May 4, 2018 Reference No. 012636-T09

Mr. Richard Conforti
Hazardous Waste Section, Resource Management Division
Michigan Department of Environmental Quality
525 W. Allegan (Constitution Hall)
Lansing, Michigan
U.S.A. 48933

Dear Mr. Conforti:

Re: Supplemental RFI Groundwater Monitoring
Deep Groundwater Aluminum Sampling
Coldwater Road Facility, Genesee Township, Michigan
MIR 000 020 743

This letter, prepared by GHD Services, Inc. (GHD) on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), presents a summary of the results of the deep groundwater aluminum sampling complete in response to Michigan Department of Environmental Quality (MDEQ) comments sent on October 3, 2017 and as proposed in a letter to MDEQ dated October 27, 2017. MDEQ Comments were regarding the Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Groundwater Investigation Annual Monitoring Report (AMR) for the former Peregrine Coldwater Road Facility (Site) located at 1245E Coldwater Road in Genesee Township, near Flint, Michigan.

For ease of review the MDEQ October 3, 2017 comment and the response provided to MDEQ on October 27, 2017 are re-stated below:

MDEQ Comment 3:

Based upon the results presented in the Report, RACER must continue to analyze for dissolved aluminum in wells MW-15-10 and B-27D for at least another year. As specified in the Plan, groundwater monitoring requirements were re-evaluated following the 3-year monitoring period that concluded with the 2017 annual monitoring event, in the first quarter of 2017. However, the latest analytical results from monitoring well B-27D indicate an exceedance of the health-based residential drinking water criteria. This result contrasted with the previous three years of sampling, which were all non-detect, and may be an outlier. In addition, the latest analytical results for monitoring well MW-15-10 indicate an exceedance of the aesthetic residential drinking water criteria, and previous results from two years ago were above the health-based residential drinking water criteria. Additional action, if necessary, will be implemented based on the results from the 2018 monitoring event.

GHD
26850 Haggerty Road Farmington Hills Michigan 48331 USA
T 248 893 3400 F 248 893 3454 W www.ghd.com

Response:

Note that there is no data that indicate the dissolved Aluminum results at B-27D and MW-15-10 are a result of historic Site activities, as presented in an email to the WMRPD on September 18, 2017 and summarized below:

1. *There have been no shallow groundwater exceedances of background values of Aluminium (Total or Dissolved).*
2. *Of 93 soil aluminium samples collected on-Site as part of the RFI, two marginally exceeded the Site-Specific background soil standard developed as part of the RFI at concentrations of 16,400 mg/kg (since excavated) and 15,900 milligrams per kilogram (mg/kg) (duplicate result of 15,700 mg/kg); therefore, there is no on-Site source of aluminum in soils.*
3. *There is no additional evidence that deep groundwater at the Site has been impacted by former Site operations.*

However, it is proposed that one additional sample at B-27D plus Quality Assurance/Quality Control samples (QAQC) will be collected following the approval of these responses in order to confirm if the March 2017 aluminum result was an outlier. In addition, monthly dissolved aluminum samples will be collected at MW-15-10 (plus QAQC) for three consecutive months to determine if dissolved aluminum concentration are stable below the residential health based drinking water criteria.

Summary of Sampling Results

Deep groundwater monitoring wells B-27D and MW-15-10 were redeveloped on January 25, 2018. Development at location B-27D produced 17.5 gallons of groundwater and reduced turbidity in the well from >999 NTU to 266 NTU during that time. Development at location MW-15-10 produced 12 gallons of groundwater and reduced turbidity in the well from 263 NTU to 5.49 NTU during that time.

Monitoring well B-27D was sampled on February 9, 2018. The analytical results are summarize in Table 1. Field sampling records are provided in Attachment A. The groundwater sample was analyzed for dissolved aluminum, total Aluminum was not analyzed as low flow procedures were unable to stabilize the turbidity below 10 NTU. A duplicate sample was also collected during this event. The laboratory reported results of 0.11 mg/L and 0.098 mg/L, which are both below the residential health based drinking water criteria of 0.3 mg/L. Laboratory analytical reports are provided in Attachment B. These results confirm that the March 31, 2017 dissolved aluminum result is an outlier and should not be considered representative of dissolved aluminum concentrations in the deep groundwater at the Site.

In addition, MW-15-10 was sampled for three consecutive months (February 8, March 13, and April 17, 2018). On February 8, 2018, low flow sampling procedures yielded a stabilized turbidity <10 NTU, as a result, the sample was analyzed for both total and dissolved aluminum. Subsequent samples were only analyzed for dissolved aluminum as turbidities <10 NTU could not be achieved. The February 8 total and dissolved aluminum results were 0.079 and 0.099 mg/L, respectively. Both the March 13 and April 17 results reported non-detect at a reporting limit of 0.05 mg/L. The reported concentrations for all three samples are below the residential health based drinking water criteria of 0.3 mg/L for total/dissolved

aluminum. In addition, all results are below the Site-specific background dissolved aluminum concentration of 0.133 mg/L and total aluminum concentration of 5.3 mg/L. Therefore, the sample results have shown that deep groundwater at the Site is stable below the residential health based drinking water criteria and concentrations are representative of background groundwater quality at the Site.

Based on the information above, along with previous investigation results, it can be concluded that there is no evidence that deep groundwater at the Site has been impacted by former Site operations.

As a result, the following is recommended:

1. The results contained herein be considered a supplement to the 2010 RFI.
2. Properly abandon all deep on-Site monitoring wells (MW-15-10, MW-16-10, PFW-1).
3. Prepare and submit to MDEQ a RCRA Corrective Action Complete with Controls request.

Should you have any questions on the above, please do not hesitate to contact David Favero with RACER or the undersigned.

Sincerely,

GHD

Michael R. Tomka, P.E.

RC/wg/27

Encl.

cc: Dave Favero/Grant Trigger, RACER Trust (PDF)
John McCabe/Joe Rogers, MDEQ (PDF)

Table 1

Deep Groundwater Results Summary
Former Peregrine (US) Inc. Coldwater Road Facility
Genesee Township, Michigan

Sample Location:				**B-27D**	**B-27D**	**MW-15-10**	**MW-15-10**	**MW-15-10**
Sample ID:				**GW-12636-020918-SSH-1802**	**GW-12636-020918-SSH-1803**	**GW-12636-020818-SSH-1801**	**GW-12636-031318-SSH-1804**	**GW-12636-041718-SSH-1808**
Sample Date:				**02/09/18**	**02/09/18**	**2/08/18**	**3/13/18**	**4/17/18**
					Duplicate			
Parameters	**Units**	**Deep Groundwater Background Concentrations**	**Residential Drinking Water Health Based Criteria**					
Metals		a	c					
Aluminum	mg/L	5.3	0.3	-	-	0.079	-	-
Aluminum (dissolved)	mg/L	0.133	0.3	0.110	0.098	0.099	0.050 U	0.050 U
Conductivity, field	mS/cm	-	-	0.92	0.92	0.667	1.02	0.732
Dissolved oxygen (DO), field	mg/L	-	-	7.85	7.85	7.79	0.0	0.0
Oxidation reduction potential (ORP), field	millivolts	-	-	-37	-37	-134	-114	-117
pH, field	s.u.	-	-	7.32	7.32	7.67	7.57	7.59
Temperature, field	Deg C	-	-	9.6	9.6	8.8	10.3	10.1
Turbidity, field	NTU	-	-	130	130	4.84	10.4	19.9

Notes:

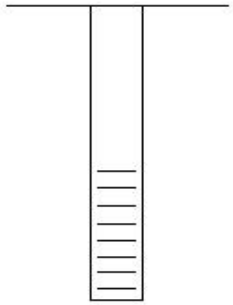
U - Not detected at the associated reporting limit.

Attachment A

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: RACER Coldwater Rd Industrial Land
Ref. No.: 012636-T09-001Y18
Date: 2/9/2018
Personnel: Steve Hoevemeyer



Monitoring Well Data:

Well No.: B-27D
Vapour PID (ppm): N/A
Measurement Point: Top of Casing
Constructed Well Depth (ft): 89.66
Measured Well Depth (ft): 87.79
Depth of Sediment (ft): 1.87
Saturated Screen Length (ft): 8.35
Depth to Pump Intake (ft)[1]: 87
Well Diameter, D (in): 2
Well Screen Volume, V_s (L)[2]: 5.2
Initial Depth to Water (ft): 76.82

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*Temperature °C*	*Conductivity (mS/cm)*	*Turbidity NTU*	*DO (mg/L)*	*pH*	*ORP (mV)*	*Volume Purged, Vp (L)*	*No. of Well Screen Volumes Purged[4]*
		Precision Required[5]:		*±3 %*	*±0.005 or 0.01[6]*	*±10 %*	*±10 %*	*±0.1 Units*	*±10 mV*		
8:30	400	76.82									
10:00	400					>999				38	7.4
10:45	400					308				57	11.1
11:15	400	77.79	-0.97	9.5	0.93	173	7.95	7.34	-33	66	12.8
11:20	400	77.79	-0.97	9.5	0.92	170	7.92	7.34	-33	68	13.2
11:25	400	77.79	-0.97	9.6	0.92	136	7.88	7.32	-35	70	13.6
11:30	400	77.79	-0.97	9.6	0.92	134	7.87	7.32	-36	72	14.0
11:35	400	77.79	-0.97	9.6	0.92	130	7.85	7.32	-37	74	14.4
11:36	Sample										
	Sample ID:	GW-12636-020918-SSH-1802				Duplicate Sample:		GW-12636-020918-SSH-1803			

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

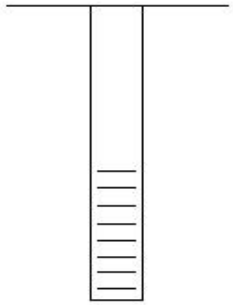
(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: RACER Coldwater Rd Industrial Land
Ref. No.: 012636-T09-001Y18
Date: 2/8/2018
Personnel: Steve Hoevemeyer



Monitoring Well Data:

Well No.: MW-15-10
Vapour PID (ppm): N/A
Measurement Point: Top of Casing
Constructed Well Depth (ft): 96.52
Measured Well Depth (ft):
Depth of Sediment (ft):

Saturated Screen Length (ft): 5
Depth to Pump Intake (ft)[1]: 95
Well Diameter, D (in): 2
Well Screen Volume, V_s (L)[2]: 3.1
Initial Depth to Water (ft): 77.68

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*Temperature °C*	*Conductivity (mS/cm)*	*Turbidity NTU*	*DO (mg/L)*	*pH*	*ORP (mV)*	*Volume Purged, Vp (L)*	*No. of Well Screen Volumes Purged[4]*
			Precision Required[5]:	*±3 %*	*±0.005 or 0.01[6]*	*±10 %*	*±10 %*	*±0.1 Units*	*±10 mV*		
9:30		77.68									
10:10	400					83.2				17	5.5
10:45	300	87.14	9.46	9.1	0.705	21.6	7.72	7.51	-64	28	9.1
11:15	300	86.63	8.95	9.1	0.669	9.98	7.72	7.63	-125	38	12.3
11:20	300	86.6	8.92	9.2	0.685	9.14	7.94	7.64	-126		
11:45	300	85.5	7.82	8.8	0.663	4.92	7.80	7.68	-133	47	15.2
11:50	300	85.45	7.77	8.8	0.670	4.77	7.78	7.68	-134	48.0	15.5
11:55	300	85.4	7.72	8.8	0.667	4.84	7.79	7.67	-134	50.0	16.2
11:56	Sample										
	Sample ID:	GW-12636-020818-SSH-1801									

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

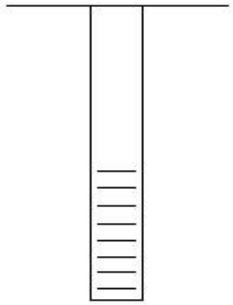
(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: RACER Coldwater Rd Industrial Land
Ref. No.: 012636-T09-001Y18
Date: 3/13/2018
Personnel: Steve Hoevemeyer



Monitoring Well Data:

Well No.: MW-15-10
Vapour PID (ppm): N/A
Measurement Point: Top of Casing
Constructed Well Depth (ft): 96.52
Measured Well Depth (ft):
Depth of Sediment (ft):

Saturated Screen Length (ft): 5
Depth to Pump Intake (ft)[1]: 95
Well Diameter, D (in): 2
Well Screen Volume, V_s (L)[2]: 3.1
Initial Depth to Water (ft): 77.07

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*Temperature °C*	*Conductivity (mS/cm)*	*Turbidity NTU*	*DO (mg/L)*	*pH*	*ORP (mV)*	*Volume Purged, Vp (L)*	*No. of Well Screen Volumes Purged[4]*
			Precision Required[5]:	*±3 %*	*±0.005 or 0.01[6]*	*±10 %*	*±10 %*	*±0.1 Units*	*±10 mV*		
8:25		77.07									
9:45	350	86.95	9.88			25.9				28	9.1
10:15	350	86.03	8.96			15.9				38	12.3
10:45	350	88.03	10.96			13				47	15.2
11:00		88.39	11.32	10.7	1.02	10.8	0.00	7.59	-111	52	16.8
11:05		88.31	11.24	10.4	1.02	11.1	0.00	7.56	-113	53	17.2
11:10		88.31	11.24	10.3	1.02	11.4	0.00	7.55	-115	55	17.8
11:15		88.33	11.26	10.3	1.02	10.4	0.00	7.57	-114	57	18.5
11:16	Sample										
	Sample ID:	GW-12636-031318-SSH-1804									

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

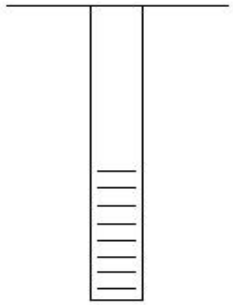
(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

MONITORING WELL RECORD FOR LOW-FLOW PURGING

Project Data:

Project Name: RACER Coldwater Rd Industrial Land
Ref. No.: 012636-T09-001Y18
Date: 4/17/2018
Personnel: Steve Hoevemeyer



Monitoring Well Data:

Well No.: MW-15-10
Vapour PID (ppm): N/A
Measurement Point: Top of Casing
Constructed Well Depth (ft): 96.52
Measured Well Depth (ft):
Depth of Sediment (ft):

Saturated Screen Length (ft): 5
Depth to Pump Intake (ft)[1]: 95
Well Diameter, D (in): 2
Well Screen Volume, V_s (L)[2]: 3.1
Initial Depth to Water (ft): 76.61

Time	*Pumping Rate (mL/min)*	*Depth to Water (ft)*	*Drawdown from Initial Water Level[3] (ft)*	*Temperature °C*	*Conductivity (mS/cm)*	*Turbidity NTU*	*DO (mg/L)*	*pH*	*ORP (mV)*	*Volume Purged, Vp (L)*	*No. of Well Screen Volumes Purged[4]*
			Precision Required[5]:	*±3 %*	*±0.005 or 0.01[6]*	*±10 %*	*±10 %*	*±0.1 Units*	*±10 mV*		
8:50		77.07									
11:30	325	86.01	8.94	10.0	0.735	17.7	0.00	7.57	-115	52	
11:35	325	86.03	8.96	10.0	0.736	20.2	0.00	7.57	-115	54	
11:40	325	86.07	9.00	10.1	0.720	22.5	0.00	7.58	-116	55	
11:45	325	86.09	9.02	10.1	0.732	19.9	0.00	7.59	-117	57	18.5
11:16	Sample										
	Sample ID:	GW-12636-041718-SSH-1808									

Notes:

(1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.

(2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, $V_s=\pi*(r^2)*L$ in mL, where r (r=D/2) and L are in cm. For Imperial units, $V_s=\pi*(r^2)*L*(2.54)^3$, where r and L are in inches

(3) The drawdown from the initial water level should not exceed 0.1 m (0.3 ft). The pumping rate should not exceed 600 mL/min.

(4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged= Vp/Vs.

(5) For conductivity, the average value of three readings <1 mS/cm ±0.005 mS/cm or where conductivity >1 mS/cm ±0.01 mS/cm.

Attachment B

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: 240-91379-1
Client Project/Site: 12636, RACER Peregrine
Revision: 1

For:
GHD Services Inc.
6400 Shafer Court
Suite 400
Rosemont, Illinois 60018

Attn: Ms. Nancy Bergstrom

Denise D Heckler

Authorized for release by:
5/1/2018 2:06:30 PM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

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

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

Table of Contents

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Qualifiers

Metals

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

Glossary

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

Case Narrative

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Job ID: 240-91379-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-91379-1

Comments
A revised report was provided on May 1, 2018. The sample IDs were corrected to match the COC.

Receipt
The samples were received on 2/10/2018 9:50 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 1.5º C.

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

Method Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-91379-1	GW-12636-020818-SSH-1801	Water	02/08/18 12:56	02/10/18 09:50
240-91379-2	GW-12636-020918-SSH-1802	Water	02/09/18 11:36	02/10/18 09:50
240-91379-3	GW-12636-020918-SSH-1803	Water	02/09/18 11:41	02/10/18 09:50

Detection Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Client Sample ID: GW-12636-020818-SSH-1801 — Lab Sample ID: 240-91379-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	79		50	34	ug/L	1		6020	Total Recoverable
Aluminum	99		50	34	ug/L	1		6020	Dissolved

Client Sample ID: GW-12636-020918-SSH-1802 — Lab Sample ID: 240-91379-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	110		50	34	ug/L	1		6020	Dissolved

Client Sample ID: GW-12636-020918-SSH-1803 — Lab Sample ID: 240-91379-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Aluminum	98		50	34	ug/L	1		6020	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Client Sample ID: GW-12636-020818-SSH-1801 — **Lab Sample ID: 240-91379-1**
Date Collected: 02/08/18 12:56 — **Matrix: Water**
Date Received: 02/10/18 09:50

Method: 6020 - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	79		50	34	ug/L		02/12/18 14:00	02/13/18 18:20	1

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	99		50	34	ug/L		02/12/18 14:00	02/13/18 18:33	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Client Sample ID: GW-12636-020918-SSH-1802 — **Lab Sample ID: 240-91379-2**
Date Collected: 02/09/18 11:36 — **Matrix: Water**
Date Received: 02/10/18 09:50

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	110		50	34	ug/L		02/12/18 14:00	02/13/18 18:38	1

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Client Sample ID: GW-12636-020918-SSH-1803 — **Lab Sample ID: 240-91379-3**
Date Collected: 02/09/18 11:41 — **Matrix: Water**
Date Received: 02/10/18 09:50

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	98		50	34	ug/L		02/12/18 14:00	02/13/18 18:42	1

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-314414/1-A
Matrix: Water
Analysis Batch: 314708

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 314414

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	34	ug/L		02/12/18 14:00	02/13/18 17:26	1

Lab Sample ID: LCS 240-314414/2-A
Matrix: Water
Analysis Batch: 314708

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 314414

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9510		ug/L		95	80 - 120

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Metals

Prep Batch: 314414

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91379-1	GW-12636-020818-SSH-1801	Dissolved	Water	3005A	
240-91379-1	GW-12636-020818-SSH-1801	Total Recoverable	Water	3005A	
240-91379-2	GW-12636-020918-SSH-1802	Dissolved	Water	3005A	
240-91379-3	GW-12636-020918-SSH-1803	Dissolved	Water	3005A	
MB 240-314414/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-314414/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 314708

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-91379-1	GW-12636-020818-SSH-1801	Dissolved	Water	6020	314414
240-91379-1	GW-12636-020818-SSH-1801	Total Recoverable	Water	6020	314414
240-91379-2	GW-12636-020918-SSH-1802	Dissolved	Water	6020	314414
240-91379-3	GW-12636-020918-SSH-1803	Dissolved	Water	6020	314414
MB 240-314414/1-A	Method Blank	Total Recoverable	Water	6020	314414
LCS 240-314414/2-A	Lab Control Sample	Total Recoverable	Water	6020	314414

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Client Sample ID: GW-12636-020818-SSH-1801

Lab Sample ID: 240-91379-1

Date Collected: 02/08/18 12:56

Matrix: Water

Date Received: 02/10/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314414	02/12/18 14:00	MBB	TAL CAN
Dissolved	Analysis	6020		1	314708	02/13/18 18:33	RKT	TAL CAN
Total Recoverable	Prep	3005A			314414	02/12/18 14:00	MBB	TAL CAN
Total Recoverable	Analysis	6020		1	314708	02/13/18 18:20	RKT	TAL CAN

Client Sample ID: GW-12636-020918-SSH-1802

Lab Sample ID: 240-91379-2

Date Collected: 02/09/18 11:36

Matrix: Water

Date Received: 02/10/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314414	02/12/18 14:00	MBB	TAL CAN
Dissolved	Analysis	6020		1	314708	02/13/18 18:38	RKT	TAL CAN

Client Sample ID: GW-12636-020918-SSH-1803

Lab Sample ID: 240-91379-3

Date Collected: 02/09/18 11:41

Matrix: Water

Date Received: 02/10/18 09:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			314414	02/12/18 14:00	MBB	TAL CAN
Dissolved	Analysis	6020		1	314708	02/13/18 18:42	RKT	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-91379-1

Laboratory: TestAmerica Canton

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

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

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

TestAmerica Canton
4101 Shuffel Street, N. U.
North Canton, OH 44720
Phone: 330.497.9396 Fax: 330.497.0772

1.8/C1.5

Chain of Custody Record

120701

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

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

Client Contact	Project Manager: M. Tomka	Site Contact: R. Chatfield	Date: 2/8/18	COC No: 120701
Company Name: GHD	Tel/Fax: 519 884 0510	Lab Contact: D. Hedrick	Carrier: FedEx	1 of 1 COCs
Address: 26850 Haggerty Rd	Analysis Turnaround Time			Sampler: S. Hovemeyer
City/State/Zip: Farmington Hills, MI 48331	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 248 893 3400	TAT if different from Below			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: Former Peregrine/Coldwater Rd	☐ 1 week			
Site: 12636 - T09N R06W S17	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Diss. Al	Total Al	Sample Specific Notes:
GW-12636-020818-SSH-1801	2/8/18	1256	G	GW	2	Y	N	X	X	
GW-12636-020918-SSH-1802	2/9/18	1136	G	GW	1	Y	N	X		
GW-12636-020918-SSH-1803	2/9/18	1141	G	GW	1	Y	N	X		

SSH

240-91379 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1, 4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

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

☐ Return to Client ☒ Disposal by Lab ☐ Archive for_____ Months

Special Instructions/QC Requirements & Comments: field filtered

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 961908 | Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____

	Company	Date/Time		Company	Date/Time
Relinquished by:	GHD	2/9/18 1330	Received by:	TAL	2/10/18 950
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 91379**

Canton Facility

Client GHD Site Name

Cooler Received on 2/10/18 Opened on 2/10/18

Cooler unpacked by: DSO

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

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

TestAmerica Cooler # Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam Plastic Bag None Other

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **-0.3** °C) Observed Cooler Temp. 1.8 °C Corrected Cooler Temp. 1.5 °C

IR GUN #36 (CF **+0.3**°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C

~~IR GUN # 627 (CF **-1.3**°C) Observed Cooler Temp. °C Corrected Cooler Temp. °C~~

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Are these work share samples?	Yes	No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot #	Yes	No
16. Was a LL Hg or Me Hg trip blank present?	Yes	No

pH Strip Lot# **HC730269**

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

Contacted PM Date by via Verbal Voice Mail Other

Concerning

16. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by:

17. SAMPLE CONDITION

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

Sample(s) were received in a broken container.

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

18. SAMPLE PRESERVATION

Sample(s) were further preserved in the laboratory.

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

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
GW-12636-020818-SSH-1801	240-91379-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-020818-SSH-1801	240-91379-B-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-020818-SSH-1802	240-91379-A-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-020818-SSH-1803	240-91379-A-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____

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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: 240-92724-1
Client Project/Site: 12636, RACER Peregrine

For:
GHD Services Inc.
6400 Shafer Court
Suite 400
Rosemont, Illinois 60018

Attn: Ms. Nancy Bergstrom

Denise D Heckler

Authorized for release by:
3/19/2018 9:39:11 AM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

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

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

Table of Contents

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Qualifiers

Metals

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

Glossary

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

Case Narrative

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Job ID: 240-92724-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-92724-1

Comments
No additional comments.

Receipt
The sample was received on 3/14/2018 10:00 AM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.5º C.

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

Method Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CAN

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-92724-1	GW-12636-031318-SSH-1804	Water	03/13/18 11:16	03/14/18 10:00

Detection Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Client Sample ID: GW-12636-031318-SSH-1804 **Lab Sample ID: 240-92724-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Client Sample ID: GW-12636-031318-SSH-1804
Date Collected: 03/13/18 11:16
Date Received: 03/14/18 10:00

Lab Sample ID: 240-92724-1
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	34	ug/L		03/15/18 14:00	03/16/18 17:54	1

QC Sample Results

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-318642/1-A
Matrix: Water
Analysis Batch: 318952

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 318642

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	34	ug/L		03/15/18 14:00	03/16/18 16:38	1

Lab Sample ID: LCS 240-318642/2-A
Matrix: Water
Analysis Batch: 318952

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 318642

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Aluminum			10000	9920		ug/L		99	80 - 120		

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Metals

Prep Batch: 318642

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92724-1	GW-12636-031318-SSH-1804	Dissolved	Water	3005A	
MB 240-318642/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-318642/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 318952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-92724-1	GW-12636-031318-SSH-1804	Dissolved	Water	6020	318642
MB 240-318642/1-A	Method Blank	Total Recoverable	Water	6020	318642
LCS 240-318642/2-A	Lab Control Sample	Total Recoverable	Water	6020	318642

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Client Sample ID: GW-12636-031318-SSH-1804
Date Collected: 03/13/18 11:16
Date Received: 03/14/18 10:00

Lab Sample ID: 240-92724-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			318642	03/15/18 14:00	MBB	TAL CAN
Dissolved	Analysis	6020		1	318952	03/16/18 17:54	DSH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-92724-1

Laboratory: TestAmerica Canton

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

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

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

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

MICHIGAN 190

Chain of Custody Record 231069

2.8/C2.5

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

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

Client Contact	Project Manager: M. Tomka	Site Contact: Rich Chatfield	Date: 3/13/18	COC No: 231069
Company Name: GHD	Tel/Fax: 519 340 3823	Lab Contact: D Heckler	Carrier: Fed Ex	1 of 1 COCs
Address: 26850 Haggerty Rd	Analysis Turnaround Time			Sampler: S. Hoevenaar
City/State/Zip: Farmington Hills, MI 48331	☐ CALENDAR DAYS ☒ WORKING DAYS			For Lab Use Only:
Phone: 248 893 3400	TAT if different from Below			Walk-in Client:
Fax:	☒ 2 weeks			Lab Sampling:
Project Name: RaceTrust Former Peregrine	☐ 1 week			
Site: 12636-012 SSOW	☐ 2 days			Job / SDG No.:
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Dis. Al	Sample Specific Notes:
GW-12636-031318-SSH-1804	3/13/18	1116	G	GW	1	Y	N	X	

240-92724 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1, 4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

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

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

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 960097 | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
[signature]	GHD	3/13/18 1500	[signature]	TA Cen	3/14/18 1000
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

TestAmerica Canton Sample Receipt Form/Narrative **Login # : 92724**
Canton Facility

Client GHD Site Name _____ Cooler unpacked by: Darcy Burns

Cooler Received on 3/14/18 Opened on 3/14/18

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

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

TestAmerica Cooler # Canton Foam Box Client Cooler Box Other _____

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

COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form

IR GUN# IR-8 (CF **-0.3** °C) Observed Cooler Temp. 2.8 °C Corrected Cooler Temp 2.5 °C

IR GUN #36 (CF **+0.3**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

~~IR GUN # 627 (CF **-1.3**°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C~~

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	Yes	No
-Were the seals on the outside of the cooler(s) signed & dated?	Yes	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	No
-Were tamper/custody seals intact and uncompromised?	Yes	No NA
3. Shippers' packing slip attached to the cooler(s)?	Yes	No
4. Did custody papers accompany the sample(s)?	Yes	No
5. Were the custody papers relinquished & signed in the appropriate place?	Yes	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	Yes	No
7. Did all bottles arrive in good condition (Unbroken)?	Yes	No
8. Could all bottle labels be reconciled with the COC?	Yes	No
9. Were correct bottle(s) used for the test(s) indicated?	Yes	No
10. Sufficient quantity received to perform indicated analyses?	Yes	No
11. Are these work share samples?	Yes	No
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	Yes	No NA pH Strip Lot# **HC730269**
13. Were VOAs on the COC?	Yes	No
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes	No NA
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	No
16. Was a LL Hg or Me Hg trip blank present? _____	Yes	No

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

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

Concerning _____

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

17. SAMPLE CONDITION

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

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

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

18. SAMPLE PRESERVATION

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

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

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
GW-12636-031318-SSH-1804	240-92724-A-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____

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: 240-94226-1
Client Project/Site: 12636, RACER Peregrine

For:
GHD Services Inc.
6400 Shafer Court
Suite 400
Rosemont, Illinois 60018

Attn: Ms. Nancy Bergstrom

Denise D Heckler

Authorized for release by:
4/24/2018 8:37:17 AM

Denise Heckler, Project Manager II
(330)966-9477
denise.heckler@testamericainc.com

Table of Contents

Definitions/Glossary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Qualifiers

Metals

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

Glossary

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

Case Narrative

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Job ID: 240-94226-1

Laboratory: TestAmerica Canton

Narrative

Job Narrative
240-94226-1

Comments
No additional comments.

Receipt
The sample was received on 4/18/2018 9:15 AM; the sample arrived in good condition, properly preserved and, where required, on ice.
The temperature of the cooler at receipt was 2.9º C.

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

Method Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	TAL CAN
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL CAN

Protocol References:

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

Laboratory References:

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

Sample Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-94226-1	GW-12636-041718-SSH-1808	Water	04/17/18 11:46	04/18/18 09:15

Detection Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Client Sample ID: GW-12636-041718-SSH-1808 **Lab Sample ID: 240-94226-1**

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Client Sample ID: GW-12636-041718-SSH-1808
Date Collected: 04/17/18 11:46
Date Received: 04/18/18 09:15

Lab Sample ID: 240-94226-1
Matrix: Water

Method: 6020 - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	34	ug/L		04/19/18 14:00	04/20/18 22:47	1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 240-323129/1-A
Matrix: Water
Analysis Batch: 323554

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 323129

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	34	ug/L		04/19/18 14:00	04/20/18 21:03	1

Lab Sample ID: LCS 240-323129/3-A
Matrix: Water
Analysis Batch: 323554

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 323129

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aluminum	10000	9120		ug/L		91	80 - 120

QC Association Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Metals

Prep Batch: 323129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94226-1	GW-12636-041718-SSH-1808	Dissolved	Water	3005A	
MB 240-323129/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-323129/3-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 323554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-94226-1	GW-12636-041718-SSH-1808	Dissolved	Water	6020	323129
MB 240-323129/1-A	Method Blank	Total Recoverable	Water	6020	323129
LCS 240-323129/3-A	Lab Control Sample	Total Recoverable	Water	6020	323129

Lab Chronicle

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Client Sample ID: GW-12636-041718-SSH-1808 **Lab Sample ID: 240-94226-1**
Date Collected: 04/17/18 11:46 **Matrix: Water**
Date Received: 04/18/18 09:15

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			323129	04/19/18 14:00	MBB	TAL CAN
Dissolved	Analysis	6020		1	323554	04/20/18 22:47	DSH	TAL CAN

Laboratory References:

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

Accreditation/Certification Summary

Client: GHD Services Inc.
Project/Site: 12636, RACER Peregrine

TestAmerica Job ID: 240-94226-1

Laboratory: TestAmerica Canton

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

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

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

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

MICHIGAN
190

Chain of Custody Record

2.8/C>.9

238752

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

TAL-8210 (0713)

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

Client Contact	Project Manager: M. Tomka	Site Contact: R. Chatfield	Date: 4/17/18	COC No: 238752
Company Name: GHD	Tel/Fax: 519 340 3823	Lab Contact: D. Heckler	Carrier: FedEx	1 of 1 COCs
Address: 26850 Haggerty Rd	Analysis Turnaround Time			Sampler: S. Hoesmeyer
City/State/Zip: Farmington Hills MI	X CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: 248-893-3400	TAT if different from Below			Walk-in Client:
Fax:	X 2 weeks			Lab Sampling:
Project Name: RacerTrust Former Peregrine	☐ 1 week			
Site: 12636-T09-012-2018	☐ 2 days			Job / SDG No.:
P O #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	Dis. Al	Sample Specific Notes:
GW-58562-041718-SSH-1808-12636-	4/17/18	1146	G	GW	1	Y	N	X	

240-94226 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other 1, 4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☒ Unknown

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

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

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: 793755 | Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ | Therm ID No.: _____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	GHD	4/17/18 1500		TAL	4-18-18 915
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:

4/24/2018

TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 44826
Canton Facility

Client GHD Site Name — Cooler unpacked by: POP

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

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

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

TestAmerica Cooler # TA Foam Box Client Cooler Box Other

Packing material used: Bubble Wrap Foam (Plastic Bag) None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-8 (CF **+0.1** °C) Observed Cooler Temp. 2.6 °C Corrected Cooler Temp. 2.9 °C
   IR GUN #36 (CF **+0.3**°C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C
   ~~IR GUN # 627 (CF **-1.3**°C) Observed Cooler Temp. ____ °C Corrected Cooler Temp. ____ °C~~

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes) No	
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes) No	NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes (No)	
-Were tamper/custody seals intact and uncompromised?	(Yes) No	NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No	
4. Did custody papers accompany the sample(s)?	(Yes) No	
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No	
6. Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes) No	
7. Did all bottles arrive in good condition (Unbroken)?	(Yes) No	
8. Could all bottle labels be reconciled with the COC?	(Yes) No	
9. Were correct bottle(s) used for the test(s) indicated?	(Yes) No	
10. Sufficient quantity received to perform indicated analyses?	(Yes) No	
11. Are these work share samples?	Yes (No)	
If yes, Questions 12-16 have been checked at the originating laboratory.		
12. Were all preserved sample(s) at the correct pH upon receipt?	(Yes) No	NA pH Strip Lot# **HC732776**
13. Were VOAs on the COC?	(Yes) No	
14. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No	(NA)
15. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # ____	Yes (No)	
16. Was a LL Hg or Me Hg trip blank present? ____	Yes (No)	

Tests that are not checked for pH by Receiving:

VOAs
Oil and Grease
TOC

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

Concerning ____

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

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): ____

WI-NC-099

Login Container Summary Report

Temperature readings: _____

Client Sample ID	Lab ID	Container Type	Container pH	Preservative Added (mls)	Lot #
GW-12636-041718-SSH-1808	240-94226-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____