522-1

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:

2/21/2016 11:08:42 AM

Denise Heckler, Project Manager II

(330)966-9477

denise.heckler@testamericainc.com

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

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

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Case Narrative

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

TestAmerica Job ID: 240-60522-1

Job ID: 240-60522-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative 240-60522-1

Comments

No additional comments.

Receipt

The sample was received on 2/4/2016 9:40 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

GC Semi VOA

Method(s) 608: The following sample required a tetrabutylammonium sulfite (TBA) clean-up to reduce matrix interferences caused by sulfur: WT-012607-020316-EE-01 (240-60522-1). Reagents: 2391676,2103101 and 2333856.

Method(s) 608: The continuing calibration verifications (CCV) associated with batch 240-218100 recovered above the upper control limits. The samples associated with these CCVs were non-detects for the affected analytes; therefore, the data have been reported.

Method(s) 608: The surrogate recoveries in the continuing calibration verification (CCV) was outside acceptance limits (high biased). The samples were non-detect and all of the sample surrogate recoveries passed criteria. The following sample was reported: WT-012607-020316-EE-01 (240-60522-1).

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: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: WT-012607-020316-EE-01 (240-60522-1). 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: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 240-216737.

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: 240-60522-1

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: 240-60522-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-60522-1	WT-012607-020316-EE-01	Water	02/03/16 15:00	02/04/16 09:40

Detection Summary

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

TestAmerica Job ID: 240-60522-1

Client Sample ID: WT-012607-020316-EE-01

Lab Sample ID: 240-60522-1

Analyte	Result	Qualifier	RL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.088		0.050	mg/L	1		200.7 Rev 4.4	Total
Nickel	0.071		0.010	mg/L	1		200.7 Rev 4.4	Recoverable
Total Suspended Solids	10		4.0	mg/L	1		SM 2540D	Total
								Recoverable
								Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

Method Summary

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

TestAmerica Job ID: 240-60522-1

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: 240-60522-1

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

Client Sample ID: WT-012607-020316-EE-01

Date Collected: 02/03/16 15:00

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60522-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Aroclor-1221	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Aroclor-1232	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Aroclor-1242	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Aroclor-1248	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Aroclor-1254	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Aroclor-1260	0.095	U	0.095	ug/L		02/05/16 05:02	02/19/16 09:35	1
Surrogate	%Recovery	Qualifier	Limits			Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	87		10 - 114			02/05/16 05:02	02/19/16 09:35	1
Tetrachloro-m-xylene	77		15 - 131			02/05/16 05:02	02/19/16 09:35	1

Client Sample Results

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

TestAmerica Job ID: 240-60522-1

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

Client Sample ID: WT-012607-020316-EE-01

Date Collected: 02/03/16 15:00

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60522-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.088		0.050	mg/L		02/17/16 14:29	02/18/16 13:50	1
Nickel	0.071		0.010	mg/L		02/17/16 14:29	02/18/16 13:50	1
Lead	0.050	U	0.050	mg/L		02/17/16 14:29	02/18/16 13:50	1
Zinc	0.020	U	0.020	mg/L		02/17/16 14:29	02/18/16 13:50	1

Client Sample Results

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

TestAmerica Job ID: 240-60522-1

Method: 245.1 - Mercury (CVAA)

Client Sample ID: WT-012607-020316-EE-01

Date Collected: 02/03/16 15:00

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60522-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L	—	02/05/16 12:00	02/05/16 14:52	1

Client Sample Results

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

TestAmerica Job ID: 240-60522-1

General Chemistry

Client Sample ID: WT-012607-020316-EE-01

Date Collected: 02/03/16 15:00

Date Received: 02/04/16 09:40

Lab Sample ID: 240-60522-1

Matrix: Water

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
HEM	4.8	U	4.8	mg/L			02/15/16 07:53	1
Cr (VI)	0.0050	U	0.0050	mg/L			02/04/16 13:44	1
Total Suspended Solids	10		4.0	mg/L			02/09/16 11:42	1

QC Association Summary

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

TestAmerica Job ID: 240-60522-1

GC Semi VOA

Prep Batch: 216737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	3520C	
LCS 240-216737/8-A	Lab Control Sample	Total/NA	Water	3520C	
MB 240-216737/7-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 218008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-216737/8-A	Lab Control Sample	Total/NA	Water	608	216737
MB 240-216737/7-A	Method Blank	Total/NA	Water	608	216737

Analysis Batch: 218100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	608	216737

Metals

Prep Batch: 216764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	245.1	
LCS 240-216764/2-A	Lab Control Sample	Total/NA	Water	245.1	
MB 240-216764/1-A	Method Blank	Total/NA	Water	245.1	

Analysis Batch: 217122

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	245.1	216764
LCS 240-216764/2-A	Lab Control Sample	Total/NA	Water	245.1	216764
MB 240-216764/1-A	Method Blank	Total/NA	Water	245.1	216764

Prep Batch: 217862

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total Recoverable	Water	200.7	
240-60522-1 MS	WT-012607-020316-EE-01	Total Recoverable	Water	200.7	
240-60522-1 MSD	WT-012607-020316-EE-01	Total Recoverable	Water	200.7	
LCS 240-217862/2-A	Lab Control Sample	Total Recoverable	Water	200.7	
MB 240-217862/1-A	Method Blank	Total Recoverable	Water	200.7	

Analysis Batch: 218049

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total Recoverable	Water	200.7 Rev 4.4	217862
240-60522-1 MS	WT-012607-020316-EE-01	Total Recoverable	Water	200.7 Rev 4.4	217862
240-60522-1 MSD	WT-012607-020316-EE-01	Total Recoverable	Water	200.7 Rev 4.4	217862
LCS 240-217862/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	217862
MB 240-217862/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	217862

General Chemistry

Analysis Batch: 216653

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	3500-Cr B-2009	
LCS 240-216653/4	Lab Control Sample	Total/NA	Water	3500-Cr B-2009	
MB 240-216653/3	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: 240-60522-1

General Chemistry (Continued)

Analysis Batch: 216985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	SM 2540D	
LCS 240-216985/2	Lab Control Sample	Total/NA	Water	SM 2540D	
MB 240-216985/1	Method Blank	Total/NA	Water	SM 2540D	

Analysis Batch: 217446

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-60522-1	WT-012607-020316-EE-01	Total/NA	Water	1664A	
LCS 240-217446/2	Lab Control Sample	Total/NA	Water	1664A	
MB 240-217446/1	Method Blank	Total/NA	Water	1664A	

QC Sample Results

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

TestAmerica Job ID: 240-60522-1

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

Lab Sample ID: MB 240-216737/7-A

Matrix: Water

Analysis Batch: 218008

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 216737

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor-1016	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1
Aroclor-1221	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1
Aroclor-1232	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1
Aroclor-1242	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1
Aroclor-1248	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1
Aroclor-1254	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1
Aroclor-1260	0.10	U	0.10	ug/L		02/05/16 05:02	02/18/16 20:24	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl	88		10 - 114	02/05/16 05:02	02/18/16 20:24	1
Tetrachloro-m-xylene	78		15 - 131	02/05/16 05:02	02/18/16 20:24	1

Lab Sample ID: LCS 240-216737/8-A

Matrix: Water

Analysis Batch: 218008

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 216737

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aroclor-1016	2.50	1.98		ug/L		79	50 - 114
Aroclor-1260	2.50	2.10		ug/L		84	8 - 127

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl	93		10 - 114
Tetrachloro-m-xylene	81		15 - 131

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 240-217862/1-A

Matrix: Water

Analysis Batch: 218049

Client Sample ID: Method Blank

Prep Type: Total Recoverable

Prep Batch: 217862

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.050	U	0.050	mg/L		02/17/16 14:08	02/18/16 13:33	1
Nickel	0.010	U	0.010	mg/L		02/17/16 14:08	02/18/16 13:33	1
Lead	0.050	U	0.050	mg/L		02/17/16 14:08	02/18/16 13:33	1
Zinc	0.020	U	0.020	mg/L		02/17/16 14:08	02/18/16 13:33	1

Lab Sample ID: LCS 240-217862/2-A

Matrix: Water

Analysis Batch: 218049

Client Sample ID: Lab Control Sample

Prep Type: Total Recoverable

Prep Batch: 217862

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Chromium	0.200	0.192		mg/L		96	85 - 115
Nickel	0.500	0.491		mg/L		98	85 - 115
Lead	0.500	0.484		mg/L		97	85 - 115
Zinc	0.500	0.507		mg/L		101	85 - 115

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QC Sample Results

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

TestAmerica Job ID: 240-60522-1

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

Lab Sample ID: 240-60522-1 MS

Matrix: Water

Analysis Batch: 218049

Client Sample ID: WT-012607-020316-EE-01

Prep Type: Total Recoverable

Prep Batch: 217862

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Chromium	0.088		0.200	0.283		mg/L		97	75 - 125
Nickel	0.071		0.500	0.578		mg/L		101	75 - 125
Lead	0.050	U	0.500	0.486		mg/L		97	75 - 125
Zinc	0.020	U	0.500	0.516		mg/L		103	75 - 125

Lab Sample ID: 240-60522-1 MSD

Matrix: Water

Analysis Batch: 218049

Client Sample ID: WT-012607-020316-EE-01

Prep Type: Total Recoverable

Prep Batch: 217862

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Chromium	0.088		0.200	0.279		mg/L		96	75 - 125	1	20
Nickel	0.071		0.500	0.576		mg/L		101	75 - 125	0	20
Lead	0.050	U	0.500	0.486		mg/L		97	75 - 125	0	20
Zinc	0.020	U	0.500	0.519		mg/L		104	75 - 125	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 240-216764/1-A

Matrix: Water

Analysis Batch: 217122

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 216764

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.00020	U	0.00020	mg/L		02/05/16 12:00	02/05/16 14:16	1

Lab Sample ID: LCS 240-216764/2-A

Matrix: Water

Analysis Batch: 217122

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 216764

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	0.00500	0.00529		mg/L		106	85 - 115

Method: 1664A - HEM and SGT-HEM

Lab Sample ID: MB 240-217446/1

Matrix: Water

Analysis Batch: 217446

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			02/15/16 07:53	1

Lab Sample ID: LCS 240-217446/2

Matrix: Water

Analysis Batch: 217446

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
HEM	40.0	35.6		mg/L		89	78 - 114

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QC Sample Results

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

TestAmerica Job ID: 240-60522-1

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

Lab Sample ID: MB 240-216653/3

Matrix: Water

Analysis Batch: 216653

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	-		02/04/16 11:37	1

Lab Sample ID: LCS 240-216653/4

Matrix: Water

Analysis Batch: 216653

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	0.252		mg/L	-	101	80 - 118

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

Lab Sample ID: MB 240-216985/1

Matrix: Water

Analysis Batch: 216985

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	-		02/09/16 11:42	1

Lab Sample ID: LCS 240-216985/2

Matrix: Water

Analysis Batch: 216985

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	78.3	74.0		mg/L	-	95	73 - 113

TestAmerica Canton

Surrogate Summary

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

TestAmerica Job ID: 240-60522-1

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)
240-60522-1	WT-012607-020316-EE-01	87	77
LCS 240-216737/8-A	Lab Control Sample	93	81
MB 240-216737/7-A	Method Blank	88	78

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: 240-60522-1

Client Sample ID: WT-012607-020316-EE-01

Lab Sample ID: 240-60522-1

Date Collected: 02/03/16 15:00

Matrix: Water

Date Received: 02/04/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			216737	02/05/16 05:02	CSC	TAL CAN
Total/NA	Analysis	608		1	218100	02/19/16 09:35	HMB	TAL CAN
Total Recoverable	Prep	200.7			217862	02/17/16 14:29	WKD	TAL CAN
Total Recoverable	Analysis	200.7 Rev 4.4		1	218049	02/18/16 13:50	RKT	TAL CAN
Total/NA	Prep	245.1			216764	02/05/16 12:00	WAL	TAL CAN
Total/NA	Analysis	245.1		1	217122	02/05/16 14:52	DSH	TAL CAN
Total/NA	Analysis	1664A		1	217446	02/15/16 07:53	BLW	TAL CAN
Total/NA	Analysis	3500-Cr B-2009		1	216653	02/04/16 13:44	JWW	TAL CAN
Total/NA	Analysis	SM 2540D		1	216985	02/09/16 11:42	LKG	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: 240-60522-1

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
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-26-16 *
Kentucky (VW)	State Program	4	98016	12-31-16
L-A-B	DoD ELAP		L2315	07-18-16
Minnesota	NELAP	5	039-999-348	12-31-16
Nevada	State Program	9	OH-000482008A	07-31-16
New Jersey	NELAP	2	OH001	06-30-16
New York	NELAP	2	10975	03-31-16 *
Ohio VAP	State Program	5	CL0024	09-14-17
Oregon	NELAP	10	4062	02-23-16 *
Pennsylvania	NELAP	3	68-00340	08-31-16
Texas	NELAP	6	T104704517-15-5	08-31-16
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-16
Washington	State Program	10	C971	01-12-16 *
West Virginia DEP	State Program	3	210	12-31-15 *
Wisconsin	State Program	5	999518190	08-31-16

* Certification renewal pending - certification considered valid.

TestAmerica Canton

**CHAIN OF CUSTODY
AND
RECEIVING DOCUMENTS**



240-60522 Chain of Custody

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

Chain of Custody Record

2400 5880

32162.7

122244

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.
TAL-9210 (07/13)

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

Client Contact		Project Manager:		Site Contact: <u>Rawn Fleisher</u> Date: <u>2/3/16</u>		COC No: <u>1</u> of <u>1</u> COCs	
Company Name: <u>GHD Services Inc.</u>		Tel/Fax:		Lab Contact: <u>Denise Weikert</u> Carrier: <u>Fed Ex</u>		Sampler:	
Address: <u>14496 Sweden Rd., Suite 200</u>		Analysis Turnaround Time				For Lab Use Only:	
City/State/Zip: <u>Plymouth, MI 48176</u>		☐ CALENDAR DAYS ☐ WORKING DAYS				Walk-in Client:	
Phone: <u>(734) 453-5123</u>		TAT if different from Below				Lab Sampling:	
Fax: <u>(734) 453-5301</u>		☒ 2 weeks				Job / SDG No.:	
Project Name: <u>RACER Livonia GWP</u>		☐ 1 week					
Site: <u>Livonia, MI</u>		☐ 2 days					
PO # <u>12607-701716-003</u>		☐ 1 day					
Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:
<u>WV</u>	<u>012607-020316-01</u>	<u>2/3/16</u>	<u>1500</u>	<u>C</u>	<u>WT</u>	<u>6</u>	
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other							
Possible Hazard Identification:							
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.							
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown							
Special Instructions/QC Requirements & Comments:							
Custody Seals Intact: ☐ Yes ☐ No		Custody Seal No.:		Cooler Temp. (°C): Obs'd:		Therm ID No.:	
Relinquished by: <u>Eric Engvall</u>		Company: <u>GHD Services</u>		Received by: <u>[Signature]</u>		Company: <u>WAC</u>	
Relinquished by:		Company:		Received by:		Company:	
Relinquished by:		Company:		Received in Laboratory by:		Company:	
Relinquished by:		Company:		Received in Laboratory by:		Company:	

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TestAmerica Canton Sample Receipt Form/Narrative
Canton Facility

Login #: 60522

Client GHD Site Name RA-COR Livonia

Cooler unpacked by: Tennant

Cooler Received on 2-4-16 Opened on 2-4-16

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

Receipt After-hours: Drop-off Date/Time 0946 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# 48 (CF -1.9 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 36 (CF -1.5 °C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C
 IR GUN# 18 (CF -0.5 °C) Observed Cooler Temp. 3.2 °C Corrected Cooler Temp. 3.7 °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 12-16 have been checked at the originating laboratory.
12. Were sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC559158
13. Were VOAs on the COC? Yes No
14. Were air bubbles >6 mm in any VOA vials? Yes No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____ Yes No
16. Was a LL Hg or Me Hg trip blank present? Yes No

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

Concerning _____

17. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: _____

18. SAMPLE CONDITION

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

19. SAMPLE PRESERVATION

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

Temperature readings: _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservative</u> <u>Added (mls)</u>	<u>Lot #</u>
WT-012607-020316-EE-01	240-60522-B-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
WT-012607-020316-EE-01	240-60522-C-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____
WT-012607-020316-EE-01	240-60522-D-1	Amber Glass 1 liter - Sulfuric Acid	_____	_____	_____