



June 9, 2016

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  
Annual Monitoring Report (April 30, 2015 to March 31, 2016)  
Coldwater Road Facility, Genesee Township, Michigan  
MIR 000 020 743**

This letter, prepared by GHD on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER), presents 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. The AMR has been prepared for the period of April 30, 2015 to March 31, 2016 in accordance with the "Supplemental RFI Groundwater Investigation Work Plan and Groundwater Monitoring Plan" (Monitoring Plan; Conestoga-Rovers and Associates, September 16, 2013) which was approved by the MDEQ on October 15, 2013.

This letter includes the following enclosures:

Figure 1	Groundwater Monitoring Locations
Figure 2	Drift Aquifer Groundwater Contours and March 2015 Groundwater Elevations
Figure 3	Shallow Groundwater Monitoring Results Summary
Figure 4	Deep Groundwater Monitoring Results Summary
Table 1	2015/2016 Groundwater Monitoring Well Network
Table 2	Summary of Water Elevation and Turbidity Readings
Table 3	2015/2016 Shallow Groundwater Results Summary
Table 4	2015/2016 Deep Groundwater Results Summary
Table 5	2016/2017 Proposed Groundwater Monitoring Well Network
Attachment A	Field Data Records
Attachment B	Well Abandonment Records
Attachment C	Historic Groundwater Analytical Results (December 2010 to April 2016)
Attachment D	Data Validation Report and Laboratory Analytical Results

## 1. Activities Completed During Monitoring Period

The following activities were completed during this monitoring period:

- Q2-2015 Groundwater Monitoring (June 22 to 23, 2015)
- Q3-2015 Groundwater Monitoring (September 14 and 17, 2015)
- Q4-2015 Groundwater Monitoring (December 15 to 16, 2015)
- Abandonment of Monitoring Wells MW-1-02, MW-2-02, and MW-3-02 (March 7, 2016)
- Q1-2016 Comprehensive Groundwater Monitoring (March 21 to 22, 2016)

### 1.1 Q2-2015 Groundwater Monitoring (June 22 to 23, 2015)

In accordance with the approved Monitoring Plan, the first round of quarterly groundwater monitoring for the 2015/2016 AMR period, at eight perched aquifer (shallow) monitoring wells was completed between June 22 and 23, 2015 (Q2 2015). Table 1 presents a summary of the monitoring well network details and Figure 1 presents the monitoring locations.

All groundwater samples were collected using low flow sampling procedures. Samples were collected following the stabilization of field parameters (pH, turbidity, temperature, conductivity, dissolved oxygen, and oxygen reduction potential). All samples were analyzed for total/dissolved manganese and lead. In addition, location MW-17-13 was sampled for total /dissolved iron and arsenic, as recommended in the 2014/2015 AMR.

The field sampling records have been included in Attachment A and a summary of the groundwater elevations and turbidity readings is presented in Table 2.

### 1.2 Q3-2015 Groundwater Monitoring (September 15 and 17, 2015)

In accordance with the approved Monitoring Plan, and as revised and approved by the MDEQ (by email) on July 29, 2015, the second round of quarterly groundwater monitoring for the 2015/2016 AMR period was completed at eight perched aquifer (shallow) monitoring wells between September 15 and 17, 2015 (Q3 2015). Table 1 presents a summary of the monitoring well network details and Figure 1 presents the monitoring locations.

Groundwater samples were collected at all locations using low flow sampling procedures. Samples were collected following the stabilization of field parameters (pH, turbidity, temperature, conductivity, dissolved oxygen, and oxygen reduction potential). In addition, second sets of samples were collected from locations B-9 and MW-18-13 by purging the locations to dry and collecting samples following sufficient recharge, as recommended by the MDEQ. All samples were analyzed for total/dissolved manganese and lead. Location MW-17-13 was also sampled for total /dissolved iron and arsenic.

The field sampling records have been included in Attachment A and a summary of groundwater elevations and turbidity readings is presented in Table 2.

### **1.3 Q4-2015 Groundwater Monitoring (December 15 to 16, 2015)**

In accordance with the approved Monitoring Plan, as revised, the third round of quarterly groundwater monitoring was completed at eight perched aquifer (shallow) monitoring wells between December 15 and 16, 2015 (Q4-2015). Table 1 presents a summary of the monitoring well network details and Figure 1 presents the monitoring locations.

Groundwater samples were collected at all locations using low flow sampling procedures. Samples were collected following the stabilization of field parameters (pH, turbidity, temperature, conductivity, dissolved oxygen, and oxygen reduction potential). In addition, second sets of samples were collected from locations B-9 and MW-18-13 by purging the locations to dry and collecting samples following sufficient recharge, as recommended by the MDEQ. All samples were analyzed for total/dissolved manganese and lead. Location MW-17-13 was also sampled for total /dissolved iron and arsenic.

The field sampling records have been included in Attachment A and a summary of groundwater elevations and turbidity readings is presented in Table 2.

### **1.4 Abandonment of Monitoring Wells MW-1-02, MW-2-02, and MW-3-02**

In accordance with recommendations made in the July 27, 2015 GHD letter entitled "Response to Comments of June 30, 2015 – Comments on Supplemental Groundwater Monitoring Annual Monitoring Report", and as approved by the MDEQ (by email) on July 29, 2015, groundwater monitoring wells MW-1-02, MW-2-02, and MW-3-02 were abandoned. Abandonment records are presented in Attachment B.

### **1.5 Q1-2016 Comprehensive Groundwater Monitoring**

In accordance with the approved revised Monitoring Plan, the comprehensive groundwater monitoring event was completed at three drift aquifer (deep) monitoring wells and twelve perched aquifer (shallow) monitoring wells between March 21 and 22, 2016 (Q1 2016). MW-16-10 was not able to be sampled, as a result of equipment failure. MW-16-10 will be sampled as part of the Q2-2016 which is scheduled to be completed in June 2016 and a summary of the results will be provided at that time. Table 1 presents a summary of the monitoring well network details and Figure 1 presents the monitoring locations.

Groundwater samples were collected using low flow sampling procedures at the following locations: B-27D, MW-4-02, MW-15-10, MW-17-13, MW-19-13, MW-20-13, PFW-1, PFW-2, and PFW-9. Samples were collected following the stabilization of field parameters (pH, turbidity, temperature, conductivity, dissolved oxygen, and oxygen reduction potential). In addition, groundwater samples were collected following purging and sufficient recharge at the following locations: B-9, MW-1, MW-2, MW-18-13, PFW-4, PFW-10, and PFW-11. All samples were analyzed for VOCs and dissolved metals. In accordance with the approved Monitoring Plan, if sampling procedures yielded turbidity readings of 10 NTU or less, total metals analysis was also performed.

The field sampling records have been included in Attachment A and a summary of groundwater elevations and turbidity readings is presented in Table 2. Figure 2 presents a summary of the groundwater elevations collected between March 21 and 22, 2016 along with groundwater contours for the drift aquifer.

## 2. Screening Criteria

Groundwater results were initially screened against the Site specific background values (BVs). Those constituents exceeding Site specific BVs were then screened against the following generic risk based cleanup criteria from Part 201 of Michigan's Natural Resources and Environmental Protection Act, Public Act 451, and identified in the MDEQ RRD Cleanup Criteria Requirements for Response Activity R299.44 (Table 1), December 30, 2013, pursuant to 1994 PA 451:

- Nonresidential Drinking Water Aesthetic and Health Based Criteria.
- Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria.
- Residential Drinking Water Aesthetic and Health Based Criteria.
- Residential Groundwater Volatilization to Indoor Air Inhalation Criteria.
- Ground/Surface Water Interface (GSI) Criteria.

Groundwater concentrations are screened against both the more conservative aesthetic drinking water criteria and the health based drinking water criteria for aluminum, iron and manganese.

## 3. Groundwater Monitoring Results

### 3.1 Shallow Groundwater Monitoring Results

Figure 3 presents a summary of the groundwater results for all constituents that exceeded criteria per the screening process described above in Section 2.0 and quarterly monitoring parameters (both total and dissolved results) in the shallow groundwater since the start of this quarterly monitoring program in March 2014. The shallow groundwater results for the 2015/2016 AMR period are presented in Table 3. A summary of all historic shallow groundwater results is presented in Attachment C-1. A figure summarizing the historic groundwater exceedances is presented in Attachment C-3.

There were no exceedances of groundwater screening criteria at the locations sampled for VOCs. Metals in groundwater exceeded screening criteria as follows:

- Total and dissolved arsenic exceeded Site-specific BV, Residential and/or Nonresidential Drinking Water Criteria, and GSI Criteria at MW-17-13 in all samples.
- Dissolved iron exceeded Site-specific BVs and Residential and/or Nonresidential Drinking Water (aesthetic and health based) Criteria at MW-17-13 in all samples.

- Dissolved manganese at MW-2, MW-17-13, MW-18-13, and PFW-2 in eight samples and total manganese at PFW-2 in two samples exceeded Site-specific BVs and Residential and/or Nonresidential Aesthetic Drinking Water Criteria and Residential Health Based Criteria.

There were no exceedances of Residential or Nonresidential Groundwater Volatilization to Indoor Air Inhalation Criteria.

GHD completed a reduced data validation of the analytical results and found no significant issues. Copies of the data validation memos and the laboratory analytical report are presented in Attachment D.

### **3.2 Deep Groundwater Monitoring Results**

Figure 4 presents a summary of the groundwater results for all constituents that historically exceeded criteria per the screening process described above in Section 2.0 (both total and dissolved results) in the deep groundwater since the start of this quarterly monitoring program in March 2014. The deep groundwater results for the 2015/2016 AMR period are presented in Table 4. A summary of all historic deep groundwater results is presented in Attachment C-2. A figure summarizing the historic groundwater exceedances is presented in Attachment C-4.

There were no exceedances of groundwater screening criteria.

Note that MW-16-10 was not able to be sampled, as a result of equipment failure during the March, 2016 event. MW-16-10 will be sampled as part of the Q2-2016 which is scheduled to be completed in June 2016 and a summary of the results will be provided at that time.

GHD completed a reduced data validation of the analytical results and found no significant issues. Copies of the data validation memos and the laboratory analytical report are presented in Attachment D.

### **3.3 Notable Observations**

Groundwater quality has remained stable across the Site since the completion of Interim Measures (IM) activities which were completed prior to 2004 to address soils identified as exceeding generic risk-based industrial criteria: industrial direct contact, particulate soil inhalation, soil volatilization to indoor air inhalation, and infinite source soil inhalation. IM activities included the excavation and off-Site disposal of impacted soils.

In addition, facility operations ceased in 1999 and Building Decommissioning Demolition activities were completed in 2001.

Since the completion of IM's, VOCs have not been detected at concentrations exceeding screening criteria in groundwater (shallow or deep). Since 2010, approximately 140 full Method 8260B list (50 Constituents) VOC samples have been analyzed from 30 locations for a total of 7000 reported constituents, of which, there were only 10 detections above the laboratory reporting limit (between 1.0

and 10 micrograms per liter ( $\mu\text{g/L}$ ) depending on constituent). All 10 detections were orders of magnitude below their most stringent screening criteria, respectively.

During the Q3-2015 and the Q4-2015 sampling events two locations (B-9 and MW-18-13) were sampled using two different methods. One sample was first collected using low flow sampling procedures, as previously completed. The location was then purged to dry and a second sample was collected following sufficient recharge to collect a sample. The results for both sampling methods are presented in Table 3. No significant variations in the results were noted.

#### 4. Conclusions and Recommendations

Based on the data collected during the 2015/2016 AMR monitoring period the following can be concluded:

1. There were no exceedances of screening criteria in the deep groundwater results.
2. At shallow monitoring well MW-17-13, groundwater samples continue to contain concentrations of Arsenic and Iron above the residential/nonresidential drinking water criteria (aesthetic and health based).
3. The remaining March 2015 groundwater sampling results are consistent with historic sampling results.
4. VOCs have not been detected at concentrations exceeding screening criteria in on-Site groundwater (shallow or deep) since prior to completion of interim measures activities in 2004. Furthermore, of the detections since 2004, no VOCs have been detected above their respective laboratory reporting limit (between 1.0 and 10  $\mu\text{g/L}$  depending on constituent) since September 2011; estimated "J" qualified values.
5. During the Q3-2015 and the Q4-2015 sampling events both low flow purging and purge to dry sampling methods were used at two locations. No significant variations in the results were noted.

Based on the above conclusions, GHD recommends the following modifications to the Monitoring Plan:

1. The results of the MW-16-10 sampling to be completed in Q2-2016 will be summarized and submitted to the MDEQ following the receipt of validated analytical results.
2. RACER is evaluating the situation at MW-17-13 and will propose additional activities before, or as part of, the Q2-2016 data summary, above.
3. Remove VOCs from the monitoring program for all locations.

The recommended modifications to the Monitoring Plan will be incorporated into the next sampling event, pending MDEQ's approval. Next year's annual report will be submitted following the completion of the Q1-2017 monitoring event. The Q1-2017 monitoring event will be the final event of the three

year monitoring program. Additional recommendations regarding site-wide groundwater and proposed monitoring, if required, will be proposed at that time.

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/kf/22

Encl.

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

**LEGEND**

-  FACILITY BOUNDARY
-  SHALLOW MONITORING WELL LOCATION (ANNUAL)
-  DEEP MONITORING WELL LOCATION (ANNUAL)
-  QUARTERLY MONITORING LOCATION
-  STORM SEWER LINE
-  SANITARY SEWER LINE
-  M.H. MANHOLE
-  STORM SEWER MONITORING LOCATION

NOTE:  
 (1) LOCATION PURGED TO DRY AND SAMPLED FOLLOWING SUFFICIENT RECHARGE. ALL OTHER LOCATIONS SAMPLED USING LOW FLOW PROCEDURES.

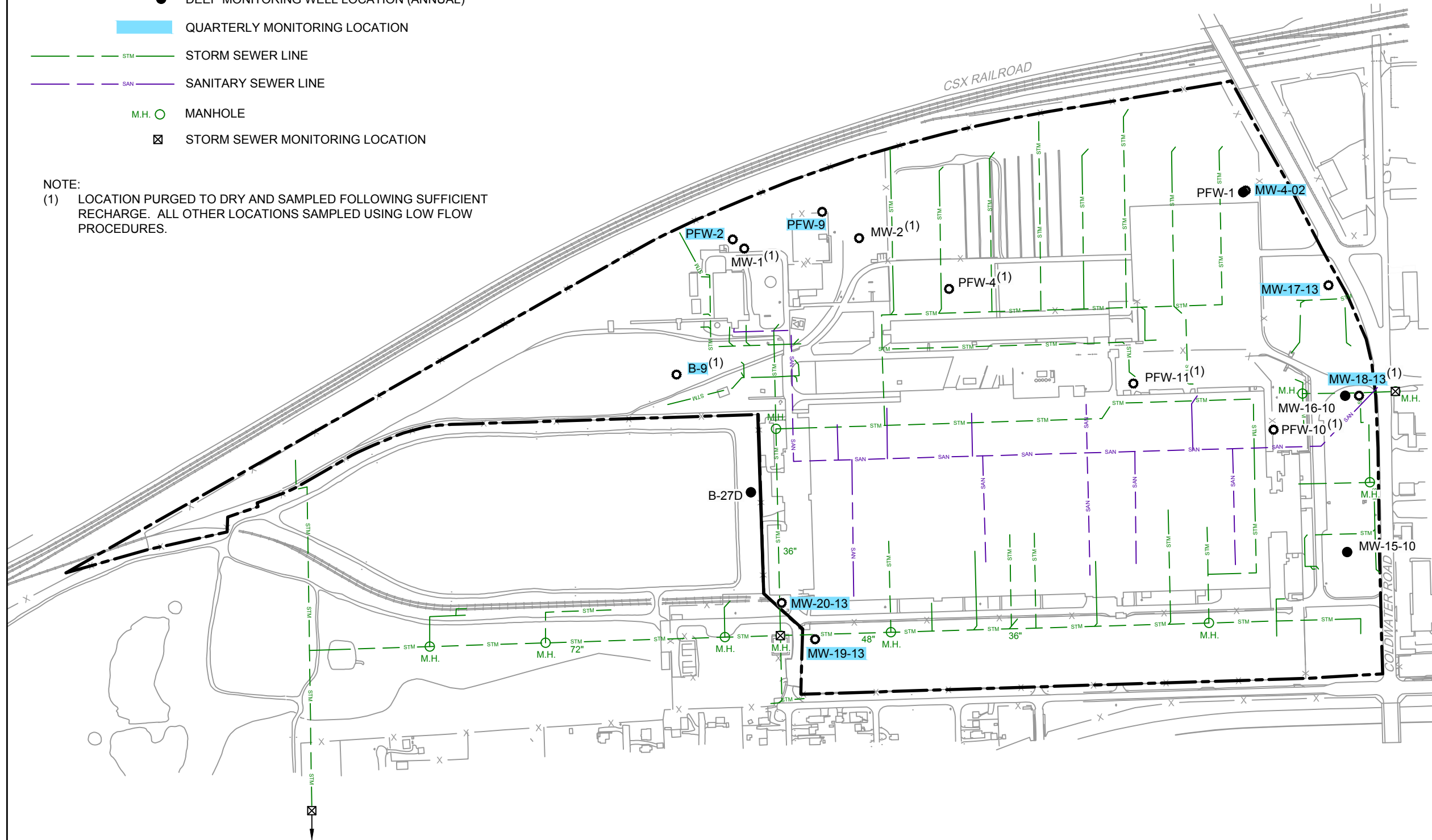
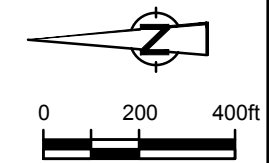


figure 1









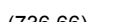

**GROUNDWATER MONITORING LOCATIONS  
 FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY  
 Genesee Township, Michigan**



NOTE:  
 THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE.



**LEGEND**

-  FACILITY BOUNDARY
-  SHALLOW MONITORING WELL LOCATION (ANNUAL)
-  DEEP MONITORING WELL LOCATION (ANNUAL)
-  LOCATION USED FOR DRIFT AQUIFER GROUNDWATER CONTOURING
-  STORM SEWER LINE
-  SANITARY SEWER LINE
-  M.H. MANHOLE
-  STORM SEWER MONITORING LOCATION
-  GROUNDWATER ELEVATION (ft AMSL)
-  734 DRIFT AQUIFER GROUNDWATER ELEVATION CONTOUR (ft AMSL)

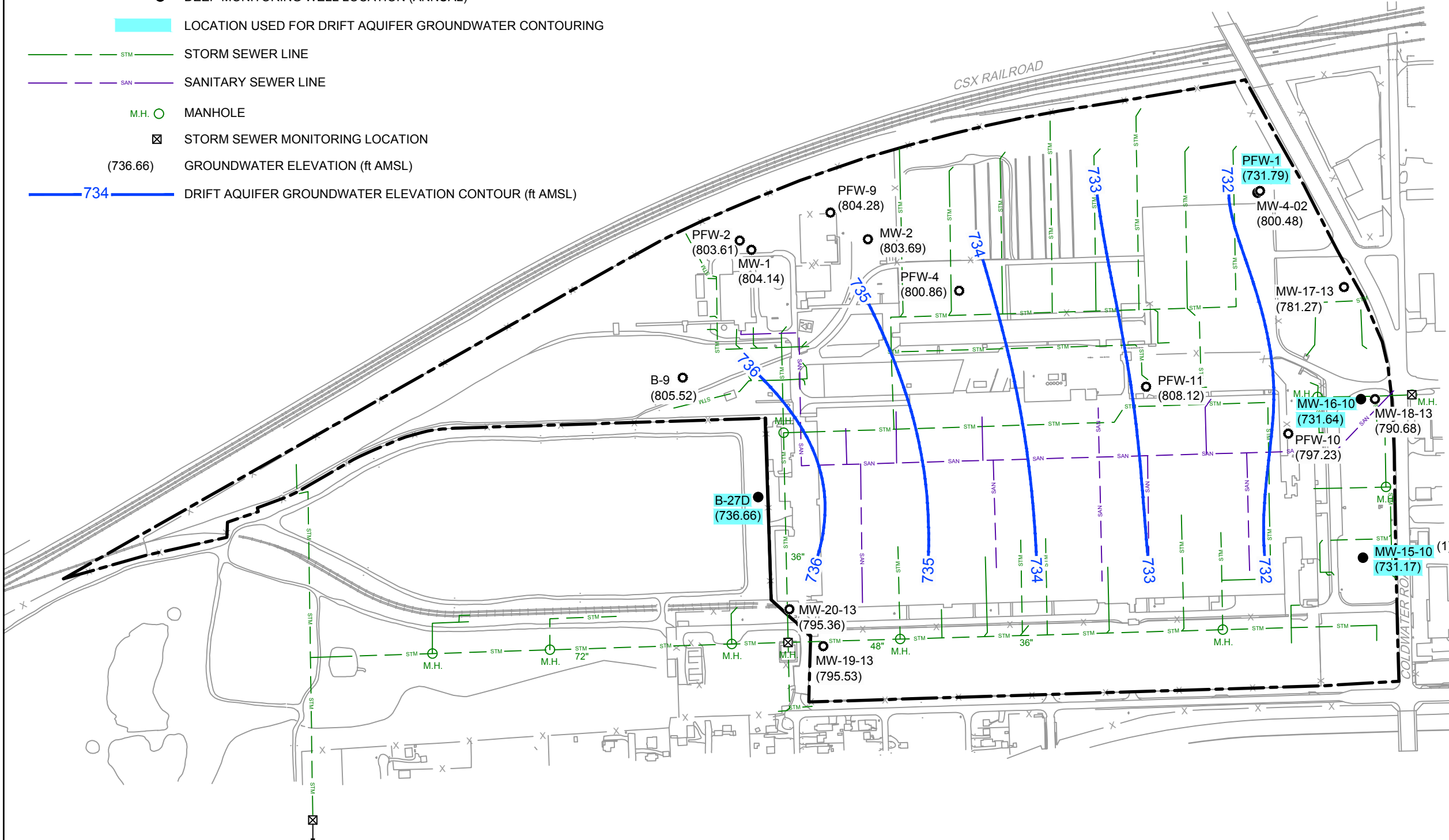
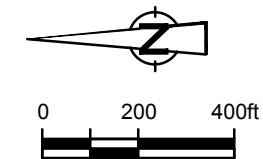



figure 2  
**DRIFT AQUIFER CONTOURS AND MARCH 2016 GROUNDWATER ELEVATIONS  
 FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY  
 Genesee Township, Michigan**

 NOTE:  
 THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER  
 COMPLETE NOR TO EXACTING SCALE.



**LEGEND**

- FACILITY BOUNDARY
- DEEP MONITORING WELL LOCATION (ANNUAL)
- STORM SEWER LINE
- SANITARY SEWER LINE
- MANHOLE
- STORM SEWER MONITORING LOCATION

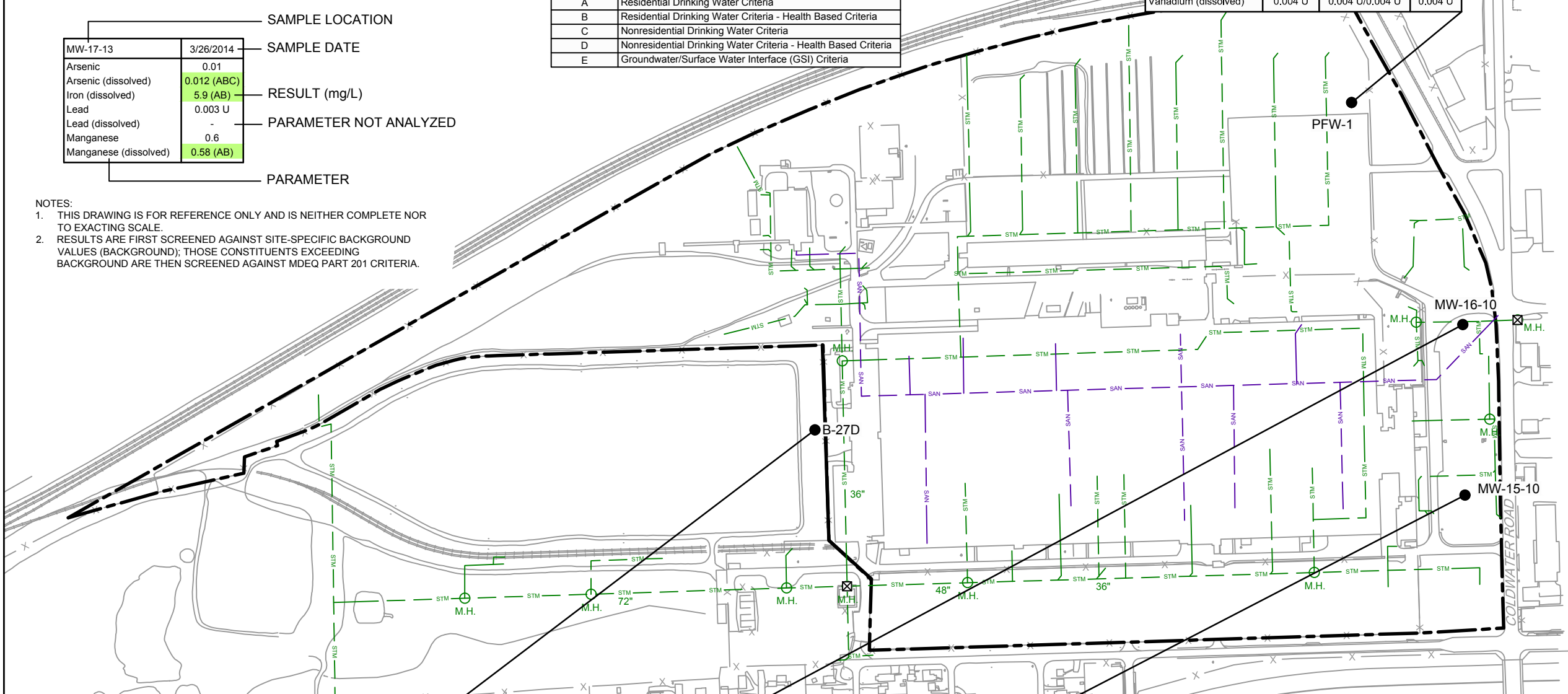
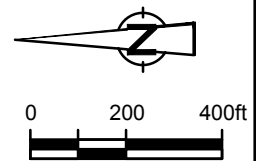
SAMPLE LOCATION		SAMPLE DATE		RESULT (mg/L)		PARAMETER NOT ANALYZED		PARAMETER	
MW-17-13		3/26/2014							
Arsenic				0.01					
Arsenic (dissolved)				0.012 (ABC)					
Iron (dissolved)				5.9 (AB)					
Lead				0.003 U					
Lead (dissolved)				-					
Manganese				0.6					
Manganese (dissolved)				0.58 (AB)					

- NOTES:
- THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE.
  - RESULTS ARE FIRST SCREENED AGAINST SITE-SPECIFIC BACKGROUND VALUES (BACKGROUND); THOSE CONSTITUENTS EXCEEDING BACKGROUND ARE THEN SCREENED AGAINST MDEQ PART 201 CRITERIA.

chemical_name	Background	A	B	C	D	E
Aluminum	5.3	0.05	0.3	0.05	4.1	-
Aluminum (dissolved)	0.133	0.05	0.3	0.05	4.1	-
Arsenic	0.102	0.01	-	0.01	-	0.01
Arsenic (dissolved)	0.089	0.01	-	0.01	-	0.01
Iron	7.9	0.3	2.0	0.3	5.6	-
Iron (dissolved)	3.62	0.3	2.0	0.3	5.6	-
Lead	0.003 U	0.004	-	0.004	-	-
Lead (dissolved)	0.003 U	0.004	-	0.004	-	-
Manganese	0.252	0.05	0.86	0.05	2.5	-
Manganese (dissolved)	0.292	0.05	0.86	0.05	2.5	-
Silver	0.0002 U	0.034	-	0.098	-	0.0002
Silver (dissolved)	0.0002 U	0.034	-	0.098	-	0.0002
Vanadium	0.015	0.0045	-	0.062	-	0.012
Vanadium (dissolved)	0.004 U	0.0045	-	0.062	-	0.012

Background	Background - Deep Water Bearing Zone
A	Residential Drinking Water Criteria
B	Residential Drinking Water Criteria - Health Based Criteria
C	Nonresidential Drinking Water Criteria
D	Nonresidential Drinking Water Criteria - Health Based Criteria
E	Groundwater/Surface Water Interface (GSI) Criteria

PFW-1	3/27/2014	3/25/2015	3/22/2016
Aluminum	0.02 J	0.011 J/0.013 J	0.012 J
Aluminum (dissolved)	0.05 U	0.05 U/0.05 U	0.05 U
Arsenic	0.048	0.064/0.062	0.056
Arsenic (dissolved)	0.04	0.043/0.044	0.044
Iron	1.6	2.1/2.1	1.9
Iron (dissolved)	1.3	1.5/1.5	1.5
Lead	0.003 U	0.0023 J/0.003 U	0.003 U
Lead (dissolved)	0.003 U	0.003 U/0.0019 J	0.003 U
Manganese	0.026	0.029/0.028	0.033
Manganese (dissolved)	0.024	0.027/0.028	0.03
Silver	0.000071 J	0.0002 U/0.0002 U	0.0002 U
Silver (dissolved)	0.000019 J	0.0002 U/0.0002 U	0.0002 U
Vanadium	0.004 UJ	0.004 U/0.004 U	0.004 U
Vanadium (dissolved)	0.004 U	0.004 U/0.004 U	0.004 U



B-27D	3/27/2014	3/27/2015	3/22/2016
Aluminum (dissolved)	0.05 U	0.05 U	0.05 U
Arsenic (dissolved)	0.017	0.034	0.062
Iron (dissolved)	0.085 J	0.2	1
Lead (dissolved)	0.003 U	0.003 U	0.003 U
Manganese (dissolved)	0.027	0.041	0.031
Silver (dissolved)	0.000014 J	0.0002 U	0.000026 J
Vanadium (dissolved)	0.004 U	0.004 U	0.004 U

MW-16-10	3/27/2014	3/26/2015
Aluminum	0.13/0.11	-
Aluminum (dissolved)	0.05 U/0.05 U	0.05 U
Arsenic	0.016/0.015	-
Arsenic (dissolved)	0.014/0.017	0.016
Iron	0.48/0.47	-
Iron (dissolved)	0.28/0.34	0.23
Lead	0.003 U/0.003 U	-
Lead (dissolved)	0.003 U/0.003 U	0.003 U
Manganese	0.13/0.14	-
Manganese (dissolved)	0.13/0.13	0.094
Silver	0.00051 (E)/0.00032 (E)	-
Silver (dissolved)	0.00001 J/0.0002 U	0.0002 U
Vanadium	0.004 U/0.004 UJ	-
Vanadium (dissolved)	0.004 U/0.004 U	0.004 U

MW-15-10	3/27/2014	4/29/2015	3/22/2016
Aluminum (dissolved)	0.045 J	0.32 (ABC)	0.013 J
Arsenic (dissolved)	0.0087	0.011	0.014
Iron (dissolved)	1.8	1.4 B	0.97
Lead (dissolved)	0.003 U	0.003 U	0.003 U
Manganese (dissolved)	0.074	0.077	0.06
Silver (dissolved)	0.00025 (E)	0.00017 J	0.0002 U
Vanadium (dissolved)	0.004 U	0.004 U	0.004 U

figure 4

**DEEP GROUNDWATER MONITORING RESULTS SUMMARY**  
**FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY**  
*Genesee Township, Michigan*



Table 1

**2015/2016 Monitoring Well Network  
Former Pergrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan**

<b>Monitoring Well</b>	<b>Screened Interval (ft bgs)</b>	<b>Ground Surface Elevation (ft AMSL)</b>	<b>Top of Casing Elevation (ft AMSL)</b>	<b>Reference Elevation (Top of Riser) (ft AMSL)</b>	<b>Sampling Method<sup>(1)</sup></b>	<b>Annual Monitoring Event Sampling Parameters (Q1-2016)</b>	<b>Quarterly Monitoring Event Sampling Parameters (Q2-2015, Q3-2015, Q4-2015)</b>
<b>Shallow Water Bearing Unit</b>							
B-9	19 to 24	806.77	808.32	807.67	Purge to Dry	VOCs, Metals	Metals (Lead, Manganese)
MW-1	15 to 25	806.29	806.35	806.08	Purge to Dry	VOCs, Metals	--
MW-2	15 to 25	807.22	806.90	806.90	Purge to Dry	VOCs, Metals	--
MW-4-02	10 to 15	807.93	810.77	810.76	Low Flow Sampling	VOCs, Metals	Metals (Lead, Manganese)
PFW-2	11.9 to 14.4	807.04	809.94	809.43	Low Flow Sampling	VOCs, Metals	Metals (Lead, Manganese)
PFW-4	8.4 to 13.4	808.17	807.72	807.72	Purge to Dry	VOCs, Metals	Metals (Lead, Manganese)
PFW-9	6.7 to 9.2	807.41	810.49	810.05	Low Flow Sampling	VOCs, Metals	Metals (Lead, Manganese)
PFW-10	14.2 to 16.7	808.85	808.48	808.48	Purge to Dry	VOCs, Metals	--
PFW-11	8.1 to 10.6	809.63	809.40	809.40	Purge to Dry	VOCs, Metals	--
MW-17-13	13 to 18	793.08	797.11	796.46	Low Flow Sampling	VOCs, Metals	Metals (Arsenic, Iron, Lead, Manganese)
MW-18-13	2 to 8	792.91	796.42	795.86	Purge to Dry	VOCs, Metals	Metals (Lead, Manganese)
MW-19-13	15 to 20	808.09	808.14	807.85	Low Flow Sampling	VOCs, Metals	Metals (Lead, Manganese)
MW-20-13	15 to 20	807.34	810.81	810.28	Low Flow Sampling	VOCs, Metals	Metals (Lead, Manganese)
<b>Deep Aquifer</b>							
B-27D	77 to 87	810.27	813.15	813.00	Low Flow Sampling	VOCs, Metals	--
MW-15-10	88 to 93	804.89	808.75	808.41	Low Flow Sampling	VOCs, Metals	--
MW-16-10	79 to 84	795.99	799.23	798.90	Low Flow Sampling	VOCs, Metals	--
PFW-1	81.3 to 86.3	807.83	809.78	809.77	Low Flow Sampling	VOCs, Metals	--

## Notes:

(1) - All locations were sampled by low flow sampling methods prior to Q3-2015.

Metals - Dissolved Metals (Total Metals are also analyzed if sample turbidity is less than 10 NTU)

Table 2

**Summary of Water Elevation and Turbidity Readings  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan**

Monitoring Well	Q2 2015		Q3 2015		Q4 2015		Q1 2016	
	Turbidity (NTU)	Groundwater Elevation (ft AMSL)	Turbidity (NTU)	Groundwater Elevation (ft AMSL)	Turbidity (NTU)	Groundwater Elevation (ft AMSL)	Turbidity (NTU)	Groundwater Elevation (ft AMSL)
<b>Shallow Water Bearing Unit</b>								
B-9	10.8	804.26	17.8/85 <sup>(1)</sup>	801.21	1.57	805.47	130 <sup>(1)</sup>	805.52
MW-1	--	--	--	--	--	--	78.4 <sup>(1)</sup>	804.14
MW-2	--	--	--	--	--	--	44.8 <sup>(1)</sup>	803.69
MW-4-02	2.75	800.05	1.37	799.62	0.6	799.25	1.03	800.48
PFW-2	2.91	802.89	1.2	801.47	1.47	801.78	11.7	803.61
PFW-4	--	--	--	--	--	--	84.5 <sup>(1)</sup>	800.86
PFW-9	0.46	803.70	0.27	801.29	0.41	802.07	0.95	804.28
PFW-10	--	--	--	--	--	--	12 <sup>(1)</sup>	797.23
PFW-11	--	--	--	--	--	--	62.2 <sup>(1)</sup>	808.12
MW-17-13	8.52	780.52	3.8	779.98	1.63	779.47	22.2	781.27
MW-18-13	0.62	790.46	0.42/33.6 <sup>(1)</sup>	789.78	0.41	789.85	16.3 <sup>(1)</sup>	790.68
MW-19-13	7.88	794.89	1.42	794.86	1.21	794.61	0.56	795.53
MW-20-13	1.04	794.39	0.25	794.20	0.72	793.96	0.69	795.36
<b>Deep Aquifer</b>								
B-27D	--	--	--	--	--	--	87.5	736.66
MW-15-10	--	--	--	--	--	--	82.5	731.17
MW-16-10	--	--	--	--	--	--	(2)	731.64
PFW-1	--	--	--	--	--	--	4.1	731.79

## Notes:

(1) Turbidity reading collected prior to sampling and following purging location to dry

(2) Location not sampled due to equipment failure; to be sampled in Q2 2016.

-- Not included in monitoring event



Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Background Concentrations - Perched Aquifer	Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Shallow B-9 GW-12636-062315-SSH-153 6/23/2015 Low Flow	Shallow B-9 GW-12636-091715-SSH-1544 9/17/2015 Low Flow	Shallow B-9 GW-12636-091715-SSH-1549 9/17/2015 Purge to Dry	Shallow B-9 GW-12636-121515-SSH-1552 12/15/2015 Low Flow	Shallow B-9 GW-12636-121515-SSH-1553 12/15/2015 Low Flow (Duplicate)	Shallow B-9 GW-12636-121615-SSH-1559 12/16/2015 Purge to Dry
			Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria									
			a	b	c	d									
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	-	-
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	-	-	-	-	-	-
Copper	mg/L	0.01	1	-	1	-	-	-	-	-	-	-	-	-	-
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	-	-	-	-	-	-	-
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	-	-
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	-	-
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	0.003 U	-	-	-	0.003 U	0.003 U	-
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	0.11	-	-	-	0.16	0.17	-
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	0.085	0.28	0.27	0.19	0.2	0.089	-
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	-	-	-	-	-	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	-	-	-	-	-	-
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	-	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	-	-	-
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	-	-	-	-	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	-	-	-	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	-	-	-	-	-	-	-
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	-	-	-	-	-	-	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	-	-	-	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	-	-	-	-	-	-

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
 UJ - Not detected; associated reporting limit is estimated.  
 - - Not analyzed.

Table 3

2015/2016 Shallow Groundwater Results Summary
Former Peregrine (US) Inc. Coldwater Road Facility
Genesee Township, Michigan

Table with columns for Sample Location, Sample ID, Sample Date, Sample Method, and various monitoring wells (Shallow B-9, Shallow MW-1, Shallow MW-2, Shallow MW-4-02, Shallow MW-4-02, Shallow MW-4-02). Rows include parameters for Volatile Organic Compounds and Metals, with values in mg/L and units (U, J).



Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Background Concentrations - Perched Aquifer									Shallow B-9	Shallow MW-1	Shallow MW-2	Shallow MW-4-02	Shallow MW-4-02	Shallow MW-4-02
		Residential Drinking Water			Non-Residential Drinking Water			Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	( GW-12636-032116-SSH-1016	GW-12636-032116-SSH-0216	GW-12636-032116-SSH-0816	GW-12636-062215-SSH-1531	GW-12636-091415-SSH-1540	GW-12636-121515-SSH-1555
		Aesthetic Criteria	Health Based Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria	Health Based Criteria				3/21/2016	3/21/2016	3/21/2016	6/22/2015	9/14/2015	12/15/2015
		a	b	c	d	e	f	g	h	Purge to Dry	Purge to Dry	Purge to Dry	Low Flow	Low Flow	Low Flow	
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	0.001 U	0.001 U	0.001 U	-	-	-	-	-
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	0.00054 J	0.001 U	0.0005 J	-	-	-	-	-
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	0.0016 J	0.00079 J	0.0014 J	-	-	-	-	-
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	-	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	0.0019 J	0.0023 J	0.013	-	-	-	-	-
Copper	mg/L	0.01	1	-	1	-	-	-	-	-	-	-	-	-	-	-
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	0.0021 U	0.0052 U	0.002 U	-	-	-	-	-
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	-	-	-
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	0.65	0.24	2.6	-	-	-	-	-
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	-	-	0.003 U	-	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	-	-	0.0015 J	-	0.015 U	0.0014 J	-
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	0.25	0.33	2.3 <sup>bcd</sup>	0.0011 J	-	0.015 U	0.00073 J	-
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.056	0.056	-	-	-	-	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.056	0.056	0.0002 U	0.0002 U	0.0002 U	-	-
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	0.0066 J	0.0042 J	0.0056 J	-	-	-	-	-
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	-	-	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	0.005 U	0.005 U	0.005 U	-	-	-	-	-
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	-	-	-	-	-	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	0.0002 U	0.0002 U	0.0002 U	-	-	-	-	-
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	-	-	-	-	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	0.001 U	0.0001 J	0.00013 J	-	-	-	-	-
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	-	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	0.004 U	0.004 U	0.004 U	-	-	-	-	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	-	-	-	-	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	0.02 U	0.02 U	0.02 U	-	-	-	-	-

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
 UJ - Not detected; associated reporting limit is estimated.  
 - - Not analyzed.



Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Background Concentrations - Perched Aquifer	Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Shallow MW-4-02	Shallow MW-17-13	Shallow MW-17-13	Shallow MW-17-13	Shallow MW-17-13	Shallow MW-17-13
			( GW-12636-032116-SSH-0516	GW-12636-062215-SSH-1533	GW-12636-062215-SSH-1534	GW-12636-091415-SSH-1541				GW-12636-091415-SSH-1542	GW-12636-121515-SSH-1556				
			3/21/2016	6/22/2015	6/22/2015	9/14/2015				9/14/2015	12/15/2015				
			Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria	f	g	h	Low Flow	Low Flow	Low Flow (Duplicate)	Low Flow	Low Flow (Duplicate)	Low Flow
		a	b	c	d	e									
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	-	-	-	-	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	-	-	-	-	-
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.00029 J	-	-	-	-	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.00029 J	-	-	-	-	-
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	0.0015 J	-	-	-	-	-
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	-	0.0013 J	-	-	-	-	-
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	0.007 U	-	-	-	-	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	0.007 U	-	-	-	-	-
Copper	mg/L	0.01	1	-	1	-	-	-	-	0.002 U	-	-	-	-	-
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	-	0.002 U	-	-	-	-	-
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	0.1 U	7.5	7.6	11	10	11
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	-	0.1 U	7.5 <sup>bcde</sup>	7.2 <sup>bcde</sup>	10 <sup>bcde</sup>	10 <sup>bcde</sup>	10 <sup>bcde</sup>
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.0021 J
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.0019 J
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	0.015 U	0.54	0.55	0.21	0.2	0.15
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	-	0.015 U	0.55 <sup>bd</sup>	0.53	0.21	0.21	0.15
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.0002 U	-	-	-	-	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.0002 U	-	-	-	-	-
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	0.00086 J	-	-	-	-	-
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	0.0018 J	-	-	-	-	-
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	-	-	-	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	-	-	-	-	-
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	0.0002 U	-	-	-	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	0.000021 J	-	-	-	-	-
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	0.000088 J	-	-	-	-	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	-	0.00011 J	-	-	-	-	-
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	0.004 U	-	-	-	-	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	-	0.004 U	-	-	-	-	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	0.02 U	-	-	-	-	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	0.02 U	-	-	-	-	-

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
 UJ - Not detected; associated reporting limit is estimated.  
 - - Not analyzed.



Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Sample Location:														
		Shallow Perched Aquifer		Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Shallow MW-17-13 ( GW-12636-032116-SSH-0616 3/21/2016 Low Flow	Shallow MW-18-13 GW-12636-062315-SSH-1538 6/23/2015 Low Flow	Shallow MW-18-13 GW-12636-091715-SSH-1545 9/17/2015 Low Flow	Shallow MW-18-13 GW-12636-091715-SSH-1550 9/17/2015 Purge to Dry	Shallow MW-18-13 GW-12636-121515-SSH-1551 12/15/2015 Low Flow	Shallow MW-18-13 GW-12636-121615-SSH-1558 12/16/2015 Purge to Dry
		Background Concentrations - Perched Aquifer	Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria										
		a	b	c	d	e	f	g	h							
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-	
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	0.001 U	-	-	-	-	-	-	
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	-	-	
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	0.00045 J	-	-	-	-	-	-	
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	0.0018 J	-	-	-	-	-	-	
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	-	-	-	-	-	-	
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	0.0048 J	-	-	-	-	-	-	
Copper	mg/L	0.01	1	-	1	-	-	-	-	-	-	-	-	-	-	
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	0.021	-	-	-	-	-	-	
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	-	-	
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	24 <sup>bcd</sup>	-	-	-	-	-	-	
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	0.003 U	0.003 U	0.003 U	-	0.003 U	-	
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	-	0.003 U	0.003 U	
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	0.25	0.33	-	0.28	-	-	
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	1.1 <sup>bcd</sup>	0.25	0.33	0.57 <sup>bd</sup>	0.29	-	0.35	
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	-	-	-	-	-	-	
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.0002 U	-	-	-	-	-	
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	0.0081 J	-	-	-	-	-	
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	-	-	-	
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	-	-	-	-	-	
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	-	-	-	-	-	-	
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	0.0002 U	-	-	-	-	-	
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	-	-	-	-	
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	-	0.001 U	-	-	-	-	-	
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	-	-	-	-	-	-	
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	-	0.004 U	-	-	-	-	-	
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	-	-	-	-	
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	0.02 U	-	-	-	-	-	

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
 UJ - Not detected; associated reporting limit is estimated.  
 - - Not analyzed.



Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-18-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-20-13
Sample ID:	( GW-12636-032216-SSH-1516	GW-12636-062215-SSH-1532	GW-12636-091415-SSH-1543	GW-12636-121515-SSH-1557	GW-12636-032116-SSH-1116	GW-12636-062215-SSH-1530
Sample Date:	3/22/2016	6/22/2015	9/14/2015	12/15/2015	3/21/2016	6/22/2015
Sample Method:	Purge to Dry	Low Flow	Low Flow	Low Flow	Low Flow	Low Flow

Parameters:	Units	Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation	Non- Residential Groundwater Volatilization to Indoor Air Inhalation									
		Background Concentrations - Perched Aquifer	Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria				Health Based Criteria								
		a	b	c	d				e	f	g	h					
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-	0.001 U	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	0.001 U	-	-	-	-	-	-	0.001 U	-
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	-	-	0.001 U	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	0.00029 J	-	-	-	-	-	-	0.00024 J	-
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	0.0013 J	-
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	0.00086 J	-	-	-	-	-	-	0.0011 J	-
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	-	-	-	-	-	-	0.007 U	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	0.007 U	-	-	-	-	-	-	0.007 U	-
Copper	mg/L	0.01	1	-	1	-	-	-	-	-	-	-	-	-	-	0.002 U	-
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	0.0016 J	-	-	-	-	-	-	0.0032 U	-
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	-	-	0.1 U	-
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	0.1 U	-	-	-	-	-	-	0.1 U	-
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	0.003 U	-	0.003 U	0.0031	-	-	0.003 U	0.003 U
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	0.003 U	0.003 U	-	0.003 U	0.0028 J	-	-	0.003 U	0.003 U
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	0.086	-	0.12	0.19	-	-	0.23	0.00068 J
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	0.2	0.078	-	0.11	0.18	-	-	0.22	0.001 J
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	-	-	0.056	-	-	-	-	0.0002 U	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.0002 U	-	0.056	-	-	-	-	0.000093 J	-
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	0.0032 J	-
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	0.0026 J	-	-	-	-	-	-	0.0035 J	-
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	-	-	-	0.005 U	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	0.005 U	-	-	-	-	-	-	0.005 U	-
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	-	-	-	-	-	-	0.0002 U	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	0.0002 U	-	-	-	-	-	-	0.0002 U	-
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	-	-	-	-	0.001 U	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	0.001 U	-	-	-	-	-	-	0.001 U	-
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	-	-	-	-	-	-	0.004 U	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	0.004 U	-	-	-	-	-	-	0.004 U	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	-	-	-	-	0.02 U	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	0.02 U	-	-	-	-	-	-	0.02 U	-

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
 UJ - Not detected; associated reporting limit is estimated.  
 - - Not analyzed.





Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Background Concentrations - Perched Aquifer									Shallow MW-20-13	Shallow MW-20-13	Shallow MW-20-13	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2
		Residential Drinking Water			Non-Residential Drinking Water			Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	( GW-12636-091715-SSH-1546	GW-12636-121515-SSH-1554	GW-12636-032116-SSH-0716	GW-12636-062315-SSH-1536	GW-12636-091715-SSH-1547	GW-12636-121615-SSH-1560
		Aesthetic Criteria	Health Based Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria									
		a	b	c	d	e	f	g	h							
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	0.001 U	-	-	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	0.001 U	-	-	-
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	0.001 U	-	-	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	0.001 U	-	-	-
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	-	-	-	0.0037 J	-	-	-
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	-	-	-	-	0.0039 J	-	-	-
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	-	-	-	0.007 U	-	-	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	-	-	-	0.007 U	-	-	-
Copper	mg/L	0.01	1	-	1	-	-	-	-	-	-	-	0.002 U	-	-	-
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	-	-	-	-	0.002 U	-	-	-
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	-	-	-	0.1 U	-	-	-
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	-	-	-	-	0.1 U	-	-	-
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	0.003 U	-	0.0022 J	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	-	0.003 U	-	0.0021 J	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	0.015 U	-	0.00054 J	0.015 U	0.015 U	0.015 U	0.78
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	-	0.015 U	-	0.015 U	0.015 U	0.015 U	0.015 U	0.92 <sup>bcd</sup>
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	-	-	-	0.0002 U	-	-	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	-	-	-	0.0002 U	-	-	-
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	-	-	-	0.00087 J	-	-	-
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	-	-	-	0.02 U	-	-	-
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	0.005 U	-	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	0.005 U	-	-	-
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	-	-	-	0.0002 U	-	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	-	-	-	0.0002 U	-	-	-
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	-	0.001 U	-	-	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	-	-	-	-	0.001 U	-	-	-
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	-	-	-	0.004 U	-	-	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	-	-	-	-	0.004 U	-	-	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	-	0.02 U	-	-	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	-	-	-	0.02 U	-	-	-

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
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 - - Not analyzed.



Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Background Concentrations - Perched Aquifer										Shallow PFW-2	Shallow PFW-4	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9			
		Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Groundwater/ Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation
		Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria															
		a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001 U
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	-	-	0.001 U	0.001 U	-	-	-	-	0.001 U
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.001 U
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	-	-	0.001 U	0.00017 J	-	-	-	-	0.001 U
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.005 U
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	-	-	-	-	-	0.0011 J	0.0011 J	-	-	-	-	0.00064 J
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	0.007 U
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	-	-	-	-	0.007 U	0.007 U	-	-	-	-	0.007 U
Copper	mg/L	0.01	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.002 U
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	-	-	-	-	-	0.002 U	0.0026 U	-	-	-	-	0.002 U
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1 U
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	-	-	-	-	-	1.2	0.22	-	-	-	-	0.1 U
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	-	-	-	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	-	-	-	-	-	0.003 U	0.0021 J	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	-	-	-	-	-	-	0.00094 J	0.0056 J	0.0018 J	0.015 U	0.015 U
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	-	-	-	-	-	0.056	0.056	0.0012 J	0.0057 J	0.015 U	0.015 U	0.015 U
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.056	0.0002 U	0.0002 U	-	-	-	-	-	-	-	0.0002 U
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.056	0.0002 U	0.0002 U	-	-	-	-	-	-	-	0.0002 U
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0011 J
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	-	0.0018 J	0.0031 J	-	-	-	-	-	-	-	0.0013 J
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	-	-	-	-	-	-	-	-	0.005 U
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	0.005 U	0.005 U	-	-	-	-	-	-	-	0.005 U
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	-	-	-	-	-	-	-	-	-	-	0.0002 U
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	-	0.00004 J	0.0002 U	-	-	-	-	-	-	-	0.0002 U
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	-	-	-	-	-	-	-	-	0.001 U
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	-	-	0.00011 J	0.001 U	-	-	-	-	-	-	-	0.001 U
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	-	-	-	-	-	-	-	-	-	-	0.004 U
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	-	-	0.004 U	0.004 U	-	-	-	-	-	-	-	0.004 U
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.02 U
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	-	0.02 U	0.02 U	-	-	-	-	-	-	-	0.02 U

Notes:  
 J - Estimated concentration.  
 U - Not detected at the associated reporting limit.  
 UJ - Not detected; associated reporting limit is estimated.  
 - - Not analyzed.

Table 3

**2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan**

Parameters:	Units	Background Concentrations - Perched Aquifer a	Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface Criteria f	Residential Groundwater Volatilization to Indoor Air Inhalation g	Non-Residential Groundwater Volatilization to Indoor Air Inhalation h	Shallow PFW-9	Shallow PFW-10	Shallow PFW-11
			Aesthetic Criteria b	Health Based Criteria c	Aesthetic Criteria d	Health Based Criteria e				C GW-12636-032116-SSH-0416 3/21/2016 Low Flow (Duplicate)	GW-12636-032216-SSH-1416 3/22/2016 Purge to Dry	GW-12636-032216-SSH-1316 3/22/2016 Purge to Dry
<b>Volatile Organic Compounds</b>												
1,1,1-Trichloroethane	mg/L	-	0.2	-	0.2	-	0.089	660	1300	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	-	0.0085	-	0.035	-	0.078	12	77	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	-	0.005	-	0.005	-	0.33	17	110	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	-	0.88	-	2.5	-	0.74	1000	2300	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	-	0.007	-	0.007	-	0.13	0.2	1.3	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	mg/L	-	0.07	-	0.07	-	0.099	300	300	0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene	mg/L	-	0.063	-	0.063	-	0.017	56	56	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	0.0002	-	0.0002	-	-	0.22	1.2	0.001 U	0.001 U	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	0.00005	-	0.00005	-	0.0057	2.4	15	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	mg/L	-	0.6	-	0.6	-	0.013	160	160	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	-	0.005	-	0.005	-	0.36	9.6	59	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	-	0.005	-	0.005	-	0.23	16	36	0.001 U	0.001 U	0.001 U
1,3,5-Trimethylbenzene	mg/L	-	0.072	-	0.072	-	0.045	61	61	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	mg/L	-	0.0066	-	0.019	-	0.028	18	41	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	mg/L	-	0.075	-	0.075	-	0.017	16	74	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	13	-	38	-	2.2	240000	240000	0.01 U	0.01 U	0.01 U
2-Hexanone	mg/L	-	1	-	2.9	-	-	4200	8700	0.01 U	0.01 U	0.01 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	1.8	-	5.2	-	-	20000	20000	0.01 U	0.01 U	0.01 U
Acetone	mg/L	-	0.73	-	2.1	-	1.7	1000000	1000000	0.01 U	0.01 U	0.01 U
Benzene	mg/L	-	0.005	-	0.005	-	0.2	5.6	35	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	-	0.08	-	0.08	-	-	4.8	37	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	-	0.08	-	0.08	-	-	470	3100	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	-	0.01	-	0.029	-	0.035	4	9	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	-	0.8	-	2.3	-	-	250	550	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	-	0.005	-	0.005	-	0.045	0.37	2.4	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	-	0.1	-	0.1	-	0.025	210	470	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	-	0.43	-	1.7	-	1.1	5700	5700	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	-	0.08	-	0.08	-	0.35	28	180	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	-	0.26	-	1.1	-	-	8.6	45	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	-	0.07	-	0.07	-	0.62	93	210	0.001 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Cyclohexane	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	-	0.08	-	0.08	-	-	14	110	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane (CFC-12)	mg/L	-	1.7	-	4.8	-	-	220	300	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	-	0.074	-	0.074	-	0.018	110	170	0.001 U	0.001 U	0.001 U
Isopropyl benzene	mg/L	-	0.8	-	2.3	-	0.028	56	56	0.001 U	0.001 U	0.001 U
Methyl acetate	mg/L	-	-	-	-	-	-	-	-	0.01 U	0.01 U	0.01 U
Methyl cyclohexane	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	-	0.04	-	0.04	-	7.1	47000	47000	0.001 U	0.001 U	0.001 U
Methylene chloride	mg/L	-	0.005	-	0.005	-	1.5	220	1400	0.005 U	0.005 U	0.005 U
Styrene	mg/L	-	0.1	-	0.1	-	0.08	170	310	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	-	0.005	-	0.005	-	0.06	25	170	0.001 U	0.001 U	0.001 U
Toluene	mg/L	-	0.79	-	0.79	-	0.27	530	530	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	-	0.1	-	0.1	-	1.5	85	200	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	-	0.005	-	0.005	-	0.2	2.2	4.9	0.001 U	0.001 U	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	-	2.6	-	7.3	-	-	1100	1100	0.001 U	0.001 U	0.001 U
Trifluorotrchloroethane (Freon 113)	mg/L	-	170	-	170	-	0.032	170	170	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	-	0.002	-	0.002	-	0.013	1.1	13	0.001 U	0.001 U	0.001 U
Xylenes (total)	mg/L	-	0.28	-	0.28	-	0.041	190	190	0.002 U	0.002 U	0.002 U
<b>Metals</b>												
Aluminum	mg/L	10.5	0.05	0.3	0.05	4.1	-	-	-	0.05 U	-	-
Aluminum (dissolved)	mg/L	3.52	0.05	0.3	0.05	4.1	-	-	-	0.05 U	0.05 U	0.013 J
Antimony	mg/L	0.002	0.006	-	0.006	-	0.13	-	-	0.002 U	-	-
Antimony (dissolved)	mg/L	0.002	0.006	-	0.006	-	0.13	-	-	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.01	0.01	-	0.01	-	0.01	-	-	0.005 U	-	-
Arsenic (dissolved)	mg/L	0.0072	0.01	-	0.01	-	0.01	-	-	0.005 U	0.005 U	0.0029 J
Barium	mg/L	0.15	2	-	2	-	-	-	-	0.021 J	-	-
Barium (dissolved)	mg/L	0.1	2	-	2	-	-	-	-	0.021 J	0.048 J	0.036 J

Table 3

2015/2016 Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Shallow\_or\_Deep:  
Sample Location:  
Sample ID:  
Sample Date:  
Sample Method:

Shallow PFW-9  
C GW-12636-032116-SSH-0416  
3/21/2016  
Low Flow  
(Duplicate)

Shallow PFW-10  
GW-12636-032216-SSH-1416  
3/22/2016  
Purge to Dry

Shallow PFW-11  
GW-12636-032216-SSH-1316  
3/22/2016  
Purge to Dry

Parameters:	Units	Background Concentrations - Perched Aquifer	Residential Drinking Water		Non-Residential Drinking Water		Groundwater/Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Shallow PFW-9	Shallow PFW-10	Shallow PFW-11
			Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria						
			b	c	d	e						
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	-	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.001 U	-	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.001 U	0.00082 J	0.001 U
Chromium	mg/L	0.031	0.1	-	0.1	-	-	-	-	0.00077 J	-	-
Chromium (dissolved)	mg/L	0.010	0.1	-	0.1	-	-	-	-	0.0009 J	0.0015 J	0.005 U
Cobalt	mg/L	0.008	0.04	-	0.1	-	0.1	-	-	0.007 U	-	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	0.007 U	0.007 U	0.007 U
Copper	mg/L	0.01	1	-	1	-	-	-	-	0.002 U	-	-
Copper (dissolved)	mg/L	0.0074	1	-	1	-	-	-	-	0.002 U	0.0035	0.0016 J
Iron	mg/L	32.58	0.3	2.0	0.3	5.6	-	-	-	0.1 U	-	-
Iron (dissolved)	mg/L	4.0	0.3	2.0	0.3	5.6	-	-	-	0.1 U	0.1 U	0.1 U
Lead	mg/L	0.0035	0.004	-	0.004	-	-	-	-	0.003 U	-	-
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	-	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.963	0.05	0.86	0.05	2.5	-	-	-	0.015 U	-	-
Manganese (dissolved)	mg/L	0.547	0.05	0.86	0.05	2.5	-	-	-	0.015 U	0.052	0.015 U
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.0002 U	-	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.0002 U	0.0002 U	0.0002 U
Nickel	mg/L	0.026	0.1	-	0.1	-	-	-	-	0.02 U	-	-
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	0.0008 J	0.0048 J	0.0014 J
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	0.005 U	0.005 U
Silver	mg/L	0.00053	0.034	-	0.098	-	0.0002	-	-	0.0002 U	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	0.0002 U	0.0002 U	0.0002 U
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	0.001 U	-	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	-	0.0037	-	-	0.001 U	0.001 U	0.001 U
Vanadium	mg/L	0.026	0.0045	-	0.062	-	0.027	-	-	0.004 U	-	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	-	0.027	-	-	0.004 U	0.004 U	0.004 U
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	0.02 U	-	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	0.02 U	0.059 U	0.02 U

Notes:  
J - Estimated concentration.  
U - Not detected at the associated reporting limit.  
UJ - Not detected; associated reporting limit is estimated.  
- - Not analyzed.

Table 4

2015/2016 Deep Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Parameters:	Units	Residential Drinking Water			Non-Residential Drinking Water		Groundwater/ Surface Water Interface Criteria f	Residential Groundwater Volatilization to Indoor Air Inhalation g	Non- Residential Groundwater Volatilization to Indoor Air Inhalation h	Deep	Deep	Deep
		Background Concentrations - Drift Aquifer a	Aesthetic Criteria b	Health Based Criteria c	Aesthetic Criteria d	Health Based Criteria e				B-27D	MW-15-10	PFW-1
										GW-12636-032216-SSH-1816	GW-12636-032216-SSH-1716	GW-12636-032216-SSH-1616
									3/22/2016	3/22/2016	3/22/2016	
									Low Flow	Low Flow	Low Flow	
<b>Volatile Organic Compounds</b>												
1,1,1-Trichloroethane	mg/L	-	0.2	-	0.2	-	0.089	660	1300	0.001 U	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	-	0.0085	-	0.035	-	0.078	12	77	0.001 U	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	-	0.005	-	0.005	-	0.33	17	110	0.001 U	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	-	0.88	-	2.5	-	0.74	1000	2300	0.001 U	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	-	0.007	-	0.007	-	0.13	0.2	1.3	0.001 U	0.001 U	0.001 U
1,2,4-Trichlorobenzene	mg/L	-	0.07	-	0.07	-	0.099	300	300	0.001 U	0.001 U	0.001 U
1,2,4-Trimethylbenzene	mg/L	-	0.063	-	0.063	-	0.017	56	56	0.001 U	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	0.0002	-	0.0002	-	-	0.22	1.2	0.001 U	0.001 U	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	0.00005	-	0.00005	-	0.0057	2.4	15	0.001 U	0.001 U	0.001 U
1,2-Dichlorobenzene	mg/L	-	0.6	-	0.6	-	0.013	160	160	0.001 U	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	-	0.005	-	0.005	-	0.36	9.6	59	0.001 U	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	-	0.005	-	0.005	-	0.23	16	36	0.001 U	0.001 U	0.001 U
1,3,5-Trimethylbenzene	mg/L	-	0.072	-	0.072	-	0.045	61	61	0.001 U	0.001 U	0.001 U
1,3-Dichlorobenzene	mg/L	-	0.0066	-	0.019	-	0.028	18	41	0.001 U	0.001 U	0.001 U
1,4-Dichlorobenzene	mg/L	-	0.075	-	0.075	-	0.017	16	74	0.001 U	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	13	-	38	-	2.2	240000	240000	0.01 U	0.01 U	0.01 U
2-Hexanone	mg/L	-	1	-	2.9	-	-	4200	8700	0.01 U	0.01 U	0.01 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MI)	mg/L	-	1.8	-	5.2	-	-	20000	20000	0.01 U	0.01 U	0.01 U
Acetone	mg/L	-	0.73	-	2.1	-	1.7	1000000	1000000	0.01 U	0.01 U	0.01 U
Benzene	mg/L	-	0.005	-	0.005	-	0.2	5.6	35	0.001 U	0.001 U	0.001 U
Bromodichloromethane	mg/L	-	0.08	-	0.08	-	-	4.8	37	0.001 U	0.001 U	0.001 U
Bromoform	mg/L	-	0.08	-	0.08	-	-	470	3100	0.001 U	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	-	0.01	-	0.029	-	0.035	4	9	0.001 U	0.001 U	0.001 U
Carbon disulfide	mg/L	-	0.8	-	2.3	-	-	250	550	0.005 U	0.005 U	0.005 U
Carbon tetrachloride	mg/L	-	0.005	-	0.005	-	0.045	0.37	2.4	0.001 U	0.001 U	0.001 U
Chlorobenzene	mg/L	-	0.1	-	0.1	-	0.025	210	470	0.001 U	0.001 U	0.001 U
Chloroethane	mg/L	-	0.43	-	1.7	-	1.1	5700	5700	0.001 U	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	-	0.08	-	0.08	-	0.35	28	180	0.001 U	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	-	0.26	-	1.1	-	-	8.6	45	0.001 U	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	-	0.07	-	0.07	-	0.62	93	210	0.001 U	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Cyclohexane	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Dibromochloromethane	mg/L	-	0.08	-	0.08	-	-	14	110	0.001 U	0.001 U	0.001 U
Dichlorodifluoromethane (CFC-12)	mg/L	-	1.7	-	4.8	-	-	220	300	0.001 U	0.001 U	0.001 U
Ethylbenzene	mg/L	-	0.074	-	0.074	-	0.018	110	170	0.001 U	0.001 U	0.001 U
Isopropyl benzene	mg/L	-	0.8	-	2.3	-	0.028	56	56	0.001 U	0.001 U	0.001 U
Methyl acetate	mg/L	-	-	-	-	-	-	-	-	0.01 U	0.01 U	0.01 U
Methyl cyclohexane	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	-	0.04	-	0.04	-	7.1	47000	47000	0.001 U	0.001 U	0.001 U
Methylene chloride	mg/L	-	0.005	-	0.005	-	1.5	220	1400	0.005 U	0.005 U	0.005 U
Styrene	mg/L	-	0.1	-	0.1	-	0.08	170	310	0.001 U	0.001 U	0.001 U
Tetrachloroethene	mg/L	-	0.005	-	0.005	-	0.06	25	170	0.001 U	0.001 U	0.001 U
Toluene	mg/L	-	0.79	-	0.79	-	0.27	530	530	0.001 U	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	-	0.1	-	0.1	-	1.5	85	200	0.001 U	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Trichloroethene	mg/L	-	0.005	-	0.005	-	0.2	2.2	4.9	0.001 U	0.001 U	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	-	2.6	-	7.3	-	-	1100	1100	0.001 U	0.001 U	0.001 U
Trifluorotrchloroethane (Freon 113)	mg/L	-	170	-	170	-	0.032	170	170	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	-	0.002	-	0.002	-	0.013	1.1	13	0.001 U	0.001 U	0.001 U

**Table 4**  
**2015/2016 Deep Groundwater Results Summary**  
**Former Peregrine (US) Inc. Coldwater Road Facility**  
**Genesee Township, Michigan**

Parameters:	Units	Deep										
		Residential Drinking Water			Non-Residential Drinking Water		Groundwater/Surface Water Interface	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	B-27D GW-12636-032216-SSH-1816 3/22/2016 Low Flow	MW-15-10 GW-12636-032216-SSH-1716 3/22/2016 Low Flow	PFW-1 GW-12636-032216-SSH-1616 3/22/2016 Low Flow
		Background Concentrations - Drift Aquifer a	Aesthetic Criteria b	Health Based Criteria c	Aesthetic Criteria d	Health Based Criteria e	f	g	h			
<b>Volatile Organic Compounds</b>												
Xylenes (total)	mg/L	-	0.28	-	0.28	-	0.041	190	190	0.002 U	0.002 U	0.002 U
<b>Metals</b>												
Aluminum	mg/L	5.3	0.05	0.3	0.05	4.1	-	-	-	-	-	0.012 J
Aluminum (dissolved)	mg/L	0.133	0.05	0.3	0.05	4.1	-	-	-	0.05 U	0.013 J	0.05 U
Antimony	mg/L	0.002	0.006	-	0.006	-	0.13	-	-	-	-	0.00028 J
Antimony (dissolved)	mg/L	0.002	0.006	-	0.006	-	0.13	-	-	0.002 U	0.00016 J	0.002 U
Arsenic	mg/L	0.102	0.01	-	0.01	-	0.01	-	-	-	-	0.056
Arsenic (dissolved)	mg/L	0.089	0.01	-	0.01	-	0.01	-	-	0.062	0.014	0.044
Barium	mg/L	0.47	2	-	2	-	-	-	-	-	-	0.14
Barium (dissolved)	mg/L	0.553	2	-	2	-	-	-	-	0.18	0.13	0.14
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	-	-	0.001 U
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	-	-	0.00028 J
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.00014 J	0.001 U	0.00034 J
Chromium	mg/L	0.007	0.1	-	0.1	-	-	-	-	-	-	0.0012 J
Chromium (dissolved)	mg/L	0.011	0.1	-	0.1	-	-	-	-	0.005 U	0.00079 J	0.005 U
Cobalt	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	-	-	0.007 U
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	0.007 U	0.007 U	0.007 U
Copper	mg/L	0.015	1	-	1	-	-	-	-	-	-	0.002 U
Copper (dissolved)	mg/L	0.04	1	-	1	-	-	-	-	0.002 U	0.002 U	0.002 U
Iron	mg/L	7.9	0.3	2.0	0.3	5.6	-	-	-	-	-	1.9
Iron (dissolved)	mg/L	3.62	0.3	2.0	0.3	5.6	-	-	-	1	0.97	1.5
Lead	mg/L	0.003	0.004	-	0.004	-	-	-	-	-	-	0.003 U
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	-	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.252	0.05	0.86	0.05	2.5	-	-	-	-	-	0.033
Manganese (dissolved)	mg/L	0.292	0.05	0.86	0.05	2.5	-	-	-	0.031	0.06	0.03
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	-	-	0.0002 U
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.0000013	0.056	0.056	0.0002 U	0.0002 U	0.0002 U
Nickel	mg/L	0.02	0.1	-	0.1	-	-	-	-	-	-	0.0016 J
Nickel (dissolved)	mg/L	0.022	0.1	-	0.1	-	-	-	-	0.02 U	0.0025 J	0.0014 J
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	-	-	0.005 U
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	0.005 U	0.005 U
Silver	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	-	-	0.0002 U
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	0.000026 J	0.0002 U	0.0002 U
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	-	-	0.001 U
Thallium (dissolved)	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	0.00011 J	0.001 U	0.001 U
Vanadium	mg/L	0.015	0.0045	-	0.062	-	0.027	-	-	-	-	0.004 U
Vanadium (dissolved)	mg/L	0.004	0.0045	-	0.062	-	0.027	-	-	0.004 U	0.004 U	0.004 U
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	-	-	0.02 U
Zinc (dissolved)	mg/L	0.0521	2.4	-	5	-	-	-	-	0.02 U	0.02 U	0.02 U

Notes:

J - Estimated concentration.

U - Not detected at the associated reporting limit.

UJ - Not detected; associated reporting limit is estimated.

-- Not analyzed.

Table 5

**Proposed 2016/2017 Monitoring Well Network  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan**

Monitoring Well	Sampling Method <sup>(1)</sup>	Annual Monitoring Event Sampling Parameters (Q1-2017)	Quarterly Monitoring Event Sampling Parameters (Q2-2016, Q3-2016, Q4-2016)
<b>Shallow Water Bearing Unit</b>			
B-9	Purge to Dry	Metals	Metals (Lead, Manganese)
MW-1	Purge to Dry	Metals	--
MW-2	Purge to Dry	Metals	--
MW-4-02	Low Flow Sampling	Metals	Metals (Lead, Manganese)
PFW-2	Low Flow Sampling	Metals	Metals (Lead, Manganese)
PFW-4	Purge to Dry	Metals	--
PFW-9	Low Flow Sampling	Metals	Metals (Lead, Manganese)
PFW-10	Purge to Dry	Metals	--
PFW-11	Purge to Dry	Metals	--
MW-17-13	Low Flow Sampling	Metals	Metals (Arsenic, Iron, Lead, Manganese)
MW-18-13	Purge to Dry	Metals	Metals (Lead, Manganese)
MW-19-13	Low Flow Sampling	Metals	Metals (Lead, Manganese)
MW-20-13	Low Flow Sampling	Metals	Metals (Lead, Manganese)
<b>Deep Aquifer</b>			
B-27D	Low Flow Sampling	Metals	--
MW-15-10	Low Flow Sampling	Metals	--
MW-16-10	Low Flow Sampling	Metals	--
PFW-1	Low Flow Sampling	Metals	--

## Notes:

Metals - Dissolved Metals (Total Metals are also analyzed if sample turbidity is less than 10 NTU)



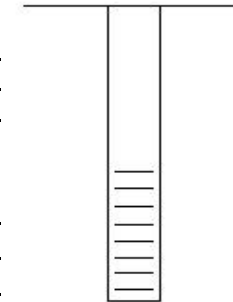
# Attachment A Field Data Records

**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 6/22/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-20-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 22.94  
 Measured Well Depth (ft): 23.1  
 Depth of Sediment (ft): -0.16

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 22  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 15.89

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:30	>100	15.89									
10:00	>100	16.22	-0.33	13.9	0.868	1.5	5.65	7.26	178.3	3	1.0
10:05	>100	16.24	-0.35	14	0.865	1.57	5.59	7.26	172.7	3.5	1.1
10:10	>100	16.24	-0.35	14.1	0.86	1.65	5.57	7.27	170.5	4	1.3
10:15	>100	16.24	-0.35	14	0.861	1.04	5.54	7.27	169.6	4.5	1.5
10:16	Sample										
	Sample ID:	GW-12636-062215-SSH-1530									

**Notes:**

- 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.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L in mL, where r (r=D/2) and L are in cm. For Imperial units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L\* (2.54)<sup>3</sup>, where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

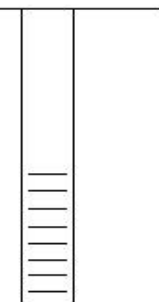
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 6/22/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-4-02  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 17.73  
 Measured Well Depth (ft): 17.39  
 Depth of Sediment (ft): 0.34

Saturated Screen Length (ft): 4.66  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 16.5  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 2.9  
 Initial Depth to Water (ft): 10.71



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

10:40	>100	10.71									
11:10	>100	12.92	-2.21	14.7	0.938	1.55	5.8	7.12	136.3	3	1.0
11:15	>100	13.07	-2.36	14.9	0.949	2.5	5.33	7.12	134.4	3.5	1.2
11:20	>100	13.19	-2.48	14.7	0.954	2.72	5.3	7.12	134.4	4	1.4
11:25	>100	13.3	-2.59	14.7	0.959	2.75	5.28	7.12	133.7	4.5	1.6
11:26	Sample										
	Sample ID:	GW-12636-062215-SSH-1531									

**Notes:**

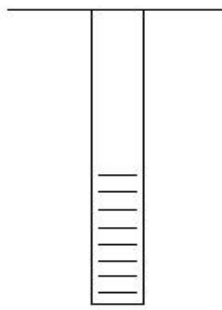
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 6/22/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-19-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 19.75  
 Measured Well Depth (ft): 20.18  
 Depth of Sediment (ft): -0.43

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 19  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 12.96

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

12:05	>100	12.96									
12:35	>100	13.08	-0.12	15.5	4.802	10.8	0.46	7.1	122.4	3	1.0
12:40	>100	13.08	-0.12	15.5	4.769	10	0.48	7.04	114.7	3.5	1.1
12:45	>100	13.08	-0.12	15.3	4.73	9.68	0.53	7.05	107.1	4	1.3
12:50	>100	13.08	-0.12	15.2	4.697	9.07	0.57	7.1	105.2	4.5	1.5
12:55	>100	13.08	-0.12	15.2	4.693	7.89	0.57	7.09	104.7	5	1.6
13:00	>100	13.08	-0.12	15.3	4.7	7.88	0.54	7.11	104.5	5.5	1.8
13:01	Sample										
	Sample ID:	GW-12636-062215-SSH-1532									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

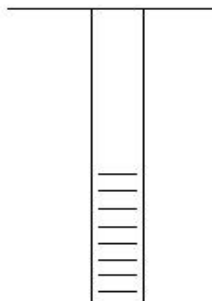
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 6/22/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-17-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 23.18  
 Measured Well Depth (ft): 21.71  
 Depth of Sediment (ft): 1.47

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 21  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 15.94



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

13:30	>100	15.94									
14:00	>100	15.99	-0.05	14.1	1.447	17.3	0.14	7.01	-105.7	3	1.0
14:05	>100	16	-0.06	13.6	1.43	11.8	0.16	7.01	-102.3	3.5	1.1
14:10	>100	16	-0.06	13.8	1.428	8.12	0.19	7.01	-101.8	4	1.3
14:15	>100	16	-0.06	13.9	1.429	8.52	0.19	7.01	-100.9	4.5	1.5
14:16	Sample										
	Sample ID:	GW-12636-062215-SSH-1531									
	Duplicate Sample ID:	GW-12636-062215-SSH-1532									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

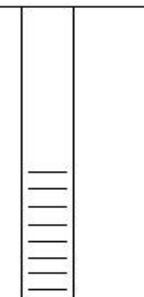
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 6/23/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: B-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 30.9  
 Measured Well Depth (ft): 25.26  
 Depth of Sediment (ft): 5.64

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 24.31  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 3.41



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

7:50	>100	3.41									
8:20	>100	7.13	-3.72	12.8	1.901	11	1.15	6.76	211.5	3	1.0
8:25	>100	7.51	-4.1	12.9	1.893	11.6	1.43	6.77	204	3.5	1.1
8:30	>100	7.88	-4.47	12.7	1.881	10.7	1.6	6.77	196.4	4	1.3
8:35	>100	8.06	-4.65	12.9	1.879	10.3	1.64	6.78	195.8	4.5	1.5
8:40	>100	8.35	-4.94	12.9	1.878	10.9	1.63	6.78	195.1	5	1.6
8:45	>100	8.56	-5.15	12.9	1.876	10.8	1.64	6.78	194.7	5.5	1.8
8:46	Sample										
	Sample ID:	GW-12636-062315-SSH-1535									

**Notes:**

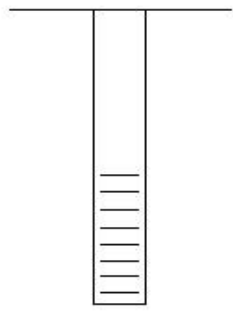
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 6/23/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: PFW-2  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 16.9  
 Measured Well Depth (ft): 16.77  
 Depth of Sediment (ft): 0.13

Saturated Screen Length (ft): 2.37  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15.82  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 6.54

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:15	>100	6.54									
9:45	>100	7.39	-0.85	13	0.58	2.21	0.13	7.28	-107.9	3	2.0
9:50	>100	7.39	-0.85	13	0.58	2.73	0.13	7.28	-117	3.5	2.4
9:55	>100	7.39	-0.85	13	0.579	2.96	0.12	7.28	-117.9	4	2.7
10:00	>100	7.39	-0.85	13	0.579	2.91	0.11	7.27	-119.1	4.5	3.1
10:01	Sample										
	Sample ID:	GW-12636-062315-SSH-1536									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

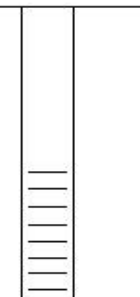
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 6/23/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: PFW-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 11.4  
 Measured Well Depth (ft): 11.23  
 Depth of Sediment (ft): 0.17

Saturated Screen Length (ft): 2.33  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10.28  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.4  
 Initial Depth to Water (ft): 6.35



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

10:30	100	6.35									
11:00	100	6.55	-0.2	17	0.579	0.98	1.07	7.01	46	3	2.1
11:05	100	6.55	-0.2	17.1	0.578	0.58	2.08	7	46	3.5	2.4
11:10	100	6.56	-0.21	16.9	0.571	0.75	1.09	7.01	46	4	2.8
11:15	100	6.56	-0.21	17	0.571	0.46	1.06	7.01	47	4.5	3.1
11:16	Sample										
	Sample ID:	GW-12636-062315-SSH-1537									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

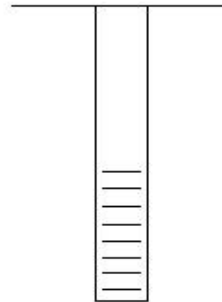


**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 6/23/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-18-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 11.51  
 Measured Well Depth (ft): 11.43  
 Depth of Sediment (ft): 0.08

Saturated Screen Length (ft): 5.49  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10.5  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.4  
 Initial Depth to Water (ft): 5.4

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

12:00	>100	5.4									
12:30	>100	5.64	-0.24	17.5	3.356	0.71	0.81	6.95	51.7	3	0.9
12:35	>100	5.65	-0.25	17.7	3.268	0.99	0.8	6.95	49.2	3.5	1.0
12:40	>100	5.66	-0.26	17.9	3.264	0.77	0.77	6.95	47.9	4	1.2
12:45	>100	5.67	-0.27	17.8	3.259	0.38	0.76	6.95	47.1	4.5	1.3
12:50	>100	5.68	-0.28	17.7	3.255	0.62	0.74	6.95	46.9	5	1.5
12:51	Sample										
	Sample ID:	GW-12636-063515-SSH-1538									

**Notes:**

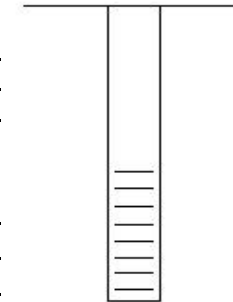
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 9/17/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-20-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 22.94  
 Measured Well Depth (ft): 23.14  
 Depth of Sediment (ft): -0.2

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 22  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 16.08

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

10:40	100	16.08									
11:10	100	16.49	-0.41	16.56	1.45	0.24	5.51	7.31	69.2	3	1.0
11:15	100	16.5	-0.42	16.62	1.45	0.2	5.47	7.31	71	3.5	1.1
11:20	100	16.5	-0.42	16.65	1.46	0.25	5.48	7.31	72.8	4	1.3
11:25	100	16.51	-0.43	16.66	1.46	0.25	5.48	7.31	73.2	4.5	1.5
11:26	Sample										
	Sample ID:	GW-12636-091716-SSH-1546									
		Total and Dissolved									

**Notes:**

- 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.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L in mL, where r (r=D/2) and L are in cm. For Imperial units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L\* (2.54)<sup>3</sup>, where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

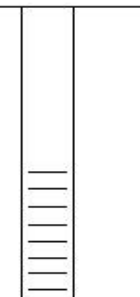
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 9/14/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-4-02  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 17.73  
 Measured Well Depth (ft): 17.45  
 Depth of Sediment (ft): 0.28

Saturated Screen Length (ft): 4.66  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 16  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 2.9  
 Initial Depth to Water (ft): 11.14



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

8:20	100	11.14									
8:55	100	14.16	-3.02	15.45	1.41	0.97	2.99	6.84	45.5	3.5	1.2
9:00	100	14.37	-3.23	15.42	1.4	1.16	2.9	6.85	43.5	4	1.4
9:05	100	14.49	-3.35	15.39	1.4	1.05	2.85	6.86	41.8	4.5	1.6
9:10	100	14.61	-3.47	15.36	1.4	1.37	2.85	6.87	41.5	5	1.7
9:11	Sample										
	Sample ID:	GW-12636-091415-SSH-1540									
	Total and Dissolved										

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

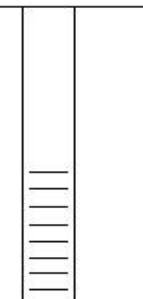
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 9/14/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-19-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 19.75  
 Measured Well Depth (ft): 20.26  
 Depth of Sediment (ft): -0.51

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 19  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 12.99



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

11:05	100	12.99									
11:35	100	13.18	-0.19	17.94	8.53	1.91	0.05	6.9	51.7	3	1.0
11:40	100	13.19	-0.2	17.91	8.51	2.04	0.05	6.9	51.2	3.5	1.1
11:45	100	13.19	-0.2	17.94	8.49	1.54	0.04	6.9	50.9	4	1.3
11:50	100	13.2	-0.21	17.94	8.5	1.42	0.04	6.9	50.8	4.5	1.5
11:51	Sample										
	Sample ID:	GW-12636-091415-SSH-1543									
	Total and Dissolved										

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

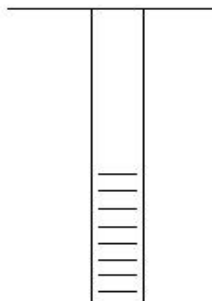
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 9/14/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-17-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 23.18  
 Measured Well Depth (ft): 21.48  
 Depth of Sediment (ft): 1.7

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 20  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 16.48



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:40	100	16.48									
10:10	100	16.56	-0.08	14.54	1.7	12.7	0.12	6.87	13.3	3	1.0
10:15	100	16.56	-0.08	14.68	1.7	5.67	0.09	6.87	14	3.5	1.1
10:20	100	16.56	-0.08	14.67	1.7	4.54	0.08	6.86	14.5	4	1.3
10:25	100	16.56	-0.08	14.69	1.69	3.8	0.07	6.87	14.7	4.5	1.5
10:26	Sample										
10:31	Duplicate Sample										
	Sample ID:	GW-12636-091415-SSH-1541									
	Duplicate Sample ID:	GW-12636-091415-SSH-1542									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

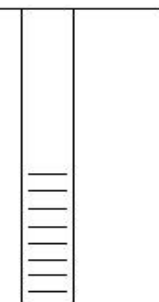
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 9/17/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: B-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 30.9  
 Measured Well Depth (ft): 25.34  
 Depth of Sediment (ft): 5.56

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 24  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 6.46



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

8:00	100	6.46									
8:35	100	11.78	-5.32	14.03	2.53	21.8	5.79	6.83	49.1	3.5	1.1
8:40	100	11.92	-5.46	14.09	2.53	18.5	5.77	6.85	49.2	4	1.3
8:45	100	11.99	-5.53	14.15	2.53	19.1	5.74	6.87	48.7	4.5	1.5
8:50	100	12.03	-5.57	14.22	2.54	17.8	5.71	6.88	48.5	5	1.6
8:51	Sample										
	Sample ID:	GW-12636-091715-SSH-1544			Dissolved Only						
Purge to Dry											
14:00		9.82									
14:05		10.6				85					
14:06	Sample										
	Sample ID:	GW-12636-091715-SSH-1549			Dissolved Only						

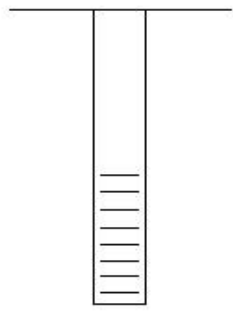
- Notes:
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
  - The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
  - 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.
  - 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= V<sub>p</sub>/V<sub>s</sub>.
  - 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-T09-001Y15

Date: 9/17/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: PFW-2  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 16.9  
 Measured Well Depth (ft): 16.83  
 Depth of Sediment (ft): 0.07

Saturated Screen Length (ft): 2.43  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15.82  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 7.96

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

11:45	100	7.96									
12:15	100	8.28	-0.32	21.25	0.84	1.26	0.12	7.21	47.7	3	2.0
12:20	100	8.28	-0.32	21.35	0.85	1.19	0.1	7.2	48.1	3.5	2.3
12:25	100	8.3	-0.34	21.6	0.81	1.08	0.09	7.22	50	4	2.7
12:30	100	8.31	-0.35	21.45	0.8	1.2	0.07	7.25	51.1	4.5	3.0
12:31	Sample										
	Sample ID:	GW-12636-091715-SSH-1547									
	Total and Dissolved										

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 9/17/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**



Well No.: PFW-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 11.4  
 Measured Well Depth (ft): 11.28  
 Depth of Sediment (ft): 0.12

Saturated Screen Length (ft): 2.38  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 8.76

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

12:50	100	8.73									
13:20	100	9.01	-0.28	20.19	0.73	0.4	2.28	6.9	77.2	3	2.0
13:25	100	9.01	-0.28	20.15	0.73	0.31	2.29	6.9	74.3	3.5	2.4
13:30	100	9.02	-0.29	20.14	0.72	0.45	2.31	6.9	73.7	4	2.7
13:35	100	9.02	-0.29	20.17	0.72	0.27	2.3	6.9	75.8	4.5	3.1
13:36	Sample										
	Sample ID:	GW-12636-091715-SSH-1548									
	Total and Dissolved										

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

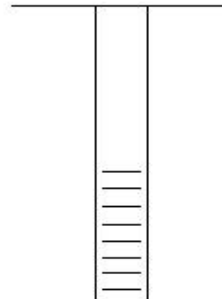


**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 9/17/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-18-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 11.51  
 Measured Well Depth (ft): 11.37  
 Depth of Sediment (ft): 0.14

Saturated Screen Length (ft): 5.49  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.4  
 Initial Depth to Water (ft): 6.08

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:20	100	6.08									
9:50	100	6.43	-0.35	19.11	3.37	0.89	0.63	6.94	66.1	3	0.9
9:55	100	6.43	-0.35	19.19	3.32	0.57	0.69	6.95	61.9	3.5	1.0
10:00	100	6.43	-0.35	19.23	3.3	0.51	0.72	6.95	63.3	4	1.2
10:05	100	6.43	-0.35	19.24	3.3	0.71	0.76	6.95	64.1	4.5	1.3
10:10	100	6.43	-0.35	19.28	3.29	0.42	0.79	6.95	65.8	5	1.5
10:11	Sample										
	Sample ID:	GW-12636-091715-SSH-1545			MS/MSD						
		Purge Dry		Total and Dissolved							
14:25		6.12									
14:30		6.41									
14:31	Sample										
	Sample ID:	GW-12636-091715-SSH-1550			Dissolved	33.6					

**Notes:**

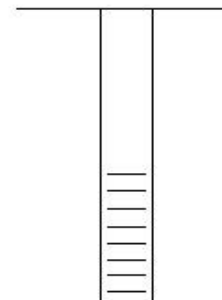
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 12/15/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-20-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 22.94  
 Measured Well Depth (ft): 23.12  
 Depth of Sediment (ft): -0.18

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 22  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 16.32

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
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Precision Required<sup>(5)</sup>:      ±3 %      ±0.005 or 0.01<sup>(6)</sup>      ±10 %      ±10 %      ±0.1 Units      ±10 mV

10:30	100	16.32									
11:00	100	16.64	-0.32	11.93	0.82	1.05	7.19	7.13	43.2	3	1.0
11:05	100	16.65	-0.33	12.05	0.82	0.9	7.26	7.13	41.7	3.5	1.1
11:10	100	16.66	-0.34	12.19	0.82	0.95	7.24	7.13	42	4	1.3
11:15	100	16.66	-0.34	12.49	0.82	0.72	7.27	7.13	42.4	4.5	1.5
11:16	Sample										
	Sample ID:	GW-12636-121515-SSH-1554									

**Notes:**

- 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.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L in mL, where r (r=D/2) and L are in cm. For Imperial units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L\* (2.54)<sup>3</sup>, where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 12/15/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**



Well No.: MW-4-02  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 17.73  
 Measured Well Depth (ft): 17.41  
 Depth of Sediment (ft): 0.32

Saturated Screen Length (ft): 4.7  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 16  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 2.9  
 Initial Depth to Water (ft): 11.51

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

11:40	100	11.51									
12:10	100	14.21	-2.7	12.03	1.11	0.68	3.89	7.06	39.1	3	1.0
12:15	100	14.36	-2.85	12.03	1.11	0.99	3.66	7.05	39	3.5	1.2
12:20	100	14.45	-2.94	11.87	1.11	0.67	3.63	7.03	38.6	4	1.4
12:25	100	14.54	-3.03	11.85	1.1	0.6	3.6	7.02	39.1	4.5	1.6
12:26	Sample										
	Sample ID:	GW-12636-121515-SSH-1555									

**Notes:**

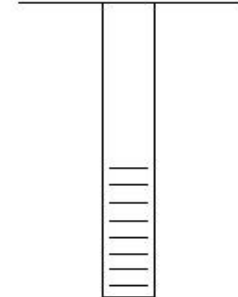
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 12/15/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-19-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 19.75  
 Measured Well Depth (ft): 20.23  
 Depth of Sediment (ft): -0.48

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 19  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 13.24

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

14:00	100	13.24									
14:30	100	13.54	-0.3	12.76	7.55	2.08	0.05	7.04	32.7	3	1.0
14:35	100	13.54	-0.3	12.75	7.55	1.53	0.05	7.03	33	3.5	1.1
14:40	100	13.54	-0.3	12.78	7.56	1.47	0.04	7.04	33.3	4	1.3
14:45	100	13.54	-0.3	12.79	7.55	1.21	0.05	7.04	33.4	4.5	1.5
14:46	Sample										
	Sample ID:	GW-12636-121515-SSH-1557									

**Notes:**

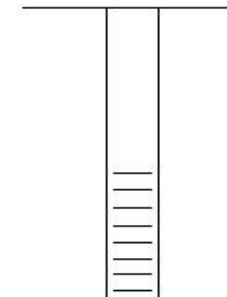
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 12/15/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-17-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 23.18  
 Measured Well Depth (ft): 21.74  
 Depth of Sediment (ft): 1.44

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 20  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 16.99

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

12:50	100	16.99									
13:20	100	17.09	-0.1	10.78	1.45	3.93	0.11	6.97	-65.8	3	1.0
13:25	100	17.09	-0.1	10.73	1.45	2.89	0.1	6.97	-68.2	3.5	1.1
13:30	100	17.09	-0.1	10.79	1.44	1.83	0.09	6.97	-66.7	4	1.3
13:35	100	17.09	-0.1	10.82	1.44	1.63	0.09	6.97	-66.6	4.5	1.5
13:36	Sample										
	Sample ID:	GW-12636-121515-SSH-1556									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

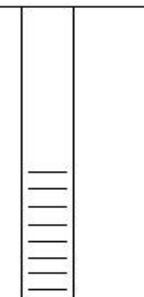
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 12/15/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: B-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 30.9  
 Measured Well Depth (ft): 25.03  
 Depth of Sediment (ft): 5.87

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 24  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 2.2



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:00	100	2.2									
9:30	100	5.77	-3.57	11.19	2.58	2.48	2.73	6.81	42.8	3	1.0
9:35	100	6.47	-4.27	11.2	2.57	1.94	3.01	6.83	39.8	3.5	1.1
9:40	100	6.95	-4.75	11.23	2.56	1.89	3.25	6.83	39.8	4	1.3
9:45	100	7.26	-5.06	11.29	2.57	1.48	3.2	6.83	39	4.5	1.5
9:50	100	7.67	-5.47	11.42	2.57	1.57	3.21	6.83	39	5	1.6
9:51	Sample										
	Sample ID:	GW-12636-121515-SSH-1552									
9:56	Duplicate Sample										
	Duplicate Sample ID:	GW-12636-121515-SSH-1553									
Purge to Dry		Approx. 2.5 gal									
12/15/2015	Sample										
8:20	Sample ID:	GW-12636-121615-SSH-1559									

**Notes:**

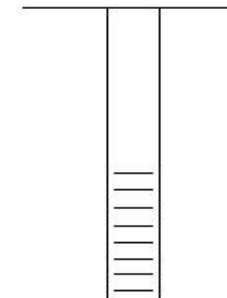
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi r^2 L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi r^2 L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y15

Date: 12/16/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: PFW-2  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 16.9  
 Measured Well Depth (ft): 16.82  
 Depth of Sediment (ft): 0.08

Saturated Screen Length (ft): 2.4  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15.82  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 7.65

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

8:40	100	7.15									
9:10	100	8.52	-1.37	10.6	0.75	2.61	2.48	7.06	-12.9	3	2.0
9:15	100	8.53	-1.38	10.68	0.75	2.36	2.18	7.07	-8.8	3.5	2.3
9:20	100	8.54	-1.39	10.78	0.75	1.8	2.16	7.07	-10.6	4	2.7
9:25	100	8.54	-1.39	10.77	0.75	1.47	2.15	7.08	-9.1	4.5	3.0
9:26	Sample										
	Sample ID:	GW-12636-121615-SSH-1560			MS/MSD						

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

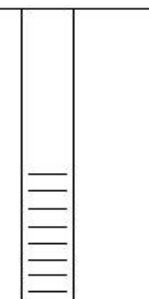
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 12/16/2015  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: PFW-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 11.4  
 Measured Well Depth (ft): 11.26  
 Depth of Sediment (ft): 0.14

Saturated Screen Length (ft): 2.4  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 7.98



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:55	100	7.98									
10:25	100	8.28	-0.3	9.37	0.56	0.78	5.31	6.97	35.9	3	2.0
10:30	100	8.28	-0.3	9.37	0.56	0.63	5.27	6.96	36	3.5	2.4
10:35	100	8.28	-0.3	9.37	0.56	0.45	5.3	6.96	36.1	4	2.7
10:40	100	8.28	-0.3	9.37	0.56	0.41	5.32	6.96	36.3	4.5	3.1
10:41	Sample										
	Sample ID:	GW-12636-121615-SSH-1561									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

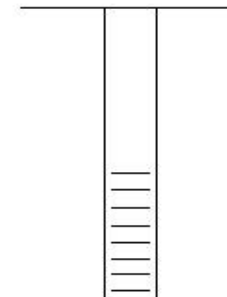


**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y15

Date: 12/15/2015  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-18-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 11.51  
 Measured Well Depth (ft): 11.46  
 Depth of Sediment (ft): 0.05

Saturated Screen Length (ft): 5.5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.4  
 Initial Depth to Water (ft): 6.01

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

7:45	100	6.01									
8:20	100	6.3	-0.29	8.8	4.21	0.71	2.18	6.9	36.3	3.5	1.0
8:25	100	6.31	-0.3	8.66	4.13	0.68	2.71	6.92	35.4	4	1.2
8:30	100	6.31	-0.3	8.59	4.12	0.52	2.76	6.93	35.3	4.5	1.3
8:35	100	6.32	-0.31	8.52	4.13	0.41	2.73	6.93	35.2	5	1.5
8:36	Sample										
	Sample ID:	GW-12636-121515-SSH-1551									
Purge Dry: Approx. 2.5 gal											
12/16/2015											
8:00	Sample										
	Sample ID:	GW-12636-121615-SSH-1558									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

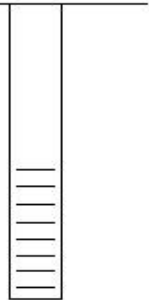
**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016 - 3/22/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**



Well No.: PFW-11  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 10.6  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 2.5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 9.6  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 1.28

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

3/21/2016 3:45:00 PM											
	Purge to Dry: approximately 1.5 gallons										
3/22/2016											
8:10	100	1.68									
8:20	100	2.8	-1.12	6.54	1.83	62.2	0.91	7.99	31.4		
8:21	Sample										
	Sample ID:	GW-12636-032216-SSH-1316									

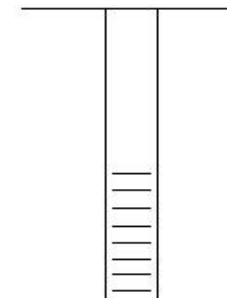
- Notes:
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
  - The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
  - 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.
  - 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= V<sub>p</sub>/V<sub>s</sub>.
  - 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-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-20-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 22.94  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 22  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 14.92

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

12:55	100	14.92									
13:25	100	15.3	-0.38	9.41	0.52	0.75	8.59	7.28	42.6	3	1.0
13:30	100	15.3	-0.38	9.09	0.52	1.88	8.61	7.29	43.2	3.5	1.1
13:35	100	15.31	-0.39	9.07	0.52	0.93	8.6	7.28	43.1	4	1.3
13:40	100	15.31	-0.39	9.04	0.52	0.69	8.59	7.27	42.9	4.5	1.5
13:41	Sample										
	Sample ID:	GW-12636-032116-SSH-0716									

**Notes:**

- 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.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L in mL, where r (r=D/2) and L are in cm. For Imperial units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L\* (2.54)<sup>3</sup>, where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

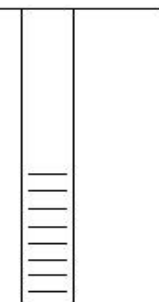
**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land Date: 3/21/2016  
 Ref. No.: 012636-T09-001Y16 Personnel: John York

**Monitoring Well Data:**

Well No.: MW-4-02  
 Vapour PID (ppm): N/A Saturated Screen Length (ft): 4.83  
 Measurement Point: Top of Casing Depth to Pump Intake (ft)<sup>(1)</sup>: 16.5  
 Constructed Well Depth (ft): 17.73 Well Diameter, D (in): 2  
 Measured Well Depth (ft): \_\_\_\_\_ Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.0  
 Depth of Sediment (ft): \_\_\_\_\_ Initial Depth to Water (ft): 10.28



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		
12:20	100	10.28									
12:40	100			8.47	1.07	0.76	8.83	7.28	58	2	0.7
12:45	100			8.52	1.07	0.72	8.85	7.28	57	2.5	0.8
12:50	100	13.26	-2.98	8.38	1.06	1.03	8.81	7.29	57	3	1.0
	Sample										
	Sample ID:	GW-12636-032116-SSH-0516			MS/MSD						

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

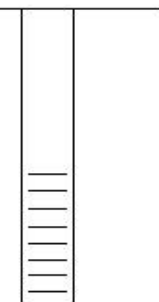
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/22/2016  
 Personnel: John York

**Monitoring Well Data:**

Well No.: PFW-1  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 86.3  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 85  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 77.98



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

8:40	150	77.98									
9:00	150	77.95	0.03	9.64	1.21	3.86	0.65	7.45	-37	3	1.0
9:05	150	77.95	0.03	9.7	1.21	3.92	0.67	7.44	-37	3.75	1.2
9:10	150	77.95	0.03	9.7	1.21	4.1	0.67	7.44	-37	4.5	1.5
	Sample										
	Sample ID:	GW-12636-032216-SSH-1616									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

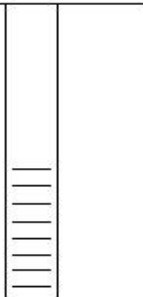
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: PFW-4  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 13.4  
 Measured Well Depth (ft): 16.32  
 Depth of Sediment (ft): -2.92 (1)

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 6.86



<i>Time</i>	<i>Pumping Rate (mL/min)</i>	<i>Depth to Water (ft)</i>	<i>Drawdown from Initial Water Level<sup>(3)</sup> (ft)</i>	<i>Temperature °C</i>	<i>Conductivity (mS/cm)</i>	<i>Turbidity NTU</i>	<i>DO (mg/L)</i>	<i>pH</i>	<i>ORP (mV)</i>	<i>Volume Purged, V<sub>p</sub> (L)</i>	<i>No. of Well Screen Volumes Purged<sup>(4)</sup></i>

12:15		6.86									
Purge to Dry: Approximately 2.5 gallons											
14:35		12.12									
14:45		12.61	-5.75	7.99	2.08	84.5	0.72	8.33	15.9		
14:46	Sample										
	Sample ID:	GW-12636-032116-SSH-0916									
	(1) Well modified (flushout to stickup)										

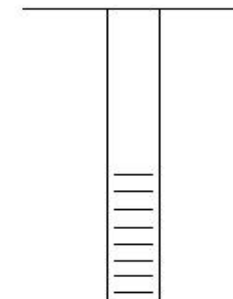
- Notes:
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
  - The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L in mL, where r (r=D/2) and L are in cm. For Imperial units, V<sub>s</sub>=π\*(r<sup>2</sup>)\*L\* (2.54)<sup>3</sup>, where r and L are in inches
  - 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.
  - 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= V<sub>p</sub>/V<sub>s</sub>.
  - 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-T09-001Y16

Date: 3/21/2016 - 3/22/2016  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-18-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Casing  
 Constructed Well Depth (ft): 11.51  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 5.49  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10.5  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.4  
 Initial Depth to Water (ft): 5.18

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

3/21/2016 16:15											
	Purge to dry: approximately 2 gallons										
3/22/2016											
9:15		5.18									
9:25		5.59		6.59	3.03	16.3	5.31	7.29	37.5		
9:26	Sample										
	Sample ID:	GW-12636-032216-SSH-1516									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

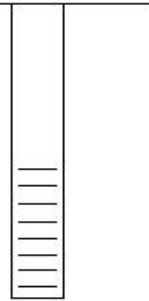
**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land Date: 3/21/2016  
 Ref. No.: 012636-T09-001Y16 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-16-10  
 Vapour PID (ppm): N/A Saturated Screen Length (ft): 5  
 Measurement Point: Top of Casing Depth to Pump Intake (ft)<sup>(1)</sup>: 85.9  
 Constructed Well Depth (ft): 86.91 Well Diameter, D (in): 2  
 Measured Well Depth (ft): \_\_\_\_\_ Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Depth of Sediment (ft): \_\_\_\_\_ Initial Depth to Water (ft): 67.26



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :     ±3 %     ±0.005 or 0.01 <sup>(6)</sup> ±10 %     ±10 %     ±0.1 Units     ±10 mV											

NO SAMPLED DUE TO PUMP FAILURE											

Notes:

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.

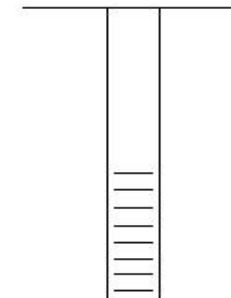


**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: MW-17-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 21.18  
 Measured Well Depth (ft): 21.48  
 Depth of Sediment (ft): -0.3

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 21  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 15.19

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

13:31	100	15.19									
13:50	100	15.2	-0.01	8.8	2.28	22.4	0.01	7.08	-97	2	0.6
13:55	100	15.2	-0.01	8.62	2.3	24.5	0	7.08	-94	2.5	0.8
14:00	100	15.2	-0.01	9.16	2.31	24.7	0	7.08	-93	3	1.0
14:05	100	15.2	-0.01	8.79	2.28	22.2	0	7.08	-89	3.5	1.1
	Sample										
	Sample ID:	GW-12636-032116-SSH-0616									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

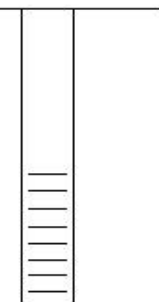
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016 - 3/22/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: PFW-10  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 16.3  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 2.31  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.4  
 Initial Depth to Water (ft): 2.38



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
<i>Precision Required<sup>(5)</sup>:    ±3 %    ±0.005 or 0.01<sup>(6)</sup>    ±10 %    ±10 %    ±0.1 Units    ±10 mV</i>											

3/21/2016 16:00		2.38									
	Purge to dry: Approximately 2.25 gallons										
3/22/2016 11:25:00 AM											
8:40		11.25									
8:50		12.16		7.51	4.73	12	3.94	6.8	39.7		
8:51	Sample										
	Sample ID:	GW-12636-032216-SSH-1416									

**Notes:**

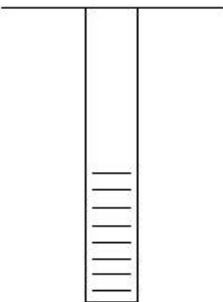
- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) 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= V<sub>p</sub>/V<sub>s</sub>.
- (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-T09-001Y16

Date: 3/21/2016  
 Personnel: John York



**Monitoring Well Data:**

Well No.: MW-19-13  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 19.75  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 19  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 12.32

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

14:45	100	12.32									
15:05	100	12.51	-0.19	8.66	6.01	2.2	0	7.21	32	2	0.6
15:10	100	12.51	-0.19	8.77	5.52	0.79	0	7.2	34	2.5	0.8
15:15	100	12.51	-0.19	8.85	5.32	0.46	0	7.19	36	3	1.0
15:20	100	12.51	-0.19	8.93	5.23	0.86	0	7.18	37	3.5	1.1
15:25	100	12.51	-0.19	8.82	5.26	0.35	0	7.19	39	4	1.3
15:30	100	12.51	-0.19	8.64	5.31	0.87	0	7.19	39	4.5	1.5
15:35	100	12.51	-0.19	8.85	5.32	1.02	0	7.19	40	5	1.6
15:40	100	12.51	-0.19	8.92	5.33	0.56	0	7.19	40	5.5	1.8
	Sample										
	Sample ID:	GW-12636-032116-SSH-1116									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

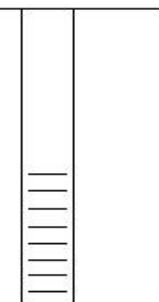
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/22/2016  
 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): 88.01  
 Depth of Sediment (ft): 1.65

Saturated Screen Length (ft): 8.35  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 87  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 5.2  
 Initial Depth to Water (ft): 76.34



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

11:10	>100	76.34									
11:45	>100	77.09	-0.75	11.47	0.58	121	0.09	7.52	-64.6	3.5	0.7
11:50	>100	77.16	-0.82	11.51	0.58	118	0.08	7.52	-64.9	4	0.8
11:55	>100	77.19	-0.85	11.52	0.58	103	0.07	7.52	-65.5	4.5	0.9
12:00	>100	77.21	-0.87	11.47	0.58	87.5	0.07	7.51	-65.6	5	1.0
12:01	Sample										
	Sample ID:	GW-12636-032216-SSH-1816									

- 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= V<sub>p</sub>/V<sub>s</sub>.
  - (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-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**



Well No.: B-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 24.9  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 5  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 24.3  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 2.15

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

12:35		2.15									
	Purge to dry: Approximately 3.5 gallons										
15:05		10.05									
15:15		11.13		9.98	1.91	130	3.42	6.96	36.8		
15:16	Sample										
	Sample ID:	GW-12636-032116-SSH-1016									

**Notes:**

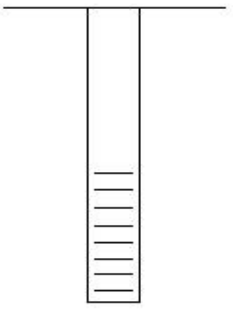
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer



**Monitoring Well Data:**

Well No.: PFW-2  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 16.9  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 2.43  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 15.82  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 5.82

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

8:50	100	5.82									
9:25	100	7.35	-1.53	6.64	0.62	11.1	0.03	7.13	1.4	3.5	2.3
9:30	100	7.36	-1.54	6.57	0.62	13.3	0.05	7.18	3.3	4	2.7
9:35	100	7.36	-1.54	6.58	0.62	16.4	0.12	7.19	4.2	4.5	3.0
9:40	100	7.36	-1.54	6.84	0.62	13.5	0.11	7.21	4.3	5	3.3
9:45	100	7.36	-1.54	6.88	0.62	11.7	0.11	7.22	4.1	5.5	3.7
9:46	Sample										
	Sample ID:	GW-12636-032116-SSH-0116									

- 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= V<sub>p</sub>/V<sub>s</sub>.
  - (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:**

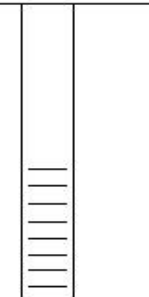
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: MW-1  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 25  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 10  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 23.9  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 6.2  
 Initial Depth to Water (ft): 1.94



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:15		1.94									
	Purge to Dry: approximately 3 gallons										
9:55	100	12.88									
10:05	100	13.66		5.4	0.33	78.4	1.68	7.41	28.2		
10:06	Sample										
	Sample ID:	GW-12636-032116-SSH-0216									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

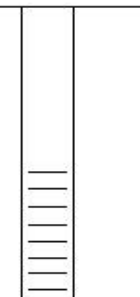
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**

Well No.: PFW-9  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 11.4  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 2.39  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 10.3  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 1.5  
 Initial Depth to Water (ft): 5.77



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

10:20	100	5.77									
10:50	100	6.04	-0.27	5.65	0.41	1.67	6.78	7.37	34.5	3	2.0
10:55	100	6.04	-0.27	5.57	0.4	1.71	6.84	7.38	34.6	3.5	2.4
11:00	100	6.05	-0.28	5.65	0.41	1.46	6.79	7.37	34.6	4	2.7
11:05	100	6.05	-0.28	5.65	0.41	0.95	6.81	7.39	34.5	4.5	3.0
11:06	Sample										
	Sample ID:	GW-12636-032116-SSH-0316									
	Duplicate Sample ID:	GW-12636-032116-SSH-0416									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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.



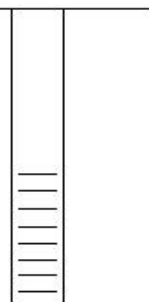
**MONITORING WELL RECORD FOR LOW-FLOW PURGING**

**Project Data:**

Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/21/2016  
 Personnel: Steve Hoevemeyer

**Monitoring Well Data:**



Well No.: MW-2  
 Vapour PID (ppm): N/A  
 Measurement Point: Top of Riser  
 Constructed Well Depth (ft): 25  
 Measured Well Depth (ft): \_\_\_\_\_  
 Depth of Sediment (ft): \_\_\_\_\_

Saturated Screen Length (ft): 10  
 Depth to Pump Intake (ft)<sup>(1)</sup>: 23.5  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 6.2  
 Initial Depth to Water (ft): 3.21

Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
			Precision Required <sup>(5)</sup> :			±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV

11:35		3.21									
	Purge to dry: Approximately 6.5 gal										
13:55		20.41									
14:05		20.63		9.86	1.73	44.8	0.39	6.8	1.9		
14:06	Sample										
	Sample ID:	GW-12636-032116-SSH-0816									

**Notes:**

- 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.
- 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
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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:**

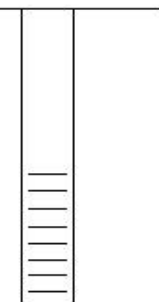
Project Name: RACER Coldwater Rd Industrial Land  
 Ref. No.: 012636-T09-001Y16

Date: 3/22/2016  
 Personnel: John York

**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)<sup>(1)</sup>: 95  
 Well Diameter, D (in): 2  
 Well Screen Volume, V<sub>s</sub> (L)<sup>(2)</sup>: 3.1  
 Initial Depth to Water (ft): 77.24



Time	Pumping Rate (mL/min)	Depth to Water (ft)	Drawdown from Initial Water Level <sup>(3)</sup> (ft)	Temperature °C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (mV)	Volume Purged, V <sub>p</sub> (L)	No. of Well Screen Volumes Purged <sup>(4)</sup>
Precision Required <sup>(5)</sup> :				±3 %	±0.005 or 0.01 <sup>(6)</sup>	±10 %	±10 %	±0.1 Units	±10 mV		

9:40	150	77.24									
10:00	150			9.15	0.7	218	1.22	7.57	10	2	0.6
10:05	100	81.92	-4.68	9.18	0.7	221	1.07	7.55	1	2.5	0.8
10:10	100			9.18	0.7	210	0.94	7.55	-7	3	1.0
10:15	100			9.24	0.7	196	0.77	7.54	-16	3.5	1.1
10:20	100			9.31	0.7	176	0.67	7.54	-22	4	1.3
10:25	100			9.33	0.7	148	0.61	7.54	-28	4.5	1.5
10:30	100			9.48	0.69	134	0.55	7.53	-32	5	1.6
10:35	100			9.47	0.69	121	0.48	7.54	-36	5.5	1.8
10:40	100			9.53	0.69	82	0.44	7.54	-40	6	1.9
10:45	100	82.43	-5.19	9.51	0.68	82.5	0.42	7.54	-42	6.5	2.1
	Sample										
	Sample ID:	GW-12636-032216-SSH-1716									

**Notes:**

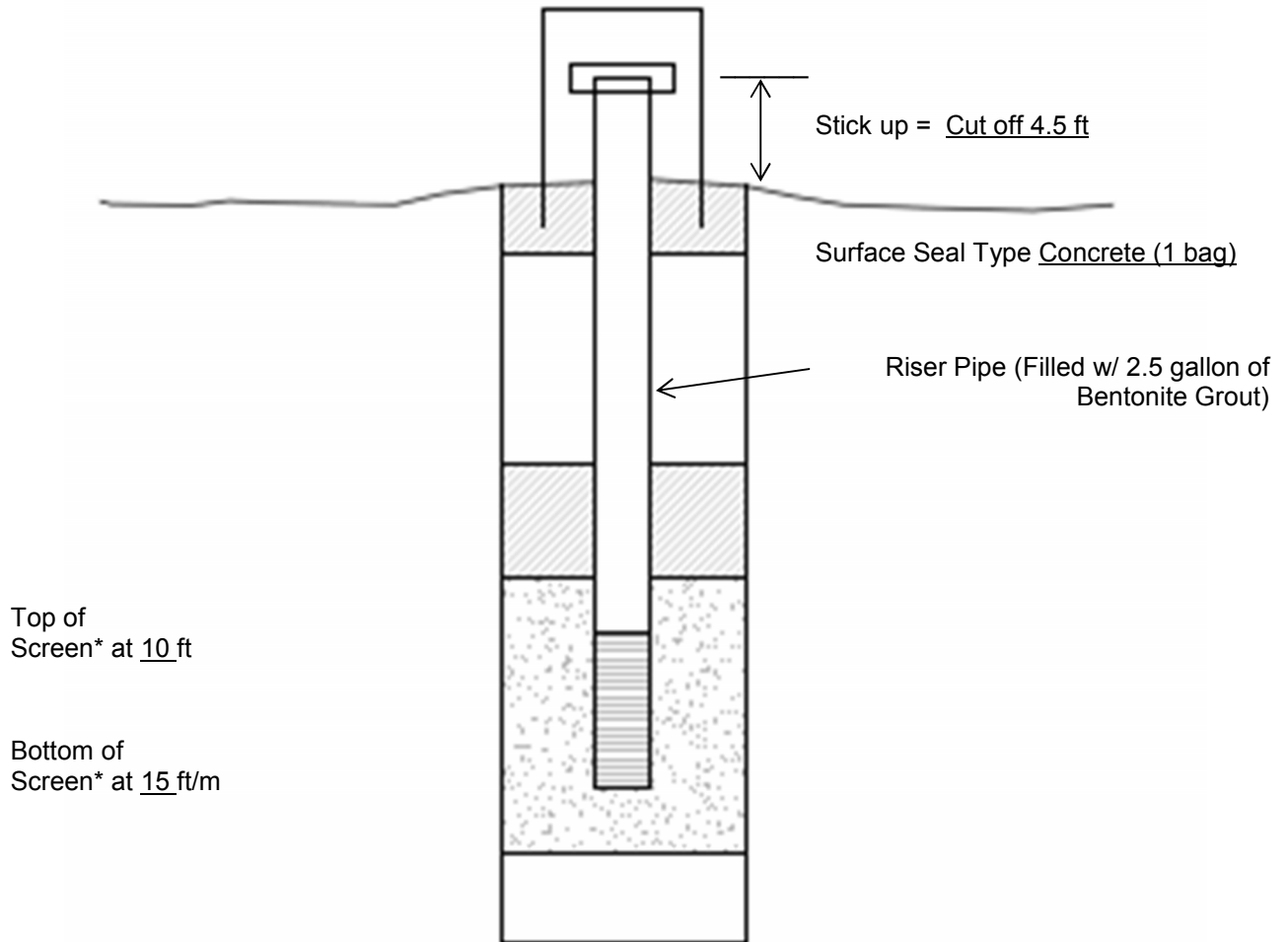
- The pump intake will be placed at the well screen mid-point or at a minimum of 0.6 m (2 ft) above any sediment accumulated at the well bottom.
- The well screen volume will be based on a 1.52 metres (5-foot) screen length (L). For metric units,  $V_s = \pi * (r^2) * L$  in mL, where r (r=D/2) and L are in cm. For Imperial units,  $V_s = \pi * (r^2) * L * (2.54)^3$ , where r and L are in inches
- 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.
- 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= V<sub>p</sub>/V<sub>s</sub>.
- 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

## Well Abandonment Records

**Well Instrumentation Log  
(Form SP-15)**

Project Name: Coldwater Road Industrial Land Well Designation: MW-1-02  
 Project Number: 012636 Date Completed: March 7, 2016  
 Client: RACER Trust Drilling Method: ABANDONMENT  
 Location: Genesee Township, Michigan GHD Supervisor: Steve Hoevemeyer



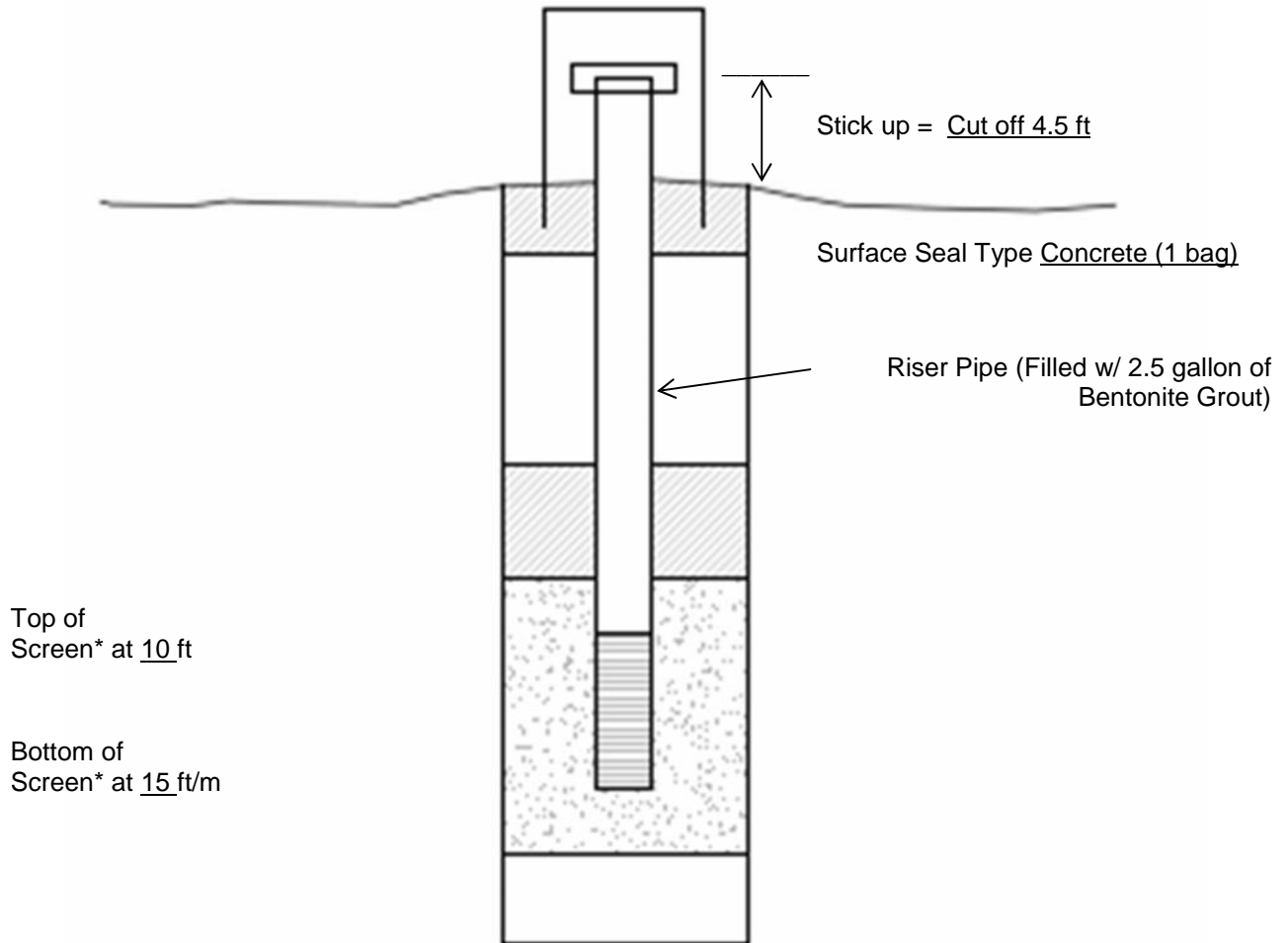
Screen Type:     continuous slot     wire wrapped     louvre     other: \_\_\_\_\_

Screen Material:     stainless steel     pvc     other: \_\_\_\_\_

Screen Length: 5 ft    Screen Diameter: 2 in    Screen Slot Size: 0.010 in

Well Instrumentation Log  
(Form SP-15)

Project Name: Coldwater Road Industrial Land Well Designation: MW-2-02  
 Project Number: 012636 Date Completed: March 7, 2016  
 Client: RACER Trust Drilling Method: ABANDONMENT  
 Location: Genesee Township, Michigan GHD Supervisor: Steve Hoevemeyer



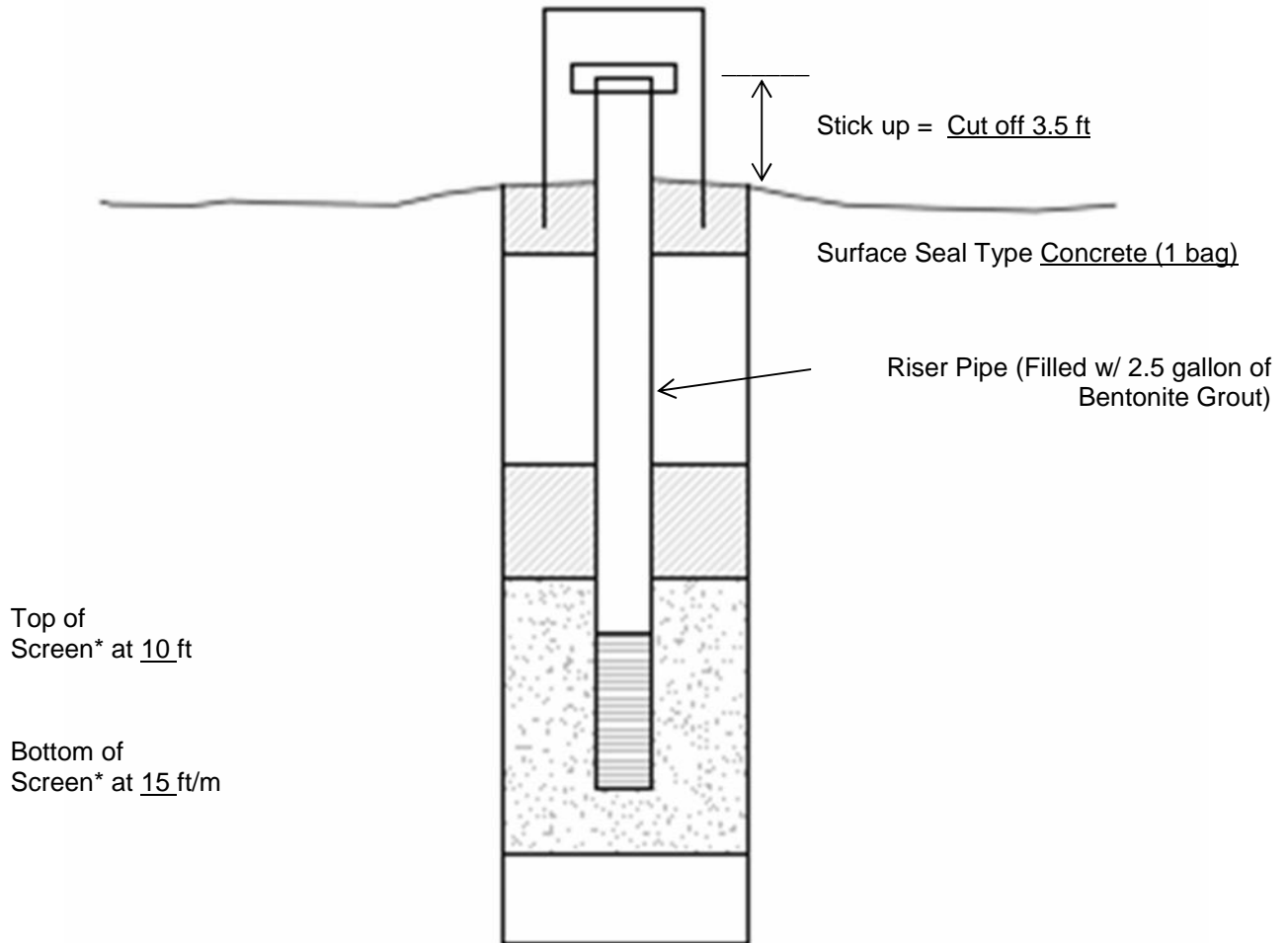
Screen Type:  continuous slot  wire wrapped  louvre  other: \_\_\_\_\_

Screen Material:  stainless steel  pvc  other: \_\_\_\_\_

Screen Length: 5 ft Screen Diameter: 2 in Screen Slot Size: 0.010 in

Well Instrumentation Log  
(Form SP-15)

Project Name: Coldwater Road Industrial Land Well Designation: MW-3-02  
 Project Number: 012636 Date Completed: March 7, 2016  
 Client: RACER Trust Drilling Method: ABANDONMENT  
 Location: Genesee Township, Michigan GHD Supervisor: Steve Hoevemeyer



Screen Type:  continuous slot  wire wrapped  louvre  other: \_\_\_\_\_

Screen Material:  stainless steel  pvc  other: \_\_\_\_\_

Screen Length: 5 ft Screen Diameter: 2 in Screen Slot Size: 0.010 in

Attachment C  
Historic Groundwater Analytical Results  
(December 2010 to April 2016)





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

Table with 11 columns for sample locations: Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9, Shallow B-9. Includes rows for Sample ID, Sample Date, and Sample Depth.

Main table for Groundwater Results. Columns include: Parameters, Units, Background Concentrations Perched Aquifer, Residential Drinking (Aesthetic, Health Based), Non-Residential (Aesthetic, Health Based), Groundwater/Surface Water Interface, Residential Groundwater Volatilization to Indoor Air Inhalation, Non-Residential Groundwater Volatilization to Indoor Air Inhalation. Lists various chemical compounds like 4,6-Dinitro-2-methylphenol, etc.

Metals

Table for Metals. Columns include: Parameter, Units, and various sample locations. Lists elements like Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, Nickel.

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

Shallow\_or\_Deep:  
Sample Location:  
Sample ID:  
Sample Date:  
Sample Depth:

Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9
GW-12636-091411-JY-015	B-9-6/21/1995-N-LB	B-9-8/31/1995-N-LB	B-9-2/9/1996-N-LB	B-9-6/19/1996-N-LB	B-9-8/21/1996-N-LB	B-9-11/13/1996-N-LB	B-9-5/6/1997-N-LB	B-9-11/6/1997-N-LB
9/14/2011	6/21/1995	8/31/1995	2/9/1996	6/19/1996	8/21/1996	11/13/1996	5/6/1997	11/6/1997
(8.66-13.19) in BGS	-	-	-	-	-	-	-	-

Parameters	Units	Residential Drinking		Non-Residential		Groundwater/ Surface Water Interface Criteria	Residential Groundwater Volatilization to Indoor Air Inhalation	Non-Residential Groundwater Volatilization to Indoor Air Inhalation	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9	Shallow B-9
		Background Concentrations Perched Aquifer	Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria												
Nickel (dissolved)	mg/L	0.0185	0.1	-	0.1	-	-	-	-	0.03 U	0.04 U	0.04 U	0.02 U	0.02 U	0.02 U	0.051	0.183 <sup>bd</sup>
Selenium	mg/L	0.005	0.05	-	0.05	0.005	-	-	0.005 U	-	-	-	-	-	-	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	0.005	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/L	0.00053	0.034	-	0.098	0.0002	-	-	0.0002 U	-	-	-	-	-	-	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	0.0002	-	-	-	-	-	-	-	-	-	-	-
Sodium (dissolved)	mg/L	-	230	-	350	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001	0.002	-	0.002	0.0037	-	-	0.001 U	-	-	-	-	-	-	-	-
Thallium (dissolved)	mg/L	0.0012	0.002	-	0.002	0.0037	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/L	0.026	0.0045	-	0.062	0.027	-	-	0.004 U	-	-	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	0.0089	0.0045	-	0.062	0.027	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	0.02 U	-	-	-	-	-	-	-	-
Zinc (dissolved)	mg/L	0.051	2.4	-	5	-	-	-	-	0.02 U	0.02 U	0.02 U	0.02 U	0.07	0.04	0.02	0.04
<b>General Chemistry</b>																	
Cyanide (amenable)	mg/L	-	0.2	-	0.2	-	-	-	0.0050 U	-	-	-	-	-	-	-	-
Cyanide (total)	mg/L	-	0.2	-	0.2	0.0052	-	-	0.0050 U	-	-	-	-	-	-	-	-

Footnotes:  
U - Not detected at the associated reporting limit.  
J - Estimated concentration.  
UJ - Not detected; associated reporting limit is estimated.  
-- Not Analyzed





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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
Sample ID:	B-9-5/4/1998-N-LB	B-9-4/26/1999-N-LB	B-9-11/5/1999-N-LB	B-9-4/26/2000-N-LB	B-9-12/8/2000-N-LB	B-9-5/16/2001-N-LB	B-9-10/17/2001-N-LB	B-9-5/16/2002-N-LB	B-9-6/4/2003-N-LB	B-9-6/30/2004-N-LB	B-9-12/9/2004-N-LB	B-9-6/8/2005-N-LB	B-9-12/7/2005-N-LB	B-9-6/29/2006-N-LB
Sample Date:	5/4/1998	4/26/1999	11/5/1999	4/26/2000	12/8/2000	5/16/2001	10/17/2001	5/16/2002	6/4/2003	6/30/2004	12/9/2004	6/8/2005	12/7/2005	6/29/2006
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Parameters	Units														
Nickel (dissolved)	mg/L	0.018	0.019	0.02	0.012	0.046	0.007	0.008	0.007	0.015	0.019	0.011	0.012	0.012	0.013
Selenium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Silver (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sodium (dissolved)	mg/L	-	-	47.1	-	69.5	-	66	-	-	-	55.9	58.3	58.5	63.6
Thallium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Zinc (dissolved)	mg/L	0.04	0.02	0.03	0.03	0.01 U	0.01	0.02	0.01	0.013	0.028	0.019	0.017	0.04	0.019
<b>General Chemistry</b>															
Cyanide (amenable)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	B-9	B-9	B-9	B-9	B-9 Dup.	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
Sample ID:	B-9-11/30/2006-N-LB	B-9-6/5/2007-N-LB	B-9-11/16/2007-N-LB	B-9-7/2/2008-N-LB	B-9 Dup.-11/20/2008-FD-LB	B-9-11/20/2008-N-LB	B-9-6/25/2009-N-LB	B-9-11/16/2009-N-LB	GW-12636-120310-BW-019	GW-12636-051111-SSH-104	GW-12636-120711-JY-415	GW-12636-032614-SSH-1404	GW-12636-060914-SSH-1420
Sample Date:	11/30/2006	6/5/2007	11/16/2007	7/2/2008	11/20/2008	11/20/2008	6/25/2009	11/16/2009	12/3/2010	5/11/2011	12/7/2011	3/26/2014	6/9/2014
Sample Depth:	-	-	-	-	-	(Duplicate)	-	-	-	-	-	-	-
<b>Parameters</b>	<b>Units</b>												
Nickel (dissolved)	mg/L	0.005 U	0.024	0.024	0.013	0.013	0.013	0.005 U	0.016	-	-	-	0.0043 J
Selenium	mg/L	-	-	-	-	-	-	-	-	0.005 U	0.005 U	0.005 U	-
Selenium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	0.005 U
Silver	mg/L	-	-	-	-	-	-	-	-	0.0002 U	0.0002 U	0.0002 U	-
Silver (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	0.000024 J
Sodium (dissolved)	mg/L	-	67.3	-	64.2	-	-	65.3	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U	-
Thallium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	0.001 U
Vanadium	mg/L	-	-	-	-	-	-	-	-	0.0012 J	0.004 U	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	0.004 U
Zinc	mg/L	-	-	-	-	-	-	-	-	0.0211 U	0.02 U	0.02 U	-
Zinc (dissolved)	mg/L	0.014	0.021	0.018	0.019	0.005 U	0.005 U	0.005 U	0.008	-	-	-	0.02 U
<b>General Chemistry</b>													
Cyanide (amenable)	mg/L	-	-	-	-	-	-	-	-	0.010 U	0.010 U	0.0050 U	0.0050 U
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-	0.0050 U	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed







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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9	B-9
Sample ID:	GW-12636-090914-SSH-1428	GW-120914-12636-SSH-1439	GW-12636-032715-SSH-15014	GW-12636-062315-SSH-1535	GW-12636-091715-SSH-1544	GW-12636-091715-SSH-1549	GW-12636-121515-SSH-1552	GW-12636-121515-SSH-1553	GW-12636-121615-SSH-1559	GW-12636-032116-SSH-1016	GW-12636-091211-JY-005
Sample Date:	9/9/2014	12/9/2014	3/27/2015	6/23/2015	9/17/2015	9/17/2015	12/15/2015	12/15/2015	12/16/2015	3/21/2016	9/12/2011
Sample Depth:	-	-	-	-	-	-	-	(Duplicate)	-	-	(4.41-10.72) in BGS

Parameters	Units											
Nickel (dissolved)	mg/L	-	-	0.004 J	-	-	-	-	-	-	0.0066 J	-
Selenium	mg/L	-	-	-	-	-	-	-	-	-	-	0.005 U
Selenium (dissolved)	mg/L	-	-	0.005 U	-	-	-	-	-	-	0.005 U	-
Silver	mg/L	-	-	-	-	-	-	-	-	-	-	0.0002 U
Silver (dissolved)	mg/L	-	-	0.0002 U	-	-	-	-	-	-	0.0002 U	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-	-	-	-	-	0.001 U
Thallium (dissolved)	mg/L	-	-	0.001 U	-	-	-	-	-	-	0.001 U	-
Vanadium	mg/L	-	-	-	-	-	-	-	-	-	-	0.004 U
Vanadium (dissolved)	mg/L	-	-	0.004 U	-	-	-	-	-	-	0.004 U	-
Zinc	mg/L	-	-	-	-	-	-	-	-	-	-	0.042
Zinc (dissolved)	mg/L	-	-	0.02 U	-	-	-	-	-	-	0.02 U	-
<b>General Chemistry</b>												
Cyanide (amenable)	mg/L	-	-	0.0050 U	-	-	-	-	-	-	-	0.0050 U
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-	0.0050 U

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed

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

Table with 14 columns: Shallow\_or\_Deep, Sample Location, Sample ID, Sample Date, Sample Depth, and 10 Shallow monitoring wells (MW-1, MW-2) with their respective IDs and dates. Includes a note '(other)' for some wells.

Parameters Units

VOAs

Large data table listing various Volatile Organic Aromatics (VOAs) such as 1,1,1-Trichloroethane, 1,1,2,2-Tetrachloroethane, etc. Each row lists the chemical name, its units, and its detected concentration across the 14 monitoring wells.

SVOAs

Table listing Semi-Volatile Organic Aromatics (SVOAs) such as 1,2,4-Trichlorobenzene, 2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether), etc. Each row lists the chemical name, its units, and its detected concentration across the 14 monitoring wells.



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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2	MW-2	MW-2	MW-2
Sample ID:	MW-1	W-111496-BM-008	GW-12636-120210-BW-011	GW-12636-051311-SSH-110	GW-12636-120711-JY-414	GW-12636-032614-SSH-1407	GW-12636-032715-SSH-15017	GW-12636-032116-SSH-0216	GW-12636-091211-JY-003	MW-2	W-8692-111496-SF-011	GW-12636-120310-BW-014	GW-12636-051311-SSH-113
Sample Date:	11/14/1996	11/14/1996	12/2/2010	5/13/2011	12/7/2011	3/26/2014	3/27/2015	3/21/2016	9/12/2011	11/14/1996	11/14/1996	12/3/2010	5/13/2011
Sample Depth:	-	(other)	-	-	-	-	-	-	(4.54-12.84) in BGS	-	(other)	-	-

Parameters	Units												
Nickel (dissolved)	mg/L	-	-	-	-	-	0.02 U	0.02 U	0.0042 J	0.02 U	-	-	-
Selenium	mg/L	U	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-	0.005 U	U	-	0.005 U
Selenium (dissolved)	mg/L	-	-	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	-	0.005 U	0.005 U
Silver	mg/L	-	-	0.0002 U	0.0002 U	0.0002 U	0.00018 J	0.0002 U	-	0.0002 U	-	0.0002 U	0.0002 U
Silver (dissolved)	mg/L	-	-	-	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	-	0.0005 U	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	-	0.001 U	-	-	0.001 U
Thallium (dissolved)	mg/L	-	-	-	-	-	0.001 U	0.001 U	0.0001 J	0.001 U	-	-	-
Vanadium	mg/L	-	-	0.0043	0.004 U	0.0027 J	0.004 U	0.0062	-	0.004 U	-	-	0.0014 J
Vanadium (dissolved)	mg/L	-	-	-	-	-	0.004 U	0.004	0.004 U	0.004 U	-	-	-
Zinc	mg/L	U	-	0.196 J	0.0809	0.029 U	0.055	0.016 J	-	0.0082 J	U	-	0.043 J
Zinc (dissolved)	mg/L	-	-	-	-	-	0.0089 J	0.02 U	0.02 U	0.02 U	-	0.02 U	-
<b>General Chemistry</b>													
Cyanide (amenable)	mg/L	-	-	0.010 U	0.010 U	0.0050 U	0.0050 U	0.0050 U	-	0.0050 U	-	-	0.010 U
Cyanide (total)	mg/L	-	-	-	-	0.0050 U	-	-	-	0.0050 U	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed







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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-2	MW-2	MW-2	MW-2	MW-2	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02
Sample ID:	GW-12636-120611-JY-409	GW-12636-032614-SSH-1405	GW-12636-032715-SSH-15019	GW-12636-032715-SSH-15020	GW-12636-032116-SSH-0816	GW-12636-091311-JY-009	GW-12636-112910-BW-001	GW-12636-051111-SSH-101	GW-12636-120511-JY-403	GW-12636-120511-JY-404	GW-12636-032714-SSH-1413
Sample Date:	12/6/2011	3/26/2014	3/27/2015	3/27/2015	3/21/2016	9/13/2011	11/29/2010	5/11/2011	12/5/2011	12/5/2011	3/27/2014
Sample Depth:	-	-	-	(Duplicate)	-	(11.91-13.17) in BGS	-	-	-	(Duplicate)	-

Parameters	Units										
Nickel (dissolved)	mg/L	0.02 U	0.0093 J	0.0066 J	0.007 J	0.0056 J	-	-	-	-	0.02 U
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Selenium (dissolved)	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-	-	-	-	0.005 U
Silver	mg/L	0.0002 U	0.000015 J	0.0002 U	0.0002 U	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.000016 J
Silver (dissolved)	mg/L	0.0002 U	0.000009 J	0.0002 U	0.0002 U	0.0002 U	-	-	-	-	0.000009 J
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001 U	0.00042 J	0.00025 J	0.00023 J	-	0.0015 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium (dissolved)	mg/L	0.001 U	0.001 U	0.00023 J	0.00022 J	0.00013 J	-	-	-	-	0.001 U
Vanadium	mg/L	0.004 U	0.004 U	0.004 U	0.004 U	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 UJ
Vanadium (dissolved)	mg/L	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	-	-	-	-	0.004 U
Zinc	mg/L	0.017 J	0.11	0.027	0.026	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Zinc (dissolved)	mg/L	0.011 J	0.05	0.024	0.024	0.02 U	-	-	-	-	0.0052 J
<b>General Chemistry</b>											
Cyanide (amenable)	mg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	-	0.0050 U	0.010 U	0.010 U	0.0050 U	0.0050 U
Cyanide (total)	mg/L	0.0050 U	-	-	-	-	0.0050 U	-	-	0.0050 U	0.0050 U

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-4-02	MW-17-13
Sample ID:	GW-12636-061014-SSH-1428	GW-12636-090914-SSH-1431	GW-12636-090914-SSH-1432	GW-120914-12636-SSH-1440	GW-12636-032515-SSH-15003	GW-12636-062215-SSH-1531	GW-12636-091415-SSH-1540	GW-12636-121515-SSH-1555	GW-12636-032116-SSH-0516	GW-12636-032614-SSH-1410	GW-12636-061014-SSH-1429
Sample Date:	6/10/2014	9/9/2014	9/9/2014	12/9/2014	3/25/2015	6/22/2015	9/14/2015	12/15/2015	3/21/2016	3/26/2014	6/10/2014
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-

(Duplicate)

Parameters	Units											
Nickel (dissolved)	mg/L	-	-	-	-	0.0025 J	-	-	-	0.0018 J	0.0039 J	-
Selenium	mg/L	-	-	-	-	0.005 U	-	-	-	0.005 U	0.005 U	-
Selenium (dissolved)	mg/L	-	-	-	-	0.005 U	-	-	-	0.005 U	0.005 U	-
Silver	mg/L	-	-	-	-	0.0002 U	-	-	-	0.0002 U	0.000023 J	-
Silver (dissolved)	mg/L	-	-	-	-	0.0002 U	-	-	-	0.000021 J	0.000018 J	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	0.001 U	-	-	-	0.000088 J	0.001 U	-
Thallium (dissolved)	mg/L	-	-	-	-	0.001 U	-	-	-	0.00011 J	0.001 U	-
Vanadium	mg/L	-	-	-	-	0.004 U	-	-	-	0.004 U	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	-	-	0.004 U	-	-	-	0.004 U	0.004 U	-
Zinc	mg/L	-	-	-	-	0.02 U	-	-	-	0.02 U	0.007 J	-
Zinc (dissolved)	mg/L	-	-	-	-	0.02 U	-	-	-	0.02 U	0.0087 J	-
<b>General Chemistry</b>												
Cyanide (amenable)	mg/L	-	-	-	-	0.0050 U	-	-	-	-	0.0050 U	-
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-17-13	MW-18-13
Sample ID:	GW-12636-091014-SSH-1435	GW-121014-12636-SSH-1444	GW-12636-032615-SSH-15009	GW-12636-062215-SSH-1533	GW-12636-062215-SSH-1534	GW-12636-091415-SSH-1541	GW-12636-091415-SSH-1542	GW-12636-121515-SSH-1556	GW-12636-032116-SSH-0616	GW-12636-032714-SSH-1415	GW-12636-061014-SSH-1430
Sample Date:	9/10/2014	12/10/2014	3/26/2015	6/22/2015	6/22/2015	9/14/2015	9/14/2015	12/15/2015	3/21/2016	3/27/2014	6/10/2014
Sample Depth:	-	-	-	-	(Duplicate)	-	(Duplicate)	-	-	-	-

Parameters	Units											
Nickel (dissolved)	mg/L	-	-	0.002 J	-	-	-	-	-	0.0081 J	0.02 U	-
Selenium	mg/L	-	-	0.005 U	-	-	-	-	-	-	0.005 U	-
Selenium (dissolved)	mg/L	-	-	0.005 U	-	-	-	-	-	0.005 U	0.005 U	-
Silver	mg/L	-	-	0.0002 U	-	-	-	-	-	-	0.000019 J	-
Silver (dissolved)	mg/L	-	-	0.0002 U	-	-	-	-	-	0.0002 U	0.00001 J	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	0.001 U	-	-	-	-	-	-	0.001 U	-
Thallium (dissolved)	mg/L	-	-	0.001 U	-	-	-	-	-	0.001 U	0.001 U	-
Vanadium	mg/L	-	-	0.004 U	-	-	-	-	-	-	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	0.004 U	-	-	-	-	-	0.004 U	0.004 U	-
Zinc	mg/L	-	-	0.02 U	-	-	-	-	-	-	0.02 U	-
Zinc (dissolved)	mg/L	-	-	0.02 U	-	-	-	-	-	0.02 U	0.02 U	-
<b>General Chemistry</b>												
Cyanide (amenable)	mg/L	-	-	0.0050 U	-	-	-	-	-	-	0.0050 U	-
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	
Sample Location:	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-19-13	
Sample ID:	GW-12636-091014-SSH-1436	GW-121014-12636-SSH-1445	GW-12636-032615-SSH-15007	GW-12636-062315-SSH-1538	GW-12636-091715-SSH-1545	GW-12636-091715-SSH-1550	GW-12636-121515-SSH-1551	GW-12636-121615-SSH-1558	GW-12636-032216-SSH-1516	GW-12636-032714-SSH-1414	GW-12636-060914-SSH-1424	
Sample Date:	9/10/2014	12/10/2014	3/26/2015	6/23/2015	9/17/2015	9/17/2015	12/15/2015	12/16/2015	3/22/2016	3/27/2014	6/9/2014	
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-	
<b>Parameters</b>												
<b>Units</b>												
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Chloroaniline	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Methylphenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
Acenaphthene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Acenaphthylene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Dimethyl phthalate	mg/L	-	-	-	-	-	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Fluorene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Phenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-	-	-	-	-	-	-
<b>Metals</b>												
Aluminum	mg/L	-	-	0.05 U	-	-	-	-	-	-	0.054	-
Aluminum (dissolved)	mg/L	-	-	0.05 U	-	-	-	-	-	0.05 U	0.05 U	-
Antimony	mg/L	-	-	0.002 U	-	-	-	-	-	-	0.002 U	-
Antimony (dissolved)	mg/L	-	-	0.002 U	-	-	-	-	-	0.002 U	0.002 U	-
Arsenic	mg/L	-	-	0.0036 J	-	-	-	-	-	-	0.005 U	-
Arsenic (dissolved)	mg/L	-	-	0.0042 J	-	-	-	-	-	0.004 J	0.005 U	-
Barium	mg/L	-	-	0.17	-	-	-	-	-	-	0.1	-
Barium (dissolved)	mg/L	-	-	0.18	-	-	-	-	-	-	0.11	-
Beryllium	mg/L	-	-	0.001 U	-	-	-	-	-	0.098 J	0.001 U	-
Beryllium (dissolved)	mg/L	-	-	0.001 U	-	-	-	-	-	-	0.001 U	-
Cadmium	mg/L	-	-	0.00032 J	-	-	-	-	-	0.001 U	0.001 U	-
Cadmium (dissolved)	mg/L	-	-	0.00024 J	-	-	-	-	-	0.00029 J	0.001 U	-
Chromium	mg/L	-	-	0.005 U	-	-	-	-	-	-	0.005 U	-
Chromium (dissolved)	mg/L	-	-	0.005 U	-	-	-	-	-	0.00086 J	0.005 U	-
Cobalt	mg/L	-	-	0.007 U	-	-	-	-	-	-	0.007 U	-
Cobalt (dissolved)	mg/L	-	-	0.007 U	-	-	-	-	-	0.007 U	0.007 U	-
Copper	mg/L	-	-	0.002 U	-	-	-	-	-	-	0.002 U	-
Copper (dissolved)	mg/L	-	-	0.002 U	-	-	-	-	-	0.0016 J	0.002 U	-
Iron	mg/L	-	-	0.1 U	-	-	-	-	-	-	0.12	-
Iron (dissolved)	mg/L	-	-	0.1 U	-	-	-	-	-	0.1 U	0.1 U	-
Lead	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	-	0.003 U	-	-	0.003 U	0.003 U
Lead (dissolved)	mg/L	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.17	0.36	0.26	0.25	0.33	-	0.28	-	-	0.11	0.092
Manganese (dissolved)	mg/L	0.18	0.37	0.27	0.25	0.33	0.57 <sup>bd</sup>	0.29	0.35	0.2	0.11	0.11
Mercury	mg/L	-	-	0.0002 U	-	-	-	-	-	-	0.0002 U	-
Mercury (dissolved)	mg/L	-	-	0.0002 U	-	-	-	-	-	0.0002 U	0.0002 U	-
Nickel	mg/L	-	-	0.0017 J	-	-	-	-	-	-	0.02 U	-

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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-18-13	MW-19-13
Sample ID:	GW-12636-091014-SSH-1436	GW-121014-12636-SSH-1445	GW-12636-032615-SSH-15007	GW-12636-062315-SSH-1538	GW-12636-091715-SSH-1545	GW-12636-091715-SSH-1550	GW-12636-121515-SSH-1551	GW-12636-121615-SSH-1558	GW-12636-032216-SSH-1516	GW-12636-032714-SSH-1414	GW-12636-060914-SSH-1424
Sample Date:	9/10/2014	12/10/2014	3/26/2015	6/23/2015	9/17/2015	9/17/2015	12/15/2015	12/16/2015	3/22/2016	3/27/2014	6/9/2014
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-

Parameters	Units											
Nickel (dissolved)	mg/L	-	-	0.0025 J	-	-	-	-	-	0.0026 J	0.02 U	-
Selenium	mg/L	-	-	0.005 U	-	-	-	-	-	-	0.005 U	-
Selenium (dissolved)	mg/L	-	-	0.005 U	-	-	-	-	-	0.005 U	0.005 U	-
Silver	mg/L	-	-	0.0002 U	-	-	-	-	-	-	0.000024 J	-
Silver (dissolved)	mg/L	-	-	0.0002 U	-	-	-	-	-	0.0002 U	0.000027 J	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	0.001 U	-	-	-	-	-	-	0.001 U	-
Thallium (dissolved)	mg/L	-	-	0.001 U	-	-	-	-	-	0.001 U	0.001 U	-
Vanadium	mg/L	-	-	0.004 U	-	-	-	-	-	-	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	0.004 U	-	-	-	-	-	0.004 U	0.004 U	-
Zinc	mg/L	-	-	0.02 U	-	-	-	-	-	-	0.0072 J	-
Zinc (dissolved)	mg/L	-	-	0.02 U	-	-	-	-	-	0.02 U	0.0069 J	-
<b>General Chemistry</b>												
Cyanide (amenable)	mg/L	-	-	0.0050 U	-	-	-	-	-	-	0.0050 U	-
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed

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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-20-13	MW-20-13
Sample ID:	GW-12636-090914-SSH-1433	GW-120914-12636-SSH-1441	GW-120914-12636-SSH-1442	GW-12636-032615-SSH-15012	GW-12636-062215-SSH-1532	GW-12636-091415-SSH-1543	GW-12636-121515-SSH-1557	GW-12636-032116-SSH-1116	GW-12636-032614-SSH-1409	GW-12636-060914-SSH-1423	GW-12636-091014-SSH-1434
Sample Date:	9/9/2014	12/9/2014	12/9/2014	3/26/2015	6/22/2015	9/14/2015	12/15/2015	3/21/2016	3/26/2014	6/9/2014	9/10/2014
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-

(Duplicate)

Parameters Units

VOAs

1,1,1-Trichloroethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,1,2,2-Tetrachloroethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,1,2-Trichloroethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,1-Dichloroethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,1-Dichloroethene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2,4-Trichlorobenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2,4-Trimethylbenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2-Dibromoethane (Ethylene dibromide)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2-Dichlorobenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2-Dichloroethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,2-Dichloropropane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,3,5-Trimethylbenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,3-Dichlorobenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
1,4-Dichlorobenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	-	-	-	0.01 U	-	-	-	0.01 U	0.01 U	-	-
2-Chloroethyl vinyl ether	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Hexanone	mg/L	-	-	-	0.01 U	-	-	-	0.01 U	0.01 U	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	-	-	-	0.01 U	-	-	-	0.01 U	0.01 U	-	-
Acetone	mg/L	-	-	-	0.01 U	-	-	-	0.01 U	0.01 U	-	-
Benzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Bromodichloromethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Bromoform	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Bromomethane (Methyl bromide)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Carbon disulfide	mg/L	-	-	-	0.005 U	-	-	-	0.005 U	0.0035 J	-	-
Carbon tetrachloride	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Chlorobenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Chloroethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Chloroform (Trichloromethane)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Chloromethane (Methyl chloride)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
cis-1,2-Dichloroethene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
cis-1,3-Dichloropropene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Cyclohexane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Dibromochloromethane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Ethylbenzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Isopropyl benzene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
m&p-Xylenes	mg/L	-	-	-	-	-	-	-	-	-	-	-
Methyl acetate	mg/L	-	-	-	0.01 U	-	-	-	0.01 U	0.01 U	-	-
Methyl cyclohexane	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Methyl tert butyl ether (MTBE)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Methylene chloride	mg/L	-	-	-	0.005 U	-	-	-	0.005 U	0.005 U	-	-
o-Xylene	mg/L	-	-	-	-	-	-	-	-	-	-	-
Styrene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Tetrachloroethene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Toluene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
trans-1,2-Dichloroethene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
trans-1,3-Dichloropropene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Trichloroethene	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Trichlorofluoromethane (CFC-11)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Trifluorotrichloroethane (CFC-113)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Vinyl chloride	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-	-
Xylenes (total)	mg/L	-	-	-	0.002 U	-	-	-	0.002 U	0.002 U	-	-

SVOAs

1,2,4-Trichlorobenzene	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,2'-Oxybis(2-chloropropane) (bis(2-Chloroisopropyl) ether)	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,4-Dichlorophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,4-Dimethylphenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/L	-	-	-	-	-	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Chloronaphthalene	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Chlorophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Methylnaphthalene	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Methylphenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Nitroaniline	mg/L	-	-	-	-	-	-	-	-	-	-	-
2-Nitrophenol	mg/L	-	-	-	-	-	-	-	-	-	-	-
3,3'-Dichlorobenzidine	mg/L	-	-	-	-	-	-	-	-	-	-	-
3-Nitroaniline	mg/L	-	-	-	-	-	-	-	-	-	-	-

Attachment C-1  
Historic Shallow Groundwater Results Summary  
Former Peregrine (US) Inc. Coldwater Road Facility  
Genesee Township, Michigan

Table with 12 columns: Sample Location, Sample ID, Sample Date, Sample Depth, and 10 monitoring wells (MW-19-13, MW-20-13).

Parameters Units

Table listing 63 parameters such as 4,6-Dinitro-2-methylphenol, 4-Bromophenyl phenyl ether, etc., with corresponding units and values for each well.

Metals

Table listing 21 metal parameters such as Aluminum, Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cobalt, Copper, Iron, Lead, Manganese, Mercury, and Nickel, with units and values for each well.

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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-19-13	MW-20-13	MW-20-13
Sample ID:	GW-12636-090914-SSH-1433	GW-120914-12636-SSH-1441	GW-120914-12636-SSH-1442	GW-12636-032615-SSH-15012	GW-12636-062215-SSH-1532	GW-12636-091415-SSH-1543	GW-12636-121515-SSH-1557	GW-12636-032116-SSH-1116	GW-12636-032614-SSH-1409	GW-12636-060914-SSH-1423	GW-12636-091014-SSH-1434
Sample Date:	9/9/2014	12/9/2014	12/9/2014	3/26/2015	6/22/2015	9/14/2015	12/15/2015	3/21/2016	3/26/2014	6/9/2014	9/10/2014
Sample Depth:	-	-	(Duplicate)	-	-	-	-	-	-	-	-

Parameters	Units										
Nickel (dissolved)	mg/L	-	-	-	0.013 J	-	-	-	0.0035 J	0.02 U	-
Selenium	mg/L	-	-	-	-	-	-	-	0.005 U	0.005 U	-
Selenium (dissolved)	mg/L	-	-	-	0.005 U	-	-	-	0.005 U	0.005 U	-
Silver	mg/L	-	-	-	-	-	-	-	0.0002 U	0.0002 U	-
Silver (dissolved)	mg/L	-	-	-	0.0002 U	-	-	-	0.0002 U	0.0002 U	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	-	-	-	-	-	0.001 U	0.001 U	-
Thallium (dissolved)	mg/L	-	-	-	0.001 U	-	-	-	0.001 U	0.001 U	-
Vanadium	mg/L	-	-	-	-	-	-	-	0.004 U	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	-	0.004 U	-	-	-	0.004 U	0.004 U	-
Zinc	mg/L	-	-	-	-	-	-	-	0.02 U	0.02 U	-
Zinc (dissolved)	mg/L	-	-	-	0.016 J	-	-	-	0.02 U	0.02 U	-
<b>General Chemistry</b>											
Cyanide (amenable)	mg/L	-	-	-	0.0050 U	-	-	-	-	0.0050 U	-
Cyanide (total)	mg/L	-	-	-	-	-	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	
Sample Location:	MW-20-13	MW-20-13	MW-20-13	MW-20-13	MW-20-13	MW-20-13	MW-20-13	PFW-2	PFW-2	PFW-2	PFW-2	PFW-2	
Sample ID:	GW-121014-12636-SSH-1443	GW-12636-032515-SSH-15002	GW-12636-062215-SSH-1530	GW-12636-091715-SSH-1546	GW-12636-121515-SSH-1554	GW-12636-032116-SSH-0716	GW-12636-091211-JY-004	PFW-2	PFW-2	PFW-2D	GW-12636-120310-BW-012	GW-12636-120310-BW-013	GW-12636-051311-SSH-111
Sample Date:	12/10/2014	3/25/2015	6/22/2015	9/17/2015	12/15/2015	3/21/2016	9/12/2011	4/1/1997	4/1/1997	12/3/2010	12/3/2010	5/13/2011	
Sample Depth:	-	-	-	-	-	-	(8.19-9.38) in BGS	-	(Duplicate)	-	(Duplicate)	-	

Parameters	Units												
Nickel (dissolved)	mg/L	-	0.0017 J	-	-	-	0.02 U	-	-	-	-	-	
Selenium	mg/L	-	0.005 U	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Selenium (dissolved)	mg/L	-	0.005 U	-	-	-	0.005 U	-	-	-	-	-	
Silver	mg/L	-	0.0002 U	-	-	-	0.0002 U	0.0002 U	0.0005 U	0.0005 U	0.0002 U	0.0002 U	
Silver (dissolved)	mg/L	-	0.0002 U	-	-	-	0.0002 U	-	-	-	-	-	
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	
Thallium	mg/L	-	0.001 U	-	-	-	0.001 U	0.0023 U	-	-	0.001 U	0.001 U	
Thallium (dissolved)	mg/L	-	0.001 U	-	-	-	0.001 U	-	-	-	-	-	
Vanadium	mg/L	-	0.004 U	-	-	-	0.004 U	0.004 U	-	-	0.004 U	0.004 U	
Vanadium (dissolved)	mg/L	-	0.004 U	-	-	-	0.004 U	-	-	-	-	-	
Zinc	mg/L	-	0.02 U	-	-	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	
Zinc (dissolved)	mg/L	-	0.02 U	-	-	-	0.02 U	-	-	-	-	-	
<b>General Chemistry</b>													
Cyanide (amenable)	mg/L	-	0.0050 U	-	-	-	-	0.0050 U	-	-	0.010 U	0.010 U	0.010 U
Cyanide (total)	mg/L	-	-	-	-	-	-	0.0050 U	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed







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

Shallow_or_Deep:	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-2	Shallow PFW-4	Shallow PFW-4
Sample Location:	GW-12636-120611-JY-411	GW-12636-032614-SSH-1408	GW-12636-060914-SSH-1421	GW-12636-090914-SSH-1429	GW-120914-12636-SSH-1437	GW-12636-032715-SSH-15016	GW-12636-062315-SSH-1536	GW-12636-091715-SSH-1547	GW-12636-121615-SSH-1560	GW-12636-032116-SSH-0116	GW-12636-091211-JY-002	GW-12636-091211-JY-002	GW-12636-091211-JY-002
Sample ID:	12/6/2011	3/26/2014	6/9/2014	9/9/2014	12/9/2014	3/27/2015	6/23/2015	9/17/2015	12/16/2015	3/21/2016	9/12/2011	9/12/2011	4/1/1997
Sample Date:	-	-	-	-	-	-	-	-	-	-	-	(4.51-9.01) in BGS	-
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-	-	-

Parameters	Units	GW-12636-120611-JY-411	GW-12636-032614-SSH-1408	GW-12636-060914-SSH-1421	GW-12636-090914-SSH-1429	GW-120914-12636-SSH-1437	GW-12636-032715-SSH-15016	GW-12636-062315-SSH-1536	GW-12636-091715-SSH-1547	GW-12636-121615-SSH-1560	GW-12636-032116-SSH-0116	GW-12636-091211-JY-002	GW-12636-091211-JY-002
Nickel (dissolved)	mg/L	-	0.02 U	-	-	-	0.02 U	-	-	-	0.0018 J	0.02 U	-
Selenium	mg/L	0.005 U	0.005 U	-	-	-	0.005 U	-	-	-	-	0.005 U	0.005 U
Selenium (dissolved)	mg/L	-	0.005 U	-	-	-	0.005 U	-	-	-	0.005 U	-	-
Silver	mg/L	0.0002 U	0.0002 U	-	-	-	0.0002 U	-	-	-	-	0.0002 U	0.0005 U
Silver (dissolved)	mg/L	-	0.0002 U	-	-	-	0.0002 U	-	-	-	0.00004 J	0.0002 U	-
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.00042 J	0.001 U	-	-	-	0.001 U	-	-	-	-	0.001 U	-
Thallium (dissolved)	mg/L	-	0.001 U	-	-	-	0.001 U	-	-	-	0.00011 J	0.001 U	-
Vanadium	mg/L	0.004 U	0.004 U	-	-	-	0.0037 J	-	-	-	-	0.0025 J	-
Vanadium (dissolved)	mg/L	-	0.004 U	-	-	-	0.0027 J	-	-	-	0.004 U	0.0014 J	-
Zinc	mg/L	0.02 U	0.01 J	-	-	-	0.02 U	-	-	-	-	0.025	0.02
Zinc (dissolved)	mg/L	-	0.02 U	-	-	-	0.02 U	-	-	-	0.02 U	0.02 U	-
<b>General Chemistry</b>													
Cyanide (amenable)	mg/L	0.0050 U	0.0050 U	-	-	-	0.0050 U	-	-	-	-	-	0.0050 U
Cyanide (total)	mg/L	0.0050 U	-	-	-	-	-	-	-	-	-	-	0.0050 U

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed

Attachment C-1

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

Table with columns for Sample Location, Sample ID, Sample Date, Sample Depth, and various monitoring wells (PFW-4, PFW-9) with their respective dates and depths.

Main data table with columns for Parameters and Units, listing various chemical compounds (VOAs and SVOAs) and their concentrations across the different monitoring wells.



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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	PFW-4	PFW-4	PFW-4	PFW-4	PFW-4	PFW-4	PFW-9	PFW-9	PFW-9	PFW-9	PFW-9	PFW-9
Sample ID:	GW-12636-051111-SSH-102	GW-12636-051111-SSH-103	GW-12636-061014-SSH-1425	GW-12636-061014-SSH-1426	GW-12636-032615-SSH-15006	GW-12636-032116-SSH-0916	GW-12636-091211-JY-006	PFW-9	W-12636-060700-KMV-506	GW-12636-101702-DD-007	GW-12636-120210-BW-008	GW-12636-120210-BW-009
Sample Date:	5/11/2011	5/11/2011	6/10/2014	6/10/2014	3/26/2015	3/21/2016	9/12/2011	4/1/1997	6/7/2000	10/17/2002	12/2/2010	12/2/2010
Sample Depth:	-	(Duplicate)	-	(Duplicate)	-	-	(8.76-8.91) in BGS	-	-	-	-	(Duplicate)

Parameters	Units											
Nickel (dissolved)	mg/L	-	-	0.02 U	0.0059 J	0.00098 J	0.0031 J	-	-	-	-	-
Selenium	mg/L	0.005 U	0.005 U	-	-	0.005 U	-	0.005 U	0.005 U	-	-	-
Selenium (dissolved)	mg/L	-	-	0.005 U	0.005 U	0.005 U	0.005 U	-	-	-	0.005 U	0.005 U
Silver	mg/L	0.0002 U	0.0002 U	-	-	0.0002 U	-	0.0002 U	0.0005 U	-	-	-
Silver (dissolved)	mg/L	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	-	-	-	0.0002 U	0.0002 U
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001 U	0.001 U	-	-	0.001 U	-	0.001 U	-	-	-	-
Thallium (dissolved)	mg/L	-	-	0.001 U	0.001 U	0.001 U	0.001 U	-	-	-	0.001 U	0.001 U
Vanadium	mg/L	0.0108	0.0111	-	-	0.004 U	-	0.004 U	-	-	-	-
Vanadium (dissolved)	mg/L	-	-	0.004 U	0.004 U	0.004 U	0.004 U	-	-	-	0.0015 J	0.004 U
Zinc	mg/L	0.186	0.2	-	-	0.02 U	-	0.02 U	0.02 U	-	-	-
Zinc (dissolved)	mg/L	-	-	0.0058 J	0.0088 J	0.02 U	0.02 U	-	-	-	0.0546 J	0.0218 UJ
<b>General Chemistry</b>												
Cyanide (amenable)	mg/L	0.010 U	0.010 U	0.0050 U	0.0050 U	0.0050 U	-	0.0050 U	-	-	-	0.010 U
Cyanide (total)	mg/L	-	-	0.0050 U	0.0050 U	-	-	0.0050 U	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed







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

Shallow_or_Deep:	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9	Shallow PFW-9
Sample Location:	GW-12636-051311-SSH-112	GW-12636-120611-JY-410	GW-12636-032614-SSH-1406	GW-12636-060914-SSH-1422	GW-12636-090914-SSH-1430	GW-120914-12636-SSH-1438	GW-12636-032715-SSH-15018	GW-12636-062315-SSH-1537	GW-12636-091715-SSH-1548	GW-12636-121615-SSH-1561	GW-12636-032116-SSH-0316	
Sample ID:												
Sample Date:	5/13/2011	12/6/2011	3/26/2014	6/9/2014	9/9/2014	12/9/2014	3/27/2015	6/23/2015	9/17/2015	12/16/2015	3/21/2016	
Sample Depth:	-	-	-	-	-	-	-	-	-	-	-	-

Parameters	Units	GW-12636-051311-SSH-112	GW-12636-120611-JY-410	GW-12636-032614-SSH-1406	GW-12636-060914-SSH-1422	GW-12636-090914-SSH-1430	GW-120914-12636-SSH-1438	GW-12636-032715-SSH-15018	GW-12636-062315-SSH-1537	GW-12636-091715-SSH-1548	GW-12636-121615-SSH-1561	GW-12636-032116-SSH-0316
Nickel (dissolved)	mg/L	-	-	0.02 U	-	-	-	0.0008 J	-	-	-	0.0013 J
Selenium	mg/L	0.005 U	0.005 U	0.005 U	-	-	-	0.005 U	-	-	-	0.005 U
Selenium (dissolved)	mg/L	-	-	0.005 U	-	-	-	0.005 U	-	-	-	0.005 U
Silver	mg/L	0.0002 U	0.0002 U	0.0002 U	-	-	-	0.0002 U	-	-	-	0.0002 U
Silver (dissolved)	mg/L	-	-	0.0002 U	-	-	-	0.0002 U	-	-	-	0.0002 U
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001 U	0.00054 J	0.001 U	-	-	-	0.001 U	-	-	-	0.001 U
Thallium (dissolved)	mg/L	-	-	0.001 U	-	-	-	0.001 U	-	-	-	0.001 U
Vanadium	mg/L	0.004 U	0.004 U	0.004 U	-	-	-	0.0031 J	-	-	-	0.004 U
Vanadium (dissolved)	mg/L	-	-	0.004 U	-	-	-	0.0055	-	-	-	0.004 U
Zinc	mg/L	0.02 U	0.02 U	0.0059 J	-	-	-	0.02 U	-	-	-	0.02 U
Zinc (dissolved)	mg/L	-	-	0.02 U	-	-	-	0.02 U	-	-	-	0.02 U
<b>General Chemistry</b>												
Cyanide (amenable)	mg/L	0.010 U	0.0050 U	0.0050 U	-	-	-	0.0050 U	-	-	-	-
Cyanide (total)	mg/L	-	0.0050 U	-	-	-	-	-	-	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow_or_Deep:	Shallow PFW-9	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-10	Shallow PFW-11
Sample Location:	GW-12636-032116-SSH-0416	GW-12636-091311-JY-008	PFW-10	GW-12636-101702-DD-006	GW-12636-120310-BW-018	GW-12636-051311-SSH-114	GW-12636-120611-JY-407	GW-12636-032614-SSH-1401	GW-12636-032614-SSH-1402	GW-12636-032615-SSH-15011	GW-12636-032216-SSH-1416	GW-12636-091311-JY-012	
Sample ID:	3/21/2016	9/13/2011	3/31/1997	10/17/2002	12/3/2010	5/13/2011	12/6/2011	3/26/2014	3/26/2014	3/26/2015	3/22/2016	9/13/2011	
Sample Date:	-	(3.87-8.11) in BGS	-	-	-	-	-	-	-	-	-	(2.18-2.18) in BGS	
Sample Depth:	(Duplicate)									(Duplicate)			
<b>Parameters</b>	<b>Units</b>												
Nickel (dissolved)	mg/L	0.0008 J	-	-	-	-	-	0.02 U	0.02 U	0.0037 J	0.0048 J	-	
Selenium	mg/L	0.005 U	0.005 U	0.005 U	-	0.005 U	0.005 U	-	-	-	-	0.005 U	
Selenium (dissolved)	mg/L	0.005 U	-	-	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	-	
Silver	mg/L	0.0002 U	0.0002 U	0.0005 U	-	0.0002 U	0.0002 U	-	-	-	-	0.0002 U	
Silver (dissolved)	mg/L	0.0002 U	-	-	-	-	-	0.000017 J	0.000018 J	0.0002 U	0.0002 U	-	
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	
Thallium	mg/L	0.001 U	0.0015 U	-	-	0.001 U	0.001 U	-	-	-	-	0.001 U	
Thallium (dissolved)	mg/L	0.001 U	-	-	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U	-	
Vanadium	mg/L	0.004 U	0.004 U	-	-	0.004 U	0.004 U	-	-	-	-	0.004 U	
Vanadium (dissolved)	mg/L	0.004 U	-	-	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U	-	
Zinc	mg/L	0.02 U	0.02 U	0.05	-	0.02 U	0.02 U	0.012 J	-	-	-	0.02 U	
Zinc (dissolved)	mg/L	0.02 U	-	-	-	-	-	0.017 J	0.016 J	0.032	0.059 U	-	
<b>General Chemistry</b>													
Cyanide (amenable)	mg/L	-	0.0050 U	-	-	0.010 U	0.010 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U	-	
Cyanide (total)	mg/L	-	0.0050 U	-	-	-	-	0.0050 U	-	-	-	0.0050 U	

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed



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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	PFW-11	PFW-11	PFW-11	PFW-11	PFW-11	PFW-11	PFW-11
Sample ID:	PFW-11	GW-12636-120210-BW-010	GW-12636-051311-SSH-115	GW-12636-120611-JY-408	GW-12636-032614-SSH-1403	GW-12636-032515-SSH-15001	GW-12636-032216-SSH-1316
Sample Date:	4/1/1997	12/2/2010	5/13/2011	12/6/2011	3/26/2014	3/25/2015	3/22/2016
Sample Depth:	-	-	-	-	-	-	-

Parameters	Units						
4,6-Dinitro-2-methylphenol	mg/L	-	-	-	-	-	-
4-Bromophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/L	-	-	-	-	-	-
4-Chloroaniline	mg/L	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/L	-	-	-	-	-	-
4-Methylphenol	mg/L	-	-	-	-	-	-
4-Nitroaniline	mg/L	-	-	-	-	-	-
4-Nitrophenol	mg/L	-	-	-	-	-	-
Acenaphthene	mg/L	-	-	-	-	-	-
Acenaphthylene	mg/L	-	-	-	-	-	-
Anthracene	mg/L	-	-	-	-	-	-
Benzo(a)anthracene	mg/L	-	-	-	-	-	-
Benzo(a)pyrene	mg/L	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/L	-	-	-	-	-	-
Benzo(g,h,i)perylene	mg/L	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/L	-	-	-	-	-	-
bis(2-Chloroethoxy)methane	mg/L	-	-	-	-	-	-
bis(2-Chloroethyl)ether	mg/L	-	-	-	-	-	-
bis(2-Ethylhexyl)phthalate (DEHP)	mg/L	-	-	-	-	-	-
Butyl benzylphthalate (BBP)	mg/L	-	-	-	-	-	-
Carbazole	mg/L	-	-	-	-	-	-
Chrysene	mg/L	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/L	-	-	-	-	-	-
Dibenzofuran	mg/L	-	-	-	-	-	-
Diethyl phthalate	mg/L	-	-	-	-	-	-
Dimethyl phthalate	mg/L	-	-	-	-	-	-
Di-n-butylphthalate (DBP)	mg/L	-	-	-	-	-	-
Di-n-octyl phthalate (DnOP)	mg/L	-	-	-	-	-	-
Fluoranthene	mg/L	-	-	-	-	-	-
Fluorene	mg/L	-	-	-	-	-	-
Hexachlorobenzene	mg/L	-	-	-	-	-	-
Hexachlorobutadiene	mg/L	-	-	-	-	-	-
Hexachlorocyclopentadiene	mg/L	-	-	-	-	-	-
Hexachloroethane	mg/L	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/L	-	-	-	-	-	-
Isophorone	mg/L	-	-	-	-	-	-
Naphthalene	mg/L	-	-	-	-	-	-
Nitrobenzene	mg/L	-	-	-	-	-	-
N-Nitrosodi-n-propylamine	mg/L	-	-	-	-	-	-
N-Nitrosodiphenylamine	mg/L	-	-	-	-	-	-
Pentachlorophenol	mg/L	-	-	-	-	-	-
Phenanthrene	mg/L	-	-	-	-	-	-
Phenol	mg/L	-	-	-	-	-	-
Pyrene	mg/L	-	-	-	-	-	-
<b>Metals</b>							
Aluminum	mg/L	-	1.57	0.172 J	0.077	0.05 U	0.059
Aluminum (dissolved)	mg/L	-	-	-	-	0.05 U	0.05 U
Antimony	mg/L	-	0.00046 J	0.002 U	0.00027 J	0.00021 J	0.002 U
Antimony (dissolved)	mg/L	-	-	-	-	0.00016 J	0.002 U
Arsenic	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.0043 J
Arsenic (dissolved)	mg/L	-	-	-	-	0.005 U	0.0039 J
Barium	mg/L	1.1	0.0726 J	0.0793 J	0.073 J	0.052 J	0.044 J
Barium (dissolved)	mg/L	-	-	-	-	0.054 J	0.042 J
Beryllium	mg/L	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	-	-	-	-	0.001 U	0.001 U
Cadmium	mg/L	0.0006	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium (dissolved)	mg/L	-	-	-	-	0.001 U	0.001 U
Chromium	mg/L	0.05 U	0.0053	0.005 U	0.005 U	0.005 U	0.0012 J
Chromium (dissolved)	mg/L	-	-	-	-	0.005 U	0.0011 J
Cobalt	mg/L	-	0.0017 J	0.007 U	0.007 U	0.007 U	0.007 U
Cobalt (dissolved)	mg/L	-	-	-	-	0.007 U	0.00098 J
Copper	mg/L	0.025 U	0.0135	0.0048	0.0044	0.0008 J	0.0019 J
Copper (dissolved)	mg/L	-	-	-	-	0.0012 J	0.0017 J
Iron	mg/L	-	2.73	0.202	0.096 J	0.1 U	0.067 J
Iron (dissolved)	mg/L	-	-	-	-	0.1 U	0.1 U
Lead	mg/L	0.003 U	0.0125 <sup>bd</sup>	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	-	-	-	-	0.003 U	0.0023 J
Manganese	mg/L	-	0.056	0.0317	0.012 J	0.0062 J	0.015
Manganese (dissolved)	mg/L	-	-	-	-	0.0041 J	0.0085 J
Mercury	mg/L	0.0002 U	0.0002 UJ	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Mercury (dissolved)	mg/L	-	-	-	-	0.0002 U	0.0002 U
Nickel	mg/L	-	0.006 J	0.02 U	0.02 U	0.02 U	-

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

Shallow_or_Deep:	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow	Shallow
Sample Location:	PFW-11	PFW-11	PFW-11	PFW-11	PFW-11	PFW-11	PFW-11
Sample ID:	PFW-11	GW-12636-120210-BW-010	GW-12636-051311-SSH-115	GW-12636-120611-JY-408	GW-12636-032614-SSH-1403	GW-12636-032515-SSH-15001	GW-12636-032216-SSH-1316
Sample Date:	4/1/1997	12/2/2010	5/13/2011	12/6/2011	3/26/2014	3/25/2015	3/22/2016
Sample Depth:	-	-	-	-	-	-	-

Parameters	Units							
Nickel (dissolved)	mg/L	-	-	-	-	0.02 U	0.0023 J	0.0014 J
Selenium	mg/L	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
Selenium (dissolved)	mg/L	-	-	-	-	0.005 U	0.005 U	0.005 U
Silver	mg/L	0.0005 U	0.0002 U	0.0002 U	0.0002 U	0.000011 J	0.0002 U	-
Silver (dissolved)	mg/L	-	-	-	-	0.000014 J	0.0002 U	0.0002 U
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-
Thallium	mg/L	-	0.001 U	0.001 U	0.001 U	0.001 U	0.00018 J	-
Thallium (dissolved)	mg/L	-	-	-	-	0.001 U	0.00024 J	0.001 U
Vanadium	mg/L	-	0.0032 J	0.004 U	0.004 U	0.004 U	0.004 U	-
Vanadium (dissolved)	mg/L	-	-	-	-	0.004 U	0.004 U	0.004 U
Zinc	mg/L	0.02 U	0.0563 J	0.02 U	0.022	0.02 U	0.013 J	-
Zinc (dissolved)	mg/L	-	-	-	-	0.0059 J	0.02 U	0.02 U
<b>General Chemistry</b>								
Cyanide (amenable)	mg/L	-	0.010 U	0.010 U	0.0050 U	0.0050 U	0.0050 U	-
Cyanide (total)	mg/L	-	-	-	0.0050 U	-	-	-

Footnotes:  
 U - Not detected at the associated reporting limit.  
 J - Estimated concentration.  
 UJ - Not detected; associated reporting limit is estimated.  
 -- Not Analyzed





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

Shallow\_or\_Deep:

Sample Location:

Sample ID:

Sample Date:

Sample Depth:

Parameters	Units	Background Concentrations - Drift Aquifer	Residential Drinking Water		Non-Residential Drinking Water		Groundwater/ Surface Water Interface Criteria	Residential	Non-Residential	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep
			Aesthetic Criteria	Health Based Criteria	Aesthetic Criteria	Health Based Criteria		Groundwater Volatilization to Indoor Air Inhalation	Groundwater Volatilization to Indoor Air Inhalation								
Trichloroethene	mg/L	-	0.005	-	0.005	-	0.2	2.2	4.9	0.001 U	-	-	-	-	-	-	-
Trichlorofluoromethane (CFC-11)	mg/L	-	2.6	-	7.3	-	-	1100	1100	0.001 U	-	-	-	-	-	-	-
Trifluorotrchloroethane (CFC-113)	mg/L	-	170	-	170	-	0.032	170	170	0.001 U	-	-	-	-	-	-	-
Vinyl chloride	mg/L	-	0.002	-	0.002	-	0.013	1.1	13	0.001 U	-	-	-	-	-	-	-
Xylenes (total)	mg/L	-	0.28	-	0.28	-	0.041	190	190	0.002 U	-	-	-	-	-	-	-
<b>Metals</b>																	
Aluminum	mg/L	5.3	0.05	0.3	0.05	4.1	-	-	-	0.76	-	-	-	-	-	-	-
Aluminum (dissolved)	mg/L	0.133	0.05	0.3	0.05	4.1	-	-	-	0.072	-	-	-	-	-	-	-
Antimony	mg/L	0.002	0.006	-	0.006	-	0.13	-	-	0.002 U	-	-	-	-	-	-	-
Antimony (dissolved)	mg/L	0.002	0.006	-	0.006	-	0.13	-	-	0.002 U	-	-	-	-	-	-	-
Arsenic	mg/L	0.102	0.01	-	0.01	-	0.01	-	-	0.044	-	-	-	-	-	-	-
Arsenic (dissolved)	mg/L	0.089	0.01	-	0.01	-	0.01	-	-	0.045	-	-	-	-	-	-	-
Barium	mg/L	0.47	2	-	2	-	-	-	-	0.18	-	-	-	-	-	-	-
Barium (dissolved)	mg/L	0.553	2	-	2	-	-	-	-	0.18	-	-	-	-	-	-	-
Beryllium	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	-	-	-	-	-	-	-
Beryllium (dissolved)	mg/L	0.001	0.004	-	0.004	-	-	-	-	0.001 U	-	-	-	-	-	-	-
Cadmium	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.001 U	-	-	-	-	-	-	-
Cadmium (dissolved)	mg/L	0.001	0.005	-	0.005	-	-	-	-	0.001 U	-	-	-	-	-	-	-
Chromium	mg/L	0.007	0.1	-	0.1	-	-	-	-	0.005 U	-	-	-	-	-	-	-
Chromium (dissolved)	mg/L	0.011	0.1	-	0.1	-	-	-	-	0.005 U	0.009	0.006	0.005 U	0.009	0.002	0.005 U	0.005 U
Cobalt	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	0.007 U	-	-	-	-	-	-	-
Cobalt (dissolved)	mg/L	0.007	0.04	-	0.1	-	0.1	-	-	0.007 U	-	-	-	-	-	-	-
Copper	mg/L	0.015	1	-	1	-	-	-	-	0.002 U	-	-	-	-	-	-	-
Copper (dissolved)	mg/L	0.04	1	-	1	-	-	-	-	0.002 U	0.004 U	0.004 U	0.004 U	0.002	0.001	0.001 U	0.001 U
Iron	mg/L	7.9	0.3	2.0	0.3	5.6	-	-	-	1.9	-	-	-	-	-	-	-
Iron (dissolved)	mg/L	3.62	0.3	2.0	0.3	5.6	-	-	-	1.1	0.24	1.05	-	1.52	-	0.3	-
Lead	mg/L	0.003	0.004	-	0.004	-	-	-	-	0.003 U	-	-	-	-	-	-	-
Lead (dissolved)	mg/L	0.003	0.004	-	0.004	-	-	-	-	0.003 U	-	-	-	-	-	-	-
Manganese	mg/L	0.252	0.05	0.86	0.05	2.5	-	-	-	0.037 J	-	-	-	-	-	-	-
Manganese (dissolved)	mg/L	0.292	0.05	0.86	0.05	2.5	-	-	-	0.028	0.14	0.11	-	0.058	-	0.059	-
Mercury	mg/L	0.0002	0.002	-	0.002	-	0.000013	0.056	0.056	0.0002 U	-	-	-	-	-	-	-
Mercury (dissolved)	mg/L	0.0002	0.002	-	0.002	-	0.000013	0.056	0.056	0.0002 U	-	-	-	-	-	-	-
Molybdenum	mg/L	-	0.073	-	0.21	-	3.2	-	-	-	-	-	-	-	-	-	-
Molybdenum (dissolved)	mg/L	-	0.073	-	0.21	-	3.2	-	-	-	-	-	-	-	-	-	-
Nickel	mg/L	0.02	0.1	-	0.1	-	-	-	-	0.02 U	-	-	-	-	-	-	-
Nickel (dissolved)	mg/L	0.022	0.1	-	0.1	-	-	-	-	0.02 U	0.006	0.007	0.005 U	0.003	0.005	0.005 U	0.005 U
Selenium	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	-	-	-	-	-	-	-
Selenium (dissolved)	mg/L	0.005	0.05	-	0.05	-	0.005	-	-	0.005 U	-	-	-	-	-	-	-
Silver	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	0.0002 U	-	-	-	-	-	-	-
Silver (dissolved)	mg/L	0.0002	0.034	-	0.098	-	0.0002	-	-	0.0002 U	-	-	-	-	-	-	-
Sodium (dissolved)	mg/L	-	230	-	350	-	-	-	-	-	34.2	32.3	-	36.3	-	33.9	-
Thallium	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	0.001 U	-	-	-	-	-	-	-
Thallium (dissolved)	mg/L	0.001	0.002	-	0.002	-	0.0037	-	-	0.0017 U	-	-	-	-	-	-	-
Vanadium	mg/L	0.015	0.0045	-	0.062	-	0.027	-	-	0.004 U	-	-	-	-	-	-	-
Vanadium (dissolved)	mg/L	0.004	0.0045	-	0.062	-	0.027	-	-	0.004 U	-	-	-	-	-	-	-
Zinc	mg/L	0.039	2.4	-	5	-	-	-	-	0.02 U	-	-	-	-	-	-	-
Zinc (dissolved)	mg/L	0.0521	2.4	-	5	-	-	-	-	0.02 U	0.01 U	0.006	0.006	0.036	0.032	0.005 U	0.005 U
<b>Wet</b>																	
Cyanide (amenable)	mg/L	-	0.2	-	0.2	-	-	-	-	0.0050 U	-	-	-	-	-	-	-
Cyanide (total)	mg/L	-	0.2	-	0.2	-	0.0052	-	-	0.0050 U	-	-	-	-	-	-	-

## Footnotes:

U - Not detected at the associated reporting limit.

J - Estimated concentration.

UJ - Not detected; associated reporting limit is estimated.

-- Not Analyzed

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

Table with columns: Shallow\_or\_Deep, Deep (multiple), Sample Location, Sample ID, Sample Date, Sample Depth. Contains well identifiers like B-27D and MW-15-10 and dates from 2009 to 2014.

Parameters

Units

Large table listing various VOCs (e.g., Tetrachloroethane, Trichloroethane, Benzene) and their concentrations across the different wells and depths. Units are typically mg/L or U (Unknown).

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

Shallow_or_Deep:	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep
Sample Location:	B-27D	B-27D	B-27D	B-27D	B-27D	B-27D	B-27D	B-27D	B-27D	MW-15-10	MW-15-10	MW-15-10
Sample ID:	B-27D-6/25/2009-N-LB	B-27D-11/18/2009-N-LB	GW-12636-120310-BW-017	GW-12636-051211-SSH-108	GW-12636-120811-JY-423	GW-12636-032714-SSH-1416	GW-12636-032715-SSH-15013	GW-12636-032716-SSH-1816	GW-12636-091311-JY-011	GW-12636-091311-JY-013	GW-12636-120210-BW-004	MW-15-10
Sample Date:	6/25/2009	11/18/2009	12/3/2010	5/12/2011	12/8/2011	3/27/2014	3/27/2015	3/22/2016	9/13/2011	9/13/2011	12/2/2010	12/2/2010
Sample Depth:	-	-	-	-	-	-	-	-	(78.13-83.12) in BGS	(78.13-83.12) in BGS (Duplicate)	-	(other)
Parameters	Units											
Trichloroethene	mg/L	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichloroethane (CFC-11)	mg/L	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trifluorotrachloroethane (CFC-113)	mg/L	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes (total)	mg/L	-	-	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Metals												
Aluminum	mg/L	-	-	15.1 <sup>b,cd,e</sup>	1.05	1.5	-	-	-	0.11	0.08	3.19
Aluminum (dissolved)	mg/L	-	-	-	-	0.05 U	0.05 U	0.05 U	0.05 U	0.029 J	0.02 J	0.2 U
Antimony	mg/L	-	-	0.00049 J	0.002 U	0.002 U	-	-	0.002 U	0.002 U	0.002 U	0.0022 J
Antimony (dissolved)	mg/L	-	-	-	-	0.002 U	0.002 U	0.00057 J	0.002 U	0.002 U	0.002 U	0.001 U
Arsenic	mg/L	-	-	0.0644	0.0454	0.053	-	-	0.0061	0.0054	0.0192	0.017
Arsenic (dissolved)	mg/L	-	-	-	-	0.052	0.017	0.034	0.062	0.0087	0.0084	0.0193
Barium	mg/L	-	-	0.28	0.195	0.2	-	-	0.16	0.16	0.132	0.12
Barium (dissolved)	mg/L	-	-	-	-	0.19	0.17	0.2	0.18	0.16	0.119	-
Beryllium	mg/L	-	-	0.001 U	0.001 U	0.001 U	-	-	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	-	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	-	-	0.001 U	0.001 U	0.001 U	-	-	0.001 U	0.001 U	0.001 U	0.002 U
Cadmium (dissolved)	mg/L	-	-	-	-	0.001 U	0.001 U	0.001 U	0.00014 J	0.001 U	0.001 U	0.001 U
Chromium	mg/L	-	-	0.033	0.005 U	0.014	-	-	0.005 U	0.005 U	0.005 U	0.0049 J
Chromium (dissolved)	mg/L	0.005 U	0.005 U	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.004
Cobalt	mg/L	-	-	0.0127	0.007 U	0.0027 J	-	-	0.007 U	0.007 U	0.007 U	0.019 J
Cobalt (dissolved)	mg/L	-	-	-	-	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.015 U
Copper	mg/L	-	-	0.0258	0.0025 U	0.0031	-	-	0.002 U	0.002 U	0.002 U	0.0024
Copper (dissolved)	mg/L	0.001	0.004 U	-	-	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Iron	mg/L	-	-	27.9 <sup>b,cd,e</sup>	2.82	3.8	-	-	1.9	1.9	4.29	3.1
Iron (dissolved)	mg/L	2.03	-	-	-	1	0.085 J	0.2	1	1.8	0.259	-
Lead	mg/L	-	-	0.0123 <sup>bd</sup>	0.003 U	0.003 U	-	-	0.003 U	0.003 U	0.003 U	0.0012
Lead (dissolved)	mg/L	-	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	-
Manganese	mg/L	-	-	0.584 <sup>bd</sup>	0.0637	0.09	-	-	0.11 J	0.11 J	0.153	0.14
Manganese (dissolved)	mg/L	0.052	-	-	-	0.033	0.027	0.041	0.031	0.11	0.103	-
Mercury	mg/L	-	-	0.0002 UJ	0.0002 U	0.0002 U	-	-	0.0002 U	0.0002 U	0.0002 UJ	0.0002 U
Mercury (dissolved)	mg/L	-	-	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L	-	-	-	-	-	-	-	-	-	-	0.025 U
Molybdenum (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/L	-	-	0.0328	0.02 U	0.015 J	-	-	0.02 U	0.02 U	0.0052 J	0.004
Nickel (dissolved)	mg/L	0.005 U	0.005 U	-	-	0.005 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	-
Selenium	mg/L	-	-	0.005 U	0.005 U	0.005 U	-	-	0.005 U	0.005 U	0.005 U	0.001 U
Selenium (dissolved)	mg/L	-	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	-
Silver	mg/L	-	-	0.0002 U	0.0002 U	0.0002 U	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Silver (dissolved)	mg/L	-	-	-	-	0.0002 U	0.00014 J	0.0002 U	0.000026 J	0.0002 U	0.0002 U	-
Sodium (dissolved)	mg/L	37.2	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	-	-	0.001 U	0.001 U	0.001 U	-	-	0.001 U	0.001 U	0.001 U	0.002 U
Thallium (dissolved)	mg/L	-	-	-	-	0.001 U	0.001 U	0.00021 J	0.00011 J	0.001 U	0.001 U	-
Vanadium	mg/L	-	-	0.0403 <sup>bf</sup>	0.004 U	0.0052	-	-	0.004 U	0.004 U	0.004 U	0.0055
Vanadium (dissolved)	mg/L	-	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	-
Zinc	mg/L	-	-	0.105 J	0.0209 U	0.028	-	-	0.02 U	0.02 U	0.02 U	0.01 U
Zinc (dissolved)	mg/L	0.005 U	0.005 U	-	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	-
Wet												
Cyanide (amenable)	mg/L	-	-	0.010 U	0.010 U	0.0050 U	0.0050 U	0.0050 U	-	0.0050 U	0.0050 U	0.010 U
Cyanide (total)	mg/L	-	-	-	-	0.0050 U	0.0050 U	-	-	0.0050 U	0.0050 U	-

Footnotes:  
U - Not detected at the associated reporting limit.  
J - Estimated concentration.  
UJ - Not detected; associated reporting limit is estimated.  
-- Not Analyzed



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

Shallow_or_Deep:	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	
Sample Location:	MW-15-10	MW-15-10	MW-15-10	MW-15-10	MW-15-10	MW-15-10	MW-16-10	MW-16-10	MW-16-10	MW-16-10	MW-16-10	MW-16-10	
Sample ID:	GW-12636-051411-SSH-118	GW-12636-120711-JY-417	GW-12636-032714-SSH-1417	W-12636-042915-SSH-1521	GW-12636-032216-SSH-1716	GW-12636-091411-JY-014	GW-12636-120210-BW-005	MW-16-10	GW-12636-051411-SSH-119	GW-12636-051411-SSH-120	GW-12636-120711-JY-416	GW-12636-032714-SSH-1418	
Sample Date:	5/14/2011	12/7/2011	3/27/2014	4/29/2015	3/27/2016	9/14/2011	12/2/2010	12/2/2010	5/14/2011	5/14/2011	12/7/2011	3/27/2014	
Sample Depth:	-	-	-	-	-	(18.21-72.11) in BGS	-	(other)	-	(Duplicate)	-	-	
<b>Parameters</b>													
	<b>Units</b>												
Trichloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Trifluorotrchloroethane (CFC-113)	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	-	0.001 U	0.001 U	0.001 U	
Vinyl chloride	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Xylenes (total)	mg/L	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	-	0.002 U	0.002 U	0.002 U	
<b>Metals</b>													
Aluminum	mg/L	3.74	0.098	-	-	-	0.13	27.6 <sup>bcd</sup>	-	0.397	0.314	0.028 J	0.13
Aluminum (dissolved)	mg/L	-	0.05 U	0.045 J	0.32 <sup>bcd</sup>	0.013 J	0.05 U	0.2 U	-	-	-	-	0.05 U
Antimony	mg/L	0.00039 J	0.002 U	-	-	-	0.002 U	0.00078 J	-	0.00034 J	0.00023 J	0.002 U	0.002 U
Antimony (dissolved)	mg/L	-	0.002 U	0.002 U	0.00099 JB	0.00016 J	0.002 U	0.00035 J	0.001 U	-	-	-	0.002 U
Arsenic	mg/L	0.0044 J	0.0071	-	-	-	0.0072	0.0304	-	0.0055	0.0059	0.0099	0.016
Arsenic (dissolved)	mg/L	-	0.0047 J	0.0087	0.011	0.014	0.0079	0.0086	0.0061	-	-	-	0.014
Barium	mg/L	0.118	0.2	-	-	-	0.23	0.33	-	0.182	0.205	0.31	0.47
Barium (dissolved)	mg/L	-	0.2	0.15	0.12 B	0.13	0.23	0.159	0.14	-	-	-	0.44
Beryllium	mg/L	0.001 U	0.001 U	-	-	-	0.001 U	0.001 U	-	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	-	-	-	0.001 U
Cadmium	mg/L	0.001 U	0.001 U	-	-	-	0.001 U	0.001 U	-	0.001 U	0.001 U	0.001 U	0.001 U
Cadmium (dissolved)	mg/L	-	0.001 U	0.001 U	0.0002 J	0.001 U	0.001 U	0.001 U	0.0002 U	-	-	-	0.001 U
Chromium	mg/L	0.007	0.005 U	-	-	-	0.005 U	0.0535	-	0.005 U	0.005 U	0.005 U	0.005 U
Chromium (dissolved)	mg/L	-	0.005 U	0.005 U	0.0012 JB	0.00079 J	0.005 U	0.005 U	0.001	-	-	-	0.005 U
Cobalt	mg/L	0.0025 J	0.007 U	-	-	-	0.007 U	0.0209	-	0.007 U	0.007 U	0.007 U	0.007 U
Cobalt (dissolved)	mg/L	-	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.015 U	-	-	-	0.007 U
Copper	mg/L	0.0055	0.002 U	-	-	-	0.002 U	0.0351	-	0.002 U	0.002 U	0.002 U	0.002 U
Copper (dissolved)	mg/L	-	0.002 U	0.002 U	0.0033 B	0.002 U	0.002 U	0.002 U	0.001 U	-	-	-	0.002 U
Iron	mg/L	4.47	2.4	-	-	-	0.31	50.1 <sup>bcd</sup>	-	0.657	0.551	1.8	0.48
Iron (dissolved)	mg/L	-	2.1	1.8	1.4 B	0.97	0.3	0.188	0.02 U	-	-	-	0.28
Lead	mg/L	0.0024 J	0.003 U	-	-	-	0.003 U	0.0205 <sup>bd</sup>	-	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	mg/L	-	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	-	-	-	0.003 U
Manganese	mg/L	0.133	0.13	-	-	-	0.13	1.3 <sup>bcd</sup>	-	0.112	0.11	0.13	0.13
Manganese (dissolved)	mg/L	-	0.12	0.074	0.077	0.06	0.13	0.0809	0.063	-	-	-	0.13
Mercury	mg/L	0.0002 U	0.0002 U	-	-	-	0.00019 J	0.0002 UJ	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Mercury (dissolved)	mg/L	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	-	-	-	0.0002 U
Molybdenum	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum (dissolved)	mg/L	-	-	-	-	-	-	-	0.025 U	-	-	-	-
Nickel	mg/L	0.0051 J	0.02 U	-	-	-	0.02 U	0.0473	-	0.02 U	0.02 U	0.02 U	0.02 U
Nickel (dissolved)	mg/L	-	0.02 U	0.02 U	0.0049 J	0.0025 J	0.02 U	0.02 U	0.002 U	-	-	-	0.02 U
Selenium	mg/L	0.005 U	0.005 U	-	-	-	0.005 U	0.005 U	-	0.005 U	0.005 U	0.005 U	0.005 U
Selenium (dissolved)	mg/L	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.001 U	-	-	-	0.005 U
Silver	mg/L	0.0002 U	0.00083 J	-	-	-	0.00036 U	0.0002 U	-	0.0002 U	0.0002 U	0.0002 U	0.00051 <sup>f</sup>
Silver (dissolved)	mg/L	-	0.0002 U	0.00025 <sup>f</sup>	0.00017 J	0.0002 U	0.0002 U	0.0002 U	0.0002 U	-	-	-	0.00001 J
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001 U	0.001 U	-	-	-	0.001 U	0.001 U	-	0.001 U	0.001 U	0.001 U	0.001 U
Thallium (dissolved)	mg/L	-	0.00016 J	0.001 U	0.00027 J	0.001 U	0.001 U	0.001 U	0.002 U	-	-	-	0.001 U
Vanadium	mg/L	0.0094	0.00065 J	-	-	-	0.004 U	0.0705 <sup>bd</sup>	-	0.004 U	0.004 U	0.004 U	0.004 U
Vanadium (dissolved)	mg/L	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.002 U	-	-	-	0.004 U
Zinc	mg/L	0.0329 U	0.02 U	-	-	-	0.02 U	0.121 J	-	0.02 U	0.02 U	0.02 U	0.02 U
Zinc (dissolved)	mg/L	-	0.02 U	0.0073 J	0.02	0.02 U	0.02 U	0.02 U	0.01 U	-	-	-	0.02 U
<b>Wet</b>													
Cyanide (amenable)	mg/L	0.010 U	0.0050 U	0.0050 U	0.0050 U	-	0.0050 U	0.010 U	-	0.010 U	0.010 U	0.0050 U	0.0050 U
Cyanide (total)	mg/L	-	0.0050 U	-	-	-	0.0050 U	-	-	-	-	0.0050 U	-

Footnotes:

- U - Not detected at the associated reporting limit.
- J - Estimated concentration.
- UJ - Not detected; associated reporting limit is estimated.
- Not Analyzed

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

Shallow_or_Deep:	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep
Sample Location:	MW-16-10	MW-16-10	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1
Sample ID:	GW-12636-032714-SSH-1419	GW-12636-032615-SSH-15008	GW-12636-091311-JY-010	PFW-1	GW-12636-100802-DD-001	GW-12636-100802-DD-002	GW-12636-100902-DD-003	GW-12636-120210-BW-006	GW-12636-051311-SSH-116	GW-12636-120511-JY-402	GW-12636-032714-SSH-1412	GW-12636-032515-SSH-15004
Sample Date:	3/27/2014	3/26/2015	9/13/2011	4/1/1997	10/8/2002	10/8/2002	10/9/2002	12/2/2010	5/13/2011	12/5/2011	3/27/2014	3/25/2015
Sample Depth:	(Duplicate)	-	(79.02-79.04) in BGS	-	-	-	-	-	-	-	-	-

## Parameters

Parameters	Units
<b>VOAs</b>	
1,1,1,2-Tetrachloroethane	mg/L
1,1,1-Trichloroethane	mg/L
1,1,2,2-Tetrachloroethane	mg/L
1,1,2-Trichloroethane	mg/L
1,1-Dichloroethane	mg/L
1,1-Dichloroethene	mg/L
1,2,3-Trichlorobenzene	mg/L
1,2,3-Trichloropropane	mg/L
1,2,3-Trimethylbenzene	mg/L
1,2,4-Trichlorobenzene	mg/L
1,2,4-Trimethylbenzene	mg/L
1,2-Dibromo-3-chloropropane (DBCP)	mg/L
1,2-Dibromoethane (Ethylene dibromide)	mg/L
1,2-Dichlorobenzene	mg/L
1,2-Dichloroethane	mg/L
1,2-Dichloropropane	mg/L
1,3,5-Trimethylbenzene	mg/L
1,3-Dichlorobenzene	mg/L
1,4-Dichlorobenzene	mg/L
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L
2-Chloroethyl vinyl ether	mg/L
2-Hexanone	mg/L
2-Methylnaphthalene	mg/L
2-Phenylbutane (sec-Butylbenzene)	mg/L
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L
Acetone	mg/L
Acrylonitrile	mg/L
Benzene	mg/L
Bromobenzene	mg/L
Bromodichloromethane	mg/L
Bromoform	mg/L
Bromomethane (Methyl bromide)	mg/L
Carbon disulfide	mg/L
Carbon tetrachloride	mg/L
Chlorobenzene	mg/L
Chlorobromomethane	mg/L
Chloroethane	mg/L
Chloroform (Trichloromethane)	mg/L
Chloromethane (Methyl chloride)	mg/L
cis-1,2-Dichloroethene	mg/L
cis-1,3-Dichloropropene	mg/L
Cyclohexane	mg/L
Cymene (p-Isopropyltoluene)	mg/L
Dibromochloromethane	mg/L
Dibromomethane	mg/L
Dichlorodifluoromethane (CFC-12)	mg/L
Diisopropyl ether	mg/L
Ethyl ether	mg/L
Ethylbenzene	mg/L
Hexachloroethane	mg/L
Iodomethane	mg/L
Isopropyl benzene	mg/L
m&p-Xylenes	mg/L
Methyl acetate	mg/L
Methyl cyclohexane	mg/L
Methyl tert butyl ether (MTBE)	mg/L
Methylene chloride	mg/L
Naphthalene	mg/L
N-Butylbenzene	mg/L
N-Propylbenzene	mg/L
o-Xylene	mg/L
Styrene	mg/L
tert-Amyl methyl ether	mg/L
tert-Butyl alcohol	mg/L
tert-Butyl ethyl ether	mg/L
tert-Butylbenzene	mg/L
Tetrachloroethene	mg/L
Tetrahydrofuran	mg/L
Toluene	mg/L
trans-1,2-Dichloroethene	mg/L
trans-1,3-Dichloropropene	mg/L
trans-1,4-Dichloro-2-butene	mg/L

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

Shallow\_or\_Deep:

	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep	Deep
Sample Location:	MW-16-10	MW-16-10	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1	PFW-1
Sample ID:	GW-12636-032714-SSH-1419	GW-12636-032615-SSH-15008	GW-12636-091311-JY-010	PFW-1	GW-12636-100802-DD-001	GW-12636-100802-DD-002	GW-12636-100902-DD-003	GW-12636-120210-BW-006	GW-12636-051311-SSH-116	GW-12636-120511-JY-402	GW-12636-032714-SSH-1412	GW-12636-032515-SSH-15004
Sample Date:	3/27/2014	3/26/2015	9/13/2011	4/1/1997	10/8/2002	10/8/2002	10/9/2002	12/2/2010	5/13/2011	12/5/2011	3/27/2014	3/25/2015
Sample Depth:	-	-	(79.02-79.04) in BGS	-	-	-	-	-	-	-	-	-
	(Duplicate)											

**Parameters**

Parameters	Units												
Trichloroethene	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Trifluorotrichloroethane (CFC-113)	mg/L	0.001 U	0.001 U	0.001 U	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Xylenes (total)	mg/L	0.002 U	0.002 U	0.002 U	-	0.001 U	0.001 U	0.001 U	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U

**Metals**

Aluminum	mg/L	0.11	-	0.05 U	-	-	-	-	0.2 U	0.2 U	0.022 J	0.02 J	0.011 J
Aluminum (dissolved)	mg/L	0.05 U	0.05 U	0.05 U	-	-	-	-	-	-	0.05 U	0.05 U	0.05 U
Antimony	mg/L	0.002 U	-	0.002 U	-	-	-	-	0.00029 J	0.002 U	0.00014 J	0.00082 J	0.002 U
Antimony (dissolved)	mg/L	0.002 U	0.00071 J	0.002 U	-	-	-	-	-	-	0.002 U	0.002 U	0.002 U
Arsenic	mg/L	0.015	-	0.062	0.04	-	-	-	0.489 <sup>bdf</sup>	0.0596	0.079	0.048	0.064
Arsenic (dissolved)	mg/L	0.017	0.016	0.044	-	-	-	-	-	0.033	0.04	0.04	0.043
Barium	mg/L	0.48	-	0.14	0.55	-	-	-	0.201	0.154	0.15	0.13	0.15
Barium (dissolved)	mg/L	0.48	0.48	0.13	-	-	-	-	-	0.14	0.13	0.13	0.14
Beryllium	mg/L	0.001 U	-	0.001 U	-	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Cadmium	mg/L	0.001 U	-	0.001 U	0.0005 U	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.00027 J
Cadmium (dissolved)	mg/L	0.001 U	0.001 U	0.001 U	-	-	-	-	-	-	0.001 U	0.001 U	0.00044 J
Chromium	mg/L	0.005 U	-	0.005 U	0.05 U	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.00071 J
Chromium (dissolved)	mg/L	0.005 U	0.005 U	0.005 U	-	-	-	-	-	-	0.005 U	0.005 U	0.00081 J
Cobalt	mg/L	0.007 U	-	0.007 U	-	-	-	-	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U
Cobalt (dissolved)	mg/L	0.007 U	0.007 U	0.007 U	-	-	-	-	-	-	0.007 U	0.007 U	0.007 U
Copper	mg/L	0.002 U	-	0.002 U	0.025 U	-	-	-	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U
Copper (dissolved)	mg/L	0.002 U	0.002 U	0.002 U	-	-	-	-	-	-	0.002 U	0.002 U	0.002 U
Iron	mg/L	0.47	-	2	-	-	-	-	17 <sup>bode</sup>	1.83	2.7	1.6	2.1
Iron (dissolved)	mg/L	0.34	0.23	1.4	-	-	-	-	-	-	1.1	1.3	1.5
Lead	mg/L	0.003 U	-	0.003 U	0.003 U	-	-	-	0.003 U	0.003 U	0.003 U	0.003 U	0.0023 J
Lead (dissolved)	mg/L	0.003 U	0.003 U	0.003 U	-	0.003 U	0.003 U	0.003 U	-	-	0.003 U	0.003 U	0.003 U
Manganese	mg/L	0.14	-	0.026 J	-	-	-	-	0.06	0.0334	0.036	0.026	0.029
Manganese (dissolved)	mg/L	0.13	0.094	0.025	-	-	-	-	-	-	0.031	0.024	0.027
Mercury	mg/L	0.0002 U	-	0.0002 U	0.0002 U	-	-	-	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Mercury (dissolved)	mg/L	0.0002 U	0.0002 U	0.0002 U	-	-	-	-	-	-	0.0002 U	0.0002 U	0.0002 U
Molybdenum	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Molybdenum (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Nickel	mg/L	0.02 U	-	0.02 U	-	-	-	-	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U
Nickel (dissolved)	mg/L	0.02 U	0.003 J	0.02 U	-	-	-	-	-	-	0.02 U	0.02 U	0.02 U
Selenium	mg/L	0.005 U	-	0.005 U	0.005 U	-	-	-	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Selenium (dissolved)	mg/L	0.005 U	0.005 U	0.005 U	-	-	-	-	-	-	0.005 U	0.005 U	0.005 U
Silver	mg/L	0.00032 <sup>f</sup>	-	0.0002 U	0.0005 U	-	-	-	0.0002 U	0.0002 U	0.0001 J	0.000071 J	0.0002 U
Silver (dissolved)	mg/L	0.0002 U	0.0002 U	0.0002 U	-	-	-	-	-	-	0.0002 U	0.000019 J	0.0002 U
Sodium (dissolved)	mg/L	-	-	-	-	-	-	-	-	-	-	-	-
Thallium	mg/L	0.001 U	-	0.001 U	-	-	-	-	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U
Thallium (dissolved)	mg/L	0.001 U	0.00026 J	0.001 U	-	-	-	-	-	-	0.001 U	0.001 U	0.001 U
Vanadium	mg/L	0.004 U	-	0.004 U	-	-	-	-	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U
Vanadium (dissolved)	mg/L	0.004 U	0.004 U	0.004 U	-	-	-	-	-	-	0.004 U	0.004 U	0.004 U
Zinc	mg/L	0.0064 J	-	0.02 U	0.02 U	-	-	-	0.02 U	0.02 U	0.0071 J	0.0089 J	0.02 U
Zinc (dissolved)	mg/L	0.02 U	0.02 U	0.02 U	-	-	-	-	-	-	0.02 U	0.007 J	0.02 U

**Wet**

Cyanide (amenable)	mg/L	0.0050 U	0.0050 U	0.0050 U	-	-	-	-	0.010 U	0.010 U	0.0050 U	0.0050 U	0.0050 U
Cyanide (total)	mg/L	-	-	0.0050 U	-	-	-	-	-	-	0.0050 U	-	-

Footnotes:  
U - Not detected at the associated reporting limit.  
J - Estimated concentration.  
UJ - Not detected; associated reporting limit is estimated.  
-- Not Analyzed

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

<b>Shallow_or_Deep:</b>	<b>Deep</b>	<b>Deep</b>
<b>Sample Location:</b>	<b>PFW-1</b>	<b>PFW-1</b>
<b>Sample ID:</b>	<b>GW-12636-032515-SSH-15005</b>	<b>GW-12636-032216-SSH-1616</b>
<b>Sample Date:</b>	<b>3/25/2015</b>	<b>3/22/2016</b>
<b>Sample Depth:</b>	-	-
	<b>(Duplicate)</b>	

<b>Parameters</b>	<b>Units</b>		
<b>VOAs</b>			
1,1,1,2-Tetrachloroethane	mg/L	-	-
1,1,1-Trichloroethane	mg/L	0.001 U	0.001 U
1,1,2,2-Tetrachloroethane	mg/L	0.001 U	0.001 U
1,1,2-Trichloroethane	mg/L	0.001 U	0.001 U
1,1-Dichloroethane	mg/L	0.001 U	0.001 U
1,1-Dichloroethene	mg/L	0.001 U	0.001 U
1,2,3-Trichlorobenzene	mg/L	-	-
1,2,3-Trichloropropane	mg/L	-	-
1,2,3-Trimethylbenzene	mg/L	-	-
1,2,4-Trichlorobenzene	mg/L	0.001 U	0.001 U
1,2,4-Trimethylbenzene	mg/L	0.001 U	0.001 U
1,2-Dibromo-3-chloropropane (DBCP)	mg/L	0.001 U	0.001 U
1,2-Dibromoethane (Ethylene dibromide)	mg/L	0.001 U	0.001 U
1,2-Dichlorobenzene	mg/L	0.001 U	0.001 U
1,2-Dichloroethane	mg/L	0.001 U	0.001 U
1,2-Dichloropropane	mg/L	0.001 U	0.001 U
1,3,5-Trimethylbenzene	mg/L	0.001 U	0.001 U
1,3-Dichlorobenzene	mg/L	0.001 U	0.001 U
1,4-Dichlorobenzene	mg/L	0.001 U	0.001 U
2-Butanone (Methyl ethyl ketone) (MEK)	mg/L	0.01 U	0.01 U
2-Chloroethyl vinyl ether	mg/L	-	-
2-Hexanone	mg/L	0.01 U	0.01 U
2-Methylnaphthalene	mg/L	-	-
2-Phenylbutane (sec-Butylbenzene)	mg/L	-	-
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	mg/L	0.01 U	0.01 U
Acetone	mg/L	0.01 U	0.01 U
Acrylonitrile	mg/L	-	-
Benzene	mg/L	0.001 U	0.001 U
Bromobenzene	mg/L	-	-
Bromodichloromethane	mg/L	0.001 U	0.001 U
Bromoform	mg/L	0.001 U	0.001 U
Bromomethane (Methyl bromide)	mg/L	0.001 U	0.001 U
Carbon disulfide	mg/L	0.005 U	0.005 U
Carbon tetrachloride	mg/L	0.001 U	0.001 U
Chlorobenzene	mg/L	0.001 U	0.001 U
Chlorobromomethane	mg/L	-	-
Chloroethane	mg/L	0.001 U	0.001 U
Chloroform (Trichloromethane)	mg/L	0.001 U	0.001 U
Chloromethane (Methyl chloride)	mg/L	0.001 U	0.001 U
cis-1,2-Dichloroethene	mg/L	0.001 U	0.001 U
cis-1,3-Dichloropropene	mg/L	0.001 U	0.001 U
Cyclohexane	mg/L	0.001 U	0.001 U
Cymene (p-Isopropyltoluene)	mg/L	-	-
Dibromochloromethane	mg/L	0.001 U	0.001 U
Dibromomethane	mg/L	-	-
Dichlorodifluoromethane (CFC-12)	mg/L	0.001 U	0.001 U
Diisopropyl ether	mg/L	-	-
Ethyl ether	mg/L	-	-
Ethylbenzene	mg/L	0.001 U	0.001 U
Hexachloroethane	mg/L	-	-
Iodomethane	mg/L	-	-
Isopropyl benzene	mg/L	0.001 U	0.001 U
m&p-Xylenes	mg/L	-	-
Methyl acetate	mg/L	0.01 U	0.01 U
Methyl cyclohexane	mg/L	0.001 U	0.001 U
Methyl tert butyl ether (MTBE)	mg/L	0.001 U	0.001 U
Methylene chloride	mg/L	0.005 U	0.005 U
Naphthalene	mg/L	-	-
N-Butylbenzene	mg/L	-	-
N-Propylbenzene	mg/L	-	-
o-Xylene	mg/L	-	-
Styrene	mg/L	0.001 U	0.001 U
tert-Amyl methyl ether	mg/L	-	-
tert-Butyl alcohol	mg/L	-	-
tert-Butyl ethyl ether	mg/L	-	-
tert-Butylbenzene	mg/L	-	-
Tetrachloroethene	mg/L	0.001 U	0.001 U
Tetrahydrofuran	mg/L	-	-
Toluene	mg/L	0.001 U	0.001 U
trans-1,2-Dichloroethene	mg/L	0.001 U	0.001 U
trans-1,3-Dichloropropene	mg/L	0.001 U	0.001 U
trans-1,4-Dichloro-2-butene	mg/L	-	-



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

<b>Shallow_or_Deep:</b>	<b>Deep</b>	<b>Deep</b>
<b>Sample Location:</b>	<b>PFW-1</b>	<b>PFW-1</b>
<b>Sample ID:</b>	GW-12636-032515-SSH-15005	GW-12636-032216-SSH-1616
<b>Sample Date:</b>	3/25/2015	3/22/2016
<b>Sample Depth:</b>	-	-
	(Duplicate)	

**Parameters**

	<b>Units</b>		
Trichloroethene	mg/L	0.001 U	0.001 U
Trichlorofluoromethane (CFC-11)	mg/L	0.001 U	0.001 U
Trifluorotrichloroethane (CFC-113)	mg/L	0.001 U	0.001 U
Vinyl chloride	mg/L	0.001 U	0.001 U
Xylenes (total)	mg/L	0.002 U	0.002 U

**Metals**

Aluminum	mg/L	0.013 J	0.012 J
Aluminum (dissolved)	mg/L	0.05 U	0.05 U
Antimony	mg/L	0.002 U	0.00028 J
Antimony (dissolved)	mg/L	0.002 U	0.002 U
Arsenic	mg/L	0.062	0.056
Arsenic (dissolved)	mg/L	0.044	0.044
Barium	mg/L	0.14	0.14
Barium (dissolved)	mg/L	0.14	0.14
Beryllium	mg/L	0.001 U	0.001 U
Beryllium (dissolved)	mg/L	0.001 U	0.001 U
Cadmium	mg/L	0.00032 J	0.00028 J
Cadmium (dissolved)	mg/L	0.00036 J	0.00034 J
Chromium	mg/L	0.0014 J	0.0012 J
Chromium (dissolved)	mg/L	0.0012 J	0.005 U
Cobalt	mg/L	0.007 U	0.007 U
Cobalt (dissolved)	mg/L	0.007 U	0.007 U
Copper	mg/L	0.002 U	0.002 U
Copper (dissolved)	mg/L	0.002 U	0.002 U
Iron	mg/L	2.1	1.9
Iron (dissolved)	mg/L	1.5	1.5
Lead	mg/L	0.003 U	0.003 U
Lead (dissolved)	mg/L	0.0019 J	0.003 U
Manganese	mg/L	0.028	0.033
Manganese (dissolved)	mg/L	0.028	0.03
Mercury	mg/L	0.0002 U	0.0002 U
Mercury (dissolved)	mg/L	0.0002 U	0.0002 U
Molybdenum	mg/L	-	-
Molybdenum (dissolved)	mg/L	-	-
Nickel	mg/L	0.02 U	0.0016 J
Nickel (dissolved)	mg/L	0.0024 J	0.0014 J
Selenium	mg/L	0.005 U	0.005 U
Selenium (dissolved)	mg/L	0.005 U	0.005 U
Silver	mg/L	0.0002 U	0.0002 U
Silver (dissolved)	mg/L	0.0002 U	0.0002 U
Sodium (dissolved)	mg/L	-	-
Thallium	mg/L	0.001 U	0.001 U
Thallium (dissolved)	mg/L	0.001 U	0.001 U
Vanadium	mg/L	0.004 U	0.004 U
Vanadium (dissolved)	mg/L	0.004 U	0.004 U
Zinc	mg/L	0.02 U	0.02 U
Zinc (dissolved)	mg/L	0.02 U	0.02 U

**Wet**

Cyanide (amenable)	mg/L	0.0050 U	-
Cyanide (total)	mg/L	-	-

## Footnotes:

U - Not detected at the associated reporting limit.  
J - Estimated concentration.  
UJ - Not detected; associated reporting limit is estimated.  
-- Not Analyzed

**LEGEND**

- FACILITY BOUNDARY
- SHALLOW MONITORING WELL LOCATION (ANNUAL)
- QUARTERLY MONITORING LOCATION
- STORM SEWER LINE
- SANITARY SEWER LINE
- MANHOLE
- STORM SEWER MONITORING LOCATION

MW-17-13	3/26/2014		SAMPLE DATE
Arsenic	0.01		RESULT (mg/L)
Arsenic (dissolved)	0.012 (ABC)		
Iron (dissolved)	5.9 (AB)		
Lead	0.003 U		PARAMETER NOT ANALYZED
Lead (dissolved)	-		
Manganese	0.6		
Manganese (dissolved)	0.58 (AB)		
			PARAMETER

Chemical Name	Background	A	B	C
Arsenic	0.01	0.01	0.01	0.01
Arsenic (dissolved)	0.0072	0.01	0.01	0.01
Iron	32.58	0.3 (2.0)	0.3 (5.6)	-
Iron (dissolved)	4	0.3 (2.0)	0.3 (5.6)	-
Lead	0.0035	0.004	0.004	-
Lead (dissolved)	0.003 U	0.004	0.004	-
Manganese	0.963	0.05 (0.86)	0.05 (2.5)	-
Manganese (dissolved)	0.547	0.05 (0.86)	0.05 (2.5)	-

Background	Background - Shallow Water Bearing Zone
A	Residential Drinking Water Criteria (Health Based Criteria)
B	Nonresidential Drinking Water Criteria (Health Based Criteria)
C	Groundwater/Surface Water Interface (GSI) Criteria

NOTES:  
 1. THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE.  
 2. MANGANESE AND IRON ARE SCREENED AGAINST RESIDENTIAL/NONRESIDENTIAL AESTHETIC DRINKING WATER CRITERIA BUT MAY BE BELOW THE NONRESIDENTIAL HEALTH BASED DRINKING WATER CRITERIA.

MW-1	12/2/2010	5/13/2011	9/12/2011	12/7/2011	3/26/2014
Arsenic	0.0094	0.005 U	0.005 U	0.0065	0.005 U
Arsenic (dissolved)	-	-	-	-	0.005 U
Iron	3.59	0.857	1.2	0.24	0.55
Iron (dissolved)	-	-	-	-	0.1 U
Lead	0.0142 (AB)	0.0033	0.0033	0.003 U	0.0034
Lead (dissolved)	-	-	-	-	0.003 U
Manganese	0.164	0.0567	0.4	0.025	0.038
Manganese (dissolved)	-	-	-	-	0.01 J

B-9	12/3/2010	5/11/2011	9/14/2011	12/7/2011	3/26/2014
Arsenic	0.0033 J	0.005 U	0.005 U	0.005 U	-
Arsenic (dissolved)	-	-	-	-	0.005 U
Iron	1.01	0.302	0.27	0.14	-
Iron (dissolved)	-	-	-	-	0.1 U
Lead	0.003 U	0.003 U	0.003 U	0.003 U	-
Lead (dissolved)	-	-	-	-	0.003 U
Manganese	0.391	0.211	6.8 J (AB)	0.31	-
Manganese (dissolved)	-	-	-	-	0.047

MW-2	12/3/2010	5/13/2011	9/12/2011	12/6/2011	3/26/2014
Arsenic	0.0279 (ABC)	0.0046 J	0.01	0.005 U	0.0066
Arsenic (dissolved)	-	-	0.0075	0.005 U	0.0046 J
Iron	24.8	8.27	16	12	6
Iron (dissolved)	-	-	14 (AB)	11 (AB)	4
Lead	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	-	-	0.003 U	0.003 U	0.003 U
Manganese	2.12 (AB)	0.541	2.5 (AB)	2.6 (AB)	1.8 (AB)
Manganese (dissolved)	-	-	2.7 (AB)	2.6 (AB)	1.7 (AB)

MW-20-13	3/26/2014	MW-19-13	3/27/2014
Arsenic	0.005 U	Arsenic	0.005 U
Arsenic (dissolved)	0.005 U	Arsenic (dissolved)	0.005 U
Iron	0.1 U	Iron	0.12
Iron (dissolved)	0.1 U	Iron (dissolved)	0.1 U
Lead	0.003 U	Lead	0.003 U
Lead (dissolved)	0.003 U	Lead (dissolved)	0.003 U
Manganese	0.0062 J	Manganese	0.11
Manganese (dissolved)	0.0056 J	Manganese (dissolved)	0.11

PFW-2	12/3/2010	5/13/2011	9/12/2011	12/6/2011	3/26/2014
Arsenic	0.0032 J/0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic (dissolved)	-	-	-	-	0.005 U
Iron	0.701/0.684	0.541	0.97	0.36	1.3
Iron (dissolved)	-	-	-	-	0.23
Lead	0.003 U/0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	-	-	-	-	0.003 U
Manganese	0.963/0.91	0.581	1.4 (AB)	0.54	0.66 J
Manganese (dissolved)	-	-	-	-	0.97 J (AB)

PFW-9	12/2/2010	5/13/2011	9/12/2011	12/6/2011	3/26/2014
Arsenic	0.005 U/0.005 U	0.005 U	0.0033 J	0.005 U	0.005 U
Arsenic (dissolved)	-	-	-	-	0.005 U
Iron	7.78 J/2.93 J	0.232	2	0.089 J	0.084 J
Iron (dissolved)	-	-	-	-	0.21
Lead	0.003 U/0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	-	-	-	-	0.003 U
Manganese	0.0519 J/0.0208 J	0.008 J	0.41	0.015 U	0.0028 J
Manganese (dissolved)	-	-	-	-	0.0041 J

MW-4-02	5/11/2011	9/13/2011	12/5/2011	3/27/2014
Arsenic	0.005 U	0.005 U	0.005 U/0.005 U	0.005 U
Arsenic (dissolved)	-	-	-	0.005 U
Iron	0.101	0.1 U	0.1 U/0.1 U	0.15
Iron (dissolved)	-	-	-	0.1 U
Lead	0.003 U	0.003 U	0.003 U/0.003 U	0.003 U
Lead (dissolved)	-	-	-	0.003 U
Manganese	0.0418	0.023 J	0.01 J/0.01 J	0.013 J
Manganese (dissolved)	-	-	-	0.003 J

MW-17-13	3/26/2014
Arsenic	0.01
Arsenic (dissolved)	0.012 (ABC)
Iron	5.8
Iron (dissolved)	5.9 (AB)
Lead	0.003 U
Lead (dissolved)	0.003 U
Manganese	0.6
Manganese (dissolved)	0.58 (AB)

MW-18-13	3/27/2014
Arsenic	0.005 U
Arsenic (dissolved)	0.005 U
Iron	0.1 U
Iron (dissolved)	0.1 U
Lead	0.003 U
Lead (dissolved)	0.003 U
Manganese	0.009 J
Manganese (dissolved)	0.0085 J

PFW-10	12/3/2010	5/13/2011	9/13/2011	12/6/2011	3/26/2014
Arsenic	0.005 U	0.005 U	0.005 U	0.005 U	-
Arsenic (dissolved)	-	-	-	-	0.005 U/0.005 U
Iron	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Iron (dissolved)	-	-	-	-	0.1 U/0.1 U
Lead	0.003 U	0.003 U	0.003 U	0.003 U	-
Lead (dissolved)	-	-	-	-	0.003 U/0.003 U
Manganese	0.16	0.0719	0.047	0.024	-
Manganese (dissolved)	-	-	-	-	0.015/0.011 J

PFW-11	12/2/2010	5/13/2011	9/13/2011	12/6/2011	3/26/2014
Arsenic	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U
Arsenic (dissolved)	-	-	-	-	0.005 U
Iron	2.73	0.202	0.1 U	0.096 J	0.1 U
Iron (dissolved)	-	-	-	-	0.1 U
Lead	0.0125 (AB)	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	-	-	-	-	0.003 U
Manganese	0.056	0.0317	0.055 J	0.012 J	0.0062 J
Manganese (dissolved)	-	-	-	-	0.0041 J

PFW-4	5/11/2011	9/12/2011
Arsenic	0.0034 J/0.0035 J	0.0044 J
Arsenic (dissolved)	-	0.0034 J
Iron	5.62/5.71	0.66
Iron (dissolved)	-	0.1 U
Lead	0.0356 (AB)/0.0358 (AB)	0.013 (AB)
Lead (dissolved)	-	0.003 U
Manganese	0.0962/0.0982	0.031
Manganese (dissolved)	-	0.017

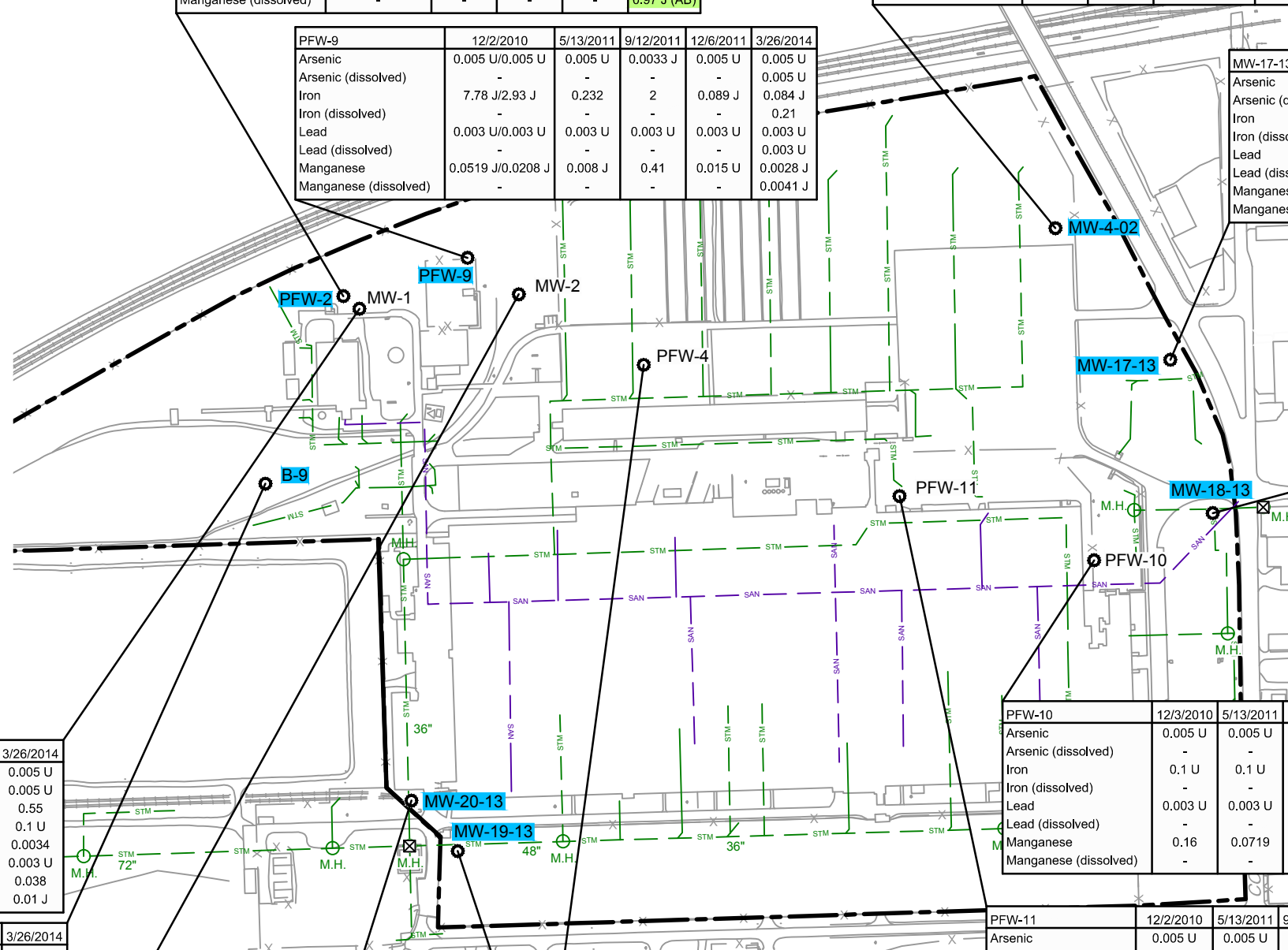
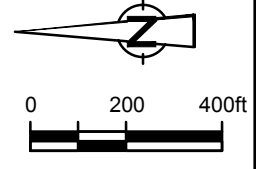


figure 3  
 SHALLOW GROUNDWATER MONITORING RESULTS SUMMARY  
 FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY  
 Genesee Township, Michigan



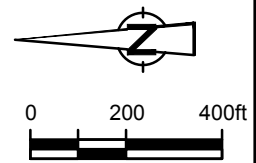
**LEGEND**

- FACILITY BOUNDARY
- DEEP MONITORING WELL LOCATION (ANNUAL)
- STORM SEWER LINE
- SANITARY SEWER LINE
- MANHOLE
- STORM SEWER MONITORING LOCATION

Chemical Name	Background	A	B	C
Arsenic	0.1	0.01	0.01	0.01
Arsenic (dissolved)	0.01	0.01	0.01	0.01
Iron	7.9	0.3 (2.0)	0.3 (5.6)	-
Iron (dissolved)	3.6	0.3 (2.0)	0.3 (5.6)	-
Lead	0.003 U	0.004	0.004	-
Lead (dissolved)	0.003 U	0.004	0.004	-
Manganese	0.25	0.05 (0.86)	0.05 (2.5)	-
Manganese (dissolved)	0.29	0.05 (0.86)	0.05 (2.5)	-
Silver	0.0002 U	0.034	0.098	0.0002
Silver (dissolved)	0.0002 U	0.034	0.098	0.0002
Vanadium	0.015	0.0045	0.062	0.012
Vanadium (dissolved)	0.004 U	0.0045	0.062	0.012

Background	Background - Deep Aquifer
A	Residential Drinking Water Criteria (Health Based Criteria)
B	Nonresidential Drinking Water Criteria (Health Based Criteria)
C	Groundwater/Surface Water Interface (GSI) Criteria

	12/2/2010	5/13/2011	9/13/2011	12/5/2011	3/27/2014
PFW-1					
Arsenic	0.489 (ABC)	0.0596	0.062	0.079	0.048
Arsenic (dissolved)	-	-	0.044	0.033	0.04
Iron	17 (AB)	1.83	2	2.7	1.6
Iron (dissolved)	-	-	1.4	1.1	1.3
Lead	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U
Lead (dissolved)	-	-	0.003 U	0.003 U	0.003 U
Manganese	0.06	0.0334	0.026 J	0.036	0.026
Manganese (dissolved)	-	-	0.025	0.031	0.024
Silver	0.0002 U	0.0002 U	0.0002 U	0.0001 J	0.000071 J
Silver (dissolved)	-	-	0.0002 U	0.0002 U	0.000019 J
Vanadium	0.004 U	0.004 U	0.004 U	0.004 U	0.004 UJ
Vanadium (dissolved)	-	-	0.004 U	0.004 U	0.004 U



MW-17-13	3/26/2014	
Arsenic	0.01	
Arsenic (dissolved)	0.012 (ABC)	
Iron (dissolved)	5.9 (AB)	
Lead	0.003 U	
Lead (dissolved)	-	
Manganese	0.6	
Manganese (dissolved)	0.58 (AB)	

- NOTES:
- THIS DRAWING IS FOR REFERENCE ONLY AND IS NEITHER COMPLETE NOR TO EXACTING SCALE.
  - MANGANESE AND IRON ARE SCREENED AGAINST RESIDENTIAL/NONRESIDENTIAL AESTHETIC DRINKING WATER CRITERIA BUT MAY BE BELOW THE NONRESIDENTIAL HEALTH BASED DRINKING WATER CRITERIA.

B-27D	12/3/2010	5/12/2011	9/14/2011	12/8/2011	3/27/2014
Arsenic	0.0644	0.0454	0.044	0.053	-
Arsenic (dissolved)	-	-	0.045	0.052	0.017
Iron	27.9 (AB)	2.82	1.9	3.8	-
Iron (dissolved)	-	-	1.1	1	0.085 J
Lead	0.0123 (AB)	0.003 U	0.003 U	0.003 U	-
Lead (dissolved)	-	-	0.003 U	0.003 U	0.003 U
Manganese	0.584 (AB)	0.0637	0.037 J	0.09	-
Manganese (dissolved)	-	-	0.028	0.033	0.027
Silver	0.0002 U	0.0002 U	0.0002 U	0.0002 U	-
Silver (dissolved)	-	-	0.0002 U	0.0002 U	0.000014 J
Vanadium	0.0403 (AC)	0.004 U	0.004 U	0.0052	-
Vanadium (dissolved)	-	-	0.004 U	0.004 U	0.004 U

MW-16-10	12/2/2010	5/14/2011	9/14/2011	12/7/2011	3/27/2014
Arsenic	0.0304	0.0055/0.0059	0.0072	0.0099	0.016/0.015
Arsenic (dissolved)	0.0061/0.0086	-	0.0079	-	0.014/0.017
Iron	50.1 (AB)	0.657/0.551	0.31	1.8	0.48/0.47
Iron (dissolved)	0.02 U/0.188	-	0.3	-	0.28/0.34
Lead	0.0205 (AB)	0.003 U/0.003 U	0.003 U	0.003 U	0.003 U/0.003 U
Lead (dissolved)	0.001 U/0.003 U	-	0.003 U	-	0.003 U/0.003 U
Manganese	1.3 (AB)	0.112/0.11	0.13	0.13	0.13/0.14
Manganese (dissolved)	0.063/0.0809	-	0.13	-	0.13/0.13
Silver	0.0002 U	0.0002 U/0.0002 U	0.00036 U	0.0002 U	0.00051 (C)/0.00032 (C)
Silver (dissolved)	0.0002 U/0.0002 U	-	0.0002 U	-	0.00001 J/0.0002 U
Vanadium	0.0705 (ABC)	0.004 U/0.004 U	0.004 U	0.004 U	0.004 U/0.004 UJ
Vanadium (dissolved)	0.002 U/0.004 U	-	0.004 U	-	0.004 U/0.004 U

MW-15-10	12/2/2010	5/14/2011	9/13/2011	12/7/2011	3/27/2014
Arsenic	0.017/0.0192	0.0044 J	0.0061/0.0054	0.0071	-
Arsenic (dissolved)	0.0193	-	0.0087/0.0084	0.0047 J	0.0087
Iron	3.1/4.29	4.47	1.9/1.9	2.4	-
Iron (dissolved)	0.259	-	1.8/1.7	2.1	1.8
Lead	0.0012/0.003 U	0.0024 J	0.003 U/0.003 U	0.003 U	-
Lead (dissolved)	0.003 U	-	0.003 U/0.003 U	0.003 U	0.003 U
Manganese	0.14/0.153	0.133	0.11 J/0.11 J	0.13	-
Manganese (dissolved)	0.103	-	0.11/0.11	0.12	0.074
Silver	0.0002 U/0.0002 U	0.0002 U	0.0002 U/0.0002 U	0.000083 J	-
Silver (dissolved)	0.0002 U	-	0.0002 U/0.0002 U	0.0002 U	0.00025 (C)
Vanadium	0.0055/0.008	0.0094	0.004 U/0.004 U	0.00065 J	-
Vanadium (dissolved)	0.004 U	-	0.004 U/0.004 U	0.004 U	0.004 U

**DEEP GROUNDWATER MONITORING RESULTS SUMMARY**  
**FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY**  
*Genesee Township, Michigan*



Attachment D  
Data Validation Report and  
Laboratory Analytical Results



# Memorandum

To: Mike Tomka Ref. No.: 012636

From: <sup>DF</sup>Ruth Mickle/tl/168/Det Date: July 9, 2015

CC:

Re: Analytical Results and Reduced Validation  
Groundwater Monitoring  
RACER - Peregrine Site  
Genesee County, Michigan  
June 2015

## 1. Introduction

The following document details a reduced validation of analytical results for groundwater samples collected in support of the Groundwater Monitoring at the RACER - Peregrine Site in Genesee County, Michigan during June 2015. Samples were submitted to TestAmerica Laboratories, Inc., located in North Canton, Ohio. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, laboratory control samples (LCS), matrix spikes (MS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "Quality Assurance Project Plan (QAPP) for the RCRA Facility Investigation (RFI) at Former Peregrine (US) Inc., Coldwater Road Facility, Genesee Township, Michigan", April 28, 2000
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

## 2. Sample Holding Time and Preservation

The sample holding time criteria and sample preservation requirements for the analyses are summarized in Table 3. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were (prepared and) analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

### **3. Laboratory Method Blank Analyses**

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

### **4. Laboratory Control Sample Analyses**

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

### **5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses**

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

### **6. Field QA/QC Samples**

The field QA/QC consisted of one field duplicate sample set.

#### **Field Duplicate Sample Analysis**

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate samples

must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value for water samples.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

## **7. Analyte Reporting**

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

Non-detect data were reported down to the laboratory's MDL for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2.

## **8. Conclusion**

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table1

Sample Collection and Analysis Summary  
 Groundwater Monitoring  
 RACER - Peregrine Site  
 Genesee County, Michigan  
 June 2015

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters		Comments
					Total/Dissolved Lead & Manganese	Total/Dissolved Arsenic & Iron	
<b>TestAmerica SDG No: 240-52380-1</b>							
GW-12636-062215-SSH-1530	MW-20-13	water	6/22/2015	10:16	X	-	
GW-12636-062215-SSH-1531	MW-4-02	water	6/22/2015	11:26	X	-	
GW-12636-062215-SSH-1532	MW-19-13	water	6/22/2015	13:01	X	-	
GW-12636-062215-SSH-1533	MW-17-13	water	6/22/2015	14:16	X	X	
GW-12636-062215-SSH-1534	MW-17-13	water	6/22/2015	14:19	X	X	Field duplicate of MW-17-13
GW-12636-062315-SSH-1535	B-9	water	6/23/2015	8:46	X	-	
GW-12636-062315-SSH-1536	PFW-2	water	6/23/2015	10:01	X	-	
GW-12636-062315-SSH-1537	PFW-9	water	6/23/2015	11:16	X	-	
GW-12636-062315-SSH-1538	MW-18-13	water	6/23/2015	12:51	X	-	MS/MSD

Notes:  
 MS/MSD - Matrix Spike/Matrix Spike Duplicate  
 SDG - Sample Delivery Group



Table 2

Validated Analytical Summary Results  
 Groundwater Monitoring  
 RACER - Peregrine Site  
 Genesee County, Michigan  
 June 2015

Sample Location:	B-9	MW-4-02	MW-17-13	MW-17-13
Sample Identification:	GW-12636-062315-SSH-1535	GW-12636-062215-SSH-1531	GW-12636-062215-SSH-1533	GW-12636-062215-SSH-1534
Sample Date:	6/23/2015	6/22/2015	6/22/2015	6/22/2015
Sample Type:				Duplicate
<b>Metals</b>				
Arsenic	--	--	11	11
Arsenic (dissolved)	--	--	12	13
Iron	--	--	7500	7600
Iron (dissolved)	--	--	7500	7200
Lead	3.0 U	3.0 U	3.0 U	3.0 U
Lead (dissolved)	3.0 U	3.0 U	3.0 U	3.0 U
Manganese	110	1.5 J	540	550
Manganese (dissolved)	85	1.1 J	550	530

Table 2

Validated Analytical Summary Results  
 Groundwater Monitoring  
 RACER - Peregrine Site  
 Genesee County, Michigan  
 June 2015

Sample Location: MW-18-13 MW-19-13 MW-20-13 PFW-2  
 Sample Identification: GW-12636-062315-SSH-1538 GW-12636-062215-SSH-1532 GW-12636-062215-SSH-1530 GW-12636-062315-SSH-1536  
 Sample Date: 6/23/2015 6/22/2015 6/22/2015 6/23/2015  
 Sample Type:

Units

Metals	Units	Value
Arsenic	ug/L	--
Arsenic (dissolved)	ug/L	--
Iron	ug/L	--
Iron (dissolved)	ug/L	--
Lead	ug/L	3.0 U
Lead (dissolved)	ug/L	3.0 U
Manganese	ug/L	86
Manganese (dissolved)	ug/L	78
		3.0 U
		3.0 U
		0.68 J
		1.0 J
		3.0 U
		3.0 U
		1700
		1600

Table 2

Validated Analytical Summary Results  
 Groundwater Monitoring  
 RACER - Peregrine Site  
 Genesee County, Michigan  
 June 2015

Sample Location: PFW-9  
 Sample Identification: GW-12636-062315-SSH-1537  
 Sample Date: 6/23/2015  
 Sample Type:

Metals	Units
Arsenic	--
Arsenic (dissolved)	--
Iron	--
Iron (dissolved)	--
Lead	3.0 U
Lead (dissolved)	3.0 U
Manganese	0.94 J
Manganese (dissolved)	1.2 J

Notes:

- U - Not detected at the associated reporting limit.
- J - Estimated concentration.

Table 3

**Analytical Methods and Holding Time Criteria  
Groundwater Monitoring  
RACER - Peregrine Site  
Genesee, County, Michigan  
June 2015**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Total and Dissolved Select Metals	SW-846 6010B	Water	-	180

Notes:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

# 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: 240-52380-1

Client Project/Site: 12636-T09-007, RACER Peregrine

For:

Conestoga-Rovers & Associates, Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

6/29/2015 1:41:53 PM

Denise Heckler, Project Manager II

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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: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

**Job ID: 240-52380-1**

**Laboratory: TestAmerica Canton**

**Narrative**

## CASE NARRATIVE

**Client: Conestoga-Rovers & Associates, Inc.**

**Project: 12636-T09-007, RACER Peregrine**

**Report Number: 240-52380-1**

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 06/24/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 4.2 C.

### **DISSOLVED METALS (ICP)**

Samples GW-12636-062215-SSH-1530 (240-52380-1), GW-12636-062215-SSH-1531 (240-52380-2), GW-12636-062215-SSH-1532 (240-52380-3), GW-12636-062215-SSH-1533 (240-52380-4), GW-12636-062215-SSH-1534 (240-52380-5), GW-12636-062315-SSH-1535 (240-52380-6), GW-12636-062315-SSH-1536 (240-52380-7), GW-12636-062315-SSH-1537 (240-52380-8) and GW-12636-062315-SSH-1538 (240-52380-9) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 06/25/2015 and analyzed on 06/26/2015.

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

### **TOTAL RECOVERABLE METALS (ICP)**

Samples GW-12636-062215-SSH-1530 (240-52380-1), GW-12636-062215-SSH-1531 (240-52380-2), GW-12636-062215-SSH-1532 (240-52380-3), GW-12636-062215-SSH-1533 (240-52380-4), GW-12636-062215-SSH-1534 (240-52380-5), GW-12636-062315-SSH-1535 (240-52380-6), GW-12636-062315-SSH-1536 (240-52380-7), GW-12636-062315-SSH-1537 (240-52380-8) and GW-12636-062315-SSH-1538 (240-52380-9) were analyzed for total recoverable metals (ICP) in accordance with EPA

# Case Narrative

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

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## Job ID: 240-52380-1 (Continued)

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### Laboratory: TestAmerica Canton (Continued)

SW-846 Method 6010B. The samples were prepared on 06/25/2015 and analyzed on 06/26/2015.

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

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# Definitions/Glossary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Qualifiers

### Metals

Qualifier	Qualifier Description
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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.

## Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
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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: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-52380-1	GW-12636-062215-SSH-1530	Water	06/22/15 10:16	06/24/15 09:30
240-52380-2	GW-12636-062215-SSH-1531	Water	06/22/15 11:26	06/24/15 09:30
240-52380-3	GW-12636-062215-SSH-1532	Water	06/22/15 13:01	06/24/15 09:30
240-52380-4	GW-12636-062215-SSH-1533	Water	06/22/15 14:16	06/24/15 09:30
240-52380-5	GW-12636-062215-SSH-1534	Water	06/22/15 14:19	06/24/15 09:30
240-52380-6	GW-12636-062315-SSH-1535	Water	06/23/15 08:46	06/24/15 09:30
240-52380-7	GW-12636-062315-SSH-1536	Water	06/23/15 10:01	06/24/15 09:30
240-52380-8	GW-12636-062315-SSH-1537	Water	06/23/15 11:16	06/24/15 09:30
240-52380-9	GW-12636-062315-SSH-1538	Water	06/23/15 12:51	06/24/15 09:30



# Detection Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Client Sample ID: GW-12636-062215-SSH-1530

## Lab Sample ID: 240-52380-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.68	J	15	0.46	ug/L	1		6010B	Total
Manganese	1.0	J	15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-062215-SSH-1531

## Lab Sample ID: 240-52380-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.5	J	15	0.46	ug/L	1		6010B	Total
Manganese	1.1	J	15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-062215-SSH-1532

## Lab Sample ID: 240-52380-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	86		15	0.46	ug/L	1		6010B	Total
Manganese	78		15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-062215-SSH-1533

## Lab Sample ID: 240-52380-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		5.0	2.9	ug/L	1		6010B	Total
Iron	7500		100	13	ug/L	1		6010B	Recoverable Total
Manganese	540		15	0.46	ug/L	1		6010B	Recoverable Total
Arsenic	12		5.0	2.9	ug/L	1		6010B	Dissolved
Iron	7500		100	13	ug/L	1		6010B	Dissolved
Manganese	550		15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-062215-SSH-1534

## Lab Sample ID: 240-52380-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		5.0	2.9	ug/L	1		6010B	Total
Iron	7600		100	13	ug/L	1		6010B	Recoverable Total
Manganese	550		15	0.46	ug/L	1		6010B	Recoverable Total
Arsenic	13		5.0	2.9	ug/L	1		6010B	Dissolved
Iron	7200		100	13	ug/L	1		6010B	Dissolved
Manganese	530		15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-062315-SSH-1535

## Lab Sample ID: 240-52380-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	110		15	0.46	ug/L	1		6010B	Total
Manganese	85		15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-062315-SSH-1536

## Lab Sample ID: 240-52380-7

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Detection Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Client Sample ID: GW-12636-062315-SSH-1536 (Continued)

## Lab Sample ID: 240-52380-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1700		15	0.46	ug/L	1		6010B	Total
Manganese	1600		15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-062315-SSH-1537

## Lab Sample ID: 240-52380-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.94	J	15	0.46	ug/L	1		6010B	Total
Manganese	1.2	J	15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-062315-SSH-1538

## Lab Sample ID: 240-52380-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	250		15	0.46	ug/L	1		6010B	Total
Manganese	250		15	0.46	ug/L	1		6010B	Recoverable Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Method Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

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Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN

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**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



# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062215-SSH-1530

Date Collected: 06/22/15 10:16

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.68	J	15	0.46	ug/L		06/25/15 09:04	06/26/15 13:09	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:09	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062215-SSH-1531

Date Collected: 06/22/15 11:26

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.5	J	15	0.46	ug/L		06/25/15 09:04	06/26/15 13:13	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:13	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062215-SSH-1532

Date Collected: 06/22/15 13:01

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	86		15	0.46	ug/L		06/25/15 09:04	06/26/15 13:17	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:17	1



# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062215-SSH-1533

Date Collected: 06/22/15 14:16

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		5.0	2.9	ug/L		06/25/15 09:04	06/26/15 13:21	1
Iron	7500		100	13	ug/L		06/25/15 09:04	06/26/15 13:21	1
Manganese	540		15	0.46	ug/L		06/25/15 09:04	06/26/15 13:21	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:21	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062215-SSH-1534

Date Collected: 06/22/15 14:19

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	11		5.0	2.9	ug/L		06/25/15 09:04	06/26/15 13:26	1
Iron	7600		100	13	ug/L		06/25/15 09:04	06/26/15 13:26	1
Manganese	550		15	0.46	ug/L		06/25/15 09:04	06/26/15 13:26	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:26	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062315-SSH-1535

Date Collected: 06/23/15 08:46

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	110		15	0.46	ug/L		06/25/15 09:04	06/26/15 13:30	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:30	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062315-SSH-1536

Date Collected: 06/23/15 10:01

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1700		15	0.46	ug/L		06/25/15 09:04	06/26/15 13:34	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:34	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062315-SSH-1537

Date Collected: 06/23/15 11:16

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.94	J	15	0.46	ug/L		06/25/15 09:04	06/26/15 13:46	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:46	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-062315-SSH-1538

Date Collected: 06/23/15 12:51

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	250		15	0.46	ug/L		06/25/15 09:04	06/26/15 12:41	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 12:41	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062215-SSH-1530

Date Collected: 06/22/15 10:16

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.0	J	15	0.46	ug/L		06/25/15 09:04	06/26/15 14:06	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:06	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062215-SSH-1531

Date Collected: 06/22/15 11:26

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.1	J	15	0.46	ug/L		06/25/15 09:04	06/26/15 14:10	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:10	1



# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062215-SSH-1532

Date Collected: 06/22/15 13:01

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	78		15	0.46	ug/L		06/25/15 09:04	06/26/15 14:14	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:14	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062215-SSH-1533

Date Collected: 06/22/15 14:16

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	12		5.0	2.9	ug/L		06/25/15 09:04	06/26/15 14:19	1
Iron	7500		100	13	ug/L		06/25/15 09:04	06/26/15 14:19	1
Manganese	550		15	0.46	ug/L		06/25/15 09:04	06/26/15 14:19	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:19	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062215-SSH-1534

Date Collected: 06/22/15 14:19

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	13		5.0	2.9	ug/L		06/25/15 09:04	06/26/15 14:23	1
Iron	7200		100	13	ug/L		06/25/15 09:04	06/26/15 14:23	1
Manganese	530		15	0.46	ug/L		06/25/15 09:04	06/26/15 14:23	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:23	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062315-SSH-1535

Date Collected: 06/23/15 08:46

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	85		15	0.46	ug/L		06/25/15 09:04	06/26/15 14:35	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:35	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062315-SSH-1536

Date Collected: 06/23/15 10:01

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1600		15	0.46	ug/L		06/25/15 09:04	06/26/15 14:39	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:39	1

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# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062315-SSH-1537

Date Collected: 06/23/15 11:16

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.2	J	15	0.46	ug/L		06/25/15 09:04	06/26/15 14:43	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 14:43	1

# Client Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-062315-SSH-1538

Date Collected: 06/23/15 12:51

Date Received: 06/24/15 09:30

Lab Sample ID: 240-52380-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	250		15	0.46	ug/L		06/25/15 09:04	06/26/15 13:50	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 13:50	1

# QC Association Summary

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Metals

### Prep Batch: 186726

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-52380-1	GW-12636-062215-SSH-1530	Dissolved	Water	3005A	
240-52380-1	GW-12636-062215-SSH-1530	Total Recoverable	Water	3005A	
240-52380-2	GW-12636-062215-SSH-1531	Dissolved	Water	3005A	
240-52380-2	GW-12636-062215-SSH-1531	Total Recoverable	Water	3005A	
240-52380-3	GW-12636-062215-SSH-1532	Dissolved	Water	3005A	
240-52380-3	GW-12636-062215-SSH-1532	Total Recoverable	Water	3005A	
240-52380-4	GW-12636-062215-SSH-1533	Dissolved	Water	3005A	
240-52380-4	GW-12636-062215-SSH-1533	Total Recoverable	Water	3005A	
240-52380-5	GW-12636-062215-SSH-1534	Dissolved	Water	3005A	
240-52380-5	GW-12636-062215-SSH-1534	Total Recoverable	Water	3005A	
240-52380-6	GW-12636-062315-SSH-1535	Dissolved	Water	3005A	
240-52380-6	GW-12636-062315-SSH-1535	Total Recoverable	Water	3005A	
240-52380-7	GW-12636-062315-SSH-1536	Dissolved	Water	3005A	
240-52380-7	GW-12636-062315-SSH-1536	Total Recoverable	Water	3005A	
240-52380-8	GW-12636-062315-SSH-1537	Dissolved	Water	3005A	
240-52380-8	GW-12636-062315-SSH-1537	Total Recoverable	Water	3005A	
240-52380-9	GW-12636-062315-SSH-1538	Dissolved	Water	3005A	
240-52380-9	GW-12636-062315-SSH-1538	Total Recoverable	Water	3005A	
240-52380-9 MS	GW-12636-062315-SSH-1538	Dissolved	Water	3005A	
240-52380-9 MS	GW-12636-062315-SSH-1538	Total Recoverable	Water	3005A	
240-52380-9 MSD	GW-12636-062315-SSH-1538	Dissolved	Water	3005A	
240-52380-9 MSD	GW-12636-062315-SSH-1538	Total Recoverable	Water	3005A	
LCS 240-186726/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-186726/1-A	Method Blank	Total Recoverable	Water	3005A	

### Analysis Batch: 187145

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-52380-1	GW-12636-062215-SSH-1530	Dissolved	Water	6010B	186726
240-52380-1	GW-12636-062215-SSH-1530	Total Recoverable	Water	6010B	186726
240-52380-2	GW-12636-062215-SSH-1531	Dissolved	Water	6010B	186726
240-52380-2	GW-12636-062215-SSH-1531	Total Recoverable	Water	6010B	186726
240-52380-3	GW-12636-062215-SSH-1532	Dissolved	Water	6010B	186726
240-52380-3	GW-12636-062215-SSH-1532	Total Recoverable	Water	6010B	186726
240-52380-4	GW-12636-062215-SSH-1533	Dissolved	Water	6010B	186726
240-52380-4	GW-12636-062215-SSH-1533	Total Recoverable	Water	6010B	186726
240-52380-5	GW-12636-062215-SSH-1534	Dissolved	Water	6010B	186726
240-52380-5	GW-12636-062215-SSH-1534	Total Recoverable	Water	6010B	186726
240-52380-6	GW-12636-062315-SSH-1535	Dissolved	Water	6010B	186726
240-52380-6	GW-12636-062315-SSH-1535	Total Recoverable	Water	6010B	186726
240-52380-7	GW-12636-062315-SSH-1536	Dissolved	Water	6010B	186726
240-52380-7	GW-12636-062315-SSH-1536	Total Recoverable	Water	6010B	186726
240-52380-8	GW-12636-062315-SSH-1537	Dissolved	Water	6010B	186726
240-52380-8	GW-12636-062315-SSH-1537	Total Recoverable	Water	6010B	186726
240-52380-9	GW-12636-062315-SSH-1538	Dissolved	Water	6010B	186726
240-52380-9	GW-12636-062315-SSH-1538	Total Recoverable	Water	6010B	186726
240-52380-9 MS	GW-12636-062315-SSH-1538	Dissolved	Water	6010B	186726
240-52380-9 MS	GW-12636-062315-SSH-1538	Total Recoverable	Water	6010B	186726
240-52380-9 MSD	GW-12636-062315-SSH-1538	Dissolved	Water	6010B	186726
240-52380-9 MSD	GW-12636-062315-SSH-1538	Total Recoverable	Water	6010B	186726
LCS 240-186726/2-A	Lab Control Sample	Total Recoverable	Water	6010B	186726
MB 240-186726/1-A	Method Blank	Total Recoverable	Water	6010B	186726

TestAmerica Canton



# QC Sample Results

Client: Conestoga-Rovers & Associates, Inc.  
 Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 240-186726/1-A**  
**Matrix: Water**  
**Analysis Batch: 187145**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 186726**

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Arsenic	10	U	10	2.9	ug/L		06/25/15 09:04	06/26/15 12:33	1
Iron	100	U	100	13	ug/L		06/25/15 09:04	06/26/15 12:33	1
Manganese	15	U	15	0.46	ug/L		06/25/15 09:04	06/26/15 12:33	1
Lead	3.0	U	3.0	1.9	ug/L		06/25/15 09:04	06/26/15 12:33	1

**Lab Sample ID: LCS 240-186726/2-A**  
**Matrix: Water**  
**Analysis Batch: 187145**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 186726**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1000	1050		ug/L		105	80 - 120
Manganese	500	518		ug/L		104	80 - 120
Lead	500	507		ug/L		101	80 - 120

**Lab Sample ID: 240-52380-9 MS**  
**Matrix: Water**  
**Analysis Batch: 187145**

**Client Sample ID: GW-12636-062315-SSH-1538**  
**Prep Type: Total Recoverable**  
**Prep Batch: 186726**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	3.0	U	500	481		ug/L		96	75 - 125

**Lab Sample ID: 240-52380-9 MSD**  
**Matrix: Water**  
**Analysis Batch: 187145**

**Client Sample ID: GW-12636-062315-SSH-1538**  
**Prep Type: Total Recoverable**  
**Prep Batch: 186726**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	3.0	U	500	487		ug/L		97	75 - 125	1	20

**Lab Sample ID: 240-52380-9 MS**  
**Matrix: Water**  
**Analysis Batch: 187145**

**Client Sample ID: GW-12636-062315-SSH-1538**  
**Prep Type: Dissolved**  
**Prep Batch: 186726**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	3.0	U	500	490		ug/L		98	75 - 125

**Lab Sample ID: 240-52380-9 MSD**  
**Matrix: Water**  
**Analysis Batch: 187145**

**Client Sample ID: GW-12636-062315-SSH-1538**  
**Prep Type: Dissolved**  
**Prep Batch: 186726**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Lead	3.0	U	500	495		ug/L		99	75 - 125	1	20

TestAmerica Canton

# Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

**Client Sample ID: GW-12636-062215-SSH-1530**

**Lab Sample ID: 240-52380-1**

**Date Collected: 06/22/15 10:16**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:06	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:09	BW	TAL CAN

**Client Sample ID: GW-12636-062215-SSH-1531**

**Lab Sample ID: 240-52380-2**

**Date Collected: 06/22/15 11:26**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:10	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:13	BW	TAL CAN

**Client Sample ID: GW-12636-062215-SSH-1532**

**Lab Sample ID: 240-52380-3**

**Date Collected: 06/22/15 13:01**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:14	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:17	BW	TAL CAN

**Client Sample ID: GW-12636-062215-SSH-1533**

**Lab Sample ID: 240-52380-4**

**Date Collected: 06/22/15 14:16**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:19	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:21	BW	TAL CAN

**Client Sample ID: GW-12636-062215-SSH-1534**

**Lab Sample ID: 240-52380-5**

**Date Collected: 06/22/15 14:19**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:23	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN

TestAmerica Canton

# Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

**Client Sample ID: GW-12636-062215-SSH-1534**

**Lab Sample ID: 240-52380-5**

**Date Collected: 06/22/15 14:19**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:26	BW	TAL CAN

**Client Sample ID: GW-12636-062315-SSH-1535**

**Lab Sample ID: 240-52380-6**

**Date Collected: 06/23/15 08:46**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:35	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:30	BW	TAL CAN

**Client Sample ID: GW-12636-062315-SSH-1536**

**Lab Sample ID: 240-52380-7**

**Date Collected: 06/23/15 10:01**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:39	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:34	BW	TAL CAN

**Client Sample ID: GW-12636-062315-SSH-1537**

**Lab Sample ID: 240-52380-8**

**Date Collected: 06/23/15 11:16**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 14:43	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 13:46	BW	TAL CAN

**Client Sample ID: GW-12636-062315-SSH-1538**

**Lab Sample ID: 240-52380-9**

**Date Collected: 06/23/15 12:51**

**Matrix: Water**

**Date Received: 06/24/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Dissolved	Analysis	6010B		1	187145	06/26/15 13:50	BW	TAL CAN
Total Recoverable	Prep	3005A			186726	06/25/15 09:04	WAL	TAL CAN
Total Recoverable	Analysis	6010B		1	187145	06/26/15 12:41	BW	TAL CAN

TestAmerica Canton

# Lab Chronicle

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

**Laboratory References:**

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

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# Certification Summary

Client: Conestoga-Rovers & Associates, Inc.  
Project/Site: 12636-T09-007, RACER Peregrine

TestAmerica Job ID: 240-52380-1

## 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
Florida	NELAP	4	E87225	06-30-15 *
Georgia	State Program	4	N/A	06-30-15 *
Illinois	NELAP	5	200004	07-31-15
Kansas	NELAP	7	E-10336	05-31-15 *
Kentucky (UST)	State Program	4	58	06-30-15 *
Kentucky (WW)	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	07-31-15
New Jersey	NELAP	2	OH001	06-30-15 *
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	08-31-15
Texas	NELAP	6		08-31-15
USDA	Federal		P330-13-00319	11-26-16
Virginia	NELAP	3	460175	09-14-15
Washington	State Program	10	C971	01-12-16
West Virginia DEP	State Program	3	210	12-31-15
Wisconsin	State Program	5	999518190	08-31-15

\* Certification renewal pending - certification considered valid.

TestAmerica Canton

**CHAIN OF CUSTODY  
AND  
RECEIVING DOCUMENTS**



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**CONESTOGA-ROVERS & ASSOCIATES**

**CHAIN OF CUSTODY RECORD**  
 14496 Sheldon Road, Suite #200, Plymouth, Michigan 48170  
 Phone: (734) 453-5123 Fax: (734) 453-5201

COC NO.: **PL-14842**  
 PAGE 1 OF 1  
 (See Reverse Side for Instructions)

Project No/ Phase/Task Code: <b>12636 - Top - 001415</b>		Laboratory Name: <b>TestAmerica</b>		Lab Location: <b>North Canton, OH</b>		SSOW ID: <b>2636 - Top - 007</b>	
Project Name: <b>Peregine/Coldwater Rd</b>		Lab Contact: <b>D. Heckler</b>		Lab Quote No: <b>34005826</b>		Cooler No:	
Project Location: <b>Genesee Twp, MI</b>		CONTAINER QUANTITY & PRESERVATION:		ANALYSIS REQUESTED (See Back of COC for Definitions)		Carrier: <b>FuelEx</b>	
Chemistry Contact: <b>R. Fleisher</b>		SAMPLE TYPE:		Total Containers/Sample		Airbill No: <b>80962227711</b>	
Sampler(s): <b>S. Hoeweney</b>		Matrix Code		Other:		Date Shipped:	
SAMPLE IDENTIFICATION (Containers for each sample may be combined on one line)		DATE (mm/dd/yy)		TIME (hh:mm)		COMMENTS/ SPECIAL INSTRUCTIONS:	
1	6W-12636-062215-SSA-15306	6/22/15	1016	W6G	X	X	Dis + Totals
2		-1531	1126	W6G	X	X	Dis + Totals
3		-1532	1301	W6G	X	X	Dis + Totals
4		-1533	1416	W6G	X	X	Dis + Totals
5	6W-12636-062215-SSA-15334	6/23/15	1419	W6G	X	X	Dis + Totals
6	6W-12636-062315-SSA-15325	6/23/15	1508	W6G	X	X	Dis + Totals
7		-1536	1601	W6G	X	X	Dis + Totals
8		-1537	1116	W6G	X	X	Dis + Totals
9	6W-12636-062315-SSA-1538	6/23/15	1751	W6G	X	X	Dis + Totals
10							
11							
12							
13							
14							
15							
TAT Required in business days (use separate COCs for different TATs):		DATE		TIME		DATE	
<input type="checkbox"/> 1 Day <input type="checkbox"/> 2 Days <input type="checkbox"/> 3 Days <input type="checkbox"/> 1 Week <input checked="" type="checkbox"/> 2 Week <input type="checkbox"/> Other:		6/23/15		1600		6/24/15	
RELINQUISHED BY		COMPANY		RECEIVED BY		COMPANY	
<b>Bob Mann</b>		<b>CRA/CRA</b>		<b>[Signature]</b>		<b>TA</b>	
1.		6/23/15		1600		6/24/15	
2.							
3.							
Total Number of Containers: <b>20</b>		Total Samples in Cooler must be on COC		Notes/ Special Requirements: <b>Dissolved are field filtered</b>		TIME	
All Samples in Cooler must be on COC		DATE		TIME		DATE	
		6/23/15		1600		6/24/15	

THE CHAIN OF CUSTODY IS A LEGAL DOCUMENT - ALL FIELDS MUST BE COMPLETED ACCURATELY

Client CRA Site Name \_\_\_\_\_  
Cooler Received on 6-24-15 Opened on 6-24-15

Cooler unpacked by: \_\_\_\_\_

FedEx: 1<sup>st</sup> 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

- Cooler temperature upon receipt  
 IR GUN# A (CF +1.0 °C) Observed Cooler Temp. 32 °C Corrected Cooler Temp. 4.2 °C  
 IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 8 (CF -1.5 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
- 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
- Shippers' packing slip attached to the cooler(s)?  Yes No
- Did custody papers accompany the sample(s)?  Yes No
- Were the custody papers relinquished & signed in the appropriate place?  Yes No
- Was/were the person(s) who collected the samples clearly identified on the COC?  Yes No
- Did all bottles arrive in good condition (Unbroken)?  Yes No
- Could all bottle labels be reconciled with the COC?  Yes No
- Were correct bottle(s) used for the test(s) indicated?  Yes No
- Sufficient quantity received to perform indicated analyses?  Yes No
- Were sample(s) at the correct pH upon receipt?  Yes No NA pH Strip Lot# HC432654
- Were VOAs on the COC? Yes  No
- Were air bubbles >6 mm in any VOA vials? Yes No  NA
- Was a trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_ Yes  No

See Multiple Cooler Form

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> pH	<u>Preservative</u> Added (mls)	<u>Lot #</u>
GW-12636-062215-SSH-1530	240-52380-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062215-SSH-1530	240-52380-B-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062215-SSH-1531	240-52380-A-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062215-SSH-1531	240-52380-B-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062215-SSH-1532	240-52380-A-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062215-SSH-1532	240-52380-B-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062215-SSH-1533	240-52380-A-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062215-SSH-1533	240-52380-B-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062215-SSH-1534	240-52380-A-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062215-SSH-1534	240-52380-B-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062315-SSH-1535	240-52380-A-6	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062315-SSH-1535	240-52380-B-6	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062315-SSH-1536	240-52380-A-7	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062315-SSH-1536	240-52380-B-7	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062315-SSH-1537	240-52380-A-8	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062315-SSH-1537	240-52380-B-8	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062315-SSH-1538	240-52380-A-9	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062315-SSH-1538	240-52380-B-9	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-062315-SSH-1538	240-52380-C-9	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-062315-SSH-1538	240-52380-D-9	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____



# Memorandum

To: Mike Tomka Ref. No.: 012636-T09-003Y15

From: Nancy Bergstrom/tl/169/Det <sup>EF-51-</sup> Date: January 21, 2016

cc: Rawa Fleisher

**Re: Analytical Results and Reduced Validation  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
September and December 2015**

## 1. Introduction

This document details a reduced validation of analytical results for groundwater samples collected in support of the Groundwater Monitoring at the Racer - Peregrine Site during September and December 2015. Samples were submitted to TestAmerica Laboratories, Inc., located in North Canton, Ohio. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS) and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "Quality Assurance Project Plan (QAPP) for the RCRA Facility Investigation (RFI) at Former Peregrine (US), Inc. Coldwater Road Facility", May 15, 2000
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

## 2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (4 +/- 2°C).

### **3. Laboratory Method Blank Analyses**

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Table 4 presents the sample results qualified due to analyte concentrations in the method blanks. All remaining method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

### **4. Laboratory Control Sample Analyses**

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

#### **4.1 Inorganic Analyses**

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

### **5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses**

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the analytes of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

#### **5.1 Inorganic Analyses**

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

### **6. Field QA/QC Samples**

The field QA/QC consisted of two field duplicate sample sets.

## **6.1 Field Duplicate Sample Analysis**

To assess the analytical and sampling protocol precision, two field duplicate samples were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value for water samples.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

## **7. Analyte Reporting**

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

## **8. Conclusion**

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

Table 1

Sample Collection and Analysis Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Analysis/Parameters

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Total Manganese	Dissolved Manganese	Total Lead	Dissolved Lead	Total Iron	Dissolved Iron	Total Arsenic	Dissolved Arsenic	Comments
<b>TA SDG No.: 240-55388-1</b>													
GW-12636-091415-SSH-1540	MW-4-02	Water	9/14/2015	09:11	X	X	X	X	--	--	--	--	MS/MSD
GW-12636-091415-SSH-1541	MW-17-13	Water	9/14/2015	10:26	X	X	X	X	X	X	X	X	
GW-12636-091415-SSH-1542	MW-17-13	Water	9/14/2015	10:31	X	X	X	X	X	X	X	X	FD (MW-17-13)
GW-12636-091415-SSH-1543	MW-19-13	Water	9/14/2015	11:51	X	X	X	X	--	--	--	--	
<b>TA SDG No.: 240-55584-1</b>													
GW-12636-091715-SSH-1544	B-9	Water	9/17/2015	08:51	X	X	X	X	--	--	--	--	MS/MSD
GW-12636-091715-SSH-1545	MW-18-13	Water	9/17/2015	10:11	X	X	X	X	--	--	--	--	
GW-12636-091715-SSH-1546	MW-20-13	Water	9/17/2015	11:26	X	X	X	X	--	--	--	--	
GW-12636-091715-SSH-1547	PFW-2	Water	9/17/2015	12:31	X	X	X	X	--	--	--	--	
GW-12636-091715-SSH-1548	PFW-9	Water	9/17/2015	13:36	X	X	X	X	--	--	--	--	
GW-12636-091715-SSH-1549	B-9	Water	9/17/2015	14:06	--	X	--	X	--	--	--	--	
GW-12636-091715-SSH-1550	MW-18-13	Water	9/17/2015	14:31	--	X	--	X	--	--	--	--	MS/MSD
<b>TA SDG No.: 240-59223-1</b>													
GW-12636-121515-SSH-1551	MW-18-13	Water	12/15/2015	08:36	X	X	X	X	--	--	--	--	
GW-12636-121515-SSH-1552	B-9	Water	12/15/2015	09:51	X	X	X	X	--	--	--	--	
GW-12636-121515-SSH-1553	B-9	Water	12/15/2015	09:56	X	X	X	X	--	--	--	--	FD (B-9)
GW-12636-121515-SSH-1554	MW-20-13	Water	12/15/2015	11:16	X	X	X	X	--	--	--	--	
GW-12636-121515-SSH-1555	MW-4-02	Water	12/15/2015	12:26	X	X	X	X	--	--	--	--	
GW-12636-121515-SSH-1556	MW-17-13	Water	12/15/2015	13:36	X	X	X	X	X	X	X	X	
GW-12636-121515-SSH-1557	MW-19-13	Water	12/15/2015	14:46	X	X	X	X	--	--	--	--	
GW-12636-121615-SSH-1558	MW-18-13	Water	12/16/2015	08:00	--	X	--	X	--	--	--	--	

Table 1

**Sample Collection and Analysis Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
September and December 2015**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters								Comments			
					Total Manganese	Dissolved Manganese	Total Lead	Dissolved Lead	Total Iron	Dissolved Iron	Total Arsenic	Dissolved Arsenic				
TA SDG No.: 240-59223-1																
GW-12636-121615-SSH-1559	B-9	Water	12/16/2015	08:20	-	X	X	X	X	-	-	-	-	-	-	MS/MSD
GW-12636-121615-SSH-1560	PFW-2	Water	12/16/2015	09:26	X	X	X	X	-	-	-	-	-	-	-	
GW-12636-121615-SSH-1561	PFW-9	Water	12/16/2015	10:41	X	X	X	X	-	-	-	-	-	-	-	

Notes:

- FD - Field Duplicate sample of sample in parenthesis
- MS/MSD - Matrix Spike/Matrix Spike Duplicate

Table 2

Validated Analytical Results Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Sample Location:	B-9	B-9	B-9	B-9	B-9
Sample ID:	GW-12636-091715-SSH-1544	GW-12636-091715-SSH-1549	GW-12636-121515-SSH-1552	GW-12636-121515-SSH-1553	GW-12636-121515-SSH-1553
Sample Date:	9/17/2015	9/17/2015	12/15/2015	12/15/2015	12/15/2015 (Duplicate)
Parameters	Units				
<b>Metals</b>					
Arsenic	ug/L	-	-	-	-
Arsenic (dissolved)	ug/L	-	-	-	-
Iron	ug/L	-	-	-	-
Iron (dissolved)	ug/L	-	-	-	-
Lead	ug/L	-	-	-	-
Lead (dissolved)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Manganese	ug/L	-	160	170	170
Manganese (dissolved)	ug/L	280	190	200	200

Table 2

Validated Analytical Results Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Sample Location:	B-9	MW-4-02	MW-4-02	MW-4-02	MW-17-13
Sample ID:	GW-12636-121615-SSH-1559	GW-12636-091415-SSH-1540	GW-12636-091415-SSH-1540	GW-12636-121515-SSH-1555	GW-12636-091415-SSH-1541
Sample Date:	12/16/2015	9/14/2015	9/14/2015	12/15/2015	9/14/2015
Parameters	Units				
<b>Metals</b>					
Arsenic	ug/L	-	-	-	19
Arsenic (dissolved)	ug/L	-	-	-	17
Iron	ug/L	-	-	-	11000
Iron (dissolved)	ug/L	-	-	-	10000
Lead	ug/L	-	-	-	3.0 U
Lead (dissolved)	ug/L	3.0 U	3.0 U	3.0 U	3.0 U
Manganese	ug/L	-	15 U	1.4 J	210
Manganese (dissolved)	ug/L	89	15 U	0.73 J	210



Table 2

Validated Analytical Results Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Sample Location:	MW-17-13	MW-17-13	MW-18-13	MW-18-13
Sample ID:	GW-12636-091415-SSH-1542	GW-12636-121515-SSH-1556	GW-12636-091715-SSH-1545	GW-12636-091715-SSH-1550
Sample Date:	9/14/2015 (Duplicate)	12/15/2015	9/17/2015	9/17/2015
Parameters	Units			
<b>Metals</b>				
Arsenic	ug/L	17	-	-
Arsenic (dissolved)	ug/L	17	-	-
Iron	ug/L	10000	-	-
Iron (dissolved)	ug/L	10000	-	-
Lead	ug/L	3.0 U	3.0 U	-
Lead (dissolved)	ug/L	3.0 U	3.0 U	3.0 U
Manganese	ug/L	200	330	-
Manganese (dissolved)	ug/L	210	330	570

Table 2

Validated Analytical Results Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Sample Location:	MW-18-13	MW-18-13	MW-19-13	MW-19-13
Sample ID:	GW-12636-121515-SSH-1551	GW-12636-121615-SSH-1558	GW-12636-091415-SSH-1543	GW-12636-121515-SSH-1557
Sample Date:	12/15/2015	12/16/2015	9/14/2015	12/15/2015
Parameters	Units			
<b>Metals</b>				
Arsenic	-	-	-	-
Arsenic (dissolved)	-	-	-	-
Iron	-	-	-	-
Iron (dissolved)	-	-	-	-
Lead	3.0 U	3.0 U	3.0 U	3.1
Lead (dissolved)	3.0 U	3.0 U	3.0 U	2.8 J
Manganese	280	-	120	190
Manganese (dissolved)	290	350	110	180

Table 2

Validated Analytical Results Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Sample Location:	MW-20-13	MW-20-13	PFW-2
Sample ID:	GW-12636-091715-SSH-1546	GW-12636-121515-SSH-1554	GW-12636-091715-SSH-1547
Sample Date:	9/17/2015	12/15/2015	9/17/2015
Parameters			
Metals			
Arsenic	-	-	-
Arsenic (dissolved)	-	-	-
Iron	-	-	-
Iron (dissolved)	-	-	-
Lead	3.0 U	2.2 J	3.0 U
Lead (dissolved)	3.0 U	2.1 J	3.0 U
Manganese	15 U	0.54 J	1900
Manganese (dissolved)	15 U	15 U	1700

Table 2

Validated Analytical Results Summary  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Sample Location:	GW-12636-121615-SSH-1560	PFW-2	GW-12636-091715-SSH-1548	PFW-9	GW-12636-121615-SSH-1561	PFW-9
Sample ID:		12/16/2015	9/17/2015	12/16/2015		12/16/2015
Sample Date:						
Parameters	Units					
<b>Metals</b>						
Arsenic	-	-	-	-	-	-
Arsenic (dissolved)	-	-	-	-	-	-
Iron	-	-	-	-	-	-
Iron (dissolved)	-	-	-	-	-	-
Lead	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Lead (dissolved)	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U
Manganese	780	780	5.6 J	5.6 J	1.8 J	1.8 J
Manganese (dissolved)	920	920	5.7 J	5.7 J	15 U	15 U

Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration

Table 3

Analytical Methods  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 September and December 2015

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Metals	SW-846 6010B	Water	-	180

Notes:

Method References:

- SW-846
- Metals
- "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
- Total and Dissolved Manganese, Lead, Iron and Arsenic

Table 4

**Qualified Sample Results Due to Analyte Concentrations in the Method Blanks**  
**Groundwater Monitoring**  
**Racer - Peregrine Site**  
**Genesee County, Michigan**  
**September and December 2015**

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result	Sample ID	Original Result	Qualified Result	Units
Metals	Total Manganese	9/17/2015	4.60 J	GW-12636-091415-SSH-1540	1.3 JB	15 U	µg/L
Metals	Dissolved Manganese	9/17/2015	4.60 J	GW-12636-091415-SSH-1540	1.2 JB	15 U	µg/L
Metals	Total Manganese	9/22/2015	4.61 J	GW-12636-091715-SSH-1546	1.6 JB	15 U	µg/L
Metals	Dissolved Manganese	9/22/2015	4.61 J	GW-12636-091715-SSH-1546	0.77 JB	15 U	µg/L

Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration
- B - Laboratory qualifier - result detected in associated method blank

# 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: 240-55388-1

Client Project/Site: 12636-007-T09, RACER Peregrine

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

9/22/2015 9:17:28 AM

Denise Heckler, Project Manager II

(330)966-9477

[denise.heckler@testamericainc.com](mailto: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: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

**Job ID: 240-55388-1**

**Laboratory: TestAmerica Canton**

**Narrative**

## CASE NARRATIVE

**Client: GHD Services Inc.**

**Project: 12636-007-T09, RACER Peregrine**

**Report Number: 240-55388-1**

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 09/15/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 5.5 C.

### **DISSOLVED METALS (ICP)**

Samples GW-12636-091415-SSH-1540 (240-55388-1), GW-12636-091415-SSH-1541 (240-55388-2), GW-12636-091415-SSH-1542 (240-55388-3) and GW-12636-091415-SSH-1543 (240-55388-4) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 09/16/2015 and analyzed on 09/17/2015.

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

### **TOTAL RECOVERABLE METALS (ICP)**

Samples GW-12636-091415-SSH-1540 (240-55388-1), GW-12636-091415-SSH-1541 (240-55388-2), GW-12636-091415-SSH-1542 (240-55388-3) and GW-12636-091415-SSH-1543 (240-55388-4) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 09/16/2015 and analyzed on 09/17/2015.

Manganese was detected in method blank MB 240-197736/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

# Case Narrative

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

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## Job ID: 240-55388-1 (Continued)

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### Laboratory: TestAmerica Canton (Continued)

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

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# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Qualifiers

### Metals

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

## 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: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-55388-1	GW-12636-091415-SSH-1540	Water	09/14/15 09:11	09/15/15 09:45
240-55388-2	GW-12636-091415-SSH-1541	Water	09/14/15 10:26	09/15/15 09:45
240-55388-3	GW-12636-091415-SSH-1542	Water	09/14/15 10:31	09/15/15 09:45
240-55388-4	GW-12636-091415-SSH-1543	Water	09/14/15 11:51	09/15/15 09:45

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

# Detection Summary

Client: GHD Services Inc.  
 Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Client Sample ID: GW-12636-091415-SSH-1540

## Lab Sample ID: 240-55388-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.3	J B	15	0.46	ug/L	1		6010B	Total
Manganese	1.2	J B	15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-091415-SSH-1541

## Lab Sample ID: 240-55388-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		5.0	2.9	ug/L	1		6010B	Total
Iron	11000		100	13	ug/L	1		6010B	Recoverable Total
Manganese	210	B	15	0.46	ug/L	1		6010B	Recoverable Total
Arsenic	17		5.0	2.9	ug/L	1		6010B	Recoverable Dissolved
Iron	10000		100	13	ug/L	1		6010B	Dissolved
Manganese	210	B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091415-SSH-1542

## Lab Sample ID: 240-55388-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	17		5.0	2.9	ug/L	1		6010B	Total
Iron	10000		100	13	ug/L	1		6010B	Recoverable Total
Manganese	200	B	15	0.46	ug/L	1		6010B	Recoverable Total
Arsenic	17		5.0	2.9	ug/L	1		6010B	Recoverable Dissolved
Iron	10000		100	13	ug/L	1		6010B	Dissolved
Manganese	210	B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091415-SSH-1543

## Lab Sample ID: 240-55388-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	120	B	15	0.46	ug/L	1		6010B	Total
Manganese	110	B	15	0.46	ug/L	1		6010B	Recoverable Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Method Summary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

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Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN

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**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



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091415-SSH-1540

Date Collected: 09/14/15 09:11

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.3	J B	15	0.46	ug/L		09/16/15 10:06	09/17/15 14:48	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:06	09/17/15 14:48	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091415-SSH-1541

Lab Sample ID: 240-55388-2

Date Collected: 09/14/15 10:26

Matrix: Water

Date Received: 09/15/15 09:45

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		5.0	2.9	ug/L		09/16/15 10:06	09/17/15 15:41	1
Iron	11000		100	13	ug/L		09/16/15 10:06	09/17/15 15:41	1
Manganese	210	B	15	0.46	ug/L		09/16/15 10:06	09/17/15 15:41	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:06	09/17/15 15:41	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091415-SSH-1542

Date Collected: 09/14/15 10:31

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		5.0	2.9	ug/L		09/16/15 10:06	09/17/15 16:01	1
Iron	10000		100	13	ug/L		09/16/15 10:06	09/17/15 16:01	1
Manganese	200	B	15	0.46	ug/L		09/16/15 10:06	09/17/15 16:01	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:06	09/17/15 16:01	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091415-SSH-1543

Date Collected: 09/14/15 11:51

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	120	B	15	0.46	ug/L		09/16/15 10:07	09/17/15 16:05	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:07	09/17/15 16:05	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091415-SSH-1540

Date Collected: 09/14/15 09:11

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.2	J B	15	0.46	ug/L		09/16/15 10:06	09/17/15 15:36	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:06	09/17/15 15:36	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091415-SSH-1541

Date Collected: 09/14/15 10:26

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		5.0	2.9	ug/L		09/16/15 10:06	09/17/15 15:45	1
Iron	10000		100	13	ug/L		09/16/15 10:06	09/17/15 15:45	1
Manganese	210	B	15	0.46	ug/L		09/16/15 10:06	09/17/15 15:45	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:06	09/17/15 15:45	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091415-SSH-1542

Date Collected: 09/14/15 10:31

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	17		5.0	2.9	ug/L		09/16/15 10:07	09/17/15 15:57	1
Iron	10000		100	13	ug/L		09/16/15 10:07	09/17/15 15:57	1
Manganese	210	B	15	0.46	ug/L		09/16/15 10:07	09/17/15 15:57	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:07	09/17/15 15:57	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091415-SSH-1543

Date Collected: 09/14/15 11:51

Date Received: 09/15/15 09:45

Lab Sample ID: 240-55388-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	110	B	15	0.46	ug/L		09/16/15 10:07	09/17/15 16:09	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:07	09/17/15 16:09	1

# QC Association Summary

Client: GHD Services Inc.  
 Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Metals

### Prep Batch: 197736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55388-1	GW-12636-091415-SSH-1540	Dissolved	Water	3005A	
240-55388-1	GW-12636-091415-SSH-1540	Total Recoverable	Water	3005A	
240-55388-1 MS	GW-12636-091415-SSH-1540	Total Recoverable	Water	3005A	
240-55388-1 MSD	GW-12636-091415-SSH-1540	Total Recoverable	Water	3005A	
240-55388-2	GW-12636-091415-SSH-1541	Dissolved	Water	3005A	
240-55388-2	GW-12636-091415-SSH-1541	Total Recoverable	Water	3005A	
240-55388-3	GW-12636-091415-SSH-1542	Dissolved	Water	3005A	
240-55388-3	GW-12636-091415-SSH-1542	Total Recoverable	Water	3005A	
240-55388-4	GW-12636-091415-SSH-1543	Dissolved	Water	3005A	
240-55388-4	GW-12636-091415-SSH-1543	Total Recoverable	Water	3005A	
LCS 240-197736/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-197736/1-A	Method Blank	Total Recoverable	Water	3005A	

### Analysis Batch: 198118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55388-1	GW-12636-091415-SSH-1540	Dissolved	Water	6010B	197736
240-55388-1	GW-12636-091415-SSH-1540	Total Recoverable	Water	6010B	197736
240-55388-1 MS	GW-12636-091415-SSH-1540	Total Recoverable	Water	6010B	197736
240-55388-1 MSD	GW-12636-091415-SSH-1540	Total Recoverable	Water	6010B	197736
240-55388-2	GW-12636-091415-SSH-1541	Dissolved	Water	6010B	197736
240-55388-2	GW-12636-091415-SSH-1541	Total Recoverable	Water	6010B	197736
240-55388-3	GW-12636-091415-SSH-1542	Dissolved	Water	6010B	197736
240-55388-3	GW-12636-091415-SSH-1542	Total Recoverable	Water	6010B	197736
240-55388-4	GW-12636-091415-SSH-1543	Dissolved	Water	6010B	197736
240-55388-4	GW-12636-091415-SSH-1543	Total Recoverable	Water	6010B	197736
LCS 240-197736/2-A	Lab Control Sample	Total Recoverable	Water	6010B	197736
MB 240-197736/1-A	Method Blank	Total Recoverable	Water	6010B	197736

# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 240-197736/1-A**  
**Matrix: Water**  
**Analysis Batch: 198118**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 197736**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		09/16/15 10:06	09/17/15 14:40	1
Iron	100	U	100	13	ug/L		09/16/15 10:06	09/17/15 14:40	1
Manganese	4.60	J	15	0.46	ug/L		09/16/15 10:06	09/17/15 14:40	1
Lead	3.0	U	3.0	1.9	ug/L		09/16/15 10:06	09/17/15 14:40	1

**Lab Sample ID: LCS 240-197736/2-A**  
**Matrix: Water**  
**Analysis Batch: 198118**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 197736**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2030		ug/L		101	80 - 120
Iron	1000	1010		ug/L		101	80 - 120
Manganese	500	478		ug/L		96	80 - 120
Lead	500	482		ug/L		96	80 - 120

**Lab Sample ID: 240-55388-1 MS**  
**Matrix: Water**  
**Analysis Batch: 198118**

**Client Sample ID: GW-12636-091415-SSH-1540**  
**Prep Type: Total Recoverable**  
**Prep Batch: 197736**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	10	U	2000	2020		ug/L		101	75 - 125
Iron	29	J	1000	997		ug/L		97	75 - 125
Manganese	1.3	J B	500	466		ug/L		93	75 - 125
Lead	3.0	U	500	465		ug/L		93	75 - 125

**Lab Sample ID: 240-55388-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 198118**

**Client Sample ID: GW-12636-091415-SSH-1540**  
**Prep Type: Total Recoverable**  
**Prep Batch: 197736**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	10	U	2000	2020		ug/L		101	75 - 125	0	20
Iron	29	J	1000	986		ug/L		96	75 - 125	1	20
Manganese	1.3	J B	500	467		ug/L		93	75 - 125	0	20
Lead	3.0	U	500	464		ug/L		93	75 - 125	0	20



# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

**Client Sample ID: GW-12636-091415-SSH-1540**

**Lab Sample ID: 240-55388-1**

**Date Collected: 09/14/15 09:11**

**Matrix: Water**

**Date Received: 09/15/15 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			197736	09/16/15 10:06	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198118	09/17/15 15:36	WAL	TAL CAN
Total Recoverable	Prep	3005A			197736	09/16/15 10:06	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198118	09/17/15 14:48	WAL	TAL CAN

**Client Sample ID: GW-12636-091415-SSH-1541**

**Lab Sample ID: 240-55388-2**

**Date Collected: 09/14/15 10:26**

**Matrix: Water**

**Date Received: 09/15/15 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			197736	09/16/15 10:06	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198118	09/17/15 15:45	WAL	TAL CAN
Total Recoverable	Prep	3005A			197736	09/16/15 10:06	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198118	09/17/15 15:41	WAL	TAL CAN

**Client Sample ID: GW-12636-091415-SSH-1542**

**Lab Sample ID: 240-55388-3**

**Date Collected: 09/14/15 10:31**

**Matrix: Water**

**Date Received: 09/15/15 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			197736	09/16/15 10:07	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198118	09/17/15 15:57	WAL	TAL CAN
Total Recoverable	Prep	3005A			197736	09/16/15 10:06	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198118	09/17/15 16:01	WAL	TAL CAN

**Client Sample ID: GW-12636-091415-SSH-1543**

**Lab Sample ID: 240-55388-4**

**Date Collected: 09/14/15 11:51**

**Matrix: Water**

**Date Received: 09/15/15 09:45**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			197736	09/16/15 10:07	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198118	09/17/15 16:09	WAL	TAL CAN
Total Recoverable	Prep	3005A			197736	09/16/15 10:07	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198118	09/17/15 16:05	WAL	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: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-55388-1

## Laboratory: TestAmerica Canton

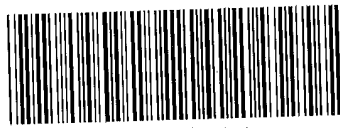
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

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 (WW)	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**



240-55388 Chain of Custody



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

**Chain of Custody Record**

104686

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING  
 TestAmerica Laboratories, Inc.  
 TAL-8210 (07/13)

441CS4

Regulatory Program:  DW  NPDES  RCRA  Other:

Project Manager: <u>R. Chatterjee</u> Site Contact: <u>Homayoun</u> Date: <u>9/14/15</u> Tel/Fax: <u>519 884 0510</u> Lab Contact: <u>Heather</u> Carrier: <u>FedEx</u>		COC No: <u>104686</u> of <u>1</u> COCs Sampler: <u>S. Hoseney</u>		
Company Name: <u>GTHD Services Inc.</u> Address: <u>17756 N. Sheldon Rd Sk 200</u> City/State/Zip: <u>Wyomouth MI 48170</u> Phone: <u>734 453 5123</u> Fax: _____		For Lab Use Only: Walk-in Client: _____ Lab Sampling: _____ Job / SDG No.: _____		
Project Name: <u>Petroleum Coldwater R1</u> Site # <u>12636-109-007</u> P O # <u>24005826</u>		Perform MS/MSD (Y/N) _____ Filtered Sample (Y/N) _____ Sample Specific Notes: _____		
Sample Date	Sample Time	Sample Type (C-Comp, G-Grab)	Matrix	# of Cont.
<u>9/14/15</u>	<u>0911</u>	<u>G</u>	<u>GW</u>	<u>2</u>
<u>1541</u>	<u>1026</u>	<u>G</u>	<u>GW</u>	<u>2</u>
<u>1542</u>	<u>1031</u>	<u>G</u>	<u>GW</u>	<u>2</u>
<u>9/14/15</u>	<u>1151</u>	<u>G</u>	<u>GW</u>	<u>2</u>
Preservation Used: 1=Ice, 2=HC, 3=H2SO4, 4=HNO3, 5=NaOH, 6=Other <u>4</u>				
Possible Hazard Identification: <u>DM</u> Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.				
Special Instructions/QC Requirements & Comments: _____				
Relinquished by: <u>AKA. Mann</u>		Relinquished by: _____		
Date/Time: <u>9/15/15 945</u>		Date/Time: _____		
Company: <u>GTHD Services</u>		Company: _____		
Date/Time: _____		Date/Time: _____		
Company: _____		Company: _____		



**TestAmerica Canton Sample Receipt Form/Narrative**  
**Canton Facility**

Login # : 55288

Client GHR Site Name \_\_\_\_\_  
 Cooler Received on 9.15.15 Opened on 9.15.15  
 FedEx: 1<sup>st</sup> Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other \_\_\_\_\_

Cooler unpacked by:  
[Signature]

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

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

1. Cooler temperature upon receipt  
 IR GUN# A (CF +1.0 °C) Observed Cooler Temp. 4.4 °C Corrected Cooler Temp. 5.4 °C  
 IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 8 (CF -1.5 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_ / Yes No  
 -Were custody seals on the outside of the cooler(s) signed & dated? Yes No NA  
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)? Yes No
3. Shippers' packing slip attached to the cooler(s)? Yes No
4. Did custody papers accompany the sample(s)? Yes No
5. Were the custody papers relinquished & signed in the appropriate place? Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No
7. Did all bottles arrive in good condition (Unbroken)? Yes No
8. Could all bottle labels be reconciled with the COC? Yes No
9. Were correct bottle(s) used for the test(s) indicated? Yes No
10. Sufficient quantity received to perform indicated analyses? Yes No
11. 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 NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # Yes No

See Multiple Cooler Form

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
 Concerning \_\_\_\_\_

**14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES** Samples processed by:

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**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>
GW-12636-091415-SSH-1540	240-55388-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091415-SSH-1540	240-55388-B-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091415-SSH-1541	240-55388-A-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091415-SSH-1541	240-55388-B-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091415-SSH-1542	240-55388-A-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091415-SSH-1542	240-55388-B-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091415-SSH-1543	240-55388-A-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091415-SSH-1543	240-55388-B-4	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: 240-55584-1

Client Project/Site: 12636-T09-07, RACER Peregrine

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

9/23/2015 7:57:38 AM

Denise Heckler, Project Manager II

(330)966-9477

[denise.heckler@testamericainc.com](mailto:denise.heckler@testamericainc.com)



### LINKS

Review your project  
results through

Total Access

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[www.testamericainc.com](http://www.testamericainc.com)

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

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

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# Case Narrative

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

**Job ID: 240-55584-1**

**Laboratory: TestAmerica Canton**

**Narrative**

## CASE NARRATIVE

**Client: GHD Services Inc.**

**Project: 12636-T09-07, RACER Peregrine**

**Report Number: 240-55584-1**

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 09/18/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 0.1 C.

### **DISSOLVED METALS (ICP)**

Samples GW-12636-091715-SSH-1544 (240-55584-1), GW-12636-091715-SSH-1545 (240-55584-2), GW-12636-091715-SSH-1546 (240-55584-3), GW-12636-091715-SSH-1547 (240-55584-4), GW-12636-091715-SSH-1548 (240-55584-5), GW-12636-091715-SSH-1549 (240-55584-6) and GW-12636-091715-SSH-1550 (240-55584-7) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 09/21/2015 and analyzed on 09/22/2015.

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

### **TOTAL RECOVERABLE METALS (ICP)**

Samples GW-12636-091715-SSH-1545 (240-55584-2), GW-12636-091715-SSH-1546 (240-55584-3), GW-12636-091715-SSH-1547 (240-55584-4) and GW-12636-091715-SSH-1548 (240-55584-5) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 09/21/2015 and analyzed on 09/22/2015.

Manganese was detected in method blank MB 240-198344/1-A at a level that was above the method detection limit but below the reporting

# Case Narrative

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

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## Job ID: 240-55584-1 (Continued)

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### Laboratory: TestAmerica Canton (Continued)

limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged.

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

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# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Qualifiers

### Metals

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

## 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: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-55584-1	GW-12636-091715-SSH-1544	Water	09/17/15 08:51	09/18/15 09:20
240-55584-2	GW-12636-091715-SSH-1545	Water	09/17/15 10:11	09/18/15 09:20
240-55584-3	GW-12636-091715-SSH-1546	Water	09/17/15 11:26	09/18/15 09:20
240-55584-4	GW-12636-091715-SSH-1547	Water	09/17/15 12:31	09/18/15 09:20
240-55584-5	GW-12636-091715-SSH-1548	Water	09/17/15 13:36	09/18/15 09:20
240-55584-6	GW-12636-091715-SSH-1549	Water	09/17/15 14:06	09/18/15 09:20
240-55584-7	GW-12636-091715-SSH-1550	Water	09/17/15 14:31	09/18/15 09:20

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# Detection Summary

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Client Sample ID: GW-12636-091715-SSH-1544

## Lab Sample ID: 240-55584-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	280	B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091715-SSH-1545

## Lab Sample ID: 240-55584-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	330	B	15	0.46	ug/L	1		6010B	Total Recoverable
Manganese	330	B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091715-SSH-1546

## Lab Sample ID: 240-55584-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.6	J B	15	0.46	ug/L	1		6010B	Total Recoverable
Manganese	0.77	J B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091715-SSH-1547

## Lab Sample ID: 240-55584-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1900	B	15	0.46	ug/L	1		6010B	Total Recoverable
Manganese	1700	B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091715-SSH-1548

## Lab Sample ID: 240-55584-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	5.6	J B	15	0.46	ug/L	1		6010B	Total Recoverable
Manganese	5.7	J B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091715-SSH-1549

## Lab Sample ID: 240-55584-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	270	B	15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-091715-SSH-1550

## Lab Sample ID: 240-55584-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	570	B	15	0.46	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Method Summary

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

---

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN

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**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



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091715-SSH-1545

Date Collected: 09/17/15 10:11

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	330	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 10:10	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 10:10	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091715-SSH-1546

Date Collected: 09/17/15 11:26

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.6	J B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:26	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:26	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091715-SSH-1547

Date Collected: 09/17/15 12:31

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1900	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:43	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:43	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-091715-SSH-1548

Date Collected: 09/17/15 13:36

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.6	J B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:55	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:55	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1544

Date Collected: 09/17/15 08:51

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	280	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:22	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:22	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1545

Date Collected: 09/17/15 10:11

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	330	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 10:30	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 10:30	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1546

Date Collected: 09/17/15 11:26

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.77	J B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:31	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:31	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1547

Date Collected: 09/17/15 12:31

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1700	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:47	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:47	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1548

Date Collected: 09/17/15 13:36

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	5.7	J B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:51	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:51	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1549

Date Collected: 09/17/15 14:06

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	270	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 11:59	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 11:59	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-091715-SSH-1550

Date Collected: 09/17/15 14:31

Date Received: 09/18/15 09:20

Lab Sample ID: 240-55584-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	570	B	15	0.46	ug/L		09/21/15 10:29	09/22/15 12:03	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 12:03	1

# QC Association Summary

Client: GHD Services Inc.  
 Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Metals

### Prep Batch: 198344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55584-1	GW-12636-091715-SSH-1544	Dissolved	Water	3005A	
240-55584-2	GW-12636-091715-SSH-1545	Dissolved	Water	3005A	
240-55584-2	GW-12636-091715-SSH-1545	Total Recoverable	Water	3005A	
240-55584-2 MS	GW-12636-091715-SSH-1545	Dissolved	Water	3005A	
240-55584-2 MS	GW-12636-091715-SSH-1545	Total Recoverable	Water	3005A	
240-55584-2 MSD	GW-12636-091715-SSH-1545	Dissolved	Water	3005A	
240-55584-2 MSD	GW-12636-091715-SSH-1545	Total Recoverable	Water	3005A	
240-55584-3	GW-12636-091715-SSH-1546	Dissolved	Water	3005A	
240-55584-3	GW-12636-091715-SSH-1546	Total Recoverable	Water	3005A	
240-55584-4	GW-12636-091715-SSH-1547	Dissolved	Water	3005A	
240-55584-4	GW-12636-091715-SSH-1547	Total Recoverable	Water	3005A	
240-55584-5	GW-12636-091715-SSH-1548	Dissolved	Water	3005A	
240-55584-5	GW-12636-091715-SSH-1548	Total Recoverable	Water	3005A	
240-55584-6	GW-12636-091715-SSH-1549	Dissolved	Water	3005A	
240-55584-7	GW-12636-091715-SSH-1550	Dissolved	Water	3005A	
LCS 240-198344/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-198344/1-A	Method Blank	Total Recoverable	Water	3005A	

### Analysis Batch: 198562

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-55584-1	GW-12636-091715-SSH-1544	Dissolved	Water	6010B	198344
240-55584-2	GW-12636-091715-SSH-1545	Dissolved	Water	6010B	198344
240-55584-2	GW-12636-091715-SSH-1545	Total Recoverable	Water	6010B	198344
240-55584-2 MS	GW-12636-091715-SSH-1545	Dissolved	Water	6010B	198344
240-55584-2 MS	GW-12636-091715-SSH-1545	Total Recoverable	Water	6010B	198344
240-55584-2 MSD	GW-12636-091715-SSH-1545	Dissolved	Water	6010B	198344
240-55584-2 MSD	GW-12636-091715-SSH-1545	Total Recoverable	Water	6010B	198344
240-55584-3	GW-12636-091715-SSH-1546	Dissolved	Water	6010B	198344
240-55584-3	GW-12636-091715-SSH-1546	Total Recoverable	Water	6010B	198344
240-55584-4	GW-12636-091715-SSH-1547	Dissolved	Water	6010B	198344
240-55584-4	GW-12636-091715-SSH-1547	Total Recoverable	Water	6010B	198344
240-55584-5	GW-12636-091715-SSH-1548	Dissolved	Water	6010B	198344
240-55584-5	GW-12636-091715-SSH-1548	Total Recoverable	Water	6010B	198344
240-55584-6	GW-12636-091715-SSH-1549	Dissolved	Water	6010B	198344
240-55584-7	GW-12636-091715-SSH-1550	Dissolved	Water	6010B	198344
LCS 240-198344/2-A	Lab Control Sample	Total Recoverable	Water	6010B	198344
MB 240-198344/1-A	Method Blank	Total Recoverable	Water	6010B	198344

# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 240-198344/1-A**  
**Matrix: Water**  
**Analysis Batch: 198562**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 198344**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.461	J	15	0.46	ug/L		09/21/15 10:29	09/22/15 09:54	1
Lead	3.0	U	3.0	1.9	ug/L		09/21/15 10:29	09/22/15 09:54	1

**Lab Sample ID: LCS 240-198344/2-A**  
**Matrix: Water**  
**Analysis Batch: 198562**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 198344**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	500	500		ug/L		100	80 - 120
Lead	500	494		ug/L		99	80 - 120

**Lab Sample ID: 240-55584-2 MS**  
**Matrix: Water**  
**Analysis Batch: 198562**

**Client Sample ID: GW-12636-091715-SSH-1545**  
**Prep Type: Total Recoverable**  
**Prep Batch: 198344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	330	B	500	786		ug/L		91	75 - 125
Lead	3.0	U	500	474		ug/L		95	75 - 125

**Lab Sample ID: 240-55584-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 198562**

**Client Sample ID: GW-12636-091715-SSH-1545**  
**Prep Type: Total Recoverable**  
**Prep Batch: 198344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	330	B	500	771		ug/L		88	75 - 125	2	20
Lead	3.0	U	500	457		ug/L		91	75 - 125	4	20

**Lab Sample ID: 240-55584-2 MS**  
**Matrix: Water**  
**Analysis Batch: 198562**

**Client Sample ID: GW-12636-091715-SSH-1545**  
**Prep Type: Dissolved**  
**Prep Batch: 198344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	330	B	500	805		ug/L		96	75 - 125
Lead	3.0	U	500	470		ug/L		94	75 - 125

**Lab Sample ID: 240-55584-2 MSD**  
**Matrix: Water**  
**Analysis Batch: 198562**

**Client Sample ID: GW-12636-091715-SSH-1545**  
**Prep Type: Dissolved**  
**Prep Batch: 198344**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	330	B	500	810		ug/L		97	75 - 125	1	20
Lead	3.0	U	500	462		ug/L		92	75 - 125	2	20

TestAmerica Canton

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

**Client Sample ID: GW-12636-091715-SSH-1544**

**Lab Sample ID: 240-55584-1**

**Date Collected: 09/17/15 08:51**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 11:22	KLC	TAL CAN

**Client Sample ID: GW-12636-091715-SSH-1545**

**Lab Sample ID: 240-55584-2**

**Date Collected: 09/17/15 10:11**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 10:30	KLC	TAL CAN
Total Recoverable	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198562	09/22/15 10:10	KLC	TAL CAN

**Client Sample ID: GW-12636-091715-SSH-1546**

**Lab Sample ID: 240-55584-3**

**Date Collected: 09/17/15 11:26**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 11:31	KLC	TAL CAN
Total Recoverable	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198562	09/22/15 11:26	KLC	TAL CAN

**Client Sample ID: GW-12636-091715-SSH-1547**

**Lab Sample ID: 240-55584-4**

**Date Collected: 09/17/15 12:31**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 11:47	KLC	TAL CAN
Total Recoverable	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198562	09/22/15 11:43	KLC	TAL CAN

**Client Sample ID: GW-12636-091715-SSH-1548**

**Lab Sample ID: 240-55584-5**

**Date Collected: 09/17/15 13:36**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 11:51	KLC	TAL CAN
Total Recoverable	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	198562	09/22/15 11:55	KLC	TAL CAN

TestAmerica Canton

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

**Client Sample ID: GW-12636-091715-SSH-1549**

**Lab Sample ID: 240-55584-6**

**Date Collected: 09/17/15 14:06**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 11:59	KLC	TAL CAN

**Client Sample ID: GW-12636-091715-SSH-1550**

**Lab Sample ID: 240-55584-7**

**Date Collected: 09/17/15 14:31**

**Matrix: Water**

**Date Received: 09/18/15 09:20**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			198344	09/21/15 10:29	WKD	TAL CAN
Dissolved	Analysis	6010B		1	198562	09/22/15 12:03	KLC	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: 12636-T09-07, RACER Peregrine

TestAmerica Job ID: 240-55584-1

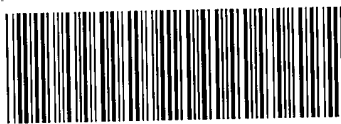
## Laboratory: TestAmerica Canton

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 (WW)	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.

**CHAIN OF CUSTODY  
AND  
RECEIVING DOCUMENTS**



240-55584 Chain of Custody

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

Chain of Custody Record

105145

**TestAmerica**

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

Regulatory Program:  DW  NPDES  RCRA  Other:

Client Contact Company Name: <u>GHA Services Inc</u> Address: <u>14496 N. Sheridan Rd Ste 200</u> City/State/Zip: <u>Plymouth MI 48170</u> Phone: <u>734 453 1523</u> Fax: _____ Project Name: <u>Perc/Ine/Col/Water R.A</u> Site: <u>SS01</u> P O #: <u>24005826</u>		Project Manager: <u>R. Chaffield</u> Tell/Fax: <u>517 894 0510</u> Analysis Turnaround Time <input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS <input checked="" type="checkbox"/> TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		Site Contact: <u>S. Hoermyer</u> Date: <u>9/17/15</u> Lab Contact: <u>D. Hukle</u> Carrier: <u>FedEx</u> Perform MS / MSD (Y / N) _____ Filtered Sample (Y / N) _____ TAT if different from Below _____ <input type="checkbox"/> 2 weeks <input type="checkbox"/> 1 week <input type="checkbox"/> 2 days <input type="checkbox"/> 1 day		COC No: <u>105145</u> of <u>1</u> COCs Sampler: <u>S. Hoermyer</u> For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:	
Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Sample Specific Notes:	
Gw-12636-091715-SS4-1544	9/17/15	0851	G	GW	1		
-1545	1011		G	GW	4		
-1546	1126		G	GW	2		
-1547	1231		G	GW	2		
-1548	1336		G	GW	2		
-1549	1406		G	GW	1		
Gw-12636-091715-SS4-1550	9/17/15		G	GW	1		
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other <u>1,4</u> 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. <input checked="" type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown Special Instructions/QC Requirements & Comments:							
Custody Seal No.: <u>312807</u> Company: <u>GHA Services</u> Date/Time: <u>9/17/15 1700</u>		Received by: <u>[Signature]</u> Date/Time: _____ Company: _____		Cooler Temp. (°C): Obs'd: _____ Corr'd: _____ Therm ID No.: _____		Date/Time: _____ Date/Time: _____ Date/Time: _____	

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TestAmerica Canton Sample Receipt Form/Narrative  
Canton Facility

Login #: 55584

Client GHD Site Name 9/18/15 Cooler unpacked by: [Signature]  
Cooler Received on 9/18/15 Opened on 9/18/15  
FedEx: 1<sup>st</sup> 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# A (CF +1.0 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 4 (CF +0.5 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C  
 IR GUN# 8 (CF -1.5 °C) Observed Cooler Temp. 1.6 °C Corrected Cooler Temp. 0.1 °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# HC554612
12. Were VOAs on the COC?  Yes  No
13. Were air bubbles >6 mm in any VOA vials?  Yes  No  NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_  Yes  No

See Multiple Cooler Form

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_  
Concerning \_\_\_\_\_

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

Samples processed by: \_\_\_\_\_

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15. SAMPLE CONDITION

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

16. SAMPLE PRESERVATION

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

Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
GW-12636-091715-SSH-1544	240-55584-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091715-SSH-1544	240-55584-B-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1545	240-55584-A-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091715-SSH-1545	240-55584-B-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091715-SSH-1545	240-55584-C-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1545	240-55584-D-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1546	240-55584-A-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091715-SSH-1546	240-55584-B-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1547	240-55584-A-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091715-SSH-1547	240-55584-B-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1548	240-55584-A-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-091715-SSH-1548	240-55584-B-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1549	240-55584-A-6	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-091715-SSH-1550	240-55584-A-7	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: 240-59223-1

Client Project/Site: 12636-007-T09, RACER Peregrine

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

12/29/2015 1:58:22 PM

Denise Heckler, Project Manager II

(330)966-9477

[denise.heckler@testamericainc.com](mailto:denise.heckler@testamericainc.com)



### LINKS

Review your project  
results through

Total Access

Have a Question?



Visit us at:

[www.testamericainc.com](http://www.testamericainc.com)

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

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

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# Case Narrative

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

**Job ID: 240-59223-1**

**Laboratory: TestAmerica Canton**

**Narrative**

## CASE NARRATIVE

**Client: GHD Services Inc.**

**Project: 12636-007-T09, RACER Peregrine**

**Report Number: 240-59223-1**

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 12/17/2015; the samples arrived in good condition, properly preserved and on ice. The temperature of the coolers at receipt was 1.5 C.

### **DISSOLVED METALS (ICP)**

Samples GW-12636-121515-SSH-1551 (240-59223-1), GW-12636-121515-SSH-1552 (240-59223-2), GW-12636-121515-SSH-1553 (240-59223-3), GW-12636-121515-SSH-1554 (240-59223-4), GW-12636-121515-SSH-1555 (240-59223-5), GW-12636-121515-SSH-1556 (240-59223-6), GW-12636-121515-SSH-1557 (240-59223-7), GW-12636-121615-SSH-1558 (240-59223-8), GW-12636-121615-SSH-1559 (240-59223-9), GW-12636-121615-SSH-1560 (240-59223-10) and GW-12636-121615-SSH-1561 (240-59223-11) were analyzed for dissolved metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 12/18/2015 and analyzed on 12/23/2015 and 12/24/2015.

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

### **TOTAL RECOVERABLE METALS (ICP)**

Samples GW-12636-121515-SSH-1551 (240-59223-1), GW-12636-121515-SSH-1552 (240-59223-2), GW-12636-121515-SSH-1553 (240-59223-3), GW-12636-121515-SSH-1554 (240-59223-4), GW-12636-121515-SSH-1555 (240-59223-5), GW-12636-121515-SSH-1556 (240-59223-6), GW-12636-121515-SSH-1557 (240-59223-7), GW-12636-121615-SSH-1560

# Case Narrative

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

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## Job ID: 240-59223-1 (Continued)

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### Laboratory: TestAmerica Canton (Continued)

(240-59223-10) and GW-12636-121615-SSH-1561 (240-59223-11) were analyzed for total recoverable metals (ICP) in accordance with EPA SW-846 Method 6010B. The samples were prepared on 12/18/2015 and analyzed on 12/23/2015 and 12/24/2015.

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

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# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Qualifiers

### Metals

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.

## 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: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-59223-1	GW-12636-121515-SSH-1551	Water	12/15/15 08:36	12/17/15 09:30
240-59223-2	GW-12636-121515-SSH-1552	Water	12/15/15 09:51	12/17/15 09:30
240-59223-3	GW-12636-121515-SSH-1553	Water	12/15/15 09:56	12/17/15 09:30
240-59223-4	GW-12636-121515-SSH-1554	Water	12/15/15 11:16	12/17/15 09:30
240-59223-5	GW-12636-121515-SSH-1555	Water	12/15/15 12:26	12/17/15 09:30
240-59223-6	GW-12636-121515-SSH-1556	Water	12/15/15 13:36	12/17/15 09:30
240-59223-7	GW-12636-121515-SSH-1557	Water	12/15/15 14:46	12/17/15 09:30
240-59223-8	GW-12636-121615-SSH-1558	Water	12/16/15 08:00	12/17/15 09:30
240-59223-9	GW-12636-121615-SSH-1559	Water	12/16/15 08:20	12/17/15 09:30
240-59223-10	GW-12636-121615-SSH-1560	Water	12/16/15 09:26	12/17/15 09:30
240-59223-11	GW-12636-121615-SSH-1561	Water	12/16/15 10:41	12/17/15 09:30





# Detection Summary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Client Sample ID: GW-12636-121515-SSH-1551

## Lab Sample ID: 240-59223-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	280		15	0.46	ug/L	1		6010B	Total
Manganese	290		15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-121515-SSH-1552

## Lab Sample ID: 240-59223-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	160		15	0.46	ug/L	1		6010B	Total
Manganese	190		15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-121515-SSH-1553

## Lab Sample ID: 240-59223-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	170		15	0.46	ug/L	1		6010B	Total
Manganese	200		15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-121515-SSH-1554

## Lab Sample ID: 240-59223-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.54	J	15	0.46	ug/L	1		6010B	Total
Lead	2.2	J	3.0	1.9	ug/L	1		6010B	Recoverable
Lead	2.1	J	3.0	1.9	ug/L	1		6010B	Total Recoverable Dissolved

## Client Sample ID: GW-12636-121515-SSH-1555

## Lab Sample ID: 240-59223-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.4	J	15	0.46	ug/L	1		6010B	Total
Manganese	0.73	J	15	0.46	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-121515-SSH-1556

## Lab Sample ID: 240-59223-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	23		5.0	2.9	ug/L	1		6010B	Total
Iron	11000		100	13	ug/L	1		6010B	Recoverable
Manganese	150		15	0.46	ug/L	1		6010B	Total
Lead	2.1	J	3.0	1.9	ug/L	1		6010B	Recoverable
Arsenic	22		5.0	2.9	ug/L	1		6010B	Total
Iron	10000		100	13	ug/L	1		6010B	Recoverable
Manganese	150		15	0.46	ug/L	1		6010B	Total
Lead	1.9	J	3.0	1.9	ug/L	1		6010B	Recoverable Dissolved

## Client Sample ID: GW-12636-121515-SSH-1557

## Lab Sample ID: 240-59223-7

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Detection Summary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Client Sample ID: GW-12636-121515-SSH-1557 (Continued)

## Lab Sample ID: 240-59223-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	190		15	0.46	ug/L	1		6010B	Total Recoverable
Lead	3.1		3.0	1.9	ug/L	1		6010B	Total Recoverable
Manganese	180		15	0.46	ug/L	1		6010B	Dissolved
Lead	2.8	J	3.0	1.9	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-121615-SSH-1558

## Lab Sample ID: 240-59223-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	350		15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-121615-SSH-1559

## Lab Sample ID: 240-59223-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	89		15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-121615-SSH-1560

## Lab Sample ID: 240-59223-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	780		15	0.46	ug/L	1		6010B	Total Recoverable
Manganese	920		15	0.46	ug/L	1		6010B	Dissolved

## Client Sample ID: GW-12636-121615-SSH-1561

## Lab Sample ID: 240-59223-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.8	J	15	0.46	ug/L	1		6010B	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Method Summary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

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Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL CAN

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**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



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1551

Date Collected: 12/15/15 08:36

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	280		15	0.46	ug/L		12/18/15 09:54	12/23/15 19:47	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 19:47	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1552

Date Collected: 12/15/15 09:51

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	160		15	0.46	ug/L		12/18/15 09:54	12/23/15 19:56	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 19:56	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1553

Date Collected: 12/15/15 09:56

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	170		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:04	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:04	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1554

Date Collected: 12/15/15 11:16

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.54	J	15	0.46	ug/L		12/18/15 09:54	12/23/15 20:13	1
Lead	2.2	J	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:13	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1555

Date Collected: 12/15/15 12:26

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.4	J	15	0.46	ug/L		12/18/15 09:54	12/23/15 20:21	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:21	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1556

Date Collected: 12/15/15 13:36

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23		5.0	2.9	ug/L		12/18/15 09:54	12/23/15 20:38	1
Iron	11000		100	13	ug/L		12/18/15 09:54	12/24/15 22:11	1
Manganese	150		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:38	1
Lead	2.1	J	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:38	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121515-SSH-1557

Date Collected: 12/15/15 14:46

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	190		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:46	1
Lead	3.1		3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:46	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121615-SSH-1560

Date Collected: 12/16/15 09:26

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	780		15	0.46	ug/L		12/18/15 09:54	12/23/15 19:04	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 19:04	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-121615-SSH-1561

Date Collected: 12/16/15 10:41

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.8	J	15	0.46	ug/L		12/18/15 09:54	12/23/15 21:03	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 21:03	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1551

Date Collected: 12/15/15 08:36

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	290		15	0.46	ug/L		12/18/15 09:54	12/23/15 19:51	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 19:51	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1552

Date Collected: 12/15/15 09:51

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	190		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:00	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:00	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1553

Date Collected: 12/15/15 09:56

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	200		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:09	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:09	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1554

Date Collected: 12/15/15 11:16

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	15	U	15	0.46	ug/L		12/18/15 09:54	12/23/15 20:17	1
Lead	2.1	J	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:17	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1555

Date Collected: 12/15/15 12:26

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.73	J	15	0.46	ug/L		12/18/15 09:54	12/23/15 20:25	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:25	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1556

Date Collected: 12/15/15 13:36

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	22		5.0	2.9	ug/L		12/18/15 09:54	12/23/15 20:42	1
Iron	10000		100	13	ug/L		12/18/15 09:54	12/24/15 22:15	1
Manganese	150		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:42	1
Lead	1.9	J	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:42	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121515-SSH-1557

Date Collected: 12/15/15 14:46

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	180		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:50	1
Lead	2.8	J	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:50	1

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# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121615-SSH-1558

Date Collected: 12/16/15 08:00

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	350		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:55	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:55	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121615-SSH-1559

Date Collected: 12/16/15 08:20

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	89		15	0.46	ug/L		12/18/15 09:54	12/23/15 20:59	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 20:59	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121615-SSH-1560

Date Collected: 12/16/15 09:26

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	920		15	0.46	ug/L		12/18/15 09:54	12/23/15 19:24	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 19:24	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-121615-SSH-1561

Date Collected: 12/16/15 10:41

Date Received: 12/17/15 09:30

Lab Sample ID: 240-59223-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	15	U	15	0.46	ug/L		12/18/15 09:54	12/23/15 21:07	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 21:07	1

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

# QC Association Summary

Client: GHD Services Inc.  
 Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Metals

### Prep Batch: 211491

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59223-1	GW-12636-121515-SSH-1551	Dissolved	Water	3005A	
240-59223-1	GW-12636-121515-SSH-1551	Total Recoverable	Water	3005A	
240-59223-2	GW-12636-121515-SSH-1552	Dissolved	Water	3005A	
240-59223-2	GW-12636-121515-SSH-1552	Total Recoverable	Water	3005A	
240-59223-3	GW-12636-121515-SSH-1553	Dissolved	Water	3005A	
240-59223-3	GW-12636-121515-SSH-1553	Total Recoverable	Water	3005A	
240-59223-4	GW-12636-121515-SSH-1554	Dissolved	Water	3005A	
240-59223-4	GW-12636-121515-SSH-1554	Total Recoverable	Water	3005A	
240-59223-5	GW-12636-121515-SSH-1555	Dissolved	Water	3005A	
240-59223-5	GW-12636-121515-SSH-1555	Total Recoverable	Water	3005A	
240-59223-6	GW-12636-121515-SSH-1556	Dissolved	Water	3005A	
240-59223-6	GW-12636-121515-SSH-1556	Total Recoverable	Water	3005A	
240-59223-7	GW-12636-121515-SSH-1557	Dissolved	Water	3005A	
240-59223-7	GW-12636-121515-SSH-1557	Total Recoverable	Water	3005A	
240-59223-8	GW-12636-121615-SSH-1558	Dissolved	Water	3005A	
240-59223-9	GW-12636-121615-SSH-1559	Dissolved	Water	3005A	
240-59223-10	GW-12636-121615-SSH-1560	Dissolved	Water	3005A	
240-59223-10	GW-12636-121615-SSH-1560	Total Recoverable	Water	3005A	
240-59223-10 MS	GW-12636-121615-SSH-1560	Dissolved	Water	3005A	
240-59223-10 MS	GW-12636-121615-SSH-1560	Total Recoverable	Water	3005A	
240-59223-10 MSD	GW-12636-121615-SSH-1560	Dissolved	Water	3005A	
240-59223-10 MSD	GW-12636-121615-SSH-1560	Total Recoverable	Water	3005A	
240-59223-11	GW-12636-121615-SSH-1561	Dissolved	Water	3005A	
240-59223-11	GW-12636-121615-SSH-1561	Total Recoverable	Water	3005A	
LCS 240-211491/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-211491/1-A	Method Blank	Total Recoverable	Water	3005A	

### Analysis Batch: 212146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59223-1	GW-12636-121515-SSH-1551	Dissolved	Water	6010B	211491
240-59223-1	GW-12636-121515-SSH-1551	Total Recoverable	Water	6010B	211491
240-59223-2	GW-12636-121515-SSH-1552	Dissolved	Water	6010B	211491
240-59223-2	GW-12636-121515-SSH-1552	Total Recoverable	Water	6010B	211491
240-59223-3	GW-12636-121515-SSH-1553	Dissolved	Water	6010B	211491
240-59223-3	GW-12636-121515-SSH-1553	Total Recoverable	Water	6010B	211491
240-59223-4	GW-12636-121515-SSH-1554	Dissolved	Water	6010B	211491
240-59223-4	GW-12636-121515-SSH-1554	Total Recoverable	Water	6010B	211491
240-59223-5	GW-12636-121515-SSH-1555	Dissolved	Water	6010B	211491
240-59223-5	GW-12636-121515-SSH-1555	Total Recoverable	Water	6010B	211491
240-59223-6	GW-12636-121515-SSH-1556	Dissolved	Water	6010B	211491
240-59223-6	GW-12636-121515-SSH-1556	Total Recoverable	Water	6010B	211491
240-59223-7	GW-12636-121515-SSH-1557	Dissolved	Water	6010B	211491
240-59223-7	GW-12636-121515-SSH-1557	Total Recoverable	Water	6010B	211491
240-59223-8	GW-12636-121615-SSH-1558	Dissolved	Water	6010B	211491
240-59223-9	GW-12636-121615-SSH-1559	Dissolved	Water	6010B	211491
240-59223-10	GW-12636-121615-SSH-1560	Dissolved	Water	6010B	211491
240-59223-10	GW-12636-121615-SSH-1560	Total Recoverable	Water	6010B	211491
240-59223-10 MS	GW-12636-121615-SSH-1560	Dissolved	Water	6010B	211491
240-59223-10 MS	GW-12636-121615-SSH-1560	Total Recoverable	Water	6010B	211491
240-59223-10 MSD	GW-12636-121615-SSH-1560	Dissolved	Water	6010B	211491
240-59223-10 MSD	GW-12636-121615-SSH-1560	Total Recoverable	Water	6010B	211491

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# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Metals (Continued)

### Analysis Batch: 212146 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59223-11	GW-12636-121615-SSH-1561	Dissolved	Water	6010B	211491
240-59223-11	GW-12636-121615-SSH-1561	Total Recoverable	Water	6010B	211491
LCS 240-211491/2-A	Lab Control Sample	Total Recoverable	Water	6010B	211491
MB 240-211491/1-A	Method Blank	Total Recoverable	Water	6010B	211491

### Analysis Batch: 212434

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-59223-6	GW-12636-121515-SSH-1556	Dissolved	Water	6010B	211491
240-59223-6	GW-12636-121515-SSH-1556	Total Recoverable	Water	6010B	211491
LCS 240-211491/2-A	Lab Control Sample	Total Recoverable	Water	6010B	211491
MB 240-211491/1-A	Method Blank	Total Recoverable	Water	6010B	211491

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 240-211491/1-A**  
**Matrix: Water**  
**Analysis Batch: 212146**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 211491**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	10	U	10	2.9	ug/L		12/18/15 09:54	12/23/15 18:48	1
Manganese	15	U	15	0.46	ug/L		12/18/15 09:54	12/23/15 18:48	1
Lead	3.0	U	3.0	1.9	ug/L		12/18/15 09:54	12/23/15 18:48	1

**Lab Sample ID: MB 240-211491/1-A**  
**Matrix: Water**  
**Analysis Batch: 212434**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 211491**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	100	U	100	13	ug/L		12/18/15 09:54	12/24/15 21:20	1

**Lab Sample ID: LCS 240-211491/2-A**  
**Matrix: Water**  
**Analysis Batch: 212146**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 211491**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2120		ug/L		106	80 - 120
Manganese	500	562		ug/L		112	80 - 120
Lead	500	549		ug/L		110	80 - 120

**Lab Sample ID: LCS 240-211491/2-A**  
**Matrix: Water**  
**Analysis Batch: 212434**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 211491**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1000	1040		ug/L		104	80 - 120

**Lab Sample ID: 240-59223-10 MS**  
**Matrix: Water**  
**Analysis Batch: 212146**

**Client Sample ID: GW-12636-121615-SSH-1560**  
**Prep Type: Total Recoverable**  
**Prep Batch: 211491**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	780		500	1350		ug/L		113	75 - 125
Lead	3.0	U	500	544		ug/L		109	75 - 125

**Lab Sample ID: 240-59223-10 MSD**  
**Matrix: Water**  
**Analysis Batch: 212146**

**Client Sample ID: GW-12636-121615-SSH-1560**  
**Prep Type: Total Recoverable**  
**Prep Batch: 211491**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	Limit
Manganese	780		500	1290		ug/L		102	75 - 125	4	20
Lead	3.0	U	500	523		ug/L		105	75 - 125	4	20

**Lab Sample ID: 240-59223-10 MS**  
**Matrix: Water**  
**Analysis Batch: 212146**

**Client Sample ID: GW-12636-121615-SSH-1560**  
**Prep Type: Dissolved**  
**Prep Batch: 211491**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	920		500	1390		ug/L		93	75 - 125

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 240-59223-10 MS

Matrix: Water

Analysis Batch: 212146

Client Sample ID: GW-12636-121615-SSH-1560

Prep Type: Dissolved

Prep Batch: 211491

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Lead	3.0	U	500	532		ug/L		106	75 - 125

Lab Sample ID: 240-59223-10 MSD

Matrix: Water

Analysis Batch: 212146

Client Sample ID: GW-12636-121615-SSH-1560

Prep Type: Dissolved

Prep Batch: 211491

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Manganese	920		500	1380		ug/L		91	75 - 125	1	20
Lead	3.0	U	500	529		ug/L		106	75 - 125	1	20



# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

**Client Sample ID: GW-12636-121515-SSH-1551**  
**Date Collected: 12/15/15 08:36**  
**Date Received: 12/17/15 09:30**

**Lab Sample ID: 240-59223-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 19:51	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 19:47	KLC	TAL CAN

**Client Sample ID: GW-12636-121515-SSH-1552**  
**Date Collected: 12/15/15 09:51**  
**Date Received: 12/17/15 09:30**

**Lab Sample ID: 240-59223-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:00	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 19:56	KLC	TAL CAN

**Client Sample ID: GW-12636-121515-SSH-1553**  
**Date Collected: 12/15/15 09:56**  
**Date Received: 12/17/15 09:30**

**Lab Sample ID: 240-59223-3**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:09	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 20:04	KLC	TAL CAN

**Client Sample ID: GW-12636-121515-SSH-1554**  
**Date Collected: 12/15/15 11:16**  
**Date Received: 12/17/15 09:30**

**Lab Sample ID: 240-59223-4**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:17	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 20:13	KLC	TAL CAN

**Client Sample ID: GW-12636-121515-SSH-1555**  
**Date Collected: 12/15/15 12:26**  
**Date Received: 12/17/15 09:30**

**Lab Sample ID: 240-59223-5**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:25	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN

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# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

**Client Sample ID: GW-12636-121515-SSH-1555**

**Lab Sample ID: 240-59223-5**

**Date Collected: 12/15/15 12:26**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Analysis	6010B		1	212146	12/23/15 20:21	KLC	TAL CAN

**Client Sample ID: GW-12636-121515-SSH-1556**

**Lab Sample ID: 240-59223-6**

**Date Collected: 12/15/15 13:36**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:42	KLC	TAL CAN
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212434	12/24/15 22:15	RKT	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 20:38	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212434	12/24/15 22:11	RKT	TAL CAN

**Client Sample ID: GW-12636-121515-SSH-1557**

**Lab Sample ID: 240-59223-7**

**Date Collected: 12/15/15 14:46**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:50	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 20:46	KLC	TAL CAN

**Client Sample ID: GW-12636-121615-SSH-1558**

**Lab Sample ID: 240-59223-8**

**Date Collected: 12/16/15 08:00**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:55	KLC	TAL CAN

**Client Sample ID: GW-12636-121615-SSH-1559**

**Lab Sample ID: 240-59223-9**

**Date Collected: 12/16/15 08:20**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 20:59	KLC	TAL CAN

TestAmerica Canton

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

**Client Sample ID: GW-12636-121615-SSH-1560**

**Lab Sample ID: 240-59223-10**

**Date Collected: 12/16/15 09:26**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 19:24	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 19:04	KLC	TAL CAN

**Client Sample ID: GW-12636-121615-SSH-1561**

**Lab Sample ID: 240-59223-11**

**Date Collected: 12/16/15 10:41**

**Matrix: Water**

**Date Received: 12/17/15 09:30**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Dissolved	Analysis	6010B		1	212146	12/23/15 21:07	KLC	TAL CAN
Total Recoverable	Prep	3005A			211491	12/18/15 09:54	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	212146	12/23/15 21:03	KLC	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: 12636-007-T09, RACER Peregrine

TestAmerica Job ID: 240-59223-1

## Laboratory: TestAmerica Canton

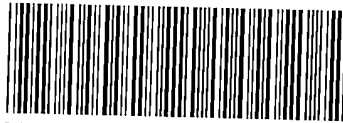
All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

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 (WW)	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.



**CHAIN OF CUSTODY  
AND  
RECEIVING DOCUMENTS**



240-59223 Chain of Custody

1  
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12  
13



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

1.8/C1.5

**Chain of Custody Record**

122379

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING  
 TestAmerica Laboratories, Inc.  
 TAL-8210 (07/13)

Regulatory Program:  DW  NPDES  RCRA  Other:

Company Name: <b>GND Services</b>		Project Manager: <b>M. Tomka</b>		Site Contact: <b>R. Chaffin</b>		COC No.: <b>122379</b>	
Address: <b>1496 N. Sheldon Rd Ste 200</b>		Tel/Fax: <b>519 884 0510</b>		Lab Contact: <b>D. Heckler</b>		Date: <b>12/16/15</b>	
City/State/Zip: <b>Plymouth MI 48170</b>		Analysis Turnaround Time		Carrier: <b>Fidelis</b>		Sampler: <b>S.S. Hoenemeyer</b>	
Phone: <b>734-45315123</b>		<input type="checkbox"/> CALENDAR DAYS <input checked="" type="checkbox"/> WORKING DAYS		Perform MS / MSD (Y / N)		For Lab Use Only:	
Fax:		TAT if different from Below		Filtered Sample (Y / N)		Walk-in Client:	
Project Name: <b>Permyne Colbywater Rd</b>		<input checked="" type="checkbox"/> 2 weeks		Sample Date		Lab Sampling:	
Site:		<input type="checkbox"/> 1 week		Sample Time		Job / SDG No.:	
PO # <b>12636-007-709 SSW</b>		<input type="checkbox"/> 2 days		Sample Type (C-Comp, G-Gab)			
		<input type="checkbox"/> 1 day		Matrix		Sample Specific Notes:	
Sample Identification	Sample Date	Sample Time	Sample Type (C-Comp, G-Gab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)
GW -12636-121515-SS14 -1551	12/15/15	0836	G	GW	2	Y	Y
-1552		0951	G	GW	2	Y	Y
-1553		0956	G	GW	2	Y	Y
-1554		1116	G	GW	2	Y	Y
-1555		1226	G	GW	2	Y	Y
-1556		1336	G	GW	2	Y	Y
GW -12636-121515-SS14-1557	12/16/15	0800	G	GW	1	Y	Y
GW -12636-121615-SS14-1558	12/16/15	0830	G	GW	1	Y	Y
-1559		0926	G	GW	4	Y	Y
-1560		1041	G	GW	2	Y	Y
GW -12636-121615-SS14-1561							

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.

Special Instructions/QC Requirements & Comments:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Custody Seals Intact:  Yes  No  
 Relinquished by: **J.A. N...** Date/Time: **12/16/15 1600**  
 Relinquished by: **...** Date/Time: **12/16/15 1600**  
 Relinquished by: **...** Date/Time: **12/17/15 930**



TestAmerica Canton Sample Receipt Form/Narrative  
 Canton Facility \_\_\_\_\_ Login #: 60293

Client GHD Site Name \_\_\_\_\_ Cooler unpacked by: \_\_\_\_\_  
 Cooler Received on 12/17/15 Opened on 12/17/15  
 FedEx: 1<sup>st</sup> 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. 1.8 °C Corrected Cooler Temp. 1.5 °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: \_\_\_\_\_

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15. SAMPLE CONDITION

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

16. SAMPLE PRESERVATION

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

Temperature readings: \_\_\_\_\_

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
GW-12636-121515-SSH-1551	240-59223-A-1	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1551	240-59223-B-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121515-SSH-1552	240-59223-A-2	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1552	240-59223-B-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121515-SSH-1553	240-59223-A-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1553	240-59223-B-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121515-SSH-1554	240-59223-A-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1554	240-59223-B-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121515-SSH-1555	240-59223-A-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1555	240-59223-B-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121515-SSH-1556	240-59223-A-6	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1556	240-59223-B-6	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121515-SSH-1557	240-59223-A-7	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121515-SSH-1557	240-59223-B-7	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121615-SSH-1558	240-59223-A-8	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121615-SSH-1559	240-59223-A-9	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121615-SSH-1560	240-59223-A-10	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121615-SSH-1560	240-59223-B-10	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121615-SSH-1560	240-59223-C-10	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121615-SSH-1560	240-59223-D-10	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-121615-SSH-1561	240-59223-A-11	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-121615-SSH-1561	240-59223-B-11	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____



# Memorandum

To: Mike Tomka Ref. No.: 012636-T09-003Y16

From: Ruth Mickle/ma/170/Det *RF* Date: May 10, 2016

cc: Richard Chatfield

**Re: Analytical Results and Reduced Validation  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

## 1. Introduction

This document details a reduced validation of analytical results for groundwater samples collected in support of the Groundwater Monitoring at the Racer - Peregrine Site during March 2016. Samples were submitted to TestAmerica Laboratories, Inc., located in North Canton, Ohio. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spikes (MS) and field QA/QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "Quality Assurance Project Plan (QAPP) for the RCRA Facility Investigation (RFI) at Former Peregrine (US), Inc. Coldwater Road Facility", May 15, 2000
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994
- iii) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

Items ii) and iii) will subsequently be referred to as the "Guidelines" in this Memorandum.

## **2. Sample Holding Time and Preservation**

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (4 +/- 2°C).

## **3. Laboratory Method Blank Analyses**

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Table 4 presents the sample results qualified due to analyte concentrations in the method blanks. All remaining method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

## **4. Laboratory Control Sample Analyses**

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

### **4.1 Inorganic Analyses**

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

### **4.2 Organic Analyses**

The LCS contained all compounds of interest. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

## **5. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses**

To evaluate the effects of sample matrices on the preparation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with known concentrations of the analytes of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

## **5.1 Inorganic Analyses**

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision.

## **5.2 Organic Analyses**

The MS/MSD samples were spiked with all compounds of interest. The percent recoveries and RPD values were within the laboratory control limits or an outlying percent recovery did not result in qualification, demonstrating acceptable analytical accuracy and precision.

## **6. Field QA/QC Samples**

The field QA/QC consisted of two trip blanks and one field duplicate sample set.

### **6.1 Trip Blank Sample Analysis**

To evaluate contamination from sample collection, transportation, storage, and analytical activities, two trip blanks were submitted to the laboratory for volatile organic compound (VOC) analysis. Both trip blanks yielded acetone detections, however, only one trip blank had associated acetone detections in investigative samples. The associated sample data were qualified nondetect, as noted in Table 5. The remaining trip blank results were non-detect for the compounds of interest.

### **6.2 Field Duplicate Sample Analysis**

To assess the analytical and sampling protocol precision, one field duplicate sample was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with the duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criteria is one times the RL value for water samples.

The field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

## **7. Analyte Reporting**

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the RL but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

## **8. Conclusion**

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific qualifications noted herein.

**Table 1**  
**Sample Collection and Analysis Summary**  
**Groundwater Monitoring**  
**Racer - Peregrine Site**  
**Genesee County, Michigan**  
**March 2016**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters			Comments
					TCL VOCs	Site TAL Dissolved Metals	Site TAL Total Metals	
<b>TA SDG No.: 240-62436-1</b>								
GW-12636-032116-SSH-0116	PFW-2	water	03/21/2016	9:46	X	X	--	MS/MSD (partial parameters)
GW-12636-032116-SSH-0216	MW-1	water	03/21/2016	10:06	X	X	--	
GW-12636-032116-SSH-0316	PFW-9	water	03/21/2016	11:06	X	X	X	
GW-12636-032116-SSH-0416	PFW-9	water	03/21/2016	11:11	X	X	X	FD (-SSH-0316)
GW-12636-032116-SSH-0516	MW-4-02	water	03/21/2016	12:50	X	X	X	MS/MSD (partial parameters)
GW-12636-032116-SSH-0616	MW-17-13	water	03/21/2016	14:05	X	X	--	
GW-12636-032116-SSH-0716	MW-20-13	water	03/21/2016	13:41	X	X	X	
GW-12636-032116-SSH-0816	MW-2	water	03/21/2016	14:06	X	X	--	
GW-12636-032116-SSH-0916	PFW-4	water	03/21/2016	14:46	X	X	--	
GW-12636-032116-SSH-1016	B-9	water	03/21/2016	15:16	X	X	--	
GW-12636-032116-SSH-1116	MW-19-13	water	03/21/2016	15:40	X	X	X	
TB-12636-032116-SSH-1216	Trip Blank	water	03/21/2016	15:45	X	--	--	Trip Blank
<b>TA SDG No.: 240-62494-1</b>								
GW-12636-032216-SSH-1316	PFW-11	water	03/22/2016	8:21	X	X	--	
GW-12636-032216-SSH-1416	PFW-10	water	03/22/2016	8:51	X	X	--	
GW-12636-032216-SSH-1516	MW-18-13	water	03/22/2016	9:26	X	X	--	
GW-12636-032216-SSH-1616	PFW-1	water	03/22/2016	9:10	X	X	X	
GW-12636-032216-SSH-1716	MW-15-10	water	03/22/2016	10:45	X	X	--	
GW-12636-032216-SSH-1816	B-27D	water	03/22/2016	12:01	X	X	--	MS/MSD (partial parameters)
TB-12636-032216-SSH-2116	Trip Blank	water	03/22/2016	12:05	X	--	--	Trip Blank

Notes:

- FD - Field Duplicate sample of sample in parenthesis
- MS/MSD - Matrix Spike/Matrix Spike Duplicate
- TAL - Target Analyte List
- TCL - Target Compound List
- VOC - Volatile Organic Compounds

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	B-9	B-27D	MW-1
Sample Name:	GW-12636-032116-SSH-1016	GW-12636-032216-SSH-1816	GW-12636-032116-SSH-0216
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--

Parameters	Unit			
<b>Volatile Organic Compounds</b>				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	0.66 J
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U



Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	B-9	B-27D	MW-1
Sample Name:	GW-12636-032116-SSH-1016	GW-12636-032216-SSH-1816	GW-12636-032116-SSH-0216
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--
Parameters	Unit		
<b>Volatile Organic Compounds</b>			
Dibromochloromethane	µg/L	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U
Styrene	µg/L	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U
<b>Metals</b>			
Aluminum	µg/L	--	--
Aluminum (dissolved)	µg/L	480	50 U
Antimony	µg/L	--	--
Antimony (dissolved)	µg/L	0.21 J	2.0 U
Arsenic	µg/L	--	--
Arsenic (dissolved)	µg/L	3.6 J	62
Barium	µg/L	--	--
Barium (dissolved)	µg/L	13 J	180
Beryllium	µg/L	--	--
Beryllium (dissolved)	µg/L	1.0 U	1.0 U
Cadmium	µg/L	--	--
Cadmium (dissolved)	µg/L	0.54 J	0.14 J

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	B-9	B-27D	MW-1
Sample Name:	GW-12636-032116-SSH-1016	GW-12636-032216-SSH-1816	GW-12636-032116-SSH-0216
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--

Parameters	Unit			
<b>Metals</b>				
Chromium	µg/L	--	--	--
Chromium (dissolved)	µg/L	1.6 J	5.0 U	0.79 J
Cobalt	µg/L	--	--	--
Cobalt (dissolved)	µg/L	1.9 J	7.0 U	2.3 J
Copper	µg/L	--	--	--
Copper (dissolved)	µg/L	2.1 U	2.0 U	5.2 U
Iron	µg/L	--	--	--
Iron (dissolved)	µg/L	650	1000	240
Lead	µg/L	--	--	--
Lead (dissolved)	µg/L	3.0 U	3.0 U	3.0 U
Manganese	µg/L	--	--	--
Manganese (dissolved)	µg/L	250	31	330
Mercury	µg/L	--	--	--
Mercury (dissolved)	µg/L	0.20 U	0.20 U	0.20 U
Nickel	µg/L	--	--	--
Nickel (dissolved)	µg/L	6.6 J	20 U	4.2 J
Selenium	µg/L	--	--	--
Selenium (dissolved)	µg/L	5.0 U	5.0 U	5.0 U
Silver	µg/L	--	--	--
Silver (dissolved)	µg/L	0.20 U	0.026 J	0.20 U
Thallium	µg/L	--	--	--
Thallium (dissolved)	µg/L	1.0 U	0.11 J	0.10 J
Vanadium	µg/L	--	--	--
Vanadium (dissolved)	µg/L	4.0 U	4.0 U	4.0 U
Zinc	µg/L	--	--	--
Zinc (dissolved)	µg/L	20 U	20 U	20 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-2	MW-4-02	MW-15-10
Sample Name:	GW-12636-032116-SSH-0816	GW-12636-032116-SSH-0516	GW-12636-032216-SSH-1716
Sample Date:	03/21/2016	03/21/2016	03/22/2016
Depth:	--	--	--
Parameters	Unit		
<b>Volatile Organic Compounds</b>			
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U
2-Hexanone	µg/L	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U
Acetone	µg/L	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-2	MW-4-02	MW-15-10
Sample Name:	GW-12636-032116-SSH-0816	GW-12636-032116-SSH-0516	GW-12636-032216-SSH-1716
Sample Date:	03/21/2016	03/21/2016	03/22/2016
Depth:	--	--	--

Parameters	Unit			
<b>Volatile Organic Compounds</b>				
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U	2.0 U
<b>Metals</b>				
Aluminum	µg/L	--	11 J	--
Aluminum (dissolved)	µg/L	50 U	50 U	13 J
Antimony	µg/L	--	0.17 J	--
Antimony (dissolved)	µg/L	0.19 J	2.0 U	0.16 J
Arsenic	µg/L	--	3.6 J	--
Arsenic (dissolved)	µg/L	8.1	5.0 U	14
Barium	µg/L	--	75 J	--
Barium (dissolved)	µg/L	150	75 J	130
Beryllium	µg/L	--	1.0 U	--
Beryllium (dissolved)	µg/L	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	--	0.29 J	--
Cadmium (dissolved)	µg/L	0.50 J	0.29 J	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-2	MW-4-02	MW-15-10
Sample Name:	GW-12636-032116-SSH-0816	GW-12636-032116-SSH-0516	GW-12636-032216-SSH-1716
Sample Date:	03/21/2016	03/21/2016	03/22/2016
Depth:	--	--	--
Parameters	Unit		
<b>Metals</b>			
Chromium	µg/L	--	1.5 J
Chromium (dissolved)	µg/L	1.4 J	1.3 J
Cobalt	µg/L	--	7.0 U
Cobalt (dissolved)	µg/L	13	7.0 U
Copper	µg/L	--	2.0 U
Copper (dissolved)	µg/L	2.0 U	2.0 U
Iron	µg/L	--	100 U
Iron (dissolved)	µg/L	2600	100 U
Lead	µg/L	--	3.0 U
Lead (dissolved)	µg/L	3.0 U	3.0 U
Manganese	µg/L	--	15 U
Manganese (dissolved)	µg/L	2300	15 U
Mercury	µg/L	--	0.20 U
Mercury (dissolved)	µg/L	0.20 U	0.20 U
Nickel	µg/L	--	0.86 J
Nickel (dissolved)	µg/L	5.6 J	1.8 J
Selenium	µg/L	--	5.0 U
Selenium (dissolved)	µg/L	5.0 U	5.0 U
Silver	µg/L	--	0.20 U
Silver (dissolved)	µg/L	0.20 U	0.021 J
Thallium	µg/L	--	0.088 J
Thallium (dissolved)	µg/L	0.13 J	0.11 J
Vanadium	µg/L	--	4.0 U
Vanadium (dissolved)	µg/L	4.0 U	4.0 U
Zinc	µg/L	--	20 U
Zinc (dissolved)	µg/L	20 U	20 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-17-13	MW-18-13	MW-19-13
Sample Name:	GW-12636-032116-SSH-0616	GW-12636-032216-SSH-1516	GW-12636-032116-SSH-1116
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--

Parameters	Unit			
<b>Volatile Organic Compounds</b>				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

<b>Location ID:</b>	<b>MW-17-13</b>	<b>MW-18-13</b>	<b>MW-19-13</b>
<b>Sample Name:</b>	<b>GW-12636-032116-SSH-0616</b>	<b>GW-12636-032216-SSH-1516</b>	<b>GW-12636-032116-SSH-1116</b>
<b>Sample Date:</b>	<b>03/21/2016</b>	<b>03/22/2016</b>	<b>03/21/2016</b>
<b>Depth:</b>	--	--	--

Parameters	Unit			
<b>Volatile Organic Compounds</b>				
Dibromochloromethane	µg/L	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
Styrene	µg/L	1.0 U	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U	2.0 U
<b>Metals</b>				
Aluminum	µg/L	--	--	50 U
Aluminum (dissolved)	µg/L	28 J	50 U	50 U
Antimony	µg/L	--	--	2.0 U
Antimony (dissolved)	µg/L	0.17 J	2.0 U	2.0 U
Arsenic	µg/L	--	--	4.6 J
Arsenic (dissolved)	µg/L	19	4.0 J	3.7 J
Barium	µg/L	--	--	130
Barium (dissolved)	µg/L	210	98 J	130
Beryllium	µg/L	--	--	1.0 U
Beryllium (dissolved)	µg/L	1.0 U	1.0 U	1.0 U
Cadmium	µg/L	--	--	1.0 U
Cadmium (dissolved)	µg/L	0.45 J	0.29 J	0.24 J

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-17-13	MW-18-13	MW-19-13
Sample Name:	GW-12636-032116-SSH-0616	GW-12636-032216-SSH-1516	GW-12636-032116-SSH-1116
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--

Parameters	Unit			
<b>Metals</b>				
Chromium	µg/L	--	--	1.3 J
Chromium (dissolved)	µg/L	1.8 J	0.86 J	1.1 J
Cobalt	µg/L	--	--	7.0 U
Cobalt (dissolved)	µg/L	4.8 J	7.0 U	7.0 U
Copper	µg/L	--	--	2.0 U
Copper (dissolved)	µg/L	21	1.6 J	3.2 U
Iron	µg/L	--	--	100 U
Iron (dissolved)	µg/L	24000	100 U	100 U
Lead	µg/L	--	--	3.0 U
Lead (dissolved)	µg/L	3.0 U	3.0 U	3.0 U
Manganese	µg/L	--	--	230
Manganese (dissolved)	µg/L	1100	200	220
Mercury	µg/L	--	--	0.20 U
Mercury (dissolved)	µg/L	0.20 U	0.20 U	0.093 J
Nickel	µg/L	--	--	3.2 J
Nickel (dissolved)	µg/L	8.1 J	2.6 J	3.5 J
Selenium	µg/L	--	--	5.0 U
Selenium (dissolved)	µg/L	5.0 U	5.0 U	5.0 U
Silver	µg/L	--	--	0.20 U
Silver (dissolved)	µg/L	0.20 U	0.20 U	0.20 U
Thallium	µg/L	--	--	1.0 U
Thallium (dissolved)	µg/L	1.0 U	1.0 U	1.0 U
Vanadium	µg/L	--	--	4.0 U
Vanadium (dissolved)	µg/L	4.0 U	4.0 U	4.0 U
Zinc	µg/L	--	--	20 U
Zinc (dissolved)	µg/L	20 U	20 U	20 U



Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-20-13	PFW-1	PFW-2
Sample Name:	GW-12636-032116-SSH-0716	GW-12636-032216-SSH-1616	GW-12636-032116-SSH-0116
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--

Parameters	Unit			
<b>Volatile Organic Compounds</b>				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	MW-20-13	PFW-1	PFW-2
Sample Name:	GW-12636-032116-SSH-0716	GW-12636-032216-SSH-1616	GW-12636-032116-SSH-0116
Sample Date:	03/21/2016	03/22/2016	03/21/2016
Depth:	--	--	--
<b>Parameters</b>	<b>Unit</b>		
<b>Volatile Organic Compounds</b>			
Dibromochloromethane	µg/L	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U
Styrene	µg/L	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U
<b>Metals</b>			
Aluminum	µg/L	12 J	--
Aluminum (dissolved)	µg/L	50 U	21 J
Antimony	µg/L	2.0 U	--
Antimony (dissolved)	µg/L	2.0 U	0.19 J
Arsenic	µg/L	3.9 J	--
Arsenic (dissolved)	µg/L	5.0 U	5.0 U
Barium	µg/L	73 J	--
Barium (dissolved)	µg/L	76 J	50 J
Beryllium	µg/L	1.0 U	--
Beryllium (dissolved)	µg/L	1.0 U	1.0 U
Cadmium	µg/L	1.0 U	--
Cadmium (dissolved)	µg/L	1.0 U	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

<b>Location ID:</b>	MW-20-13	PFW-1	PFW-2
<b>Sample Name:</b>	GW-12636-032116-SSH-0716	GW-12636-032216-SSH-1616	GW-12636-032116-SSH-0116
<b>Sample Date:</b>	03/21/2016	03/22/2016	03/21/2016
<b>Depth:</b>	--	--	--

Parameters	Unit			
<b>Metals</b>				
Chromium	µg/L	3.7 J	1.2 J	--
Chromium (dissolved)	µg/L	3.9 J	5.0 U	1.1 J
Cobalt	µg/L	7.0 U	7.0 U	--
Cobalt (dissolved)	µg/L	7.0 U	7.0 U	7.0 U
Copper	µg/L	2.0 U	2.0 U	--
Copper (dissolved)	µg/L	2.0 U	2.0 U	2.0 U
Iron	µg/L	100 U	1900	--
Iron (dissolved)	µg/L	100 U	1500	1200
Lead	µg/L	3.0 U	3.0 U	--
Lead (dissolved)	µg/L	3.0 U	3.0 U	3.0 U
Manganese	µg/L	15 U	33	--
Manganese (dissolved)	µg/L	15 U	30	950
Mercury	µg/L	0.20 U	0.20 U	--
Mercury (dissolved)	µg/L	0.20 U	0.20 U	0.20 U
Nickel	µg/L	0.87 J	1.6 J	--
Nickel (dissolved)	µg/L	20 U	1.4 J	1.8 J
Selenium	µg/L	5.0 U	5.0 U	--
Selenium (dissolved)	µg/L	5.0 U	5.0 U	5.0 U
Silver	µg/L	0.20 U	0.20 U	--
Silver (dissolved)	µg/L	0.20 U	0.20 U	0.040 J
Thallium	µg/L	1.0 U	1.0 U	--
Thallium (dissolved)	µg/L	1.0 U	1.0 U	0.11 J
Vanadium	µg/L	4.0 U	4.0 U	--
Vanadium (dissolved)	µg/L	4.0 U	4.0 U	4.0 U
Zinc	µg/L	20 U	20 U	--
Zinc (dissolved)	µg/L	20 U	20 U	20 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	PFW-4	PFW-9	PFW-9
Sample Name:	GW-12636-032116-SSH-0916	GW-12636-032116-SSH-0316	GW-12636-032116-SSH-0416
Sample Date:	03/21/2016	03/21/2016	03/21/2016
Depth:	--	--	Duplicate

Parameters	Unit			
<b>Volatile Organic Compounds</b>				
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U	1.0 U

Table 2

**Validated Analytical Results Summary**  
**Groundwater Monitoring**  
**Racer - Peregrine Site**  
**Genesee County, Michigan**  
**March 2016**

Location ID:	PFW-4	PFW-9	PFW-9
Sample Name:	GW-12636-032116-SSH-0916	GW-12636-032116-SSH-0316	GW-12636-032116-SSH-0416
Sample Date:	03/21/2016	03/21/2016	03/21/2016
Depth:	--	--	Duplicate
Parameters	Unit		
<b>Volatile Organic Compounds</b>			
Dibromochloromethane	µg/L	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U
Styrene	µg/L	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U
<b>Metals</b>			
Aluminum	µg/L	--	50 U
Aluminum (dissolved)	µg/L	130	50 U
Antimony	µg/L	--	2.0 U
Antimony (dissolved)	µg/L	0.16 J	2.0 U
Arsenic	µg/L	--	5.0 U
Arsenic (dissolved)	µg/L	3.1 J	5.0 U
Barium	µg/L	--	20 J
Barium (dissolved)	µg/L	58 J	21 J
Beryllium	µg/L	--	1.0 U
Beryllium (dissolved)	µg/L	1.0 U	1.0 U
Cadmium	µg/L	--	1.0 U
Cadmium (dissolved)	µg/L	0.17 J	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

Location ID:	PFW-4	PFW-9	PFW-9
Sample Name:	GW-12636-032116-SSH-0916	GW-12636-032116-SSH-0316	GW-12636-032116-SSH-0416
Sample Date:	03/21/2016	03/21/2016	03/21/2016
Depth:	--	--	--
			Duplicate

Parameters	Unit			
<b>Metals</b>				
Chromium	µg/L	--	5.0 U	0.77 J
Chromium (dissolved)	µg/L	1.1 J	0.64 J	0.90 J
Cobalt	µg/L	--	7.0 U	7.0 U
Cobalt (dissolved)	µg/L	7.0 U	7.0 U	7.0 U
Copper	µg/L	--	2.0 U	2.0 U
Copper (dissolved)	µg/L	2.6 U	2.0 U	2.0 U
Iron	µg/L	--	100 U	100 U
Iron (dissolved)	µg/L	220	100 U	100 U
Lead	µg/L	--	3.0 U	3.0 U
Lead (dissolved)	µg/L	2.1 J	3.0 U	3.0 U
Manganese	µg/L	--	15 U	15 U
Manganese (dissolved)	µg/L	56	15 U	15 U
Mercury	µg/L	--	0.20 U	0.20 U
Mercury (dissolved)	µg/L	0.20 U	0.20 U	0.20 U
Nickel	µg/L	--	1.1 J	20 U
Nickel (dissolved)	µg/L	3.1 J	1.3 J	0.80 J
Selenium	µg/L	--	5.0 U	5.0 U
Selenium (dissolved)	µg/L	5.0 U	5.0 U	5.0 U
Silver	µg/L	--	0.20 U	0.20 U
Silver (dissolved)	µg/L	0.20 U	0.20 U	0.20 U
Thallium	µg/L	--	1.0 U	1.0 U
Thallium (dissolved)	µg/L	1.0 U	1.0 U	1.0 U
Vanadium	µg/L	--	4.0 U	4.0 U
Vanadium (dissolved)	µg/L	4.0 U	4.0 U	4.0 U
Zinc	µg/L	--	20 U	20 U
Zinc (dissolved)	µg/L	20 U	20 U	20 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

<b>Location ID:</b>	<b>PFW-10</b>	<b>PFW-11</b>
<b>Sample Name:</b>	<b>GW-12636-032216-SSH-1416</b>	<b>GW-12636-032216-SSH-1316</b>
<b>Sample Date:</b>	<b>03/22/2016</b>	<b>03/22/2016</b>
<b>Depth:</b>	<b>--</b>	<b>--</b>

Parameters	Unit		
<b>Volatile Organic Compounds</b>			
1,1,1-Trichloroethane	µg/L	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	µg/L	1.0 U	1.0 U
1,1,2-Trichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethane	µg/L	1.0 U	1.0 U
1,1-Dichloroethene	µg/L	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U
1,2,4-Trimethylbenzene	µg/L	1.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	1.0 U	1.0 U
1,2-Dibromoethane (Ethylene dibromide)	µg/L	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U
1,2-Dichloroethane	µg/L	1.0 U	1.0 U
1,2-Dichloropropane	µg/L	1.0 U	1.0 U
1,3,5-Trimethylbenzene	µg/L	1.0 U	1.0 U
1,3-Dichlorobenzene	µg/L	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U
2-Hexanone	µg/L	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U
Acetone	µg/L	10 U	10 U
Benzene	µg/L	1.0 U	1.0 U
Bromodichloromethane	µg/L	1.0 U	1.0 U
Bromoform	µg/L	1.0 U	1.0 U
Bromomethane (Methyl bromide)	µg/L	1.0 U	1.0 U
Carbon disulfide	µg/L	5.0 U	5.0 U
Carbon tetrachloride	µg/L	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U
Chloroethane	µg/L	1.0 U	1.0 U
Chloroform (Trichloromethane)	µg/L	1.0 U	1.0 U
Chloromethane (Methyl chloride)	µg/L	1.0 U	1.0 U
cis-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
cis-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Cyclohexane	µg/L	1.0 U	1.0 U

Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

<b>Location ID:</b>	<b>PFW-10</b>	<b>PFW-11</b>
<b>Sample Name:</b>	<b>GW-12636-032216-SSH-1416</b>	<b>GW-12636-032216-SSH-1316</b>
<b>Sample Date:</b>	<b>03/22/2016</b>	<b>03/22/2016</b>
<b>Depth:</b>	<b>--</b>	<b>--</b>

Parameters	Unit		
<b>Volatile Organic Compounds</b>			
Dibromochloromethane	µg/L	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	µg/L	1.0 U	1.0 U
Ethylbenzene	µg/L	1.0 U	1.0 U
Isopropyl benzene	µg/L	1.0 U	1.0 U
Methyl acetate	µg/L	10 U	10 U
Methyl cyclohexane	µg/L	1.0 U	1.0 U
Methyl tert butyl ether (MTBE)	µg/L	1.0 U	1.0 U
Methylene chloride	µg/L	5.0 U	5.0 U
Styrene	µg/L	1.0 U	1.0 U
Tetrachloroethene	µg/L	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U
trans-1,2-Dichloroethene	µg/L	1.0 U	1.0 U
trans-1,3-Dichloropropene	µg/L	1.0 U	1.0 U
Trichloroethene	µg/L	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	µg/L	1.0 U	1.0 U
Trifluorotrchloroethane (CFC-113)	µg/L	1.0 U	1.0 U
Vinyl chloride	µg/L	1.0 U	1.0 U
Xylenes (total)	µg/L	2.0 U	2.0 U
<b>Metals</b>			
Aluminum	µg/L	--	--
Aluminum (dissolved)	µg/L	50 U	13 J
Antimony	µg/L	--	--
Antimony (dissolved)	µg/L	2.0 U	2.0 U
Arsenic	µg/L	--	--
Arsenic (dissolved)	µg/L	5.0 U	2.9 J
Barium	µg/L	--	--
Barium (dissolved)	µg/L	48 J	36 J
Beryllium	µg/L	--	--
Beryllium (dissolved)	µg/L	1.0 U	1.0 U
Cadmium	µg/L	--	--
Cadmium (dissolved)	µg/L	0.82 J	1.0 U



Table 2

**Validated Analytical Results Summary  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016**

<b>Location ID:</b>	PFW-10	PFW-11
<b>Sample Name:</b>	GW-12636-032216-SSH-1416	GW-12636-032216-SSH-1316
<b>Sample Date:</b>	03/22/2016	03/22/2016
<b>Depth:</b>	--	--

Parameters	Unit		
<b>Metals</b>			
Chromium	µg/L	--	--
Chromium (dissolved)	µg/L	1.5 J	5.0 U
Cobalt	µg/L	--	--
Cobalt (dissolved)	µg/L	7.0 U	7.0 U
Copper	µg/L	--	--
Copper (dissolved)	µg/L	3.5	1.6 J
Iron	µg/L	--	--
Iron (dissolved)	µg/L	100 U	100 U
Lead	µg/L	--	--
Lead (dissolved)	µg/L	3.0 U	3.0 U
Manganese	µg/L	--	--
Manganese (dissolved)	µg/L	52	15 U
Mercury	µg/L	--	--
Mercury (dissolved)	µg/L	0.20 U	0.20 U
Nickel	µg/L	--	--
Nickel (dissolved)	µg/L	4.8 J	1.4 J
Selenium	µg/L	--	--
Selenium (dissolved)	µg/L	5.0 U	5.0 U
Silver	µg/L	--	--
Silver (dissolved)	µg/L	0.20 U	0.20 U
Thallium	µg/L	--	--
Thallium (dissolved)	µg/L	1.0 U	1.0 U
Vanadium	µg/L	--	--
Vanadium (dissolved)	µg/L	4.0 U	4.0 U
Zinc	µg/L	--	--
Zinc (dissolved)	µg/L	59 U	20 U

## Notes:

J - Estimated concentration

U - Not detected at the associated reporting limit

**Table 3**  
**Analytical Methods**  
**Groundwater Monitoring**  
**Racer - Peregrine Site**  
**Genesee County, Michigan**  
**March 2016**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Site TAL Total & Dissolved Metals	SW-846 6010B/6020	Water	-	180
Mercury	SW-846 7470A	Water	-	28
TCL VOC	SW-846 8260B	Water	-	14

Notes:

Method Reference:

- SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions
- TAL - Target Analyte List
- TCL - Target Compound List
- VOC - Volatile Organic Compounds

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 March 2016

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result	Sample ID	Original Result	Qualified Result	Units
Site TAL Metals	Total Copper	3/25/2016	1.49 J	GW-12636-032116-SSH-0316	0.78 JB	2.0 U	µg/L
				GW-12636-032116-SSH-0516	1.0 JB	2.0 U	µg/L
				GW-12636-032116-SSH-1116	1.3 JB	2.0 U	µg/L
Site TAL Metals	Dissolved Copper	3/25/2016	1.49 J	GW-12636-032116-SSH-0116	0.85 JB	2.0 U	µg/L
				GW-12636-032116-SSH-0216	5.2 B	5.2 U	µg/L
				GW-12636-032116-SSH-0316	1.2 JB	2.0 U	µg/L
				GW-12636-032116-SSH-0416	0.92 JB	2.0 U	µg/L
				GW-12636-032116-SSH-0516	1.6 JB	2.0 U	µg/L
				GW-12636-032116-SSH-0716	1.2 JB	2.0 U	µg/L
				GW-12636-032116-SSH-0916	2.6 B	2.6 U	µg/L
				GW-12636-032116-SSH-1016	2.1 B	2.1 U	µg/L
				GW-12636-032116-SSH-1116	3.2 B	3.2 U	µg/L
Site TAL Metals	Total Iron	3/29/2016	29.7 J	GW-12636-032116-SSH-0316	20 JB	100 U	µg/L
				GW-12636-032116-SSH-0416	15 JB	100 U	µg/L
				GW-12636-032116-SSH-0516	23 JB	100 U	µg/L
				GW-12636-032116-SSH-0716	23 JB	100 U	µg/L
Site TAL Metals	Dissolved Iron	3/29/2016	26.4 J	GW-12636-032216-SSH-1316	19 JB	100 U	µg/L
				GW-12636-032216-SSH-1416	14 JB	100 U	µg/L
Site TAL Metals	Total Manganese	3/29/2016	3.55 J	GW-12636-032116-SSH-0316	2.2 JB	15 U	µg/L
				GW-12636-032116-SSH-0416	0.87 JB	15 U	µg/L
				GW-12636-032116-SSH-0516	3.2 JB	15 U	µg/L
				GW-12636-032116-SSH-0716	0.80 JB	15 U	µg/L
Site TAL Metals	Dissolved Manganese	3/29/2016	3.55 J	GW-12636-032116-SSH-0316	0.54 JB	15 U	µg/L
				GW-12636-032116-SSH-0416	2.1 JB	15 U	µg/L
				GW-12636-032116-SSH-0516	4.0 JB	15 U	µg/L
Site TAL Metals	Dissolved Manganese	3/29/2016	5.82 J	GW-12636-032216-SSH-1316	1.1 JB	15 U	µg/L

Table 4

Qualified Sample Results Due to Analyte Concentrations in the Method Blanks  
 Groundwater Monitoring  
 Racer - Peregrine Site  
 Genesee County, Michigan  
 March 2016

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result	Sample ID	Original Result	Qualified Result	Units
Site TAL Metals	Dissolved Zinc	3/29/2016	12.5 J	GW-12636-032116-SSH-0216	17 JB	20 U	µg/L
				GW-12636-032116-SSH-0616	16 JB	20 U	µg/L
				GW-12636-032116-SSH-0816	11 JB	20 U	µg/L
				GW-12636-032116-SSH-0916	13 JB	20 U	µg/L
				GW-12636-032116-SSH-1016	19 JB	20 U	µg/L
Site TAL Metals	Dissolved Zinc	3/29/2016	11.7 J	GW-12636-032216-SSH-1416	59 B	59 U	µg/L

Notes:

- TAL - Target Analyte List
- B - Laboratory qualifier - result detected in associated method blank
- J - Estimated concentration
- U - Not detected at the associated reporting limit

Table 5

Qualified Sample Data Due to Analyte Concentrations in Trip Blank  
Groundwater Monitoring  
Racer - Peregrine Site  
Genesee County, Michigan  
March 2016

Parameter	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
TCL VOC	TB-12636-032216-SSH-2116 0321/2016	Acetone	4.6 J	GW-12636-032216-SSH-1716 GW-12636-032216-SSH-1816	1.2 J 1.5 J	10 U 10 U	ug/L ug/L

Notes:

TCL - Target Compound List  
VOC - Volatile Organic Compounds  
J - Estimated concentration

# 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: 240-62436-1

Client Project/Site: 12636, RACER Peregrine

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

3/31/2016 8:26:05 AM

Denise Heckler, Project Manager II

(330)966-9477

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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: 12636, RACER Peregrine

TestAmerica Job ID: 240-62436-1

**Job ID: 240-62436-1**

**Laboratory: TestAmerica Canton**

## Narrative

### Job Narrative 240-62436-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/22/2016 9:40 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7° C.

#### GC/MS VOA

Method(s) 8260B: Method 8260 stipulates a 12 hour sequence for the analysis of samples. Due to an instrument error, the MSD for sample GW-12636-032116-SSH-0516 (240-62436-5[MSD]) exceeded the 12 hour time limit. The MSD was reported for batch QC.

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

#### Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: GW-12636-032116-SSH-0116 (240-62436-1), GW-12636-032116-SSH-0216 (240-62436-2), GW-12636-032116-SSH-0316 (240-62436-3), GW-12636-032116-SSH-0416 (240-62436-4), GW-12636-032116-SSH-0516 (240-62436-5), GW-12636-032116-SSH-0616 (240-62436-6), GW-12636-032116-SSH-0716 (240-62436-7), GW-12636-032116-SSH-0816 (240-62436-8), GW-12636-032116-SSH-0916 (240-62436-9), GW-12636-032116-SSH-1016 (240-62436-10) and GW-12636-032116-SSH-1116 (240-62436-11). The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 6020: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: GW-12636-032116-SSH-0116 (240-62436-1), GW-12636-032116-SSH-0216 (240-62436-2), GW-12636-032116-SSH-0316 (240-62436-3), GW-12636-032116-SSH-0416 (240-62436-4), GW-12636-032116-SSH-0516 (240-62436-5), GW-12636-032116-SSH-0616 (240-62436-6), GW-12636-032116-SSH-0716 (240-62436-7), GW-12636-032116-SSH-0816 (240-62436-8), GW-12636-032116-SSH-0916 (240-62436-9), GW-12636-032116-SSH-1016 (240-62436-10) and GW-12636-032116-SSH-1116 (240-62436-11). 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.

#### VOA Prep

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



# Definitions/Glossary

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

TestAmerica Job ID: 240-62436-1

## Qualifiers

### GC/MS VOA

Qualifier	Qualifier Description
U	Indicates the analyte was analyzed for but not detected.
F2	MS/MSD RPD exceeds control limits
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

### Metals

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.
B	Compound was found in the blank and sample.
L	A negative instrument reading had an absolute value greater than the reporting limit

## 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: 12636, RACER Peregrine

TestAmerica Job ID: 240-62436-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-62436-1	GW-12636-032116-SSH-0116	Water	03/21/16 09:46	03/22/16 09:40
240-62436-2	GW-12636-032116-SSH-0216	Water	03/21/16 10:06	03/22/16 09:40
240-62436-3	GW-12636-032116-SSH-0316	Water	03/21/16 11:06	03/22/16 09:40
240-62436-4	GW-12636-032116-SSH-0416	Water	03/21/16 11:11	03/22/16 09:40
240-62436-5	GW-12636-032116-SSH-0516	Water	03/21/16 12:50	03/22/16 09:40
240-62436-6	GW-12636-032116-SSH-0616	Water	03/21/16 14:05	03/22/16 09:40
240-62436-7	GW-12636-032116-SSH-0716	Water	03/21/16 13:41	03/22/16 09:40
240-62436-8	GW-12636-032116-SSH-0816	Water	03/21/16 14:06	03/22/16 09:40
240-62436-9	GW-12636-032116-SSH-0916	Water	03/21/16 14:46	03/22/16 09:40
240-62436-10	GW-12636-032116-SSH-1016	Water	03/21/16 15:16	03/22/16 09:40
240-62436-11	GW-12636-032116-SSH-1116	Water	03/21/16 15:40	03/22/16 09:40
240-62436-12	TB-12636-032116-SSH-1216	Water	03/21/16 15:45	03/22/16 09:40



# Detection Summary

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

TestAmerica Job ID: 240-62436-1

## Client Sample ID: GW-12636-032116-SSH-0116

## Lab Sample ID: 240-62436-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	50	J B	100	1.0	ug/L	1		6010B	Dissolved
Chromium	1.1	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	1200	B	100	13	ug/L	1		6010B	Dissolved
Manganese	950	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	1.8	J	20	0.76	ug/L	1		6010B	Dissolved
Aluminum	21	J	50	9.0	ug/L	1		6020	Dissolved
Antimony	0.19	J	2.0	0.16	ug/L	1		6020	Dissolved
Copper	0.85	J B	2.0	0.75	ug/L	1		6020	Dissolved
Thallium	0.11	J	1.0	0.074	ug/L	1		6020	Dissolved
Silver	0.040	J	0.20	0.020	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0216

## Lab Sample ID: 240-62436-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	0.66	J	1.0	0.26	ug/L	1		8260B	Total/NA
Arsenic	3.0	J	5.0	2.9	ug/L	1		6010B	Dissolved
Barium	36	J B	100	1.0	ug/L	1		6010B	Dissolved
Cobalt	2.3	J	7.0	0.56	ug/L	1		6010B	Dissolved
Chromium	0.79	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	240	B	100	13	ug/L	1		6010B	Dissolved
Manganese	330	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	4.2	J	20	0.76	ug/L	1		6010B	Dissolved
Zinc	17	J B	20	9.6	ug/L	1		6010B	Dissolved
Aluminum	100		50	9.0	ug/L	1		6020	Dissolved
Antimony	0.21	J	2.0	0.16	ug/L	1		6020	Dissolved
Copper	5.2	B	2.0	0.75	ug/L	1		6020	Dissolved
Thallium	0.10	J	1.0	0.074	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0316

## Lab Sample ID: 240-62436-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	20	J B	100	1.0	ug/L	1		6010B	Total Recoverable
Iron	20	J B	100	13	ug/L	1		6010B	Total Recoverable
Manganese	2.2	J B	15	0.46	ug/L	1		6010B	Total Recoverable
Nickel	1.1	J	20	0.76	ug/L	1		6010B	Total Recoverable
Barium	21	J B	100	1.0	ug/L	1		6010B	Dissolved
Chromium	0.64	J	5.0	0.55	ug/L	1		6010B	Dissolved
Manganese	0.54	J B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	1.3	J	20	0.76	ug/L	1		6010B	Dissolved
Copper	0.78	J B	2.0	0.75	ug/L	1		6020	Total Recoverable
Copper	1.2	J B	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0416

## Lab Sample ID: 240-62436-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	21	J B	100	1.0	ug/L	1		6010B	Total Recoverable

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Detection Summary

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

TestAmerica Job ID: 240-62436-1

## Client Sample ID: GW-12636-032116-SSH-0416 (Continued)

## Lab Sample ID: 240-62436-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.77	J	5.0	0.55	ug/L	1		6010B	Total
Iron	15	J B	100	13	ug/L	1		6010B	Total Recoverable
Manganese	0.87	J B	15	0.46	ug/L	1		6010B	Total Recoverable
Barium	21	J B	100	1.0	ug/L	1		6010B	Dissolved
Chromium	0.90	J	5.0	0.55	ug/L	1		6010B	Dissolved
Manganese	2.1	J B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	0.80	J	20	0.76	ug/L	1		6010B	Dissolved
Copper	0.92	J B	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0516

## Lab Sample ID: 240-62436-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.6	J	5.0	2.9	ug/L	1		6010B	Total
Barium	75	J B	100	1.0	ug/L	1		6010B	Total Recoverable
Cadmium	0.29	J	1.0	0.14	ug/L	1		6010B	Total Recoverable
Chromium	1.5	J	5.0	0.55	ug/L	1		6010B	Total Recoverable
Iron	23	J B	100	13	ug/L	1		6010B	Total Recoverable
Manganese	3.2	J B	15	0.46	ug/L	1		6010B	Total Recoverable
Nickel	0.86	J	20	0.76	ug/L	1		6010B	Total Recoverable
Barium	75	J B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.29	J	1.0	0.14	ug/L	1		6010B	Dissolved
Chromium	1.3	J	5.0	0.55	ug/L	1		6010B	Dissolved
Manganese	4.0	J B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	1.8	J	20	0.76	ug/L	1		6010B	Dissolved
Aluminum	11	J	50	9.0	ug/L	1		6020	Total Recoverable
Antimony	0.17	J	2.0	0.16	ug/L	1		6020	Total Recoverable
Copper	1.0	J B	2.0	0.75	ug/L	1		6020	Total Recoverable
Thallium	0.088	J	1.0	0.074	ug/L	1		6020	Total Recoverable
Copper	1.6	J B	2.0	0.75	ug/L	1		6020	Dissolved
Thallium	0.11	J	1.0	0.074	ug/L	1		6020	Dissolved
Silver	0.021	J	0.20	0.020	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0616

## Lab Sample ID: 240-62436-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	19		5.0	2.9	ug/L	1		6010B	Dissolved
Barium	210	B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.45	J	1.0	0.14	ug/L	1		6010B	Dissolved
Cobalt	4.8	J	7.0	0.56	ug/L	1		6010B	Dissolved
Chromium	1.8	J	5.0	0.55	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Detection Summary

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

TestAmerica Job ID: 240-62436-1

## Client Sample ID: GW-12636-032116-SSH-0616 (Continued)

## Lab Sample ID: 240-62436-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	24000	B	100	13	ug/L	1		6010B	Dissolved
Manganese	1100	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	8.1	J	20	0.76	ug/L	1		6010B	Dissolved
Zinc	16	J B	20	9.6	ug/L	1		6010B	Dissolved
Aluminum	28	J	50	9.0	ug/L	1		6020	Dissolved
Antimony	0.17	J	2.0	0.16	ug/L	1		6020	Dissolved
Copper	21	B	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0716

## Lab Sample ID: 240-62436-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.9	J	5.0	2.9	ug/L	1		6010B	Total Recoverable
Barium	73	J B	100	1.0	ug/L	1		6010B	Total Recoverable
Chromium	3.7	J	5.0	0.55	ug/L	1		6010B	Total Recoverable
Iron	23	J B	100	13	ug/L	1		6010B	Total Recoverable
Manganese	0.80	J B	15	0.46	ug/L	1		6010B	Total Recoverable
Nickel	0.87	J	20	0.76	ug/L	1		6010B	Total Recoverable
Barium	76	J B	100	1.0	ug/L	1		6010B	Dissolved
Chromium	3.9	J	5.0	0.55	ug/L	1		6010B	Dissolved
Aluminum	12	J	50	9.0	ug/L	1		6020	Total Recoverable
Copper	1.2	J B	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0816

## Lab Sample ID: 240-62436-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	8.1		5.0	2.9	ug/L	1		6010B	Dissolved
Barium	150	B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.50	J	1.0	0.14	ug/L	1		6010B	Dissolved
Cobalt	13		7.0	0.56	ug/L	1		6010B	Dissolved
Chromium	1.4	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	2600	B	100	13	ug/L	1		6010B	Dissolved
Manganese	2300	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	5.6	J	20	0.76	ug/L	1		6010B	Dissolved
Zinc	11	J B	20	9.6	ug/L	1		6010B	Dissolved
Antimony	0.19	J	2.0	0.16	ug/L	1		6020	Dissolved
Thallium	0.13	J	1.0	0.074	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-0916

## Lab Sample ID: 240-62436-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.1	J	5.0	2.9	ug/L	1		6010B	Dissolved
Barium	58	J B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.17	J	1.0	0.14	ug/L	1		6010B	Dissolved
Chromium	1.1	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	220	B	100	13	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Detection Summary

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

TestAmerica Job ID: 240-62436-1

## Client Sample ID: GW-12636-032116-SSH-0916 (Continued)

## Lab Sample ID: 240-62436-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	56	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	3.1	J	20	0.76	ug/L	1		6010B	Dissolved
Lead	2.1	J	3.0	1.9	ug/L	1		6010B	Dissolved
Zinc	13	J B	20	9.6	ug/L	1		6010B	Dissolved
Aluminum	130		50	9.0	ug/L	1		6020	Dissolved
Antimony	0.16	J	2.0	0.16	ug/L	1		6020	Dissolved
Copper	2.6	B	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-1016

## Lab Sample ID: 240-62436-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.6	J	5.0	2.9	ug/L	1		6010B	Dissolved
Barium	13	J B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.54	J	1.0	0.14	ug/L	1		6010B	Dissolved
Cobalt	1.9	J	7.0	0.56	ug/L	1		6010B	Dissolved
Chromium	1.6	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	650	B	100	13	ug/L	1		6010B	Dissolved
Manganese	250	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	6.6	J	20	0.76	ug/L	1		6010B	Dissolved
Zinc	19	J B	20	9.6	ug/L	1		6010B	Dissolved
Aluminum	480		50	9.0	ug/L	1		6020	Dissolved
Antimony	0.21	J	2.0	0.16	ug/L	1		6020	Dissolved
Copper	2.1	B	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032116-SSH-1116

## Lab Sample ID: 240-62436-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.6	J	5.0	2.9	ug/L	1		6010B	Total Recoverable
Barium	130	B	100	1.0	ug/L	1		6010B	Total Recoverable
Chromium	1.3	J	5.0	0.55	ug/L	1		6010B	Total Recoverable
Manganese	230	B	15	0.46	ug/L	1		6010B	Total Recoverable
Nickel	3.2	J	20	0.76	ug/L	1		6010B	Total Recoverable
Arsenic	3.7	J	5.0	2.9	ug/L	1		6010B	Dissolved
Barium	130	B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.24	J	1.0	0.14	ug/L	1		6010B	Dissolved
Chromium	1.1	J	5.0	0.55	ug/L	1		6010B	Dissolved
Manganese	220	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	3.5	J	20	0.76	ug/L	1		6010B	Dissolved
Copper	1.3	J B	2.0	0.75	ug/L	1		6020	Total Recoverable
Copper	3.2	B	2.0	0.75	ug/L	1		6020	Dissolved
Mercury	0.093	J	0.20	0.090	ug/L	1		7470A	Dissolved

## Client Sample ID: TB-12636-032116-SSH-1216

## Lab Sample ID: 240-62436-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.1	J	10	0.94	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Method Summary

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

TestAmerica Job ID: 240-62436-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	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



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0116**

**Lab Sample ID: 240-62436-1**

**Date Collected: 03/21/16 09:46**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 00:11	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 00:11	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 00:11	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 00:11	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:11	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 00:11	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 00:11	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 00:11	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:11	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:11	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 00:11	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:11	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 00:11	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 00:11	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 00:11	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 00:11	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 00:11	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 00:11	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 00:11	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:11	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 00:11	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 00:11	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 00:11	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 00:11	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 00:11	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 00:11	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 00:11	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 00:11	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 00:11	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 00:11	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 00:11	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:11	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 00:11	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 00:11	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 00:11	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:11	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:11	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 00:11	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 00:11	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 00:11	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 00:11	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 00:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 00:11	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 00:11	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:11	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 00:11	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 00:11	1
Trichlorofluoromethane	1.0	U F2	1.0	0.49	ug/L			03/30/16 00:11	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 00:11	1

TestAmerica Canton



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0116

Lab Sample ID: 240-62436-1

Date Collected: 03/21/16 09:46

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 00:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		78 - 125					03/30/16 00:11	1
4-Bromofluorobenzene (Surr)	85		61 - 120					03/30/16 00:11	1
Toluene-d8 (Surr)	95		80 - 120					03/30/16 00:11	1
Dibromofluoromethane (Surr)	91		79 - 120					03/30/16 00:11	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0216**

**Lab Sample ID: 240-62436-2**

**Date Collected: 03/21/16 10:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/29/16 07:32	1
Benzene	1.0	U	1.0	0.35	ug/L			03/29/16 07:32	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/29/16 07:32	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/29/16 07:32	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/29/16 07:32	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/29/16 07:32	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/29/16 07:32	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/29/16 07:32	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 07:32	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/29/16 07:32	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/29/16 07:32	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/29/16 07:32	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/29/16 07:32	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/29/16 07:32	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/29/16 07:32	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/29/16 07:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/29/16 07:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/29/16 07:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/29/16 07:32	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/29/16 07:32	1
2-Hexanone	10	U	10	0.48	ug/L			03/29/16 07:32	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/29/16 07:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/29/16 07:32	1
Styrene	1.0	U	1.0	0.45	ug/L			03/29/16 07:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/29/16 07:32	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/29/16 07:32	1
Toluene	1.0	U	1.0	0.23	ug/L			03/29/16 07:32	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/29/16 07:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/29/16 07:32	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/29/16 07:32	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/29/16 07:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/29/16 07:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/29/16 07:32	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/29/16 07:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/29/16 07:32	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/29/16 07:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/29/16 07:32	1
<b>cis-1,2-Dichloroethene</b>	<b>0.66</b>	<b>J</b>	1.0	0.26	ug/L			03/29/16 07:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/29/16 07:32	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/29/16 07:32	1
Methyl acetate	10	U	10	2.3	ug/L			03/29/16 07:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/29/16 07:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/29/16 07:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/29/16 07:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 07:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/29/16 07:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/29/16 07:32	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/29/16 07:32	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/29/16 07:32	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0216

Lab Sample ID: 240-62436-2

Date Collected: 03/21/16 10:06

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/29/16 07:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		78 - 125		03/29/16 07:32	1
4-Bromofluorobenzene (Surr)	82		61 - 120		03/29/16 07:32	1
Toluene-d8 (Surr)	92		80 - 120		03/29/16 07:32	1
Dibromofluoromethane (Surr)	103		79 - 120		03/29/16 07:32	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0316**

**Lab Sample ID: 240-62436-3**

**Date Collected: 03/21/16 11:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/29/16 07:54	1
Benzene	1.0	U	1.0	0.35	ug/L			03/29/16 07:54	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/29/16 07:54	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/29/16 07:54	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/29/16 07:54	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/29/16 07:54	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/29/16 07:54	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/29/16 07:54	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 07:54	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/29/16 07:54	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/29/16 07:54	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/29/16 07:54	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/29/16 07:54	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/29/16 07:54	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/29/16 07:54	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/29/16 07:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/29/16 07:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/29/16 07:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/29/16 07:54	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/29/16 07:54	1
2-Hexanone	10	U	10	0.48	ug/L			03/29/16 07:54	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/29/16 07:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/29/16 07:54	1
Styrene	1.0	U	1.0	0.45	ug/L			03/29/16 07:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/29/16 07:54	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/29/16 07:54	1
Toluene	1.0	U	1.0	0.23	ug/L			03/29/16 07:54	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/29/16 07:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/29/16 07:54	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/29/16 07:54	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/29/16 07:54	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/29/16 07:54	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/29/16 07:54	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/29/16 07:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/29/16 07:54	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/29/16 07:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/29/16 07:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/29/16 07:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/29/16 07:54	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/29/16 07:54	1
Methyl acetate	10	U	10	2.3	ug/L			03/29/16 07:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/29/16 07:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/29/16 07:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/29/16 07:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 07:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/29/16 07:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/29/16 07:54	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/29/16 07:54	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/29/16 07:54	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: GW-12636-032116-SSH-0316**

**Lab Sample ID: 240-62436-3**

**Date Collected: 03/21/16 11:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/29/16 07:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		78 - 125					03/29/16 07:54	1
4-Bromofluorobenzene (Surr)	80		61 - 120					03/29/16 07:54	1
Toluene-d8 (Surr)	93		80 - 120					03/29/16 07:54	1
Dibromofluoromethane (Surr)	104		79 - 120					03/29/16 07:54	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0416**

**Lab Sample ID: 240-62436-4**

**Date Collected: 03/21/16 11:11**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/29/16 09:07	1
Benzene	1.0	U	1.0	0.35	ug/L			03/29/16 09:07	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/29/16 09:07	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/29/16 09:07	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/29/16 09:07	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/29/16 09:07	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/29/16 09:07	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/29/16 09:07	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 09:07	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/29/16 09:07	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/29/16 09:07	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/29/16 09:07	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/29/16 09:07	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/29/16 09:07	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/29/16 09:07	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/29/16 09:07	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/29/16 09:07	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/29/16 09:07	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/29/16 09:07	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/29/16 09:07	1
2-Hexanone	10	U	10	0.48	ug/L			03/29/16 09:07	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/29/16 09:07	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/29/16 09:07	1
Styrene	1.0	U	1.0	0.45	ug/L			03/29/16 09:07	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/29/16 09:07	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/29/16 09:07	1
Toluene	1.0	U	1.0	0.23	ug/L			03/29/16 09:07	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/29/16 09:07	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/29/16 09:07	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/29/16 09:07	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/29/16 09:07	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/29/16 09:07	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/29/16 09:07	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/29/16 09:07	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/29/16 09:07	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/29/16 09:07	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/29/16 09:07	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/29/16 09:07	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/29/16 09:07	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/29/16 09:07	1
Methyl acetate	10	U	10	2.3	ug/L			03/29/16 09:07	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/29/16 09:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/29/16 09:07	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/29/16 09:07	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 09:07	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/29/16 09:07	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/29/16 09:07	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/29/16 09:07	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/29/16 09:07	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0416

Lab Sample ID: 240-62436-4

Date Collected: 03/21/16 11:11

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/29/16 09:07	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		78 - 125					03/29/16 09:07	1
4-Bromofluorobenzene (Surr)	75		61 - 120					03/29/16 09:07	1
Toluene-d8 (Surr)	92		80 - 120					03/29/16 09:07	1
Dibromofluoromethane (Surr)	105		79 - 120					03/29/16 09:07	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0516**

**Lab Sample ID: 240-62436-5**

**Date Collected: 03/21/16 12:50**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/29/16 09:30	1
Benzene	1.0	U	1.0	0.35	ug/L			03/29/16 09:30	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/29/16 09:30	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/29/16 09:30	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/29/16 09:30	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/29/16 09:30	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/29/16 09:30	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/29/16 09:30	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 09:30	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/29/16 09:30	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/29/16 09:30	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/29/16 09:30	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/29/16 09:30	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/29/16 09:30	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/29/16 09:30	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/29/16 09:30	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/29/16 09:30	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/29/16 09:30	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/29/16 09:30	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/29/16 09:30	1
2-Hexanone	10	U	10	0.48	ug/L			03/29/16 09:30	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/29/16 09:30	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/29/16 09:30	1
Styrene	1.0	U	1.0	0.45	ug/L			03/29/16 09:30	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/29/16 09:30	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/29/16 09:30	1
Toluene	1.0	U	1.0	0.23	ug/L			03/29/16 09:30	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/29/16 09:30	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/29/16 09:30	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/29/16 09:30	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/29/16 09:30	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/29/16 09:30	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/29/16 09:30	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/29/16 09:30	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/29/16 09:30	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/29/16 09:30	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/29/16 09:30	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/29/16 09:30	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/29/16 09:30	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/29/16 09:30	1
Methyl acetate	10	U	10	2.3	ug/L			03/29/16 09:30	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/29/16 09:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/29/16 09:30	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/29/16 09:30	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 09:30	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/29/16 09:30	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/29/16 09:30	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/29/16 09:30	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/29/16 09:30	1

TestAmerica Canton



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0516

Lab Sample ID: 240-62436-5

Date Collected: 03/21/16 12:50

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/29/16 09:30	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		78 - 125		03/29/16 09:30	1
4-Bromofluorobenzene (Surr)	79		61 - 120		03/29/16 09:30	1
Toluene-d8 (Surr)	91		80 - 120		03/29/16 09:30	1
Dibromofluoromethane (Surr)	105		79 - 120		03/29/16 09:30	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0616**

**Lab Sample ID: 240-62436-6**

**Date Collected: 03/21/16 14:05**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 00:34	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 00:34	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 00:34	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 00:34	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:34	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 00:34	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 00:34	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 00:34	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:34	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:34	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 00:34	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:34	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 00:34	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 00:34	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 00:34	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 00:34	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 00:34	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 00:34	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 00:34	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:34	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 00:34	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 00:34	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 00:34	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 00:34	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 00:34	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 00:34	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 00:34	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 00:34	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 00:34	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 00:34	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 00:34	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:34	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 00:34	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 00:34	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 00:34	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:34	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:34	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 00:34	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 00:34	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 00:34	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 00:34	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 00:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 00:34	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 00:34	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:34	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 00:34	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 00:34	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 00:34	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 00:34	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0616

Lab Sample ID: 240-62436-6

Date Collected: 03/21/16 14:05

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 00:34	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		78 - 125		03/30/16 00:34	1
4-Bromofluorobenzene (Surr)	88		61 - 120		03/30/16 00:34	1
Toluene-d8 (Surr)	94		80 - 120		03/30/16 00:34	1
Dibromofluoromethane (Surr)	91		79 - 120		03/30/16 00:34	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0716**

**Lab Sample ID: 240-62436-7**

**Date Collected: 03/21/16 13:41**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 00:56	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 00:56	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 00:56	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 00:56	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:56	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 00:56	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 00:56	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 00:56	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:56	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:56	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 00:56	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:56	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 00:56	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 00:56	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 00:56	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 00:56	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 00:56	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 00:56	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 00:56	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:56	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 00:56	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 00:56	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 00:56	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 00:56	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 00:56	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 00:56	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 00:56	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 00:56	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 00:56	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 00:56	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 00:56	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 00:56	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 00:56	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 00:56	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 00:56	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:56	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 00:56	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 00:56	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 00:56	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 00:56	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 00:56	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 00:56	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 00:56	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 00:56	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 00:56	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 00:56	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 00:56	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 00:56	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 00:56	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0716

Lab Sample ID: 240-62436-7

Date Collected: 03/21/16 13:41

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 00:56	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		78 - 125		03/30/16 00:56	1
4-Bromofluorobenzene (Surr)	87		61 - 120		03/30/16 00:56	1
Toluene-d8 (Surr)	95		80 - 120		03/30/16 00:56	1
Dibromofluoromethane (Surr)	92		79 - 120		03/30/16 00:56	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0816**

**Lab Sample ID: 240-62436-8**

**Date Collected: 03/21/16 14:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 01:19	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 01:19	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 01:19	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 01:19	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 01:19	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 01:19	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 01:19	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 01:19	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 01:19	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 01:19	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 01:19	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 01:19	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 01:19	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 01:19	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 01:19	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 01:19	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 01:19	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 01:19	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 01:19	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 01:19	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 01:19	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 01:19	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 01:19	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 01:19	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 01:19	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 01:19	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 01:19	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 01:19	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 01:19	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 01:19	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 01:19	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 01:19	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 01:19	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 01:19	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 01:19	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 01:19	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 01:19	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 01:19	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 01:19	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 01:19	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 01:19	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 01:19	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 01:19	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 01:19	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 01:19	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 01:19	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 01:19	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 01:19	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 01:19	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-0816

Lab Sample ID: 240-62436-8

Date Collected: 03/21/16 14:06

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 01:19	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		78 - 125					03/30/16 01:19	1
4-Bromofluorobenzene (Surr)	85		61 - 120					03/30/16 01:19	1
Toluene-d8 (Surr)	93		80 - 120					03/30/16 01:19	1
Dibromofluoromethane (Surr)	91		79 - 120					03/30/16 01:19	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-0916**

**Lab Sample ID: 240-62436-9**

**Date Collected: 03/21/16 14:46**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 01:42	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 01:42	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 01:42	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 01:42	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 01:42	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 01:42	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 01:42	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 01:42	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 01:42	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 01:42	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 01:42	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 01:42	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 01:42	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 01:42	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 01:42	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 01:42	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 01:42	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 01:42	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 01:42	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 01:42	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 01:42	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 01:42	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 01:42	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 01:42	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 01:42	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 01:42	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 01:42	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 01:42	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 01:42	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 01:42	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 01:42	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 01:42	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 01:42	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 01:42	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 01:42	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 01:42	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 01:42	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 01:42	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 01:42	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 01:42	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 01:42	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 01:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 01:42	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 01:42	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 01:42	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 01:42	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 01:42	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 01:42	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 01:42	1

TestAmerica Canton



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: GW-12636-032116-SSH-0916**

**Lab Sample ID: 240-62436-9**

**Date Collected: 03/21/16 14:46**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 01:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		78 - 125					03/30/16 01:42	1
4-Bromofluorobenzene (Surr)	86		61 - 120					03/30/16 01:42	1
Toluene-d8 (Surr)	96		80 - 120					03/30/16 01:42	1
Dibromofluoromethane (Surr)	91		79 - 120					03/30/16 01:42	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-1016**

**Lab Sample ID: 240-62436-10**

**Date Collected: 03/21/16 15:16**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 02:05	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 02:05	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 02:05	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 02:05	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:05	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 02:05	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 02:05	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 02:05	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:05	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:05	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 02:05	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:05	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 02:05	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 02:05	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 02:05	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 02:05	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 02:05	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 02:05	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 02:05	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:05	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 02:05	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 02:05	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 02:05	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 02:05	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 02:05	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 02:05	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 02:05	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 02:05	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 02:05	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 02:05	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 02:05	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:05	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 02:05	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 02:05	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 02:05	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:05	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:05	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 02:05	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 02:05	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 02:05	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 02:05	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 02:05	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 02:05	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 02:05	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:05	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 02:05	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 02:05	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 02:05	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 02:05	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-1016

Lab Sample ID: 240-62436-10

Date Collected: 03/21/16 15:16

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 02:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		78 - 125					03/30/16 02:05	1
4-Bromofluorobenzene (Surr)	86		61 - 120					03/30/16 02:05	1
Toluene-d8 (Surr)	95		80 - 120					03/30/16 02:05	1
Dibromofluoromethane (Surr)	90		79 - 120					03/30/16 02:05	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032116-SSH-1116**

**Date Collected: 03/21/16 15:40**

**Date Received: 03/22/16 09:40**

**Lab Sample ID: 240-62436-11**

**Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 02:28	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 02:28	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 02:28	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 02:28	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:28	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 02:28	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 02:28	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 02:28	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:28	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:28	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 02:28	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:28	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 02:28	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 02:28	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 02:28	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 02:28	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 02:28	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 02:28	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 02:28	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:28	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 02:28	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 02:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 02:28	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 02:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 02:28	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 02:28	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 02:28	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 02:28	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 02:28	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 02:28	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 02:28	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:28	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 02:28	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 02:28	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 02:28	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:28	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 02:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 02:28	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 02:28	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 02:28	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 02:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 02:28	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 02:28	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:28	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 02:28	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 02:28	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 02:28	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 02:28	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032116-SSH-1116

Lab Sample ID: 240-62436-11

Date Collected: 03/21/16 15:40

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 02:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		78 - 125		03/30/16 02:28	1
4-Bromofluorobenzene (Surr)	86		61 - 120		03/30/16 02:28	1
Toluene-d8 (Surr)	96		80 - 120		03/30/16 02:28	1
Dibromofluoromethane (Surr)	92		79 - 120		03/30/16 02:28	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: TB-12636-032116-SSH-1216**

**Lab Sample ID: 240-62436-12**

**Date Collected: 03/21/16 15:45**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.1	J	10	0.94	ug/L			03/30/16 02:50	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 02:50	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 02:50	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 02:50	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:50	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 02:50	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 02:50	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 02:50	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:50	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:50	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 02:50	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:50	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 02:50	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 02:50	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 02:50	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 02:50	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 02:50	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 02:50	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 02:50	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:50	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 02:50	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 02:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 02:50	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 02:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 02:50	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 02:50	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 02:50	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 02:50	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 02:50	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 02:50	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 02:50	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 02:50	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 02:50	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 02:50	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 02:50	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:50	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 02:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 02:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 02:50	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 02:50	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 02:50	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 02:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 02:50	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 02:50	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 02:50	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 02:50	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 02:50	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 02:50	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 02:50	1

TestAmerica Canton

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: TB-12636-032116-SSH-1216**

**Lab Sample ID: 240-62436-12**

**Date Collected: 03/21/16 15:45**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 02:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		78 - 125					03/30/16 02:50	1
4-Bromofluorobenzene (Surr)	85		61 - 120					03/30/16 02:50	1
Toluene-d8 (Surr)	97		80 - 120					03/30/16 02:50	1
Dibromofluoromethane (Surr)	93		79 - 120					03/30/16 02:50	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-032116-SSH-0316

Date Collected: 03/21/16 11:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:44	1
<b>Barium</b>	<b>20</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:44	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:44	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:44	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:44	1
Chromium	5.0	U	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:44	1
<b>Iron</b>	<b>20</b>	<b>J B</b>	100	13	ug/L		03/23/16 10:47	03/29/16 17:44	1
<b>Manganese</b>	<b>2.2</b>	<b>J B</b>	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:44	1
<b>Nickel</b>	<b>1.1</b>	<b>J</b>	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:44	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:44	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:44	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:44	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:44	1



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-032116-SSH-0416

Lab Sample ID: 240-62436-4

Date Collected: 03/21/16 11:11

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:52	1
<b>Barium</b>	<b>21</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:52	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:52	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:52	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:52	1
<b>Chromium</b>	<b>0.77</b>	<b>J</b>	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:52	1
<b>Iron</b>	<b>15</b>	<b>J B</b>	100	13	ug/L		03/23/16 10:47	03/29/16 17:52	1
<b>Manganese</b>	<b>0.87</b>	<b>J B</b>	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:52	1
Nickel	20	U	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:52	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:52	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:52	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:52	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:52	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-032116-SSH-0516

Date Collected: 03/21/16 12:50

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.6	J	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 16:54	1
Barium	75	J B	100	1.0	ug/L		03/23/16 10:47	03/29/16 16:54	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 16:54	1
Cadmium	0.29	J	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 16:54	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 16:54	1
Chromium	1.5	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 16:54	1
Iron	23	J B	100	13	ug/L		03/23/16 10:47	03/29/16 16:54	1
Manganese	3.2	J B	15	0.46	ug/L		03/23/16 10:47	03/29/16 16:54	1
Nickel	0.86	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 16:54	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 16:54	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 16:54	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 16:54	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 16:54	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-032116-SSH-0716

Lab Sample ID: 240-62436-7

Date Collected: 03/21/16 13:41

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.9	J	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:13	1
Barium	73	J B	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:13	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:13	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:13	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:13	1
Chromium	3.7	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:13	1
Iron	23	J B	100	13	ug/L		03/23/16 10:47	03/29/16 18:13	1
Manganese	0.80	J B	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:13	1
Nickel	0.87	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:13	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:13	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:13	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:13	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:13	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-032116-SSH-1116

Date Collected: 03/21/16 15:40

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.6	J	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:37	1
Barium	130	B	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:37	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:37	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:37	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:37	1
Chromium	1.3	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:37	1
Iron	100	U	100	13	ug/L		03/23/16 10:47	03/29/16 18:37	1
Manganese	230	B	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:37	1
Nickel	3.2	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:37	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:37	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:37	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:37	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:37	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0116

Date Collected: 03/21/16 09:46

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:36	1
<b>Barium</b>	<b>50</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:36	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:36	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:36	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:36	1
<b>Chromium</b>	<b>1.1</b>	<b>J</b>	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:36	1
<b>Iron</b>	<b>1200</b>	<b>B</b>	100	13	ug/L		03/23/16 10:47	03/29/16 17:36	1
<b>Manganese</b>	<b>950</b>	<b>B</b>	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:36	1
<b>Nickel</b>	<b>1.8</b>	<b>J</b>	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:36	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:36	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:36	1
Vanadium	4.0	U L	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:36	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:36	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0216

Lab Sample ID: 240-62436-2

Date Collected: 03/21/16 10:06

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.0	J	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:40	1
Barium	36	J B	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:40	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:40	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:40	1
Cobalt	2.3	J	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:40	1
Chromium	0.79	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:40	1
Iron	240	B	100	13	ug/L		03/23/16 10:47	03/29/16 17:40	1
Manganese	330	B	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:40	1
Nickel	4.2	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:40	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:40	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:40	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:40	1
Zinc	17	J B	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:40	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

**Client Sample ID: GW-12636-032116-SSH-0316**

**Lab Sample ID: 240-62436-3**

**Date Collected: 03/21/16 11:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:48	1
<b>Barium</b>	<b>21</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:48	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:48	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:48	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:48	1
<b>Chromium</b>	<b>0.64</b>	<b>J</b>	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:48	1
Iron	100	U	100	13	ug/L		03/23/16 10:47	03/29/16 17:48	1
<b>Manganese</b>	<b>0.54</b>	<b>J B</b>	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:48	1
<b>Nickel</b>	<b>1.3</b>	<b>J</b>	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:48	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:48	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:48	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:48	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:48	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0416

Date Collected: 03/21/16 11:11

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:56	1
<b>Barium</b>	<b>21</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:56	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:56	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:56	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:56	1
<b>Chromium</b>	<b>0.90</b>	<b>J</b>	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:56	1
Iron	100	U	100	13	ug/L		03/23/16 10:47	03/29/16 17:56	1
<b>Manganese</b>	<b>2.1</b>	<b>J B</b>	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:56	1
<b>Nickel</b>	<b>0.80</b>	<b>J</b>	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:56	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:56	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:56	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:56	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:56	1



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0516

Date Collected: 03/21/16 12:50

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 17:21	1
<b>Barium</b>	<b>75</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 17:21	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 17:21	1
<b>Cadmium</b>	<b>0.29</b>	<b>J</b>	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 17:21	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 17:21	1
<b>Chromium</b>	<b>1.3</b>	<b>J</b>	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 17:21	1
Iron	100	U	100	13	ug/L		03/23/16 10:47	03/29/16 17:21	1
<b>Manganese</b>	<b>4.0</b>	<b>J B</b>	15	0.46	ug/L		03/23/16 10:47	03/29/16 17:21	1
<b>Nickel</b>	<b>1.8</b>	<b>J</b>	20	0.76	ug/L		03/23/16 10:47	03/29/16 17:21	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 17:21	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 17:21	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 17:21	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 17:21	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0616

Lab Sample ID: 240-62436-6

Date Collected: 03/21/16 14:05

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	19		5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:08	1
Barium	210	B	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:08	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:08	1
Cadmium	0.45	J	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:08	1
Cobalt	4.8	J	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:08	1
Chromium	1.8	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:08	1
Iron	24000	B	100	13	ug/L		03/23/16 10:47	03/29/16 18:08	1
Manganese	1100	B	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:08	1
Nickel	8.1	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:08	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:08	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:08	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:08	1
Zinc	16	J B	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:08	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0716

Lab Sample ID: 240-62436-7

Date Collected: 03/21/16 13:41

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:21	1
<b>Barium</b>	<b>76</b>	<b>J B</b>	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:21	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:21	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:21	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:21	1
<b>Chromium</b>	<b>3.9</b>	<b>J</b>	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:21	1
Iron	100	U	100	13	ug/L		03/23/16 10:47	03/29/16 18:21	1
Manganese	15	U	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:21	1
Nickel	20	U	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:21	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:21	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:21	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:21	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:21	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0816

Date Collected: 03/21/16 14:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	8.1		5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:25	1
Barium	150	B	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:25	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:25	1
Cadmium	0.50	J	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:25	1
Cobalt	13		7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:25	1
Chromium	1.4	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:25	1
Iron	2600	B	100	13	ug/L		03/23/16 10:47	03/29/16 18:25	1
Manganese	2300	B	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:25	1
Nickel	5.6	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:25	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:25	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:25	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:25	1
Zinc	11	J B	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:25	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0916

Date Collected: 03/21/16 14:46

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.1	J	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:29	1
Barium	58	J B	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:29	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:29	1
Cadmium	0.17	J	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:29	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:29	1
Chromium	1.1	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:29	1
Iron	220	B	100	13	ug/L		03/23/16 10:47	03/29/16 18:29	1
Manganese	56	B	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:29	1
Nickel	3.1	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:29	1
Lead	2.1	J	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:29	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:29	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:29	1
Zinc	13	J B	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:29	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-1016

Lab Sample ID: 240-62436-10

Date Collected: 03/21/16 15:16

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.6	J	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:33	1
Barium	13	J B	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:33	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:33	1
Cadmium	0.54	J	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:33	1
Cobalt	1.9	J	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:33	1
Chromium	1.6	J	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:33	1
Iron	650	B	100	13	ug/L		03/23/16 10:47	03/29/16 18:33	1
Manganese	250	B	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:33	1
Nickel	6.6	J	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:33	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:33	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:33	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:33	1
Zinc	19	J B	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:33	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032116-SSH-1116

Date Collected: 03/21/16 15:40

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	3.7	J	5.0	2.9	ug/L		03/23/16 10:50	03/29/16 18:41	1
Barium	130	B	100	1.0	ug/L		03/23/16 10:50	03/29/16 18:41	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:50	03/29/16 18:41	1
Cadmium	0.24	J	1.0	0.14	ug/L		03/23/16 10:50	03/29/16 18:41	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:50	03/29/16 18:41	1
Chromium	1.1	J	5.0	0.55	ug/L		03/23/16 10:50	03/29/16 18:41	1
Iron	100	U	100	13	ug/L		03/23/16 10:50	03/29/16 18:41	1
Manganese	220	B	15	0.46	ug/L		03/23/16 10:50	03/29/16 18:41	1
Nickel	3.5	J	20	0.76	ug/L		03/23/16 10:50	03/29/16 18:41	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:50	03/29/16 18:41	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:50	03/29/16 18:41	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:50	03/29/16 18:41	1
Zinc	20	U	20	9.6	ug/L		03/23/16 10:50	03/29/16 18:41	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0316

Date Collected: 03/21/16 11:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:17	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:17	1
<b>Copper</b>	<b>0.78</b>	<b>J B</b>	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:17	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:17	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:17	1



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0416

Date Collected: 03/21/16 11:11

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:25	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:25	1
Copper	2.0	U	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:25	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:25	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:25	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0516

Date Collected: 03/21/16 12:50

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	11	J	50	9.0	ug/L		03/23/16 10:47	03/25/16 21:25	1
Antimony	0.17	J	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 21:25	1
Copper	1.0	J B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 21:25	1
Thallium	0.088	J	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 21:25	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 21:25	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0716

Date Collected: 03/21/16 13:41

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12	J	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:48	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:48	1
Copper	2.0	U	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:48	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:48	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:48	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-1116

Date Collected: 03/21/16 15:40

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 23:10	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 23:10	1
<b>Copper</b>	<b>1.3</b>	<b>J B</b>	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 23:10	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 23:10	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 23:10	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0116

Date Collected: 03/21/16 09:46

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	21	J	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:08	1
Antimony	0.19	J	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:08	1
Copper	0.85	J B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:08	1
Thallium	0.11	J	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:08	1
Silver	0.040	J	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:08	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0216

Date Collected: 03/21/16 10:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	100		50	9.0	ug/L		03/23/16 10:47	03/25/16 22:12	1
Antimony	0.21	J	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:12	1
Copper	5.2	B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:12	1
Thallium	0.10	J	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:12	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:12	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0316

Date Collected: 03/21/16 11:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:21	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:21	1
<b>Copper</b>	<b>1.2</b>	<b>J B</b>	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:21	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:21	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:21	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0416

Date Collected: 03/21/16 11:11

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:39	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:39	1
<b>Copper</b>	<b>0.92</b>	<b>J B</b>	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:39	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:39	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:39	1



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0516

Date Collected: 03/21/16 12:50

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 21:55	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 21:55	1
Copper	1.6	J B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 21:55	1
Thallium	0.11	J	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 21:55	1
Silver	0.021	J	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 21:55	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0616

Date Collected: 03/21/16 14:05

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	28	J	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:43	1
Antimony	0.17	J	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:43	1
Copper	21	B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:43	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:43	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:43	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0716

Date Collected: 03/21/16 13:41

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:52	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:52	1
<b>Copper</b>	<b>1.2</b>	<b>J B</b>	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:52	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:52	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:52	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0816

Date Collected: 03/21/16 14:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 22:57	1
<b>Antimony</b>	<b>0.19</b>	<b>J</b>	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 22:57	1
Copper	2.0	U	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 22:57	1
<b>Thallium</b>	<b>0.13</b>	<b>J</b>	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 22:57	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 22:57	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-0916

Date Collected: 03/21/16 14:46

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	130		50	9.0	ug/L		03/23/16 10:47	03/25/16 23:01	1
Antimony	0.16	J	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 23:01	1
Copper	2.6	B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 23:01	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 23:01	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 23:01	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-1016

Date Collected: 03/21/16 15:16

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	480		50	9.0	ug/L		03/23/16 10:47	03/25/16 23:06	1
Antimony	0.21	J	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 23:06	1
Copper	2.1	B	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 23:06	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 23:06	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 23:06	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

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

Client Sample ID: GW-12636-032116-SSH-1116

Date Collected: 03/21/16 15:40

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:50	03/25/16 23:14	1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:50	03/25/16 23:14	1
<b>Copper</b>	<b>3.2</b>	<b>B</b>	2.0	0.75	ug/L		03/23/16 10:50	03/25/16 23:14	1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:50	03/25/16 23:14	1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:50	03/25/16 23:14	1

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA)

Client Sample ID: GW-12636-032116-SSH-0316

Date Collected: 03/21/16 11:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:12	1

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



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA)

Client Sample ID: GW-12636-032116-SSH-0416

Date Collected: 03/21/16 11:11

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:16	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA)

Client Sample ID: GW-12636-032116-SSH-0516

Lab Sample ID: 240-62436-5

Date Collected: 03/21/16 12:50

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 08:51	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA)

Client Sample ID: GW-12636-032116-SSH-0716

Date Collected: 03/21/16 13:41

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:22	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA)

Client Sample ID: GW-12636-032116-SSH-1116

Date Collected: 03/21/16 15:40

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:37	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0116

Date Collected: 03/21/16 09:46

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:04	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0216

Date Collected: 03/21/16 10:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:06	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0316

Date Collected: 03/21/16 11:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:14	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0416

Date Collected: 03/21/16 11:11

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:18	1

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



# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0516

Lab Sample ID: 240-62436-5

Date Collected: 03/21/16 12:50

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 08:57	1

- 1
- 2
- 3
- 4
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# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0616

Lab Sample ID: 240-62436-6

Date Collected: 03/21/16 14:05

Matrix: Water

Date Received: 03/22/16 09:40

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:20	1

- 1
- 2
- 3
- 4
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- 7
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- 10
- 11
- 12
- 13
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# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0716

Date Collected: 03/21/16 13:41

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-7

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:24	1

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

# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0816

Date Collected: 03/21/16 14:06

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-8

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:26	1

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# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-0916

Date Collected: 03/21/16 14:46

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-9

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:29	1

- 1
- 2
- 3
- 4
- 5
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- 9
- 10
- 11
- 12
- 13
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# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-1016

Date Collected: 03/21/16 15:16

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-10

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:31	1

1

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# Client Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032116-SSH-1116

Date Collected: 03/21/16 15:40

Date Received: 03/22/16 09:40

Lab Sample ID: 240-62436-11

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.093	J	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 09:39	1

- 1
- 2
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- 12
- 13
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# QC Association Summary

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

TestAmerica Job ID: 240-62436-1

## GC/MS VOA

### Analysis Batch: 223525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-2	GW-12636-032116-SSH-0216	Total/NA	Water	8260B	
240-62436-3	GW-12636-032116-SSH-0316	Total/NA	Water	8260B	
240-62436-4	GW-12636-032116-SSH-0416	Total/NA	Water	8260B	
240-62436-5	GW-12636-032116-SSH-0516	Total/NA	Water	8260B	
240-62436-5 MS	GW-12636-032116-SSH-0516	Total/NA	Water	8260B	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total/NA	Water	8260B	
LCS 240-223525/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-223525/6	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 223694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-1	GW-12636-032116-SSH-0116	Total/NA	Water	8260B	
240-62436-1 MS	GW-12636-032116-SSH-0116	Total/NA	Water	8260B	
240-62436-1 MSD	GW-12636-032116-SSH-0116	Total/NA	Water	8260B	
240-62436-6	GW-12636-032116-SSH-0616	Total/NA	Water	8260B	
240-62436-7	GW-12636-032116-SSH-0716	Total/NA	Water	8260B	
240-62436-8	GW-12636-032116-SSH-0816	Total/NA	Water	8260B	
240-62436-9	GW-12636-032116-SSH-0916	Total/NA	Water	8260B	
240-62436-10	GW-12636-032116-SSH-1016	Total/NA	Water	8260B	
240-62436-11	GW-12636-032116-SSH-1116	Total/NA	Water	8260B	
240-62436-12	TB-12636-032116-SSH-1216	Total/NA	Water	8260B	
LCS 240-223694/29	Lab Control Sample	Total/NA	Water	8260B	
MB 240-223694/6	Method Blank	Total/NA	Water	8260B	

## Metals

### Prep Batch: 222828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-1	GW-12636-032116-SSH-0116	Dissolved	Water	3005A	
240-62436-2	GW-12636-032116-SSH-0216	Dissolved	Water	3005A	
240-62436-3	GW-12636-032116-SSH-0316	Dissolved	Water	3005A	
240-62436-3	GW-12636-032116-SSH-0316	Total Recoverable	Water	3005A	
240-62436-4	GW-12636-032116-SSH-0416	Dissolved	Water	3005A	
240-62436-4	GW-12636-032116-SSH-0416	Total Recoverable	Water	3005A	
240-62436-5	GW-12636-032116-SSH-0516	Dissolved	Water	3005A	
240-62436-5	GW-12636-032116-SSH-0516	Total Recoverable	Water	3005A	
240-62436-5 MS	GW-12636-032116-SSH-0516	Dissolved	Water	3005A	
240-62436-5 MS	GW-12636-032116-SSH-0516	Dissolved	Water	3005A	
240-62436-5 MS	GW-12636-032116-SSH-0516	Total Recoverable	Water	3005A	
240-62436-5 MS	GW-12636-032116-SSH-0516	Total Recoverable	Water	3005A	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Dissolved	Water	3005A	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Dissolved	Water	3005A	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total Recoverable	Water	3005A	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total Recoverable	Water	3005A	
240-62436-6	GW-12636-032116-SSH-0616	Dissolved	Water	3005A	
240-62436-7	GW-12636-032116-SSH-0716	Dissolved	Water	3005A	
240-62436-7	GW-12636-032116-SSH-0716	Total Recoverable	Water	3005A	
240-62436-8	GW-12636-032116-SSH-0816	Dissolved	Water	3005A	
240-62436-9	GW-12636-032116-SSH-0916	Dissolved	Water	3005A	
240-62436-10	GW-12636-032116-SSH-1016	Dissolved	Water	3005A	

TestAmerica Canton



# QC Association Summary

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

TestAmerica Job ID: 240-62436-1

## Metals (Continued)

### Prep Batch: 222828 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-11	GW-12636-032116-SSH-1116	Dissolved	Water	3005A	
240-62436-11	GW-12636-032116-SSH-1116	Total Recoverable	Water	3005A	
LCS 240-222828/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-222828/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-222828/1-A	Method Blank	Total Recoverable	Water	3005A	

### Prep Batch: 222832

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-1	GW-12636-032116-SSH-0116	Dissolved	Water	7470A	
240-62436-2	GW-12636-032116-SSH-0216	Dissolved	Water	7470A	
240-62436-3	GW-12636-032116-SSH-0316	Dissolved	Water	7470A	
240-62436-3	GW-12636-032116-SSH-0316	Total/NA	Water	7470A	
240-62436-4	GW-12636-032116-SSH-0416	Dissolved	Water	7470A	
240-62436-4	GW-12636-032116-SSH-0416	Total/NA	Water	7470A	
240-62436-5	GW-12636-032116-SSH-0516	Dissolved	Water	7470A	
240-62436-5	GW-12636-032116-SSH-0516	Total/NA	Water	7470A	
240-62436-5 MS	GW-12636-032116-SSH-0516	Dissolved	Water	7470A	
240-62436-5 MS	GW-12636-032116-SSH-0516	Total/NA	Water	7470A	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Dissolved	Water	7470A	
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total/NA	Water	7470A	
240-62436-6	GW-12636-032116-SSH-0616	Dissolved	Water	7470A	
240-62436-7	GW-12636-032116-SSH-0716	Dissolved	Water	7470A	
240-62436-7	GW-12636-032116-SSH-0716	Total/NA	Water	7470A	
240-62436-8	GW-12636-032116-SSH-0816	Dissolved	Water	7470A	
240-62436-9	GW-12636-032116-SSH-0916	Dissolved	Water	7470A	
240-62436-10	GW-12636-032116-SSH-1016	Dissolved	Water	7470A	
240-62436-11	GW-12636-032116-SSH-1116	Dissolved	Water	7470A	
240-62436-11	GW-12636-032116-SSH-1116	Total/NA	Water	7470A	
LCS 240-222832/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 240-222832/1-A	Method Blank	Total/NA	Water	7470A	

### Analysis Batch: 223036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-1	GW-12636-032116-SSH-0116	Dissolved	Water	7470A	222832
240-62436-2	GW-12636-032116-SSH-0216	Dissolved	Water	7470A	222832
240-62436-3	GW-12636-032116-SSH-0316	Dissolved	Water	7470A	222832
240-62436-3	GW-12636-032116-SSH-0316	Total/NA	Water	7470A	222832
240-62436-4	GW-12636-032116-SSH-0416	Dissolved	Water	7470A	222832
240-62436-4	GW-12636-032116-SSH-0416	Total/NA	Water	7470A	222832
240-62436-5	GW-12636-032116-SSH-0516	Dissolved	Water	7470A	222832
240-62436-5	GW-12636-032116-SSH-0516	Total/NA	Water	7470A	222832
240-62436-5 MS	GW-12636-032116-SSH-0516	Dissolved	Water	7470A	222832
240-62436-5 MS	GW-12636-032116-SSH-0516	Total/NA	Water	7470A	222832
240-62436-5 MSD	GW-12636-032116-SSH-0516	Dissolved	Water	7470A	222832
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total/NA	Water	7470A	222832
240-62436-6	GW-12636-032116-SSH-0616	Dissolved	Water	7470A	222832
240-62436-7	GW-12636-032116-SSH-0716	Dissolved	Water	7470A	222832
240-62436-7	GW-12636-032116-SSH-0716	Total/NA	Water	7470A	222832
240-62436-8	GW-12636-032116-SSH-0816	Dissolved	Water	7470A	222832
240-62436-9	GW-12636-032116-SSH-0916	Dissolved	Water	7470A	222832
240-62436-10	GW-12636-032116-SSH-1016	Dissolved	Water	7470A	222832

TestAmerica Canton

# QC Association Summary

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

TestAmerica Job ID: 240-62436-1

## Metals (Continued)

### Analysis Batch: 223036 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-11	GW-12636-032116-SSH-1116	Dissolved	Water	7470A	222832
240-62436-11	GW-12636-032116-SSH-1116	Total/NA	Water	7470A	222832
LCS 240-222832/2-A	Lab Control Sample	Total/NA	Water	7470A	222832
MB 240-222832/1-A	Method Blank	Total/NA	Water	7470A	222832

### Analysis Batch: 223425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-1	GW-12636-032116-SSH-0116	Dissolved	Water	6020	222828
240-62436-2	GW-12636-032116-SSH-0216	Dissolved	Water	6020	222828
240-62436-3	GW-12636-032116-SSH-0316	Dissolved	Water	6020	222828
240-62436-3	GW-12636-032116-SSH-0316	Total Recoverable	Water	6020	222828
240-62436-4	GW-12636-032116-SSH-0416	Dissolved	Water	6020	222828
240-62436-4	GW-12636-032116-SSH-0416	Total Recoverable	Water	6020	222828
240-62436-5	GW-12636-032116-SSH-0516	Dissolved	Water	6020	222828
240-62436-5	GW-12636-032116-SSH-0516	Total Recoverable	Water	6020	222828
240-62436-5 MS	GW-12636-032116-SSH-0516	Dissolved	Water	6020	222828
240-62436-5 MS	GW-12636-032116-SSH-0516	Total Recoverable	Water	6020	222828
240-62436-5 MSD	GW-12636-032116-SSH-0516	Dissolved	Water	6020	222828
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total Recoverable	Water	6020	222828
240-62436-6	GW-12636-032116-SSH-0616	Dissolved	Water	6020	222828
240-62436-7	GW-12636-032116-SSH-0716	Dissolved	Water	6020	222828
240-62436-7	GW-12636-032116-SSH-0716	Total Recoverable	Water	6020	222828
240-62436-8	GW-12636-032116-SSH-0816	Dissolved	Water	6020	222828
240-62436-9	GW-12636-032116-SSH-0916	Dissolved	Water	6020	222828
240-62436-10	GW-12636-032116-SSH-1016	Dissolved	Water	6020	222828
240-62436-11	GW-12636-032116-SSH-1116	Dissolved	Water	6020	222828
240-62436-11	GW-12636-032116-SSH-1116	Total Recoverable	Water	6020	222828
LCS 240-222828/3-A	Lab Control Sample	Total Recoverable	Water	6020	222828
MB 240-222828/1-A	Method Blank	Total Recoverable	Water	6020	222828

### Analysis Batch: 223781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-1	GW-12636-032116-SSH-0116	Dissolved	Water	6010B	222828
240-62436-2	GW-12636-032116-SSH-0216	Dissolved	Water	6010B	222828
240-62436-3	GW-12636-032116-SSH-0316	Dissolved	Water	6010B	222828
240-62436-3	GW-12636-032116-SSH-0316	Total Recoverable	Water	6010B	222828
240-62436-4	GW-12636-032116-SSH-0416	Dissolved	Water	6010B	222828
240-62436-4	GW-12636-032116-SSH-0416	Total Recoverable	Water	6010B	222828
240-62436-5	GW-12636-032116-SSH-0516	Dissolved	Water	6010B	222828
240-62436-5	GW-12636-032116-SSH-0516	Total Recoverable	Water	6010B	222828
240-62436-5 MS	GW-12636-032116-SSH-0516	Dissolved	Water	6010B	222828
240-62436-5 MS	GW-12636-032116-SSH-0516	Total Recoverable	Water	6010B	222828
240-62436-5 MSD	GW-12636-032116-SSH-0516	Dissolved	Water	6010B	222828
240-62436-5 MSD	GW-12636-032116-SSH-0516	Total Recoverable	Water	6010B	222828
240-62436-6	GW-12636-032116-SSH-0616	Dissolved	Water	6010B	222828
240-62436-7	GW-12636-032116-SSH-0716	Dissolved	Water	6010B	222828
240-62436-7	GW-12636-032116-SSH-0716	Total Recoverable	Water	6010B	222828
240-62436-8	GW-12636-032116-SSH-0816	Dissolved	Water	6010B	222828
240-62436-9	GW-12636-032116-SSH-0916	Dissolved	Water	6010B	222828
240-62436-10	GW-12636-032116-SSH-1016	Dissolved	Water	6010B	222828
240-62436-11	GW-12636-032116-SSH-1116	Dissolved	Water	6010B	222828

TestAmerica Canton

# QC Association Summary

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

TestAmerica Job ID: 240-62436-1

## Metals (Continued)

### Analysis Batch: 223781 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62436-11	GW-12636-032116-SSH-1116	Total Recoverable	Water	6010B	222828
LCS 240-222828/2-A	Lab Control Sample	Total Recoverable	Water	6010B	222828
MB 240-222828/1-A	Method Blank	Total Recoverable	Water	6010B	222828

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- 2
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# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-223525/6**  
**Matrix: Water**  
**Analysis Batch: 223525**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/29/16 01:13	1
Benzene	1.0	U	1.0	0.35	ug/L			03/29/16 01:13	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/29/16 01:13	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/29/16 01:13	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/29/16 01:13	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/29/16 01:13	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/29/16 01:13	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/29/16 01:13	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 01:13	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/29/16 01:13	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/29/16 01:13	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/29/16 01:13	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/29/16 01:13	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/29/16 01:13	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/29/16 01:13	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/29/16 01:13	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/29/16 01:13	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/29/16 01:13	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/29/16 01:13	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/29/16 01:13	1
2-Hexanone	10	U	10	0.48	ug/L			03/29/16 01:13	1
Methylene Chloride	0.414	J	5.0	0.33	ug/L			03/29/16 01:13	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/29/16 01:13	1
Styrene	1.0	U	1.0	0.45	ug/L			03/29/16 01:13	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/29/16 01:13	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/29/16 01:13	1
Toluene	1.0	U	1.0	0.23	ug/L			03/29/16 01:13	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/29/16 01:13	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/29/16 01:13	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/29/16 01:13	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/29/16 01:13	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/29/16 01:13	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/29/16 01:13	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/29/16 01:13	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/29/16 01:13	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/29/16 01:13	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/29/16 01:13	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/29/16 01:13	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/29/16 01:13	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/29/16 01:13	1
Methyl acetate	10	U	10	2.3	ug/L			03/29/16 01:13	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/29/16 01:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/29/16 01:13	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/29/16 01:13	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 01:13	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/29/16 01:13	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/29/16 01:13	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/29/16 01:13	1

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 240-223525/6**  
**Matrix: Water**  
**Analysis Batch: 223525**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/29/16 01:13	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/29/16 01:13	1
Surrogate	MB	MB	Limits				Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier							
1,2-Dichloroethane-d4 (Surr)	92		78 - 125					03/29/16 01:13	1
4-Bromofluorobenzene (Surr)	83		61 - 120					03/29/16 01:13	1
Toluene-d8 (Surr)	92		80 - 120					03/29/16 01:13	1
Dibromofluoromethane (Surr)	100		79 - 120					03/29/16 01:13	1

**Lab Sample ID: LCS 240-223525/4**  
**Matrix: Water**  
**Analysis Batch: 223525**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Benzene	10.0	10.1		ug/L		101	80 - 120
Bromodichloromethane	10.0	9.76		ug/L		98	80 - 120
Bromoform	10.0	10.4		ug/L		104	56 - 122
Bromomethane	10.0	7.05		ug/L		71	38 - 132
2-Butanone (MEK)	20.0	21.9		ug/L		110	56 - 138
Carbon disulfide	10.0	9.71		ug/L		97	65 - 144
Carbon tetrachloride	10.0	9.61		ug/L		96	77 - 131
Chlorobenzene	10.0	10.2		ug/L		102	80 - 120
Chloroethane	10.0	7.76		ug/L		78	36 - 126
Chloroform	10.0	10.1		ug/L		101	80 - 120
Chloromethane	10.0	10.3		ug/L		103	48 - 133
1,1-Dichloroethane	10.0	9.24		ug/L		92	79 - 125
1,2-Dichloroethane	10.0	9.65		ug/L		97	80 - 120
1,1-Dichloroethene	10.0	10.3		ug/L		103	76 - 124
1,2-Dichloropropane	10.0	9.96		ug/L		100	78 - 124
1,2,4-Trimethylbenzene	10.0	8.88		ug/L		89	76 - 120
cis-1,3-Dichloropropene	10.0	8.72		ug/L		87	74 - 126
trans-1,3-Dichloropropene	10.0	7.70		ug/L		77	75 - 131
Ethylbenzene	10.0	9.74		ug/L		97	80 - 120
2-Hexanone	20.0	19.8		ug/L		99	55 - 141
Methylene Chloride	10.0	11.1		ug/L		111	77 - 129
4-Methyl-2-pentanone (MIBK)	20.0	19.6		ug/L		98	64 - 135
Styrene	10.0	9.93		ug/L		99	76 - 122
1,1,2,2-Tetrachloroethane	10.0	11.8		ug/L		118	71 - 123
Tetrachloroethene	10.0	10.5		ug/L		105	78 - 121
Toluene	10.0	10.2		ug/L		102	80 - 120
Trichloroethene	10.0	10.8		ug/L		108	80 - 121
1,3,5-Trimethylbenzene	10.0	8.93		ug/L		89	77 - 120
Vinyl chloride	10.0	10.1		ug/L		101	52 - 121
Xylenes, Total	20.0	19.1		ug/L		95	80 - 120
1,1,1-Trichloroethane	10.0	8.59		ug/L		86	77 - 123
1,1,2-Trichloroethane	10.0	11.4		ug/L		114	80 - 120
Cyclohexane	10.0	8.42		ug/L		84	60 - 140

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 240-223525/4**  
**Matrix: Water**  
**Analysis Batch: 223525**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	10.0	9.93		ug/L		99	50 - 132
1,2-Dibromoethane	10.0	11.7		ug/L		117	80 - 120
Dichlorodifluoromethane	10.0	11.0		ug/L		110	23 - 136
cis-1,2-Dichloroethene	10.0	10.6		ug/L		106	79 - 120
trans-1,2-Dichloroethene	10.0	10.5		ug/L		105	80 - 124
Isopropylbenzene	10.0	8.93		ug/L		89	77 - 120
Methyl acetate	50.0	52.4		ug/L		105	67 - 131
Methyl tert-butyl ether	10.0	8.61		ug/L		86	69 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	10.1		ug/L		101	67 - 138
1,2,4-Trichlorobenzene	10.0	6.88		ug/L		69	61 - 120
1,2-Dichlorobenzene	10.0	9.22		ug/L		92	79 - 120
1,3-Dichlorobenzene	10.0	9.35		ug/L		94	79 - 120
1,4-Dichlorobenzene	10.0	9.30		ug/L		93	79 - 120
Trichlorofluoromethane	10.0	10.8		ug/L		108	61 - 133
Dibromochloromethane	10.0	11.1		ug/L		111	74 - 120
Methylcyclohexane	10.0	8.86		ug/L		89	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	85		78 - 125
4-Bromofluorobenzene (Surr)	90		61 - 120
Toluene-d8 (Surr)	100		80 - 120
Dibromofluoromethane (Surr)	96		79 - 120

**Lab Sample ID: 240-62436-5 MS**  
**Matrix: Water**  
**Analysis Batch: 223525**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	U	20.0	16.6		ug/L		83	32 - 126
Benzene	1.0	U	10.0	9.08		ug/L		91	73 - 121
Bromodichloromethane	1.0	U	10.0	9.16		ug/L		92	72 - 120
Bromoform	1.0	U	10.0	9.71		ug/L		97	45 - 121
Bromomethane	1.0	U	10.0	6.48		ug/L		65	26 - 136
2-Butanone (MEK)	10	U	20.0	18.7		ug/L		94	49 - 132
Carbon disulfide	5.0	U	10.0	8.81		ug/L		88	54 - 144
Carbon tetrachloride	1.0	U	10.0	7.92		ug/L		79	65 - 129
Chlorobenzene	1.0	U	10.0	8.80		ug/L		88	72 - 120
Chloroethane	1.0	U	10.0	7.51		ug/L		75	27 - 131
Chloroform	1.0	U	10.0	9.41		ug/L		94	73 - 121
Chloromethane	1.0	U	10.0	9.98		ug/L		100	39 - 134
1,1-Dichloroethane	1.0	U	10.0	8.50		ug/L		85	73 - 124
1,2-Dichloroethane	1.0	U	10.0	9.10		ug/L		91	74 - 125
1,1-Dichloroethene	1.0	U	10.0	9.27		ug/L		93	67 - 124
1,2-Dichloropropane	1.0	U	10.0	9.07		ug/L		91	73 - 122
1,2,4-Trimethylbenzene	1.0	U	10.0	6.81		ug/L		68	64 - 122
cis-1,3-Dichloropropene	1.0	U	10.0	7.15		ug/L		72	60 - 120
trans-1,3-Dichloropropene	1.0	U	10.0	6.66		ug/L		67	58 - 132

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# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 240-62436-5 MS**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 223525**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.
	Result	Qualifier		Result	Qualifier				
Ethylbenzene	1.0	U	10.0	7.71		ug/L		77	68 - 121
2-Hexanone	10	U	20.0	17.2		ug/L		86	49 - 142
Methylene Chloride	5.0	U	10.0	10.0		ug/L		100	70 - 124
4-Methyl-2-pentanone (MIBK)	10	U	20.0	16.2		ug/L		81	58 - 136
Styrene	1.0	U	10.0	8.43		ug/L		84	64 - 126
1,1,2,2-Tetrachloroethane	1.0	U	10.0	10.7		ug/L		107	61 - 130
Tetrachloroethene	1.0	U	10.0	8.06		ug/L		81	59 - 125
Toluene	1.0	U	10.0	8.74		ug/L		87	72 - 122
Trichloroethene	1.0	U	10.0	8.94		ug/L		89	61 - 129
1,3,5-Trimethylbenzene	1.0	U	10.0	6.77		ug/L		68	62 - 126
Vinyl chloride	1.0	U	10.0	9.51		ug/L		95	44 - 122
Xylenes, Total	2.0	U	20.0	15.4		ug/L		77	67 - 122
1,1,1-Trichloroethane	1.0	U	10.0	7.21		ug/L		72	69 - 122
1,1,2-Trichloroethane	1.0	U	10.0	10.7		ug/L		107	72 - 125
Cyclohexane	1.0	U	10.0	5.53		ug/L		55	41 - 137
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	9.19		ug/L		92	42 - 130
1,2-Dibromoethane	1.0	U	10.0	10.5		ug/L		105	69 - 125
Dichlorodifluoromethane	1.0	U	10.0	8.68		ug/L		87	14 - 137
cis-1,2-Dichloroethene	1.0	U	10.0	9.40		ug/L		94	66 - 124
trans-1,2-Dichloroethene	1.0	U	10.0	9.76		ug/L		98	72 - 125
Isopropylbenzene	1.0	U	10.0	6.63		ug/L		66	61 - 122
Methyl acetate	10	U	50.0	40.6		ug/L		81	64 - 124
Methyl tert-butyl ether	1.0	U	10.0	7.71		ug/L		77	61 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.47		ug/L		75	44 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	5.88		ug/L		59	48 - 120
1,2-Dichlorobenzene	1.0	U	10.0	7.99		ug/L		80	67 - 118
1,3-Dichlorobenzene	1.0	U	10.0	7.81		ug/L		78	65 - 120
1,4-Dichlorobenzene	1.0	U	10.0	7.92		ug/L		79	66 - 120
Trichlorofluoromethane	1.0	U	10.0	9.43		ug/L		94	49 - 133
Dibromochloromethane	1.0	U	10.0	10.4		ug/L		104	62 - 122
Methylcyclohexane	1.0	U	10.0	5.66		ug/L		57	39 - 135

Surrogate	MS	MS	Limits
	%Recovery	Qualifier	
1,2-Dichloroethane-d4 (Surr)	88		78 - 125
4-Bromofluorobenzene (Surr)	87		61 - 120
Toluene-d8 (Surr)	99		80 - 120
Dibromofluoromethane (Surr)	99		79 - 120

**Lab Sample ID: 240-62436-5 MSD**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Matrix: Water**

**Prep Type: Total/NA**

**Analysis Batch: 223525**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Acetone	10	U	20.0	19.7		ug/L		98	32 - 126	17	28
Benzene	1.0	U	10.0	9.44		ug/L		94	73 - 121	4	13
Bromodichloromethane	1.0	U	10.0	9.37		ug/L		94	72 - 120	2	19
Bromoform	1.0	U	10.0	9.97		ug/L		100	45 - 121	3	19

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# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 240-62436-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 223525**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromomethane	1.0	U	10.0	6.60		ug/L		66	26 - 136	2	35
2-Butanone (MEK)	10	U	20.0	20.9		ug/L		104	49 - 132	11	19
Carbon disulfide	5.0	U	10.0	8.76		ug/L		88	54 - 144	1	34
Carbon tetrachloride	1.0	U	10.0	8.24		ug/L		82	65 - 129	4	20
Chlorobenzene	1.0	U	10.0	8.96		ug/L		90	72 - 120	2	15
Chloroethane	1.0	U	10.0	7.68		ug/L		77	27 - 131	2	35
Chloroform	1.0	U	10.0	9.70		ug/L		97	73 - 121	3	17
Chloromethane	1.0	U	10.0	10.2		ug/L		102	39 - 134	2	20
1,1-Dichloroethane	1.0	U	10.0	8.73		ug/L		87	73 - 124	3	14
1,2-Dichloroethane	1.0	U	10.0	9.19		ug/L		92	74 - 125	1	24
1,1-Dichloroethene	1.0	U	10.0	9.33		ug/L		93	67 - 124	1	24
1,2-Dichloropropane	1.0	U	10.0	9.28		ug/L		93	73 - 122	2	15
1,2,4-Trimethylbenzene	1.0	U	10.0	7.16		ug/L		72	64 - 122	5	14
cis-1,3-Dichloropropene	1.0	U	10.0	7.19		ug/L		72	60 - 120	1	21
trans-1,3-Dichloropropene	1.0	U	10.0	6.76		ug/L		68	58 - 132	2	22
Ethylbenzene	1.0	U	10.0	7.83		ug/L		78	68 - 121	2	16
2-Hexanone	10	U	20.0	19.5		ug/L		98	49 - 142	13	27
Methylene Chloride	5.0	U	10.0	10.1		ug/L		101	70 - 124	1	14
4-Methyl-2-pentanone (MIBK)	10	U	20.0	18.3		ug/L		92	58 - 136	12	32
Styrene	1.0	U	10.0	8.48		ug/L		85	64 - 126	1	15
1,1,2,2-Tetrachloroethane	1.0	U	10.0	10.9		ug/L		109	61 - 130	1	18
Tetrachloroethene	1.0	U	10.0	8.34		ug/L		83	59 - 125	3	20
Toluene	1.0	U	10.0	8.87		ug/L		89	72 - 122	1	15
Trichloroethene	1.0	U	10.0	9.15		ug/L		91	61 - 129	2	14
1,3,5-Trimethylbenzene	1.0	U	10.0	7.11		ug/L		71	62 - 126	5	17
Vinyl chloride	1.0	U	10.0	9.85		ug/L		98	44 - 122	4	35
Xylenes, Total	2.0	U	20.0	15.8		ug/L		79	67 - 122	3	14
1,1,1-Trichloroethane	1.0	U	10.0	7.61		ug/L		76	69 - 122	5	14
1,1,2-Trichloroethane	1.0	U	10.0	11.0		ug/L		110	72 - 125	3	19
Cyclohexane	1.0	U	10.0	6.21		ug/L		62	41 - 137	12	35
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	9.78		ug/L		98	42 - 130	6	24
1,2-Dibromoethane	1.0	U	10.0	10.8		ug/L		108	69 - 125	3	24
Dichlorodifluoromethane	1.0	U	10.0	9.11		ug/L		91	14 - 137	5	34
cis-1,2-Dichloroethene	1.0	U	10.0	9.80		ug/L		98	66 - 124	4	22
trans-1,2-Dichloroethene	1.0	U	10.0	9.89		ug/L		99	72 - 125	1	25
Isopropylbenzene	1.0	U	10.0	7.01		ug/L		70	61 - 122	6	20
Methyl acetate	10	U	50.0	45.3		ug/L		91	64 - 124	11	12
Methyl tert-butyl ether	1.0	U	10.0	8.15		ug/L		82	61 - 121	6	12
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	7.77		ug/L		78	44 - 140	4	35
1,2,4-Trichlorobenzene	1.0	U	10.0	5.60		ug/L		56	48 - 120	5	28
1,2-Dichlorobenzene	1.0	U	10.0	8.17		ug/L		82	67 - 118	2	15
1,3-Dichlorobenzene	1.0	U	10.0	7.87		ug/L		79	65 - 120	1	15
1,4-Dichlorobenzene	1.0	U	10.0	8.01		ug/L		80	66 - 120	1	16
Trichlorofluoromethane	1.0	U	10.0	9.79		ug/L		98	49 - 133	4	25
Dibromochloromethane	1.0	U	10.0	10.5		ug/L		105	62 - 122	1	19
Methylcyclohexane	1.0	U	10.0	6.64		ug/L		66	39 - 135	16	35

TestAmerica Canton



# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 240-62436-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 223525**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Total/NA**

Surrogate	MSD %Recovery	MSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	86		78 - 125
4-Bromofluorobenzene (Surr)	90		61 - 120
Toluene-d8 (Surr)	101		80 - 120
Dibromofluoromethane (Surr)	99		79 - 120

**Lab Sample ID: MB 240-223694/6**  
**Matrix: Water**  
**Analysis Batch: 223694**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/29/16 23:48	1
Benzene	1.0	U	1.0	0.35	ug/L			03/29/16 23:48	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/29/16 23:48	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/29/16 23:48	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/29/16 23:48	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/29/16 23:48	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/29/16 23:48	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/29/16 23:48	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 23:48	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/29/16 23:48	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/29/16 23:48	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/29/16 23:48	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/29/16 23:48	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/29/16 23:48	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/29/16 23:48	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/29/16 23:48	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/29/16 23:48	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/29/16 23:48	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/29/16 23:48	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/29/16 23:48	1
2-Hexanone	10	U	10	0.48	ug/L			03/29/16 23:48	1
Methylene Chloride	0.484	J	5.0	0.33	ug/L			03/29/16 23:48	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/29/16 23:48	1
Styrene	1.0	U	1.0	0.45	ug/L			03/29/16 23:48	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/29/16 23:48	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/29/16 23:48	1
Toluene	1.0	U	1.0	0.23	ug/L			03/29/16 23:48	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/29/16 23:48	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/29/16 23:48	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/29/16 23:48	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/29/16 23:48	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/29/16 23:48	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/29/16 23:48	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/29/16 23:48	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/29/16 23:48	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/29/16 23:48	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/29/16 23:48	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/29/16 23:48	1

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 240-223694/6**  
**Matrix: Water**  
**Analysis Batch: 223694**

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

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/29/16 23:48	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/29/16 23:48	1
Methyl acetate	10	U	10	2.3	ug/L			03/29/16 23:48	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/29/16 23:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/29/16 23:48	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/29/16 23:48	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/29/16 23:48	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/29/16 23:48	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/29/16 23:48	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/29/16 23:48	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/29/16 23:48	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/29/16 23:48	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		78 - 125		03/29/16 23:48	1
4-Bromofluorobenzene (Surr)	85		61 - 120		03/29/16 23:48	1
Toluene-d8 (Surr)	95		80 - 120		03/29/16 23:48	1
Dibromofluoromethane (Surr)	89		79 - 120		03/29/16 23:48	1

**Lab Sample ID: LCS 240-223694/29**  
**Matrix: Water**  
**Analysis Batch: 223694**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	12.7		ug/L		63	34 - 148
Benzene	10.0	9.81		ug/L		98	80 - 120
Bromodichloromethane	10.0	9.70		ug/L		97	80 - 120
Bromoform	10.0	9.52		ug/L		95	56 - 122
Bromomethane	10.0	8.08		ug/L		81	38 - 132
2-Butanone (MEK)	20.0	16.2		ug/L		81	56 - 138
Carbon disulfide	10.0	9.98		ug/L		100	65 - 144
Carbon tetrachloride	10.0	10.4		ug/L		104	77 - 131
Chlorobenzene	10.0	9.55		ug/L		95	80 - 120
Chloroethane	10.0	9.41		ug/L		94	36 - 126
Chloroform	10.0	9.69		ug/L		97	80 - 120
Chloromethane	10.0	9.88		ug/L		99	48 - 133
1,1-Dichloroethane	10.0	9.45		ug/L		95	79 - 125
1,2-Dichloroethane	10.0	9.76		ug/L		98	80 - 120
1,1-Dichloroethene	10.0	10.4		ug/L		104	76 - 124
1,2-Dichloropropane	10.0	10.3		ug/L		103	78 - 124
1,2,4-Trimethylbenzene	10.0	9.44		ug/L		94	76 - 120
cis-1,3-Dichloropropene	10.0	9.71		ug/L		97	74 - 126
trans-1,3-Dichloropropene	10.0	9.08		ug/L		91	75 - 131
Ethylbenzene	10.0	9.72		ug/L		97	80 - 120
2-Hexanone	20.0	17.3		ug/L		86	55 - 141
Methylene Chloride	10.0	10.0		ug/L		100	77 - 129
4-Methyl-2-pentanone (MIBK)	20.0	19.9		ug/L		99	64 - 135
Styrene	10.0	9.88		ug/L		99	76 - 122

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 240-223694/29**  
**Matrix: Water**  
**Analysis Batch: 223694**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,2,2-Tetrachloroethane	10.0	9.92		ug/L		99	71 - 123
Tetrachloroethene	10.0	10.3		ug/L		103	78 - 121
Toluene	10.0	10.1		ug/L		101	80 - 120
Trichloroethene	10.0	10.2		ug/L		102	80 - 121
1,3,5-Trimethylbenzene	10.0	9.64		ug/L		96	77 - 120
Vinyl chloride	10.0	10.9		ug/L		109	52 - 121
Xylenes, Total	20.0	19.4		ug/L		97	80 - 120
1,1,1-Trichloroethane	10.0	9.69		ug/L		97	77 - 123
1,1,2-Trichloroethane	10.0	9.81		ug/L		98	80 - 120
Cyclohexane	10.0	11.6		ug/L		116	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	8.98		ug/L		90	50 - 132
1,2-Dibromoethane	10.0	10.0		ug/L		100	80 - 120
Dichlorodifluoromethane	10.0	13.5		ug/L		135	23 - 136
cis-1,2-Dichloroethene	10.0	9.68		ug/L		97	79 - 120
trans-1,2-Dichloroethene	10.0	10.2		ug/L		102	80 - 124
Isopropylbenzene	10.0	9.87		ug/L		99	77 - 120
Methyl acetate	50.0	49.8		ug/L		100	67 - 131
Methyl tert-butyl ether	10.0	9.79		ug/L		98	69 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	11.6		ug/L		116	67 - 138
1,2,4-Trichlorobenzene	10.0	9.42		ug/L		94	61 - 120
1,2-Dichlorobenzene	10.0	9.67		ug/L		97	79 - 120
1,3-Dichlorobenzene	10.0	9.54		ug/L		95	79 - 120
1,4-Dichlorobenzene	10.0	9.72		ug/L		97	79 - 120
Trichlorofluoromethane	10.0	11.1		ug/L		111	61 - 133
Dibromochloromethane	10.0	9.79		ug/L		98	74 - 120
Methylcyclohexane	10.0	11.4		ug/L		114	61 - 134
	<b>LCS LCS</b>						
<b>Surrogate</b>	<b>%Recovery</b>	<b>Qualifier</b>	<b>Limits</b>				
1,2-Dichloroethane-d4 (Surr)	89		78 - 125				
4-Bromofluorobenzene (Surr)	93		61 - 120				
Toluene-d8 (Surr)	92		80 - 120				
Dibromofluoromethane (Surr)	91		79 - 120				

**Lab Sample ID: 240-62436-1 MS**  
**Matrix: Water**  
**Analysis Batch: 223694**

**Client Sample ID: GW-12636-032116-SSH-0116**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	10	U	20.0	15.9		ug/L		79	32 - 126
Benzene	1.0	U	10.0	10.4		ug/L		104	73 - 121
Bromodichloromethane	1.0	U	10.0	10.4		ug/L		104	72 - 120
Bromoform	1.0	U	10.0	11.3		ug/L		113	45 - 121
Bromomethane	1.0	U	10.0	7.09		ug/L		71	26 - 136
2-Butanone (MEK)	10	U	20.0	21.0		ug/L		105	49 - 132
Carbon disulfide	5.0	U	10.0	8.95		ug/L		89	54 - 144
Carbon tetrachloride	1.0	U	10.0	9.31		ug/L		93	65 - 129
Chlorobenzene	1.0	U	10.0	10.4		ug/L		104	72 - 120

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 240-62436-1 MS

Client Sample ID: GW-12636-032116-SSH-0116

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 223694

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	1.0	U	10.0	8.27		ug/L		83	27 - 131
Chloroform	1.0	U	10.0	9.99		ug/L		100	73 - 121
Chloromethane	1.0	U	10.0	8.68		ug/L		87	39 - 134
1,1-Dichloroethane	1.0	U	10.0	9.77		ug/L		98	73 - 124
1,2-Dichloroethane	1.0	U	10.0	10.8		ug/L		108	74 - 125
1,1-Dichloroethene	1.0	U	10.0	9.51		ug/L		95	67 - 124
1,2-Dichloropropane	1.0	U	10.0	10.8		ug/L		108	73 - 122
1,2,4-Trimethylbenzene	1.0	U	10.0	9.76		ug/L		98	64 - 122
cis-1,3-Dichloropropene	1.0	U	10.0	10.2		ug/L		102	60 - 120
trans-1,3-Dichloropropene	1.0	U	10.0	10.1		ug/L		101	58 - 132
Ethylbenzene	1.0	U	10.0	10.2		ug/L		102	68 - 121
2-Hexanone	10	U	20.0	24.0		ug/L		120	49 - 142
Methylene Chloride	5.0	U	10.0	9.24		ug/L		92	70 - 124
4-Methyl-2-pentanone (MIBK)	10	U	20.0	25.2		ug/L		126	58 - 136
Styrene	1.0	U	10.0	10.4		ug/L		104	64 - 126
1,1,2,2-Tetrachloroethane	1.0	U	10.0	11.8		ug/L		118	61 - 130
Tetrachloroethene	1.0	U	10.0	10.6		ug/L		106	59 - 125
Toluene	1.0	U	10.0	10.8		ug/L		108	72 - 122
Trichloroethene	1.0	U	10.0	10.4		ug/L		104	61 - 129
1,3,5-Trimethylbenzene	1.0	U	10.0	9.89		ug/L		99	62 - 126
Vinyl chloride	1.0	U	10.0	9.88		ug/L		99	44 - 122
Xylenes, Total	2.0	U	20.0	20.2		ug/L		101	67 - 122
1,1,1-Trichloroethane	1.0	U	10.0	9.35		ug/L		93	69 - 122
1,1,2-Trichloroethane	1.0	U	10.0	11.7		ug/L		117	72 - 125
Cyclohexane	1.0	U	10.0	8.89		ug/L		89	41 - 137
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	11.9		ug/L		119	42 - 130
1,2-Dibromoethane	1.0	U	10.0	12.0		ug/L		120	69 - 125
Dichlorodifluoromethane	1.0	U	10.0	10.5		ug/L		105	14 - 137
cis-1,2-Dichloroethene	1.0	U	10.0	9.99		ug/L		100	66 - 124
trans-1,2-Dichloroethene	1.0	U	10.0	9.80		ug/L		98	72 - 125
Isopropylbenzene	1.0	U	10.0	9.89		ug/L		99	61 - 122
Methyl acetate	10	U	50.0	61.8		ug/L		124	64 - 124
Methyl tert-butyl ether	1.0	U	10.0	11.0		ug/L		110	61 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	8.51		ug/L		85	44 - 140
1,2,4-Trichlorobenzene	1.0	U	10.0	10.9		ug/L		109	48 - 120
1,2-Dichlorobenzene	1.0	U	10.0	10.2		ug/L		102	67 - 118
1,3-Dichlorobenzene	1.0	U	10.0	10.1		ug/L		101	65 - 120
1,4-Dichlorobenzene	1.0	U	10.0	10.1		ug/L		101	66 - 120
Trichlorofluoromethane	1.0	U F2	10.0	6.76		ug/L		68	49 - 133
Dibromochloromethane	1.0	U	10.0	11.4		ug/L		114	62 - 122
Methylcyclohexane	1.0	U	10.0	8.66		ug/L		87	39 - 135

Surrogate	MS %Recovery	MS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	94		78 - 125
4-Bromofluorobenzene (Surr)	91		61 - 120
Toluene-d8 (Surr)	97		80 - 120
Dibromofluoromethane (Surr)	88		79 - 120

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

Lab Sample ID: 240-62436-1 MSD  
Matrix: Water  
Analysis Batch: 223694

Client Sample ID: GW-12636-032116-SSH-0116  
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Acetone	10	U	20.0	15.0		ug/L		75	32 - 126	6	28
Benzene	1.0	U	10.0	10.2		ug/L		102	73 - 121	3	13
Bromodichloromethane	1.0	U	10.0	10.1		ug/L		101	72 - 120	3	19
Bromoform	1.0	U	10.0	10.6		ug/L		106	45 - 121	6	19
Bromomethane	1.0	U	10.0	6.76		ug/L		68	26 - 136	5	35
2-Butanone (MEK)	10	U	20.0	18.7		ug/L		94	49 - 132	12	19
Carbon disulfide	5.0	U	10.0	9.52		ug/L		95	54 - 144	6	34
Carbon tetrachloride	1.0	U	10.0	9.49		ug/L		95	65 - 129	2	20
Chlorobenzene	1.0	U	10.0	9.98		ug/L		100	72 - 120	4	15
Chloroethane	1.0	U	10.0	8.60		ug/L		86	27 - 131	4	35
Chloroform	1.0	U	10.0	9.90		ug/L		99	73 - 121	1	17
Chloromethane	1.0	U	10.0	9.33		ug/L		93	39 - 134	7	20
1,1-Dichloroethane	1.0	U	10.0	9.71		ug/L		97	73 - 124	1	14
1,2-Dichloroethane	1.0	U	10.0	10.4		ug/L		104	74 - 125	4	24
1,1-Dichloroethene	1.0	U	10.0	9.81		ug/L		98	67 - 124	3	24
1,2-Dichloropropane	1.0	U	10.0	10.5		ug/L		105	73 - 122	3	15
1,2,4-Trimethylbenzene	1.0	U	10.0	9.49		ug/L		95	64 - 122	3	14
cis-1,3-Dichloropropene	1.0	U	10.0	9.73		ug/L		97	60 - 120	4	21
trans-1,3-Dichloropropene	1.0	U	10.0	9.53		ug/L		95	58 - 132	6	22
Ethylbenzene	1.0	U	10.0	9.88		ug/L		99	68 - 121	3	16
2-Hexanone	10	U	20.0	22.2		ug/L		111	49 - 142	8	27
Methylene Chloride	5.0	U	10.0	9.35		ug/L		93	70 - 124	1	14
4-Methyl-2-pentanone (MIBK)	10	U	20.0	23.2		ug/L		116	58 - 136	8	32
Styrene	1.0	U	10.0	9.93		ug/L		99	64 - 126	4	15
1,1,2,2-Tetrachloroethane	1.0	U	10.0	11.3		ug/L		113	61 - 130	5	18
Tetrachloroethene	1.0	U	10.0	10.2		ug/L		102	59 - 125	4	20
Toluene	1.0	U	10.0	10.2		ug/L		102	72 - 122	5	15
Trichloroethene	1.0	U	10.0	10.3		ug/L		103	61 - 129	1	14
1,3,5-Trimethylbenzene	1.0	U	10.0	9.49		ug/L		95	62 - 126	4	17
Vinyl chloride	1.0	U	10.0	10.2		ug/L		102	44 - 122	3	35
Xylenes, Total	2.0	U	20.0	19.6		ug/L		98	67 - 122	3	14
1,1,1-Trichloroethane	1.0	U	10.0	9.47		ug/L		95	69 - 122	1	14
1,1,2-Trichloroethane	1.0	U	10.0	11.0		ug/L		110	72 - 125	6	19
Cyclohexane	1.0	U	10.0	9.56		ug/L		96	41 - 137	7	35
1,2-Dibromo-3-Chloropropane	1.0	U	10.0	10.9		ug/L		109	42 - 130	9	24
1,2-Dibromoethane	1.0	U	10.0	11.2		ug/L		112	69 - 125	7	24
Dichlorodifluoromethane	1.0	U	10.0	11.4		ug/L		114	14 - 137	7	34
cis-1,2-Dichloroethene	1.0	U	10.0	9.94		ug/L		99	66 - 124	0	22
trans-1,2-Dichloroethene	1.0	U	10.0	9.96		ug/L		100	72 - 125	2	25
Isopropylbenzene	1.0	U	10.0	9.56		ug/L		96	61 - 122	3	20
Methyl acetate	10	U	50.0	57.2		ug/L		114	64 - 124	8	12
Methyl tert-butyl ether	1.0	U	10.0	11.0		ug/L		110	61 - 121	1	12
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	10.0	9.55		ug/L		96	44 - 140	12	35
1,2,4-Trichlorobenzene	1.0	U	10.0	10.3		ug/L		103	48 - 120	5	28
1,2-Dichlorobenzene	1.0	U	10.0	9.85		ug/L		98	67 - 118	4	15
1,3-Dichlorobenzene	1.0	U	10.0	9.67		ug/L		97	65 - 120	4	15
1,4-Dichlorobenzene	1.0	U	10.0	9.88		ug/L		99	66 - 120	2	16
Trichlorofluoromethane	1.0	U F2	10.0	9.08	F2	ug/L		91	49 - 133	29	25
Dibromochloromethane	1.0	U	10.0	10.3		ug/L		103	62 - 122	10	19

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: 240-62436-1 MSD**  
**Matrix: Water**  
**Analysis Batch: 223694**

**Client Sample ID: GW-12636-032116-SSH-0116**  
**Prep Type: Total/NA**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methylcyclohexane	1.0	U	10.0	9.25		ug/L		93	39 - 135	7	35
<b>Surrogate</b>	<b>%Recovery</b>	<b>MSD Qualifier</b>	<b>Limits</b>								
1,2-Dichloroethane-d4 (Surr)	92		78 - 125								
4-Bromofluorobenzene (Surr)	93		61 - 120								
Toluene-d8 (Surr)	96		80 - 120								
Dibromofluoromethane (Surr)	92		79 - 120								

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 240-222828/1-A**  
**Matrix: Water**  
**Analysis Batch: 223781**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 222828**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/23/16 10:47	03/29/16 18:17	1
Barium	2.36	J	100	1.0	ug/L		03/23/16 10:47	03/29/16 18:17	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/23/16 10:47	03/29/16 18:17	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/23/16 10:47	03/29/16 18:17	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/23/16 10:47	03/29/16 18:17	1
Chromium	5.0	U	5.0	0.55	ug/L		03/23/16 10:47	03/29/16 18:17	1
Iron	29.7	J	100	13	ug/L		03/23/16 10:47	03/29/16 18:17	1
Manganese	3.55	J	15	0.46	ug/L		03/23/16 10:47	03/29/16 18:17	1
Nickel	20	U	20	0.76	ug/L		03/23/16 10:47	03/29/16 18:17	1
Lead	3.0	U	3.0	1.9	ug/L		03/23/16 10:47	03/29/16 18:17	1
Selenium	5.0	U	5.0	4.0	ug/L		03/23/16 10:47	03/29/16 18:17	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/23/16 10:47	03/29/16 18:17	1
Zinc	12.5	J	20	9.6	ug/L		03/23/16 10:47	03/29/16 18:17	1

**Lab Sample ID: LCS 240-222828/2-A**  
**Matrix: Water**  
**Analysis Batch: 223781**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 222828**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	2000	2030		ug/L		102	80 - 120
Barium	2000	1930		ug/L		97	80 - 120
Beryllium	50.0	48.8		ug/L		98	80 - 120
Cadmium	50.0	50.9		ug/L		102	80 - 120
Cobalt	500	492		ug/L		98	80 - 120
Chromium	200	197		ug/L		98	80 - 120
Iron	1000	1020		ug/L		102	80 - 120
Manganese	500	500		ug/L		100	80 - 120
Nickel	500	503		ug/L		101	80 - 120
Lead	500	479		ug/L		96	80 - 120
Selenium	2000	2080		ug/L		104	80 - 120
Vanadium	500	490		ug/L		98	80 - 120
Zinc	500	520		ug/L		104	80 - 120

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: 240-62436-5 MS**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Total Recoverable**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	3.6	J	2000	2230		ug/L		111	75 - 125
Barium	75	J B	2000	2200		ug/L		106	75 - 125
Beryllium	1.0	U	50.0	54.1		ug/L		108	75 - 125
Cadmium	0.29	J	50.0	56.2		ug/L		112	75 - 125
Cobalt	7.0	U	500	538		ug/L		108	75 - 125
Chromium	1.5	J	200	210		ug/L		104	75 - 125
Iron	23	J B	1000	1090		ug/L		107	75 - 125
Manganese	3.2	J B	500	534		ug/L		106	75 - 125
Nickel	0.86	J	500	546		ug/L		109	75 - 125
Lead	3.0	U	500	513		ug/L		103	75 - 125
Selenium	5.0	U	2000	2260		ug/L		113	75 - 125
Vanadium	4.0	U	500	531		ug/L		106	75 - 125
Zinc	20	U	500	553		ug/L		111	75 - 125

**Lab Sample ID: 240-62436-5 MSD**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Total Recoverable**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Arsenic	3.6	J	2000	2190		ug/L		109	75 - 125	2	20
Barium	75	J B	2000	2160		ug/L		104	75 - 125	2	20
Beryllium	1.0	U	50.0	53.1		ug/L		106	75 - 125	2	20
Cadmium	0.29	J	50.0	55.0		ug/L		109	75 - 125	2	20
Cobalt	7.0	U	500	529		ug/L		106	75 - 125	2	20
Chromium	1.5	J	200	207		ug/L		103	75 - 125	2	20
Iron	23	J B	1000	1080		ug/L		106	75 - 125	1	20
Manganese	3.2	J B	500	524		ug/L		104	75 - 125	2	20
Nickel	0.86	J	500	535		ug/L		107	75 - 125	2	20
Lead	3.0	U	500	505		ug/L		101	75 - 125	2	20
Selenium	5.0	U	2000	2220		ug/L		111	75 - 125	2	20
Vanadium	4.0	U	500	526		ug/L		105	75 - 125	1	20
Zinc	20	U	500	544		ug/L		109	75 - 125	2	20

**Lab Sample ID: 240-62436-5 MS**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Dissolved**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	5.0	U	2000	2060		ug/L		103	75 - 125
Barium	75	J B	2000	2040		ug/L		98	75 - 125
Beryllium	1.0	U	50.0	50.0		ug/L		100	75 - 125
Cadmium	0.29	J	50.0	51.1		ug/L		102	75 - 125
Cobalt	7.0	U	500	504		ug/L		101	75 - 125
Chromium	1.3	J	200	200		ug/L		99	75 - 125
Iron	100	U	1000	1020		ug/L		102	75 - 125
Manganese	4.0	J B	500	512		ug/L		102	75 - 125
Nickel	1.8	J	500	513		ug/L		102	75 - 125
Lead	3.0	U	500	477		ug/L		95	75 - 125

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: 240-62436-5 MS**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Dissolved**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MS	MS	Unit	D	%Rec	%Rec.	Limits
	Result	Qualifier		Result	Qualifier					
Selenium	5.0	U	2000	2110		ug/L		105		75 - 125
Vanadium	4.0	U	500	500		ug/L		100		75 - 125
Zinc	20	U	500	519		ug/L		104		75 - 125

**Lab Sample ID: 240-62436-5 MSD**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Dissolved**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MSD	MSD	Unit	D	%Rec	%Rec.	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier							
Arsenic	5.0	U	2000	2170		ug/L		108		75 - 125	5	20
Barium	75	J B	2000	2110		ug/L		102		75 - 125	4	20
Beryllium	1.0	U	50.0	51.9		ug/L		104		75 - 125	4	20
Cadmium	0.29	J	50.0	53.8		ug/L		107		75 - 125	5	20
Cobalt	7.0	U	500	525		ug/L		105		75 - 125	4	20
Chromium	1.3	J	200	207		ug/L		103		75 - 125	4	20
Iron	100	U	1000	1060		ug/L		106		75 - 125	4	20
Manganese	4.0	J B	500	558		ug/L		111		75 - 125	8	20
Nickel	1.8	J	500	536		ug/L		107		75 - 125	4	20
Lead	3.0	U	500	500		ug/L		100		75 - 125	5	20
Selenium	5.0	U	2000	2210		ug/L		111		75 - 125	5	20
Vanadium	4.0	U	500	520		ug/L		104		75 - 125	4	20
Zinc	20	U	500	542		ug/L		108		75 - 125	4	20

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

**Lab Sample ID: MB 240-222828/1-A**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: Method Blank**

**Prep Type: Total Recoverable**

**Prep Batch: 222828**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Aluminum	50	U	50	9.0	ug/L		03/23/16 10:47	03/25/16 21:16		1
Antimony	2.0	U	2.0	0.16	ug/L		03/23/16 10:47	03/25/16 21:16		1
Copper	1.49	J	2.0	0.75	ug/L		03/23/16 10:47	03/25/16 21:16		1
Thallium	1.0	U	1.0	0.074	ug/L		03/23/16 10:47	03/25/16 21:16		1
Silver	0.20	U	0.20	0.020	ug/L		03/23/16 10:47	03/25/16 21:16		1

**Lab Sample ID: LCS 240-222828/3-A**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total Recoverable**

**Prep Batch: 222828**

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec.	Limits
Aluminum	10000	9260		ug/L		93		80 - 120
Antimony	100	95.6		ug/L		96		80 - 120
Copper	1000	962		ug/L		96		80 - 120
Thallium	250	231		ug/L		92		80 - 120
Silver	100	93.1		ug/L		93		80 - 120

TestAmerica Canton



# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 6020 - Metals (ICP/MS) (Continued)

**Lab Sample ID: 240-62436-5 MS**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Total Recoverable**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	Limits	%Rec.
	Result	Qualifier		Result	Qualifier					
Aluminum	11	J	10000	9680		ug/L		97	75 - 125	
Antimony	0.17	J	100	101		ug/L		101	75 - 125	
Copper	1.0	J B	1000	976		ug/L		97	75 - 125	
Thallium	0.088	J	250	240		ug/L		96	75 - 125	
Silver	0.20	U	100	99.0		ug/L		99	75 - 125	

**Lab Sample ID: 240-62436-5 MSD**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Total Recoverable**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Aluminum	11	J	10000	9670		ug/L		97	75 - 125	0	20
Antimony	0.17	J	100	102		ug/L		102	75 - 125	1	20
Copper	1.0	J B	1000	968		ug/L		97	75 - 125	1	20
Thallium	0.088	J	250	239		ug/L		95	75 - 125	1	20
Silver	0.20	U	100	99.0		ug/L		99	75 - 125	0	20

**Lab Sample ID: 240-62436-5 MS**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Dissolved**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	Limits	%Rec.
	Result	Qualifier		Result	Qualifier					
Aluminum	50	U	10000	9630		ug/L		96	75 - 125	
Antimony	2.0	U	100	100		ug/L		100	75 - 125	
Copper	1.6	J B	1000	958		ug/L		96	75 - 125	
Thallium	0.11	J	250	231		ug/L		93	75 - 125	
Silver	0.021	J	100	96.8		ug/L		97	75 - 125	

**Lab Sample ID: 240-62436-5 MSD**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: GW-12636-032116-SSH-0516**

**Prep Type: Dissolved**

**Prep Batch: 222828**

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Aluminum	50	U	10000	9700		ug/L		97	75 - 125	1	20
Antimony	2.0	U	100	101		ug/L		101	75 - 125	1	20
Copper	1.6	J B	1000	967		ug/L		97	75 - 125	1	20
Thallium	0.11	J	250	244		ug/L		97	75 - 125	5	20
Silver	0.021	J	100	101		ug/L		101	75 - 125	4	20

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 240-222832/1-A**

**Matrix: Water**

**Analysis Batch: 223036**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

**Prep Batch: 222832**

Analyte	MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	0.20	U	0.20	0.090	ug/L		03/23/16 14:00	03/24/16 08:47	1

TestAmerica Canton

# QC Sample Results

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

TestAmerica Job ID: 240-62436-1

## Method: 7470A - Mercury (CVAA) (Continued)

**Lab Sample ID: LCS 240-222832/2-A**  
**Matrix: Water**  
**Analysis Batch: 223036**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 222832**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	5.00	5.11		ug/L		102	80 - 120

**Lab Sample ID: 240-62436-5 MS**  
**Matrix: Water**  
**Analysis Batch: 223036**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Total/NA**  
**Prep Batch: 222832**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.20	U	1.00	1.10		ug/L		110	80 - 120

**Lab Sample ID: 240-62436-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 223036**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Total/NA**  
**Prep Batch: 222832**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.20	U	1.00	1.10		ug/L		110	80 - 120	1	20

**Lab Sample ID: 240-62436-5 MS**  
**Matrix: Water**  
**Analysis Batch: 223036**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Dissolved**  
**Prep Batch: 222832**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.20	U	1.00	1.09		ug/L		109	80 - 120

**Lab Sample ID: 240-62436-5 MSD**  
**Matrix: Water**  
**Analysis Batch: 223036**

**Client Sample ID: GW-12636-032116-SSH-0516**  
**Prep Type: Dissolved**  
**Prep Batch: 222832**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.20	U	1.00	1.11		ug/L		111	80 - 120	2	20

# Surrogate Summary

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

TestAmerica Job ID: 240-62436-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

Lab Sample ID	Client Sample ID	Percent Surrogate Recovery (Acceptance Limits)			
		12DCE (78-125)	BFB (61-120)	TOL (80-120)	DBFM (79-120)
240-62436-1	GW-12636-032116-SSH-0116	96	85	95	91
240-62436-1 MS	GW-12636-032116-SSH-0116	94	91	97	88
240-62436-1 MSD	GW-12636-032116-SSH-0116	92	93	96	92
240-62436-2	GW-12636-032116-SSH-0216	95	82	92	103
240-62436-3	GW-12636-032116-SSH-0316	95	80	93	104
240-62436-4	GW-12636-032116-SSH-0416	97	75	92	105
240-62436-5	GW-12636-032116-SSH-0516	98	79	91	105
240-62436-5 MS	GW-12636-032116-SSH-0516	88	87	99	99
240-62436-5 MSD	GW-12636-032116-SSH-0516	86	90	101	99
240-62436-6	GW-12636-032116-SSH-0616	99	88	94	91
240-62436-7	GW-12636-032116-SSH-0716	97	87	95	92
240-62436-8	GW-12636-032116-SSH-0816	97	85	93	91
240-62436-9	GW-12636-032116-SSH-0916	96	86	96	91
240-62436-10	GW-12636-032116-SSH-1016	96	86	95	90
240-62436-11	GW-12636-032116-SSH-1116	99	86	96	92
240-62436-12	TB-12636-032116-SSH-1216	99	85	97	93
LCS 240-223525/4	Lab Control Sample	85	90	100	96
LCS 240-223694/29	Lab Control Sample	89	93	92	91
MB 240-223525/6	Method Blank	92	83	92	100
MB 240-223694/6	Method Blank	96	85	95	89

### Surrogate Legend

- 12DCE = 1,2-Dichloroethane-d4 (Surr)
- BFB = 4-Bromofluorobenzene (Surr)
- TOL = Toluene-d8 (Surr)
- DBFM = Dibromofluoromethane (Surr)

# Lab Chronicle

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

TestAmerica Job ID: 240-62436-1

**Client Sample ID: GW-12636-032116-SSH-0116**

**Lab Sample ID: 240-62436-1**

**Date Collected: 03/21/16 09:46**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 00:11	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 17:36	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:08	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:04	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0216**

**Lab Sample ID: 240-62436-2**

**Date Collected: 03/21/16 10:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223525	03/29/16 07:32	LRW	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 17:40	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:12	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:06	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0316**

**Lab Sample ID: 240-62436-3**

**Date Collected: 03/21/16 11:06**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223525	03/29/16 07:54	LRW	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 17:48	KLC	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	223781	03/29/16 17:44	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:21	AS1	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6020		1	223425	03/25/16 22:17	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:14	DSH	TAL CAN
Total/NA	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	223036	03/24/16 09:12	DSH	TAL CAN

# Lab Chronicle

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

TestAmerica Job ID: 240-62436-1

**Client Sample ID: GW-12636-032116-SSH-0416**

**Lab Sample ID: 240-62436-4**

**Date Collected: 03/21/16 11:11**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223525	03/29/16 09:07	LRW	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 17:56	KLC	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	223781	03/29/16 17:52	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:39	AS1	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6020		1	223425	03/25/16 22:25	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:18	DSH	TAL CAN
Total/NA	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	223036	03/24/16 09:16	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0516**

**Lab Sample ID: 240-62436-5**

**Date Collected: 03/21/16 12:50**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223525	03/29/16 09:30	LRW	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 17:21	KLC	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	223781	03/29/16 16:54	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 21:55	AS1	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6020		1	223425	03/25/16 21:25	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 08:57	DSH	TAL CAN
Total/NA	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	223036	03/24/16 08:51	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0616**

**Lab Sample ID: 240-62436-6**

**Date Collected: 03/21/16 14:05**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 00:34	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 18:08	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:43	AS1	TAL CAN

TestAmerica Canton

# Lab Chronicle

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

TestAmerica Job ID: 240-62436-1

**Client Sample ID: GW-12636-032116-SSH-0616**

**Lab Sample ID: 240-62436-6**

Date Collected: 03/21/16 14:05

Matrix: Water

Date Received: 03/22/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:20	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0716**

**Lab Sample ID: 240-62436-7**

Date Collected: 03/21/16 13:41

Matrix: Water

Date Received: 03/22/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 00:56	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 18:21	KLC	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	223781	03/29/16 18:13	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:52	AS1	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6020		1	223425	03/25/16 22:48	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:24	DSH	TAL CAN
Total/NA	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	223036	03/24/16 09:22	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0816**

**Lab Sample ID: 240-62436-8**

Date Collected: 03/21/16 14:06

Matrix: Water

Date Received: 03/22/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 01:19	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 18:25	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 22:57	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:26	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-0916**

**Lab Sample ID: 240-62436-9**

Date Collected: 03/21/16 14:46

Matrix: Water

Date Received: 03/22/16 09:40

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 01:42	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 18:29	KLC	TAL CAN

TestAmerica Canton

# Lab Chronicle

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

TestAmerica Job ID: 240-62436-1

**Client Sample ID: GW-12636-032116-SSH-0916**

**Lab Sample ID: 240-62436-9**

**Date Collected: 03/21/16 14:46**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 23:01	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:29	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-1016**

**Lab Sample ID: 240-62436-10**

**Date Collected: 03/21/16 15:16**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 02:05	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 18:33	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 23:06	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:31	DSH	TAL CAN

**Client Sample ID: GW-12636-032116-SSH-1116**

**Lab Sample ID: 240-62436-11**

**Date Collected: 03/21/16 15:40**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 02:28	RJQ	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:50	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 18:41	KLC	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	223781	03/29/16 18:37	KLC	TAL CAN
Dissolved	Prep	3005A			222828	03/23/16 10:50	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/25/16 23:14	AS1	TAL CAN
Total Recoverable	Prep	3005A			222828	03/23/16 10:47	WKD	TAL CAN
Total Recoverable	Analysis	6020		1	223425	03/25/16 23:10	AS1	TAL CAN
Dissolved	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223036	03/24/16 09:39	DSH	TAL CAN
Total/NA	Prep	7470A			222832	03/23/16 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	223036	03/24/16 09:37	DSH	TAL CAN

**Client Sample ID: TB-12636-032116-SSH-1216**

**Lab Sample ID: 240-62436-12**

**Date Collected: 03/21/16 15:45**

**Matrix: Water**

**Date Received: 03/22/16 09:40**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223694	03/30/16 02:50	RJQ	TAL CAN

TestAmerica Canton

# Lab Chronicle

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

TestAmerica Job ID: 240-62436-1

**Laboratory References:**

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

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# Certification Summary

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

TestAmerica Job ID: 240-62436-1

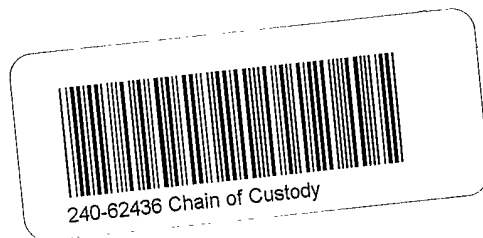
## Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-16
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-23-17
Kentucky (WW)	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	02-23-17
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	01-12-17
West Virginia DEP	State Program	3	210	12-31-16
Wisconsin	State Program	5	999518190	08-31-16

\* Certification renewal pending - certification considered valid.

**CHAIN OF CUSTODY  
AND  
RECEIVING DOCUMENTS**



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

321/22.7

**Chain of Custody Record**

133051

**TestAmerica**  
 THE LEADER IN ENVIRONMENTAL TESTING  
 TestAmerica Laboratories, Inc.  
 TAL-8210 (07/13)

Regulatory Program:  DW  NPDES  RCRA  Other:

Client Contact  
 Company Name: GHD Services  
 Address: 17496 N. Shelton Rd. #200  
 City/State/Zip: Plymouth MI 48170  
 Phone: 734 453 5123  
 Fax:  
 Project Name: Racetrack Coldwater  
 Site: 550W 12636 - T09 - 010  
 P O #: 3400 5826

Project Manager: M. Tomba  
 Tel/Fax: 519 884 0510  
 Analysis Turnaround Time  
 CALENDAR DAYS  WORKING DAYS  
 JAT if different from Below  
 2 weeks  
 1 week  
 2 days  
 1 day

Site Contact: R. Craft Date: 3/21/16  
 Lab Contact: D. Heiler Carrier: FedEx  
 COC No: 133051 of COCs  
 Sampler: S. Hovine  
 For Lab Use Only:  
 Walk-in Client:  
 Lab Sampling:  
 Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	Sample Specific Notes:
GW-12636-032116-SSH-0116	3/21/16	0946	G	GW	4	Y	N	
-0216		1006	G	GW	4	Y	N	
-0316		1106	G	GW	5	Y	N	
-0416		1111	G	GW	5	Y	N	
-0516		1250	G	GW	13	Y	N	
GW-12636-032116-SSH-0616		1405	G	GW	4	Y	N	
-0716		1341	G	GW	5	Y	N	
-0816		1406	G	GW	4	Y	N	
-0916		1446	G	GW	4	Y	N	
-1016		1516	G	GW	4	Y	N	
-1116		1540	G	GW	5	Y	N	
TB-12636-032116-SSH-1216		1545	G	TB	1	N	N	

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months

Possible Hazard Identification:  
 Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.  
 Non-Hazard  Flammable  Skin Irritant  Unknown  Poison B

Special Instructions/QC Requirements & Comments:

Custody Seal No.: 797215  
 Relinquished by: GHD Services 3/21/16 1730  
 Date/Time: 3/21/16 940  
 Company: TA  
 Received by: [Signature]  
 Date/Time: [Blank]  
 Company: [Blank]  
 Received in Laboratory by: [Blank]  
 Date/Time: [Blank]  
 Company: [Blank]

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TestAmerica Canton Sample Receipt Form/Narrative  
Canton Facility

Login # : 02436

Client GHD Site Name \_\_\_\_\_

Cooler unpacked by: \_\_\_\_\_

Cooler Received on 3-22-16 Opened on 3-22-16

FedEx: 1<sup>st</sup> 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  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. 2.7 °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1  Yes  No  
 -Were custody seals on the outside of the cooler(s) signed & dated?  Yes  No NA  
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No
3. Shippers' packing slip attached to the cooler(s)?  Yes  No  
 4. Did custody papers accompany the sample(s)?  Yes  No  
 5. Were the custody papers relinquished & signed in the appropriate place?  Yes  No  
 6. Was/were the person(s) who collected the samples clearly identified on the COC?  Yes  No  
 7. Did all bottles arrive in good condition (Unbroken)?  Yes  No  
 8. Could all bottle labels be reconciled with the COC?  Yes  No  
 9. Were correct bottle(s) used for the test(s) indicated?  Yes  No  
 10. Sufficient quantity received to perform indicated analyses?  Yes  No

11. Are these work share samples? Yes  No
- If yes, Questions 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>
GW-12636-032116-SSH-0116	240-62436-D-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0216	240-62436-D-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0316	240-62436-D-3	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032116-SSH-0316	240-62436-E-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0416	240-62436-D-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032116-SSH-0416	240-62436-E-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0516	240-62436-J-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032116-SSH-0516	240-62436-K-5	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032116-SSH-0516	240-62436-L-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0516	240-62436-M-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0616	240-62436-D-6	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0716	240-62436-D-7	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032116-SSH-0716	240-62436-E-7	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0816	240-62436-D-8	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-0916	240-62436-D-9	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-1016	240-62436-D-10	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032116-SSH-1116	240-62436-D-11	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032116-SSH-1116	240-62436-E-11	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: 240-62494-1

Client Project/Site: 12636-009, RACER Peregrine

For:

GHD Services Inc.

14496 Sheldon Road, Suite 200

Plymouth, Michigan 48170

Attn: Rawa Fleisher



Authorized for release by:

4/4/2016 2:37:48 PM

Denise Heckler, Project Manager II

(330)966-9477

[denise.heckler@testamericainc.com](mailto:denise.heckler@testamericainc.com)



### LINKS

Review your project  
results through

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Have a Question?



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[www.testamericainc.com](http://www.testamericainc.com)

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

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

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# Case Narrative

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

**Job ID: 240-62494-1**

**Laboratory: TestAmerica Canton**

## Narrative

### Job Narrative 240-62494-1

#### Comments

No additional comments.

#### Receipt

The samples were received on 3/23/2016 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.9° C.

#### GC/MS VOA

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

#### Metals

Method(s) 200.7 Rev 4.4, 6010B: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: GW-12636-032216-SSH-1316 (240-62494-1), GW-12636-032216-SSH-1416 (240-62494-2), GW-12636-032216-SSH-1516 (240-62494-3), GW-12636-032216-SSH-1616 (240-62494-4), GW-12636-032216-SSH-1716 (240-62494-5) and GW-12636-032216-SSH-1816 (240-62494-6). The continuing calibration blanks and method blanks may not support the lower PQL.

Method(s) 6020: Some requested practical quantitation limits (PQLs) on the following samples fall below the laboratory's verified standard quantitation limit: GW-12636-032216-SSH-1316 (240-62494-1), GW-12636-032216-SSH-1416 (240-62494-2), GW-12636-032216-SSH-1516 (240-62494-3), GW-12636-032216-SSH-1616 (240-62494-4), GW-12636-032216-SSH-1716 (240-62494-5) and GW-12636-032216-SSH-1816 (240-62494-6). 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.

#### VOA Prep

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



# Definitions/Glossary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Qualifiers

### GC/MS 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.

### Metals

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.
B	Compound was found in the blank and sample.

## 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: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-62494-1	GW-12636-032216-SSH-1316	Water	03/22/16 08:21	03/23/16 10:00
240-62494-2	GW-12636-032216-SSH-1416	Water	03/22/16 08:51	03/23/16 10:00
240-62494-3	GW-12636-032216-SSH-1516	Water	03/22/16 09:26	03/23/16 10:00
240-62494-4	GW-12636-032216-SSH-1616	Water	03/22/16 09:10	03/23/16 10:00
240-62494-5	GW-12636-032216-SSH-1716	Water	03/22/16 10:45	03/23/16 10:00
240-62494-6	GW-12636-032216-SSH-1816	Water	03/22/16 12:01	03/23/16 10:00
240-62494-7	TB-12636-032216-SSH-2116	Water	03/22/16 12:05	03/23/16 10:00

- 1
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- 13
- 14

# Detection Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Client Sample ID: GW-12636-032216-SSH-1316

## Lab Sample ID: 240-62494-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.9	J	5.0	2.9	ug/L	1		6010B	Dissolved
Barium	36	J B	100	1.0	ug/L	1		6010B	Dissolved
Iron	19	J B	100	13	ug/L	1		6010B	Dissolved
Manganese	1.1	J B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	1.4	J	20	0.76	ug/L	1		6010B	Dissolved
Aluminum	13	J	50	9.0	ug/L	1		6020	Dissolved
Copper	1.6	J	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032216-SSH-1416

## Lab Sample ID: 240-62494-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	48	J B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.82	J	1.0	0.14	ug/L	1		6010B	Dissolved
Chromium	1.5	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	14	J B	100	13	ug/L	1		6010B	Dissolved
Manganese	52	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	4.8	J	20	0.76	ug/L	1		6010B	Dissolved
Zinc	59	B	20	9.6	ug/L	1		6010B	Dissolved
Copper	3.5		2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032216-SSH-1516

## Lab Sample ID: 240-62494-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.0	J	5.0	2.9	ug/L	1		6010B	Dissolved
Barium	98	J B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.29	J	1.0	0.14	ug/L	1		6010B	Dissolved
Chromium	0.86	J	5.0	0.55	ug/L	1		6010B	Dissolved
Manganese	200	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	2.6	J	20	0.76	ug/L	1		6010B	Dissolved
Copper	1.6	J	2.0	0.75	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032216-SSH-1616

## Lab Sample ID: 240-62494-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	56		5.0	2.9	ug/L	1		6010B	Total Recoverable
Barium	140	B	100	1.0	ug/L	1		6010B	Total Recoverable
Cadmium	0.28	J	1.0	0.14	ug/L	1		6010B	Total Recoverable
Chromium	1.2	J	5.0	0.55	ug/L	1		6010B	Total Recoverable
Iron	1900	B	100	13	ug/L	1		6010B	Total Recoverable
Manganese	33	B	15	0.46	ug/L	1		6010B	Total Recoverable
Nickel	1.6	J	20	0.76	ug/L	1		6010B	Total Recoverable
Arsenic	44		5.0	2.9	ug/L	1		6010B	Dissolved
Barium	140	B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.34	J	1.0	0.14	ug/L	1		6010B	Dissolved
Iron	1500	B	100	13	ug/L	1		6010B	Dissolved

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Detection Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Client Sample ID: GW-12636-032216-SSH-1616 (Continued)

Lab Sample ID: 240-62494-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	30	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	1.4	J	20	0.76	ug/L	1		6010B	Dissolved
Aluminum	12	J	50	9.0	ug/L	1		6020	Total Recoverable
Antimony	0.28	J	2.0	0.16	ug/L	1		6020	Total Recoverable

## Client Sample ID: GW-12636-032216-SSH-1716

Lab Sample ID: 240-62494-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.2	J	10	0.94	ug/L	1		8260B	Total/NA
Arsenic	14		5.0	2.9	ug/L	1		6010B	Dissolved
Barium	130	B	100	1.0	ug/L	1		6010B	Dissolved
Chromium	0.79	J	5.0	0.55	ug/L	1		6010B	Dissolved
Iron	970	B	100	13	ug/L	1		6010B	Dissolved
Manganese	60	B	15	0.46	ug/L	1		6010B	Dissolved
Nickel	2.5	J	20	0.76	ug/L	1		6010B	Dissolved
Aluminum	13	J	50	9.0	ug/L	1		6020	Dissolved
Antimony	0.16	J	2.0	0.16	ug/L	1		6020	Dissolved

## Client Sample ID: GW-12636-032216-SSH-1816

Lab Sample ID: 240-62494-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	1.5	J	10	0.94	ug/L	1		8260B	Total/NA
Arsenic	62		5.0	2.9	ug/L	1		6010B	Dissolved
Barium	180	B	100	1.0	ug/L	1		6010B	Dissolved
Cadmium	0.14	J	1.0	0.14	ug/L	1		6010B	Dissolved
Iron	1000	B	100	13	ug/L	1		6010B	Dissolved
Manganese	31	B	15	0.46	ug/L	1		6010B	Dissolved
Thallium	0.11	J	1.0	0.074	ug/L	1		6020	Dissolved
Silver	0.026	J	0.20	0.020	ug/L	1		6020	Dissolved

## Client Sample ID: TB-12636-032216-SSH-2116

Lab Sample ID: 240-62494-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	4.6	J	10	0.94	ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Canton

# Method Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL CAN
6010B	Metals (ICP)	SW846	TAL CAN
6020	Metals (ICP/MS)	SW846	TAL CAN
7470A	Mercury (CVAA)	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



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

Client Sample ID: GW-12636-032216-SSH-1316

Lab Sample ID: 240-62494-1

Date Collected: 03/22/16 08:21

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 18:28	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 18:28	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 18:28	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 18:28	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 18:28	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 18:28	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 18:28	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 18:28	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 18:28	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 18:28	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 18:28	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 18:28	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 18:28	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 18:28	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 18:28	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 18:28	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 18:28	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 18:28	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 18:28	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 18:28	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 18:28	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 18:28	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 18:28	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 18:28	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 18:28	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 18:28	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 18:28	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 18:28	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 18:28	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 18:28	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 18:28	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 18:28	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 18:28	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 18:28	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 18:28	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 18:28	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 18:28	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 18:28	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 18:28	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 18:28	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 18:28	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 18:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 18:28	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 18:28	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 18:28	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 18:28	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 18:28	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 18:28	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 18:28	1

TestAmerica Canton

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032216-SSH-1316

Lab Sample ID: 240-62494-1

Date Collected: 03/22/16 08:21

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 18:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	93		78 - 125		03/30/16 18:28	1
4-Bromofluorobenzene (Surr)	96		61 - 120		03/30/16 18:28	1
Toluene-d8 (Surr)	100		80 - 120		03/30/16 18:28	1
Dibromofluoromethane (Surr)	99		79 - 120		03/30/16 18:28	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032216-SSH-1416**

**Lab Sample ID: 240-62494-2**

**Date Collected: 03/22/16 08:51**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 18:50	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 18:50	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 18:50	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 18:50	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 18:50	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 18:50	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 18:50	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 18:50	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 18:50	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 18:50	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 18:50	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 18:50	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 18:50	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 18:50	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 18:50	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 18:50	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 18:50	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 18:50	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 18:50	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 18:50	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 18:50	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 18:50	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 18:50	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 18:50	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 18:50	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 18:50	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 18:50	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 18:50	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 18:50	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 18:50	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 18:50	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 18:50	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 18:50	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 18:50	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 18:50	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 18:50	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 18:50	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 18:50	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 18:50	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 18:50	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 18:50	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 18:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 18:50	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 18:50	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 18:50	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 18:50	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 18:50	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 18:50	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 18:50	1

TestAmerica Canton



# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032216-SSH-1416

Lab Sample ID: 240-62494-2

Date Collected: 03/22/16 08:51

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 18:50	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		78 - 125					03/30/16 18:50	1
4-Bromofluorobenzene (Surr)	95		61 - 120					03/30/16 18:50	1
Toluene-d8 (Surr)	101		80 - 120					03/30/16 18:50	1
Dibromofluoromethane (Surr)	99		79 - 120					03/30/16 18:50	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032216-SSH-1516**

**Lab Sample ID: 240-62494-3**

**Date Collected: 03/22/16 09:26**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 19:12	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 19:12	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 19:12	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 19:12	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:12	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 19:12	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 19:12	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 19:12	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:12	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:12	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 19:12	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:12	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 19:12	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 19:12	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 19:12	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 19:12	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 19:12	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 19:12	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 19:12	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:12	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 19:12	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 19:12	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 19:12	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 19:12	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 19:12	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 19:12	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 19:12	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 19:12	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 19:12	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 19:12	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 19:12	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:12	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 19:12	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 19:12	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 19:12	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:12	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:12	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 19:12	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 19:12	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 19:12	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 19:12	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 19:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 19:12	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 19:12	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:12	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 19:12	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 19:12	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 19:12	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 19:12	1

TestAmerica Canton

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032216-SSH-1516

Date Collected: 03/22/16 09:26

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 19:12	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		78 - 125					03/30/16 19:12	1
4-Bromofluorobenzene (Surr)	98		61 - 120					03/30/16 19:12	1
Toluene-d8 (Surr)	102		80 - 120					03/30/16 19:12	1
Dibromofluoromethane (Surr)	100		79 - 120					03/30/16 19:12	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032216-SSH-1616**

**Lab Sample ID: 240-62494-4**

**Date Collected: 03/22/16 09:10**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 19:35	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 19:35	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 19:35	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 19:35	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:35	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 19:35	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 19:35	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 19:35	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:35	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:35	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 19:35	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:35	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 19:35	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 19:35	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 19:35	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 19:35	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 19:35	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 19:35	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 19:35	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:35	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 19:35	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 19:35	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 19:35	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 19:35	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 19:35	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 19:35	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 19:35	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 19:35	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 19:35	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 19:35	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 19:35	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:35	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 19:35	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 19:35	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 19:35	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:35	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:35	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 19:35	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 19:35	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 19:35	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 19:35	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 19:35	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 19:35	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 19:35	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:35	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 19:35	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 19:35	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 19:35	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 19:35	1

TestAmerica Canton

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032216-SSH-1616

Lab Sample ID: 240-62494-4

Date Collected: 03/22/16 09:10

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 19:35	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		78 - 125		03/30/16 19:35	1
4-Bromofluorobenzene (Surr)	94		61 - 120		03/30/16 19:35	1
Toluene-d8 (Surr)	103		80 - 120		03/30/16 19:35	1
Dibromofluoromethane (Surr)	98		79 - 120		03/30/16 19:35	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032216-SSH-1716**

**Lab Sample ID: 240-62494-5**

**Date Collected: 03/22/16 10:45**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	J	10	0.94	ug/L			03/30/16 19:57	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 19:57	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 19:57	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 19:57	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:57	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 19:57	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 19:57	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 19:57	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:57	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:57	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 19:57	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:57	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 19:57	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 19:57	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 19:57	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 19:57	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 19:57	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 19:57	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 19:57	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:57	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 19:57	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 19:57	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 19:57	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 19:57	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 19:57	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 19:57	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 19:57	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 19:57	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 19:57	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 19:57	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 19:57	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 19:57	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 19:57	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 19:57	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 19:57	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:57	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 19:57	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 19:57	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 19:57	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 19:57	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 19:57	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 19:57	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 19:57	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 19:57	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 19:57	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 19:57	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 19:57	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 19:57	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 19:57	1

TestAmerica Canton

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Client Sample ID: GW-12636-032216-SSH-1716**

**Lab Sample ID: 240-62494-5**

**Date Collected: 03/22/16 10:45**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 19:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	94		78 - 125					03/30/16 19:57	1
4-Bromofluorobenzene (Surr)	94		61 - 120					03/30/16 19:57	1
Toluene-d8 (Surr)	102		80 - 120					03/30/16 19:57	1
Dibromofluoromethane (Surr)	98		79 - 120					03/30/16 19:57	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: GW-12636-032216-SSH-1816**

**Lab Sample ID: 240-62494-6**

**Date Collected: 03/22/16 12:01**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.5	J	10	0.94	ug/L			03/31/16 01:32	1
Benzene	1.0	U	1.0	0.35	ug/L			03/31/16 01:32	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/31/16 01:32	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/31/16 01:32	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/31/16 01:32	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/31/16 01:32	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/31/16 01:32	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/31/16 01:32	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/31/16 01:32	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/31/16 01:32	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/31/16 01:32	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/31/16 01:32	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/31/16 01:32	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/31/16 01:32	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/31/16 01:32	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/31/16 01:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/31/16 01:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/31/16 01:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/31/16 01:32	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/31/16 01:32	1
2-Hexanone	10	U	10	0.48	ug/L			03/31/16 01:32	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/31/16 01:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/31/16 01:32	1
Styrene	1.0	U	1.0	0.45	ug/L			03/31/16 01:32	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/31/16 01:32	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/31/16 01:32	1
Toluene	1.0	U	1.0	0.23	ug/L			03/31/16 01:32	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/31/16 01:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/31/16 01:32	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/31/16 01:32	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/31/16 01:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/31/16 01:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/31/16 01:32	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/31/16 01:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/31/16 01:32	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/31/16 01:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/31/16 01:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/31/16 01:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/31/16 01:32	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/31/16 01:32	1
Methyl acetate	10	U	10	2.3	ug/L			03/31/16 01:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/31/16 01:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/31/16 01:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/31/16 01:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/31/16 01:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/31/16 01:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/31/16 01:32	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/31/16 01:32	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/31/16 01:32	1

TestAmerica Canton



# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: GW-12636-032216-SSH-1816

Lab Sample ID: 240-62494-6

Date Collected: 03/22/16 12:01

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/31/16 01:32	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		78 - 125		03/31/16 01:32	1
4-Bromofluorobenzene (Surr)	96		61 - 120		03/31/16 01:32	1
Toluene-d8 (Surr)	101		80 - 120		03/31/16 01:32	1
Dibromofluoromethane (Surr)	98		79 - 120		03/31/16 01:32	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Client Sample ID: TB-12636-032216-SSH-2116**

**Lab Sample ID: 240-62494-7**

**Date Collected: 03/22/16 12:05**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	4.6	J	10	0.94	ug/L			03/31/16 01:54	1
Benzene	1.0	U	1.0	0.35	ug/L			03/31/16 01:54	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/31/16 01:54	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/31/16 01:54	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/31/16 01:54	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/31/16 01:54	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/31/16 01:54	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/31/16 01:54	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/31/16 01:54	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/31/16 01:54	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/31/16 01:54	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/31/16 01:54	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/31/16 01:54	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/31/16 01:54	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/31/16 01:54	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/31/16 01:54	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/31/16 01:54	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/31/16 01:54	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/31/16 01:54	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/31/16 01:54	1
2-Hexanone	10	U	10	0.48	ug/L			03/31/16 01:54	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/31/16 01:54	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/31/16 01:54	1
Styrene	1.0	U	1.0	0.45	ug/L			03/31/16 01:54	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/31/16 01:54	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/31/16 01:54	1
Toluene	1.0	U	1.0	0.23	ug/L			03/31/16 01:54	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/31/16 01:54	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/31/16 01:54	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/31/16 01:54	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/31/16 01:54	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/31/16 01:54	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/31/16 01:54	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/31/16 01:54	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/31/16 01:54	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/31/16 01:54	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/31/16 01:54	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/31/16 01:54	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/31/16 01:54	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/31/16 01:54	1
Methyl acetate	10	U	10	2.3	ug/L			03/31/16 01:54	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/31/16 01:54	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/31/16 01:54	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/31/16 01:54	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/31/16 01:54	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/31/16 01:54	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/31/16 01:54	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/31/16 01:54	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/31/16 01:54	1

TestAmerica Canton

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Client Sample ID: TB-12636-032216-SSH-2116

Lab Sample ID: 240-62494-7

Date Collected: 03/22/16 12:05

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/31/16 01:54	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	95		78 - 125					03/31/16 01:54	1
4-Bromofluorobenzene (Surr)	98		61 - 120					03/31/16 01:54	1
Toluene-d8 (Surr)	102		80 - 120					03/31/16 01:54	1
Dibromofluoromethane (Surr)	99		79 - 120					03/31/16 01:54	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Total Recoverable

Client Sample ID: GW-12636-032216-SSH-1616

Date Collected: 03/22/16 09:10

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	56		5.0	2.9	ug/L		03/24/16 09:35	03/29/16 20:01	1
Barium	140	B	100	1.0	ug/L		03/24/16 09:35	03/29/16 20:01	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 20:01	1
Cadmium	0.28	J	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 20:01	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 20:01	1
Chromium	1.2	J	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 20:01	1
Iron	1900	B	100	13	ug/L		03/24/16 09:35	03/29/16 20:01	1
Manganese	33	B	15	0.46	ug/L		03/24/16 09:35	03/29/16 20:01	1
Nickel	1.6	J	20	0.76	ug/L		03/24/16 09:35	03/29/16 20:01	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 20:01	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 20:01	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 20:01	1
Zinc	20	U	20	9.6	ug/L		03/24/16 09:35	03/29/16 20:01	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1316

Date Collected: 03/22/16 08:21

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>2.9</b>	<b>J</b>	5.0	2.9	ug/L		03/24/16 09:35	03/29/16 19:49	1
<b>Barium</b>	<b>36</b>	<b>J B</b>	100	1.0	ug/L		03/24/16 09:35	03/29/16 19:49	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 19:49	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 19:49	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 19:49	1
Chromium	5.0	U	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 19:49	1
<b>Iron</b>	<b>19</b>	<b>J B</b>	100	13	ug/L		03/24/16 09:35	03/29/16 19:49	1
<b>Manganese</b>	<b>1.1</b>	<b>J B</b>	15	0.46	ug/L		03/24/16 09:35	03/29/16 19:49	1
<b>Nickel</b>	<b>1.4</b>	<b>J</b>	20	0.76	ug/L		03/24/16 09:35	03/29/16 19:49	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 19:49	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 19:49	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 19:49	1
Zinc	20	U	20	9.6	ug/L		03/24/16 09:35	03/29/16 19:49	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1416

Lab Sample ID: 240-62494-2

Date Collected: 03/22/16 08:51

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Barium</b>	<b>48</b>	<b>J B</b>	100	1.0	ug/L		03/24/16 09:35	03/29/16 19:53	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Cadmium</b>	<b>0.82</b>	<b>J</b>	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 19:53	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Chromium</b>	<b>1.5</b>	<b>J</b>	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Iron</b>	<b>14</b>	<b>J B</b>	100	13	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Manganese</b>	<b>52</b>	<b>B</b>	15	0.46	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Nickel</b>	<b>4.8</b>	<b>J</b>	20	0.76	ug/L		03/24/16 09:35	03/29/16 19:53	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 19:53	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 19:53	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 19:53	1
<b>Zinc</b>	<b>59</b>	<b>B</b>	20	9.6	ug/L		03/24/16 09:35	03/29/16 19:53	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1516

Date Collected: 03/22/16 09:26

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	4.0	J	5.0	2.9	ug/L		03/24/16 09:35	03/29/16 19:57	1
Barium	98	J B	100	1.0	ug/L		03/24/16 09:35	03/29/16 19:57	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 19:57	1
Cadmium	0.29	J	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 19:57	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 19:57	1
Chromium	0.86	J	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 19:57	1
Iron	100	U	100	13	ug/L		03/24/16 09:35	03/29/16 19:57	1
Manganese	200	B	15	0.46	ug/L		03/24/16 09:35	03/29/16 19:57	1
Nickel	2.6	J	20	0.76	ug/L		03/24/16 09:35	03/29/16 19:57	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 19:57	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 19:57	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 19:57	1
Zinc	20	U	20	9.6	ug/L		03/24/16 09:35	03/29/16 19:57	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1616

Lab Sample ID: 240-62494-4

Date Collected: 03/22/16 09:10

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	44		5.0	2.9	ug/L		03/24/16 09:35	03/29/16 20:05	1
Barium	140	B	100	1.0	ug/L		03/24/16 09:35	03/29/16 20:05	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 20:05	1
Cadmium	0.34	J	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 20:05	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 20:05	1
Chromium	5.0	U	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 20:05	1
Iron	1500	B	100	13	ug/L		03/24/16 09:35	03/29/16 20:05	1
Manganese	30	B	15	0.46	ug/L		03/24/16 09:35	03/29/16 20:05	1
Nickel	1.4	J	20	0.76	ug/L		03/24/16 09:35	03/29/16 20:05	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 20:05	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 20:05	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 20:05	1
Zinc	20	U	20	9.6	ug/L		03/24/16 09:35	03/29/16 20:05	1



# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Dissolved

**Client Sample ID: GW-12636-032216-SSH-1716**

**Lab Sample ID: 240-62494-5**

**Date Collected: 03/22/16 10:45**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>14</b>		5.0	2.9	ug/L		03/24/16 09:35	03/29/16 20:09	1
<b>Barium</b>	<b>130</b>	<b>B</b>	100	1.0	ug/L		03/24/16 09:35	03/29/16 20:09	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 20:09	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 20:09	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 20:09	1
<b>Chromium</b>	<b>0.79</b>	<b>J</b>	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 20:09	1
<b>Iron</b>	<b>970</b>	<b>B</b>	100	13	ug/L		03/24/16 09:35	03/29/16 20:09	1
<b>Manganese</b>	<b>60</b>	<b>B</b>	15	0.46	ug/L		03/24/16 09:35	03/29/16 20:09	1
<b>Nickel</b>	<b>2.5</b>	<b>J</b>	20	0.76	ug/L		03/24/16 09:35	03/29/16 20:09	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 20:09	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 20:09	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 20:09	1
Zinc	20	U	20	9.6	ug/L		03/24/16 09:35	03/29/16 20:09	1

# Client Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) - Dissolved

**Client Sample ID: GW-12636-032216-SSH-1816**

**Lab Sample ID: 240-62494-6**

**Date Collected: 03/22/16 12:01**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
<b>Arsenic</b>	<b>62</b>		5.0	2.9	ug/L		03/24/16 09:35	03/29/16 19:05	1
<b>Barium</b>	<b>180</b>	<b>B</b>	100	1.0	ug/L		03/24/16 09:35	03/29/16 19:05	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 19:05	1
<b>Cadmium</b>	<b>0.14</b>	<b>J</b>	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 19:05	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 19:05	1
Chromium	5.0	U	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 19:05	1
<b>Iron</b>	<b>1000</b>	<b>B</b>	100	13	ug/L		03/24/16 09:35	03/29/16 19:05	1
<b>Manganese</b>	<b>31</b>	<b>B</b>	15	0.46	ug/L		03/24/16 09:35	03/29/16 19:05	1
Nickel	20	U	20	0.76	ug/L		03/24/16 09:35	03/29/16 19:05	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 19:05	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 19:05	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 19:05	1
Zinc	20	U	20	9.6	ug/L		03/24/16 09:35	03/29/16 19:05	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1616

Date Collected: 03/22/16 09:10

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	12	J	50	9.0	ug/L		03/24/16 09:35	03/26/16 05:33	1
Antimony	0.28	J	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 05:33	1
Copper	2.0	U	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 05:33	1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 05:33	1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 05:33	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1316

Date Collected: 03/22/16 08:21

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13	J	50	9.0	ug/L		03/24/16 09:35	03/26/16 05:20	1
Antimony	2.0	U	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 05:20	1
Copper	1.6	J	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 05:20	1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 05:20	1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 05:20	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1416

Date Collected: 03/22/16 08:51

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-2

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/24/16 09:35	03/26/16 05:24	1
Antimony	2.0	U	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 05:24	1
<b>Copper</b>	<b>3.5</b>		2.0	0.75	ug/L		03/24/16 09:35	03/26/16 05:24	1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 05:24	1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 05:24	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1516

Date Collected: 03/22/16 09:26

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/24/16 09:35	03/26/16 05:29	1
Antimony	2.0	U	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 05:29	1
<b>Copper</b>	<b>1.6</b>	<b>J</b>	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 05:29	1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 05:29	1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 05:29	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1616

Date Collected: 03/22/16 09:10

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/24/16 09:35	03/26/16 05:38	1
Antimony	2.0	U	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 05:38	1
Copper	2.0	U	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 05:38	1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 05:38	1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 05:38	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1716

Date Collected: 03/22/16 10:45

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	13	J	50	9.0	ug/L		03/24/16 09:35	03/26/16 05:42	1
Antimony	0.16	J	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 05:42	1
Copper	2.0	U	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 05:42	1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 05:42	1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 05:42	1



# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

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

Client Sample ID: GW-12636-032216-SSH-1816

Date Collected: 03/22/16 12:01

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-6

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aluminum	50	U	50	9.0	ug/L		03/24/16 09:35	03/26/16 04:31	1
Antimony	2.0	U	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 04:31	1
Copper	2.0	U	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 04:31	1
Thallium	0.11	J	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 04:31	1
Silver	0.026	J	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 04:31	1

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA)

Client Sample ID: GW-12636-032216-SSH-1616

Date Collected: 03/22/16 09:10

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-4

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:48	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1316

Date Collected: 03/22/16 08:21

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-1

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:42	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1416

Lab Sample ID: 240-62494-2

Date Collected: 03/22/16 08:51

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:44	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1516

Date Collected: 03/22/16 09:26

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-3

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:46	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1616

Lab Sample ID: 240-62494-4

Date Collected: 03/22/16 09:10

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:50	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1716

Date Collected: 03/22/16 10:45

Date Received: 03/23/16 10:00

Lab Sample ID: 240-62494-5

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:53	1

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

# Client Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) - Dissolved

Client Sample ID: GW-12636-032216-SSH-1816

Lab Sample ID: 240-62494-6

Date Collected: 03/22/16 12:01

Matrix: Water

Date Received: 03/23/16 10:00

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:21	1

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



# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## GC/MS VOA

### Analysis Batch: 223858

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-1	GW-12636-032216-SSH-1316	Total/NA	Water	8260B	
240-62494-2	GW-12636-032216-SSH-1416	Total/NA	Water	8260B	
240-62494-3	GW-12636-032216-SSH-1516	Total/NA	Water	8260B	
240-62494-4	GW-12636-032216-SSH-1616	Total/NA	Water	8260B	
240-62494-5	GW-12636-032216-SSH-1716	Total/NA	Water	8260B	
LCS 240-223858/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-223858/6	Method Blank	Total/NA	Water	8260B	

### Analysis Batch: 223930

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-6	GW-12636-032216-SSH-1816	Total/NA	Water	8260B	
240-62494-7	TB-12636-032216-SSH-2116	Total/NA	Water	8260B	
LCS 240-223930/4	Lab Control Sample	Total/NA	Water	8260B	
MB 240-223930/6	Method Blank	Total/NA	Water	8260B	

## Metals

### Prep Batch: 222994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-1	GW-12636-032216-SSH-1316	Dissolved	Water	3005A	
240-62494-2	GW-12636-032216-SSH-1416	Dissolved	Water	3005A	
240-62494-3	GW-12636-032216-SSH-1516	Dissolved	Water	3005A	
240-62494-4	GW-12636-032216-SSH-1616	Dissolved	Water	3005A	
240-62494-4	GW-12636-032216-SSH-1616	Total Recoverable	Water	3005A	
240-62494-5	GW-12636-032216-SSH-1716	Dissolved	Water	3005A	
240-62494-6	GW-12636-032216-SSH-1816	Dissolved	Water	3005A	
240-62494-6 MS	GW-12636-032216-SSH-1816	Dissolved	Water	3005A	
240-62494-6 MS	GW-12636-032216-SSH-1816	Dissolved	Water	3005A	
240-62494-6 MSD	GW-12636-032216-SSH-1816	Dissolved	Water	3005A	
240-62494-6 MSD	GW-12636-032216-SSH-1816	Dissolved	Water	3005A	
LCS 240-222994/2-A	Lab Control Sample	Total Recoverable	Water	3005A	
LCS 240-222994/3-A	Lab Control Sample	Total Recoverable	Water	3005A	
MB 240-222994/1-A	Method Blank	Total Recoverable	Water	3005A	

### Prep Batch: 223004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-1	GW-12636-032216-SSH-1316	Dissolved	Water	7470A	
240-62494-2	GW-12636-032216-SSH-1416	Dissolved	Water	7470A	
240-62494-3	GW-12636-032216-SSH-1516	Dissolved	Water	7470A	
240-62494-4	GW-12636-032216-SSH-1616	Dissolved	Water	7470A	
240-62494-4	GW-12636-032216-SSH-1616	Total/NA	Water	7470A	
240-62494-5	GW-12636-032216-SSH-1716	Dissolved	Water	7470A	
240-62494-6	GW-12636-032216-SSH-1816	Dissolved	Water	7470A	
240-62494-6 MS	GW-12636-032216-SSH-1816	Dissolved	Water	7470A	
240-62494-6 MSD	GW-12636-032216-SSH-1816	Dissolved	Water	7470A	
LCS 240-223004/2-A	Lab Control Sample	Total/NA	Water	7470A	
MB 240-223004/1-A	Method Blank	Total/NA	Water	7470A	

TestAmerica Canton

# QC Association Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Metals (Continued)

### Analysis Batch: 223325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-1	GW-12636-032216-SSH-1316	Dissolved	Water	7470A	223004
240-62494-2	GW-12636-032216-SSH-1416	Dissolved	Water	7470A	223004
240-62494-3	GW-12636-032216-SSH-1516	Dissolved	Water	7470A	223004
240-62494-4	GW-12636-032216-SSH-1616	Dissolved	Water	7470A	223004
240-62494-4	GW-12636-032216-SSH-1616	Total/NA	Water	7470A	223004
240-62494-5	GW-12636-032216-SSH-1716	Dissolved	Water	7470A	223004
240-62494-6	GW-12636-032216-SSH-1816	Dissolved	Water	7470A	223004
240-62494-6 MS	GW-12636-032216-SSH-1816	Dissolved	Water	7470A	223004
240-62494-6 MSD	GW-12636-032216-SSH-1816	Dissolved	Water	7470A	223004
LCS 240-223004/2-A	Lab Control Sample	Total/NA	Water	7470A	223004
MB 240-223004/1-A	Method Blank	Total/NA	Water	7470A	223004

### Analysis Batch: 223425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-1	GW-12636-032216-SSH-1316	Dissolved	Water	6020	222994
240-62494-2	GW-12636-032216-SSH-1416	Dissolved	Water	6020	222994
240-62494-3	GW-12636-032216-SSH-1516	Dissolved	Water	6020	222994
240-62494-4	GW-12636-032216-SSH-1616	Dissolved	Water	6020	222994
240-62494-4	GW-12636-032216-SSH-1616	Total Recoverable	Water	6020	222994
240-62494-5	GW-12636-032216-SSH-1716	Dissolved	Water	6020	222994
240-62494-6	GW-12636-032216-SSH-1816	Dissolved	Water	6020	222994
240-62494-6 MS	GW-12636-032216-SSH-1816	Dissolved	Water	6020	222994
240-62494-6 MSD	GW-12636-032216-SSH-1816	Dissolved	Water	6020	222994
LCS 240-222994/3-A	Lab Control Sample	Total Recoverable	Water	6020	222994
MB 240-222994/1-A	Method Blank	Total Recoverable	Water	6020	222994

### Analysis Batch: 223781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-62494-1	GW-12636-032216-SSH-1316	Dissolved	Water	6010B	222994
240-62494-2	GW-12636-032216-SSH-1416	Dissolved	Water	6010B	222994
240-62494-3	GW-12636-032216-SSH-1516	Dissolved	Water	6010B	222994
240-62494-4	GW-12636-032216-SSH-1616	Dissolved	Water	6010B	222994
240-62494-4	GW-12636-032216-SSH-1616	Total Recoverable	Water	6010B	222994
240-62494-5	GW-12636-032216-SSH-1716	Dissolved	Water	6010B	222994
240-62494-6	GW-12636-032216-SSH-1816	Dissolved	Water	6010B	222994
240-62494-6 MS	GW-12636-032216-SSH-1816	Dissolved	Water	6010B	222994
240-62494-6 MSD	GW-12636-032216-SSH-1816	Dissolved	Water	6010B	222994
LCS 240-222994/2-A	Lab Control Sample	Total Recoverable	Water	6010B	222994
MB 240-222994/1-A	Method Blank	Total Recoverable	Water	6010B	222994

# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS)

**Lab Sample ID: MB 240-223858/6**

**Matrix: Water**

**Analysis Batch: 223858**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 12:32	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 12:32	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 12:32	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 12:32	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 12:32	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 12:32	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 12:32	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 12:32	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 12:32	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 12:32	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 12:32	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 12:32	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 12:32	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 12:32	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 12:32	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 12:32	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 12:32	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 12:32	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 12:32	1
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 12:32	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 12:32	1
Methylene Chloride	5.0	U	5.0	0.33	ug/L			03/30/16 12:32	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 12:32	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 12:32	1
1,1,1,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 12:32	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 12:32	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 12:32	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 12:32	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 12:32	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 12:32	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 12:32	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 12:32	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 12:32	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 12:32	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 12:32	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 12:32	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 12:32	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 12:32	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 12:32	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 12:32	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 12:32	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 12:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 12:32	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 12:32	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 12:32	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 12:32	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 12:32	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 12:32	1

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 240-223858/6**

**Matrix: Water**

**Analysis Batch: 223858**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 12:32	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 12:32	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		78 - 125		03/30/16 12:32	1
4-Bromofluorobenzene (Surr)	96		61 - 120		03/30/16 12:32	1
Toluene-d8 (Surr)	103		80 - 120		03/30/16 12:32	1
Dibromofluoromethane (Surr)	100		79 - 120		03/30/16 12:32	1

**Lab Sample ID: LCS 240-223858/4**

**Matrix: Water**

**Analysis Batch: 223858**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Acetone	20.0	13.0		ug/L		65	34 - 148
Benzene	10.0	8.93		ug/L		89	80 - 120
Bromodichloromethane	10.0	8.84		ug/L		88	80 - 120
Bromoform	10.0	10.1		ug/L		101	56 - 122
Bromomethane	10.0	8.45		ug/L		84	38 - 132
2-Butanone (MEK)	20.0	17.2		ug/L		86	56 - 138
Carbon disulfide	10.0	8.66		ug/L		87	65 - 144
Carbon tetrachloride	10.0	9.04		ug/L		90	77 - 131
Chlorobenzene	10.0	9.31		ug/L		93	80 - 120
Chloroethane	10.0	10.9		ug/L		109	36 - 126
Chloroform	10.0	8.90		ug/L		89	80 - 120
Chloromethane	10.0	10.5		ug/L		105	48 - 133
1,1-Dichloroethane	10.0	8.45		ug/L		84	79 - 125
1,2-Dichloroethane	10.0	8.80		ug/L		88	80 - 120
1,1-Dichloroethene	10.0	9.13		ug/L		91	76 - 124
1,2-Dichloropropane	10.0	8.88		ug/L		89	78 - 124
1,2,4-Trimethylbenzene	10.0	8.57		ug/L		86	76 - 120
cis-1,3-Dichloropropene	10.0	8.52		ug/L		85	74 - 126
trans-1,3-Dichloropropene	10.0	9.00		ug/L		90	75 - 131
Ethylbenzene	10.0	9.26		ug/L		93	80 - 120
2-Hexanone	20.0	17.9		ug/L		90	55 - 141
Methylene Chloride	10.0	9.58		ug/L		96	77 - 129
4-Methyl-2-pentanone (MIBK)	20.0	19.0		ug/L		95	64 - 135
Styrene	10.0	9.18		ug/L		92	76 - 122
1,1,2,2-Tetrachloroethane	10.0	10.3		ug/L		103	71 - 123
Tetrachloroethene	10.0	9.45		ug/L		95	78 - 121
Toluene	10.0	9.70		ug/L		97	80 - 120
Trichloroethene	10.0	9.17		ug/L		92	80 - 121
1,3,5-Trimethylbenzene	10.0	9.13		ug/L		91	77 - 120
Vinyl chloride	10.0	9.72		ug/L		97	52 - 121
Xylenes, Total	20.0	17.9		ug/L		90	80 - 120
1,1,1-Trichloroethane	10.0	8.44		ug/L		84	77 - 123
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	80 - 120
Cyclohexane	10.0	8.83		ug/L		88	60 - 140

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 240-223858/4**

**Matrix: Water**

**Analysis Batch: 223858**

**Client Sample ID: Lab Control Sample**

**Prep Type: Total/NA**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dibromo-3-Chloropropane	10.0	8.32		ug/L		83	50 - 132
1,2-Dibromoethane	10.0	10.1		ug/L		101	80 - 120
Dichlorodifluoromethane	10.0	9.75		ug/L		97	23 - 136
cis-1,2-Dichloroethene	10.0	9.00		ug/L		90	79 - 120
trans-1,2-Dichloroethene	10.0	9.20		ug/L		92	80 - 124
Isopropylbenzene	10.0	8.97		ug/L		90	77 - 120
Methyl acetate	50.0	46.8		ug/L		94	67 - 131
Methyl tert-butyl ether	10.0	7.87		ug/L		79	69 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.65		ug/L		86	67 - 138
1,2,4-Trichlorobenzene	10.0	6.85		ug/L		69	61 - 120
1,2-Dichlorobenzene	10.0	8.87		ug/L		89	79 - 120
1,3-Dichlorobenzene	10.0	8.90		ug/L		89	79 - 120
1,4-Dichlorobenzene	10.0	8.96		ug/L		90	79 - 120
Trichlorofluoromethane	10.0	8.98		ug/L		90	61 - 133
Dibromochloromethane	10.0	9.94		ug/L		99	74 - 120
Methylcyclohexane	10.0	8.70		ug/L		87	61 - 134

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	92		78 - 125
4-Bromofluorobenzene (Surr)	100		61 - 120
Toluene-d8 (Surr)	105		80 - 120
Dibromofluoromethane (Surr)	95		79 - 120

**Lab Sample ID: MB 240-223930/6**

**Matrix: Water**

**Analysis Batch: 223930**

**Client Sample ID: Method Blank**

**Prep Type: Total/NA**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	10	U	10	0.94	ug/L			03/30/16 23:39	1
Benzene	1.0	U	1.0	0.35	ug/L			03/30/16 23:39	1
Bromodichloromethane	1.0	U	1.0	0.29	ug/L			03/30/16 23:39	1
Bromoform	1.0	U	1.0	0.56	ug/L			03/30/16 23:39	1
Bromomethane	1.0	U	1.0	0.44	ug/L			03/30/16 23:39	1
2-Butanone (MEK)	10	U	10	0.53	ug/L			03/30/16 23:39	1
Carbon disulfide	5.0	U	5.0	0.38	ug/L			03/30/16 23:39	1
Carbon tetrachloride	1.0	U	1.0	0.43	ug/L			03/30/16 23:39	1
Chlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 23:39	1
Chloroethane	1.0	U	1.0	0.32	ug/L			03/30/16 23:39	1
Chloroform	1.0	U	1.0	0.25	ug/L			03/30/16 23:39	1
Chloromethane	1.0	U	1.0	0.44	ug/L			03/30/16 23:39	1
1,1-Dichloroethane	1.0	U	1.0	0.30	ug/L			03/30/16 23:39	1
1,2-Dichloroethane	1.0	U	1.0	0.23	ug/L			03/30/16 23:39	1
1,1-Dichloroethene	1.0	U	1.0	0.45	ug/L			03/30/16 23:39	1
1,2-Dichloropropane	1.0	U	1.0	0.25	ug/L			03/30/16 23:39	1
1,2,4-Trimethylbenzene	1.0	U	1.0	0.41	ug/L			03/30/16 23:39	1
cis-1,3-Dichloropropene	1.0	U	1.0	0.46	ug/L			03/30/16 23:39	1
trans-1,3-Dichloropropene	1.0	U	1.0	0.56	ug/L			03/30/16 23:39	1

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: MB 240-223930/6**  
**Matrix: Water**  
**Analysis Batch: 223930**

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

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Ethylbenzene	1.0	U	1.0	0.25	ug/L			03/30/16 23:39	1
2-Hexanone	10	U	10	0.48	ug/L			03/30/16 23:39	1
Methylene Chloride	0.392	J	5.0	0.33	ug/L			03/30/16 23:39	1
4-Methyl-2-pentanone (MIBK)	10	U	10	0.99	ug/L			03/30/16 23:39	1
Styrene	1.0	U	1.0	0.45	ug/L			03/30/16 23:39	1
1,1,2,2-Tetrachloroethane	1.0	U	1.0	0.22	ug/L			03/30/16 23:39	1
Tetrachloroethene	1.0	U	1.0	0.31	ug/L			03/30/16 23:39	1
Toluene	1.0	U	1.0	0.23	ug/L			03/30/16 23:39	1
Trichloroethene	1.0	U	1.0	0.22	ug/L			03/30/16 23:39	1
1,3,5-Trimethylbenzene	1.0	U	1.0	0.48	ug/L			03/30/16 23:39	1
Vinyl chloride	1.0	U	1.0	0.29	ug/L			03/30/16 23:39	1
Xylenes, Total	2.0	U	2.0	0.52	ug/L			03/30/16 23:39	1
1,1,1-Trichloroethane	1.0	U	1.0	0.44	ug/L			03/30/16 23:39	1
1,1,2-Trichloroethane	1.0	U	1.0	0.24	ug/L			03/30/16 23:39	1
Cyclohexane	1.0	U	1.0	0.45	ug/L			03/30/16 23:39	1
1,2-Dibromo-3-Chloropropane	1.0	U	1.0	0.82	ug/L			03/30/16 23:39	1
1,2-Dibromoethane	1.0	U	1.0	0.32	ug/L			03/30/16 23:39	1
Dichlorodifluoromethane	1.0	U	1.0	0.32	ug/L			03/30/16 23:39	1
cis-1,2-Dichloroethene	1.0	U	1.0	0.26	ug/L			03/30/16 23:39	1
trans-1,2-Dichloroethene	1.0	U	1.0	0.30	ug/L			03/30/16 23:39	1
Isopropylbenzene	1.0	U	1.0	0.35	ug/L			03/30/16 23:39	1
Methyl acetate	10	U	10	2.3	ug/L			03/30/16 23:39	1
Methyl tert-butyl ether	1.0	U	1.0	0.20	ug/L			03/30/16 23:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	1.0	U	1.0	0.45	ug/L			03/30/16 23:39	1
1,2,4-Trichlorobenzene	1.0	U	1.0	0.32	ug/L			03/30/16 23:39	1
1,2-Dichlorobenzene	1.0	U	1.0	0.25	ug/L			03/30/16 23:39	1
1,3-Dichlorobenzene	1.0	U	1.0	0.19	ug/L			03/30/16 23:39	1
1,4-Dichlorobenzene	1.0	U	1.0	0.27	ug/L			03/30/16 23:39	1
Trichlorofluoromethane	1.0	U	1.0	0.49	ug/L			03/30/16 23:39	1
Dibromochloromethane	1.0	U	1.0	0.43	ug/L			03/30/16 23:39	1
Methylcyclohexane	1.0	U	1.0	0.43	ug/L			03/30/16 23:39	1

Surrogate	MB	MB	Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
1,2-Dichloroethane-d4 (Surr)	94		78 - 125		03/30/16 23:39	1
4-Bromofluorobenzene (Surr)	99		61 - 120		03/30/16 23:39	1
Toluene-d8 (Surr)	99		80 - 120		03/30/16 23:39	1
Dibromofluoromethane (Surr)	98		79 - 120		03/30/16 23:39	1

**Lab Sample ID: LCS 240-223930/4**  
**Matrix: Water**  
**Analysis Batch: 223930**

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

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
Acetone	20.0	14.4		ug/L		72	34 - 148
Benzene	10.0	9.39		ug/L		94	80 - 120
Bromodichloromethane	10.0	9.55		ug/L		95	80 - 120
Bromoform	10.0	10.5		ug/L		105	56 - 122
Bromomethane	10.0	9.49		ug/L		95	38 - 132

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 240-223930/4**  
**Matrix: Water**  
**Analysis Batch: 223930**

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

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Butanone (MEK)	20.0	17.7		ug/L		89	56 - 138
Carbon disulfide	10.0	8.91		ug/L		89	65 - 144
Carbon tetrachloride	10.0	9.24		ug/L		92	77 - 131
Chlorobenzene	10.0	9.53		ug/L		95	80 - 120
Chloroethane	10.0	11.1		ug/L		111	36 - 126
Chloroform	10.0	9.52		ug/L		95	80 - 120
Chloromethane	10.0	10.4		ug/L		104	48 - 133
1,1-Dichloroethane	10.0	9.10		ug/L		91	79 - 125
1,2-Dichloroethane	10.0	9.31		ug/L		93	80 - 120
1,1-Dichloroethene	10.0	9.34		ug/L		93	76 - 124
1,2-Dichloropropane	10.0	9.59		ug/L		96	78 - 124
1,2,4-Trimethylbenzene	10.0	8.58		ug/L		86	76 - 120
cis-1,3-Dichloropropene	10.0	9.08		ug/L		91	74 - 126
trans-1,3-Dichloropropene	10.0	9.24		ug/L		92	75 - 131
Ethylbenzene	10.0	9.48		ug/L		95	80 - 120
2-Hexanone	20.0	18.3		ug/L		91	55 - 141
Methylene Chloride	10.0	10.2		ug/L		102	77 - 129
4-Methyl-2-pentanone (MIBK)	20.0	20.3		ug/L		101	64 - 135
Styrene	10.0	9.46		ug/L		95	76 - 122
1,1,2,2-Tetrachloroethane	10.0	10.3		ug/L		103	71 - 123
Tetrachloroethene	10.0	9.53		ug/L		95	78 - 121
Toluene	10.0	9.88		ug/L		99	80 - 120
Trichloroethene	10.0	9.53		ug/L		95	80 - 121
1,3,5-Trimethylbenzene	10.0	9.10		ug/L		91	77 - 120
Vinyl chloride	10.0	9.54		ug/L		95	52 - 121
Xylenes, Total	20.0	18.5		ug/L		92	80 - 120
1,1,1-Trichloroethane	10.0	8.94		ug/L		89	77 - 123
1,1,2-Trichloroethane	10.0	10.1		ug/L		101	80 - 120
Cyclohexane	10.0	8.73		ug/L		87	60 - 140
1,2-Dibromo-3-Chloropropane	10.0	8.72		ug/L		87	50 - 132
1,2-Dibromoethane	10.0	10.3		ug/L		103	80 - 120
Dichlorodifluoromethane	10.0	8.95		ug/L		89	23 - 136
cis-1,2-Dichloroethene	10.0	9.80		ug/L		98	79 - 120
trans-1,2-Dichloroethene	10.0	9.65		ug/L		96	80 - 124
Isopropylbenzene	10.0	9.16		ug/L		92	77 - 120
Methyl acetate	50.0	49.4		ug/L		99	67 - 131
Methyl tert-butyl ether	10.0	8.40		ug/L		84	69 - 121
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	8.54		ug/L		85	67 - 138
1,2,4-Trichlorobenzene	10.0	7.46		ug/L		75	61 - 120
1,2-Dichlorobenzene	10.0	9.13		ug/L		91	79 - 120
1,3-Dichlorobenzene	10.0	9.07		ug/L		91	79 - 120
1,4-Dichlorobenzene	10.0	9.07		ug/L		91	79 - 120
Trichlorofluoromethane	10.0	9.08		ug/L		91	61 - 133
Dibromochloromethane	10.0	10.3		ug/L		103	74 - 120
Methylcyclohexane	10.0	8.71		ug/L		87	61 - 134

TestAmerica Canton

# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

**Lab Sample ID: LCS 240-223930/4**  
**Matrix: Water**  
**Analysis Batch: 223930**

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

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	90		78 - 125
4-Bromofluorobenzene (Surr)	100		61 - 120
Toluene-d8 (Surr)	104		80 - 120
Dibromofluoromethane (Surr)	96		79 - 120

## Method: 6010B - Metals (ICP)

**Lab Sample ID: MB 240-222994/1-A**  
**Matrix: Water**  
**Analysis Batch: 223781**

**Client Sample ID: Method Blank**  
**Prep Type: Total Recoverable**  
**Prep Batch: 222994**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	5.0	U	5.0	2.9	ug/L		03/24/16 09:35	03/29/16 18:57	1
Barium	1.48	J	100	1.0	ug/L		03/24/16 09:35	03/29/16 18:57	1
Beryllium	1.0	U	1.0	0.13	ug/L		03/24/16 09:35	03/29/16 18:57	1
Cadmium	1.0	U	1.0	0.14	ug/L		03/24/16 09:35	03/29/16 18:57	1
Cobalt	7.0	U	7.0	0.56	ug/L		03/24/16 09:35	03/29/16 18:57	1
Chromium	5.0	U	5.0	0.55	ug/L		03/24/16 09:35	03/29/16 18:57	1
Iron	26.4	J	100	13	ug/L		03/24/16 09:35	03/29/16 18:57	1
Manganese	5.82	J	15	0.46	ug/L		03/24/16 09:35	03/29/16 18:57	1
Nickel	20	U	20	0.76	ug/L		03/24/16 09:35	03/29/16 18:57	1
Lead	3.0	U	3.0	1.9	ug/L		03/24/16 09:35	03/29/16 18:57	1
Selenium	5.0	U	5.0	4.0	ug/L		03/24/16 09:35	03/29/16 18:57	1
Vanadium	4.0	U	4.0	2.4	ug/L		03/24/16 09:35	03/29/16 18:57	1
Zinc	11.7	J	20	9.6	ug/L		03/24/16 09:35	03/29/16 18:57	1

**Lab Sample ID: LCS 240-222994/2-A**  
**Matrix: Water**  
**Analysis Batch: 223781**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 222994**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Arsenic	2000	1920		ug/L		96	80 - 120
Barium	2000	1820		ug/L		91	80 - 120
Beryllium	50.0	46.7		ug/L		93	80 - 120
Cadmium	50.0	47.4		ug/L		95	80 - 120
Cobalt	500	469		ug/L		94	80 - 120
Chromium	200	188		ug/L		94	80 - 120
Iron	1000	974		ug/L		97	80 - 120
Manganese	500	476		ug/L		95	80 - 120
Nickel	500	479		ug/L		96	80 - 120
Lead	500	454		ug/L		91	80 - 120
Selenium	2000	1980		ug/L		99	80 - 120
Vanadium	500	469		ug/L		94	80 - 120
Zinc	500	494		ug/L		99	80 - 120

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6010B - Metals (ICP) (Continued)

**Lab Sample ID: 240-62494-6 MS**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032216-SSH-1816**

**Prep Type: Dissolved**

**Prep Batch: 222994**

Analyte	Sample	Sample	Spike	MS		Unit	D	%Rec	Limits
	Result	Qualifier		Result	Qualifier				
Arsenic	62		2000	2230		ug/L		108	75 - 125
Barium	180	B	2000	2250		ug/L		103	75 - 125
Beryllium	1.0	U	50.0	52.9		ug/L		106	75 - 125
Cadmium	0.14	J	50.0	54.5		ug/L		109	75 - 125
Cobalt	7.0	U	500	524		ug/L		105	75 - 125
Chromium	5.0	U	200	206		ug/L		103	75 - 125
Iron	1000	B	1000	2130		ug/L		109	75 - 125
Manganese	31	B	500	540		ug/L		102	75 - 125
Nickel	20	U	500	534		ug/L		107	75 - 125
Lead	3.0	U	500	504		ug/L		101	75 - 125
Selenium	5.0	U	2000	2210		ug/L		110	75 - 125
Vanadium	4.0	U	500	526		ug/L		105	75 - 125
Zinc	20	U	500	542		ug/L		108	75 - 125

**Lab Sample ID: 240-62494-6 MSD**

**Matrix: Water**

**Analysis Batch: 223781**

**Client Sample ID: GW-12636-032216-SSH-1816**

**Prep Type: Dissolved**

**Prep Batch: 222994**

Analyte	Sample	Sample	Spike	MSD		Unit	D	%Rec	Limits	RPD	Limit
	Result	Qualifier		Result	Qualifier						
Arsenic	62		2000	2210		ug/L		107	75 - 125	1	20
Barium	180	B	2000	2230		ug/L		103	75 - 125	1	20
Beryllium	1.0	U	50.0	52.6		ug/L		105	75 - 125	1	20
Cadmium	0.14	J	50.0	53.7		ug/L		107	75 - 125	1	20
Cobalt	7.0	U	500	522		ug/L		104	75 - 125	1	20
Chromium	5.0	U	200	205		ug/L		102	75 - 125	1	20
Iron	1000	B	1000	2120		ug/L		108	75 - 125	0	20
Manganese	31	B	500	537		ug/L		101	75 - 125	1	20
Nickel	20	U	500	529		ug/L		106	75 - 125	1	20
Lead	3.0	U	500	502		ug/L		100	75 - 125	0	20
Selenium	5.0	U	2000	2190		ug/L		110	75 - 125	1	20
Vanadium	4.0	U	500	522		ug/L		104	75 - 125	1	20
Zinc	20	U	500	542		ug/L		108	75 - 125	0	20

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

**Lab Sample ID: MB 240-222994/1-A**

**Matrix: Water**

**Analysis Batch: 223425**

**Client Sample ID: Method Blank**

**Prep Type: Total Recoverable**

**Prep Batch: 222994**

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil	Fac
	Result	Qualifier								
Aluminum	50	U	50	9.0	ug/L		03/24/16 09:35	03/26/16 04:22		1
Antimony	2.0	U	2.0	0.16	ug/L		03/24/16 09:35	03/26/16 04:22		1
Copper	2.0	U	2.0	0.75	ug/L		03/24/16 09:35	03/26/16 04:22		1
Thallium	1.0	U	1.0	0.074	ug/L		03/24/16 09:35	03/26/16 04:22		1
Silver	0.20	U	0.20	0.020	ug/L		03/24/16 09:35	03/26/16 04:22		1

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# QC Sample Results

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 6020 - Metals (ICP/MS) (Continued)

**Lab Sample ID: LCS 240-222994/3-A**  
**Matrix: Water**  
**Analysis Batch: 223425**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total Recoverable**  
**Prep Batch: 222994**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Aluminum	10000	8900		ug/L		89	80 - 120
Antimony	100	92.8		ug/L		93	80 - 120
Copper	1000	933		ug/L		93	80 - 120
Thallium	250	220		ug/L		88	80 - 120
Silver	100	90.5		ug/L		91	80 - 120

**Lab Sample ID: 240-62494-6 MS**  
**Matrix: Water**  
**Analysis Batch: 223425**

**Client Sample ID: GW-12636-032216-SSH-1816**  
**Prep Type: Dissolved**  
**Prep Batch: 222994**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Aluminum	50	U	10000	9410		ug/L		94	75 - 125
Antimony	2.0	U	100	99.0		ug/L		99	75 - 125
Copper	2.0	U	1000	957		ug/L		96	75 - 125
Thallium	0.11	J	250	232		ug/L		93	75 - 125
Silver	0.026	J	100	95.6		ug/L		96	75 - 125

**Lab Sample ID: 240-62494-6 MSD**  
**Matrix: Water**  
**Analysis Batch: 223425**

**Client Sample ID: GW-12636-032216-SSH-1816**  
**Prep Type: Dissolved**  
**Prep Batch: 222994**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Aluminum	50	U	10000	9610		ug/L		96	75 - 125	2	20
Antimony	2.0	U	100	101		ug/L		101	75 - 125	2	20
Copper	2.0	U	1000	973		ug/L		97	75 - 125	2	20
Thallium	0.11	J	250	238		ug/L		95	75 - 125	3	20
Silver	0.026	J	100	98.3		ug/L		98	75 - 125	3	20

## Method: 7470A - Mercury (CVAA)

**Lab Sample ID: MB 240-223004/1-A**  
**Matrix: Water**  
**Analysis Batch: 223325**

**Client Sample ID: Method Blank**  
**Prep Type: Total/NA**  
**Prep Batch: 223004**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.20	U	0.20	0.090	ug/L		03/24/16 14:00	03/25/16 13:17	1

**Lab Sample ID: LCS 240-223004/2-A**  
**Matrix: Water**  
**Analysis Batch: 223325**

**Client Sample ID: Lab Control Sample**  
**Prep Type: Total/NA**  
**Prep Batch: 223004**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	Limits
Mercury	5.00	5.05		ug/L		101	80 - 120

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# QC Sample Results

Client: GHD Services Inc.  
 Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Method: 7470A - Mercury (CVAA) (Continued)

**Lab Sample ID: 240-62494-6 MS**  
**Matrix: Water**  
**Analysis Batch: 223325**

**Client Sample ID: GW-12636-032216-SSH-1816**  
**Prep Type: Dissolved**  
**Prep Batch: 223004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	Limits
Mercury	0.20	U	1.00	0.992		ug/L		99	80 - 120

**Lab Sample ID: 240-62494-6 MSD**  
**Matrix: Water**  
**Analysis Batch: 223325**

**Client Sample ID: GW-12636-032216-SSH-1816**  
**Prep Type: Dissolved**  
**Prep Batch: 223004**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.20	U	1.00	0.977		ug/L		98	80 - 120	2	20

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

# Surrogate Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

**Method: 8260B - Volatile Organic Compounds (GC/MS)**

**Matrix: Water**

**Prep Type: Total/NA**

## Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	12DCE	BFB	TOL	DBFM
		(78-125)	(61-120)	(80-120)	(79-120)
240-62494-1	GW-12636-032216-SSH-1316	93	96	100	99
240-62494-2	GW-12636-032216-SSH-1416	95	95	101	99
240-62494-3	GW-12636-032216-SSH-1516	96	98	102	100
240-62494-4	GW-12636-032216-SSH-1616	95	94	103	98
240-62494-5	GW-12636-032216-SSH-1716	94	94	102	98
240-62494-6	GW-12636-032216-SSH-1816	95	96	101	98
240-62494-7	TB-12636-032216-SSH-2116	95	98	102	99
LCS 240-223858/4	Lab Control Sample	92	100	105	95
LCS 240-223930/4	Lab Control Sample	90	100	104	96
MB 240-223858/6	Method Blank	97	96	103	100
MB 240-223930/6	Method Blank	94	99	99	98

### Surrogate Legend

12DCE = 1,2-Dichloroethane-d4 (Surr)  
BFB = 4-Bromofluorobenzene (Surr)  
TOL = Toluene-d8 (Surr)  
DBFM = Dibromofluoromethane (Surr)

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

**Client Sample ID: GW-12636-032216-SSH-1316**

**Lab Sample ID: 240-62494-1**

**Date Collected: 03/22/16 08:21**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223858	03/30/16 18:28	LRW	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 19:49	KLC	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/26/16 05:20	AS1	TAL CAN
Dissolved	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223325	03/25/16 13:42	DSH	TAL CAN

**Client Sample ID: GW-12636-032216-SSH-1416**

**Lab Sample ID: 240-62494-2**

**Date Collected: 03/22/16 08:51**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223858	03/30/16 18:50	LRW	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 19:53	KLC	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/26/16 05:24	AS1	TAL CAN
Dissolved	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223325	03/25/16 13:44	DSH	TAL CAN

**Client Sample ID: GW-12636-032216-SSH-1516**

**Lab Sample ID: 240-62494-3**

**Date Collected: 03/22/16 09:26**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223858	03/30/16 19:12	LRW	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 19:57	KLC	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/26/16 05:29	AS1	TAL CAN
Dissolved	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223325	03/25/16 13:46	DSH	TAL CAN

**Client Sample ID: GW-12636-032216-SSH-1616**

**Lab Sample ID: 240-62494-4**

**Date Collected: 03/22/16 09:10**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223858	03/30/16 19:35	LRW	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 20:05	KLC	TAL CAN

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# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

**Client Sample ID: GW-12636-032216-SSH-1616**

**Lab Sample ID: 240-62494-4**

**Date Collected: 03/22/16 09:10**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total Recoverable	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Total Recoverable	Analysis	6010B		1	223781	03/29/16 20:01	KLC	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/26/16 05:38	AS1	TAL CAN
Total Recoverable	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Total Recoverable	Analysis	6020		1	223425	03/26/16 05:33	AS1	TAL CAN
Dissolved	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223325	03/25/16 13:50	DSH	TAL CAN
Total/NA	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Total/NA	Analysis	7470A		1	223325	03/25/16 13:48	DSH	TAL CAN

**Client Sample ID: GW-12636-032216-SSH-1716**

**Lab Sample ID: 240-62494-5**

**Date Collected: 03/22/16 10:45**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223858	03/30/16 19:57	LRW	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 20:09	KLC	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/26/16 05:42	AS1	TAL CAN
Dissolved	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223325	03/25/16 13:53	DSH	TAL CAN

**Client Sample ID: GW-12636-032216-SSH-1816**

**Lab Sample ID: 240-62494-6**

**Date Collected: 03/22/16 12:01**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223930	03/31/16 01:32	LEE	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6010B		1	223781	03/29/16 19:05	KLC	TAL CAN
Dissolved	Prep	3005A			222994	03/24/16 09:35	WKD	TAL CAN
Dissolved	Analysis	6020		1	223425	03/26/16 04:31	AS1	TAL CAN
Dissolved	Prep	7470A			223004	03/24/16 14:00	WKD	TAL CAN
Dissolved	Analysis	7470A		1	223325	03/25/16 13:21	DSH	TAL CAN

**Client Sample ID: TB-12636-032216-SSH-2116**

**Lab Sample ID: 240-62494-7**

**Date Collected: 03/22/16 12:05**

**Matrix: Water**

**Date Received: 03/23/16 10:00**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	223930	03/31/16 01:54	LEE	TAL CAN

TestAmerica Canton

# Lab Chronicle

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

**Laboratory References:**

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

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# Certification Summary

Client: GHD Services Inc.  
Project/Site: 12636-009, RACER Peregrine

TestAmerica Job ID: 240-62494-1

## Laboratory: TestAmerica Canton

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

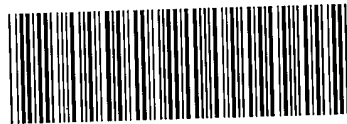
Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-17
Florida	NELAP	4	E87225	06-30-16
Illinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
Kentucky (UST)	State Program	4	58	02-23-17
Kentucky (WW)	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	02-23-17
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	01-12-17
West Virginia DEP	State Program	3	210	12-31-16
Wisconsin	State Program	5	999518190	08-31-16

\* Certification renewal pending - certification considered valid.

TestAmerica Canton



**CHAIN OF CUSTODY  
AND  
RECEIVING DOCUMENTS**



240-62494 Chain of Custody

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

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

1.4/CO.9

**Chain of Custody Record**

133050

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

Regulatory Program:  DW  NPDES  RCRA  Other:

Project Manager: M. Tomka Site Contact: R. Chaffin Date: 3/22/16 Carrier: Felix  
 Tel/Fax: 519 834 0510 Lab Contact: D. Hepler  
 Company Name: GHD Services Address: 1445 N. Sheldon Rd Ste 200  
 City/State/Zip: PLYMOUTH MI 48170 Phone: 734 452 5123  
 Fax: 734 452 5123  
 Project Name: Reynolds Colwater LA Site: SSOW 12636-TD9-010  
 PO #: 24005826

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS/MSD (Y/N)	VOCs	DISS. metals	Total metals	Sample Specific Notes:
GW-12636-032216-55H-1316	3/22/16	0821	G	GW	4	Y	N	X			
-1416		0851	G	GW	4	Y	N	X			
-1516		0926	G	GW	4	Y	N	X			
-1616		0910	G	GW	5	Y	N	X			
-1716		1045	G	GW	4	Y	N	X			
-1816		1201	G	GW	4	Y	N	X			
-1916											
SSOW-12636-032216-55H-2016											
TB-12636-032216-55H-2116	3/22/16	1205	G	TB	1	N	N	X			

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4= HNO3; 5= NaOH; 6= Other: 174  
 Possible Hazard Identification: HA  
 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:

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)  
 Return to Client  Disposal by Lab  Archive for \_\_\_\_\_ Months  
 Therm ID No.: \_\_\_\_\_ Cooler Temp. (°C): Obs'd: \_\_\_\_\_  
 Received by: [Signature] Company: HA Date/Time: 3-23-16 1000  
 Received by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Received in Laboratory by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Custody Seal No.: 791216  
 Relinquished by: [Signature] Company: GHD Services Date/Time: 3/22/16 1700  
 Relinquished by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_  
 Relinquished by: \_\_\_\_\_ Company: \_\_\_\_\_ Date/Time: \_\_\_\_\_



**TestAmerica Canton Sample Receipt Form/Narrative**

Login # : 62494

**Canton Facility**

Client GHD Site Name \_\_\_\_\_

Cooler unpacked by: \_\_\_\_\_

Cooler Received on 3-23-16 Opened on 3-23-16

FedEx: 1<sup>st</sup> 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  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# I8 (CF -0.5 °C) Observed Cooler Temp. 1.4 °C Corrected Cooler Temp. 0.9 °C
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity 1  Yes No  
 -Were custody seals on the outside of the cooler(s) signed & dated?  Yes No NA  
 -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?  Yes  No
3. Shippers' packing slip attached to the cooler(s)?  Yes No
4. Did custody papers accompany the sample(s)?  Yes No
5. Were the custody papers relinquished & signed in the appropriate place?  Yes No
6. Was/were the person(s) who collected the samples clearly identified on the COC?  Yes No
7. Did all bottles arrive in good condition (Unbroken)?  Yes No
8. Could all bottle labels be reconciled with the COC?  Yes No
9. Were correct bottle(s) used for the test(s) indicated?  Yes No
10. Sufficient quantity received to perform indicated analyses?  Yes No
11. Are these work share samples?  Yes  No  
 If yes, Questions 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 pH</u>	<u>Preservative Added (mls)</u>	<u>Lot #</u>
GW-12636-032216-SSH-1316	240-62494-D-1	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032216-SSH-1416	240-62494-D-2	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032216-SSH-1516	240-62494-D-3	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032216-SSH-1616	240-62494-D-4	Plastic 500ml - with Nitric Acid	<2	_____	_____
GW-12636-032216-SSH-1616	240-62494-E-4	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032216-SSH-1716	240-62494-D-5	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____
GW-12636-032216-SSH-1816	240-62494-D-6	Plastic 500ml - w/ Nitric - Dis.	<2	_____	_____