




DRAFT MEMORANDUM

To: Mr. Richard Conforti REF. No.: 012636-T09

FROM: Michael Tomka/jp/87 DATE: November 21, 2014
CC: Dave Favero/Grant Trigger (RACER), Tony Finch (OBG)
Jack Schinderle/John McCabe/Joe Rogers/William Yocum
(MDEQ)
RE: **Supplemental RCRA Facility Investigation
Q3 2014 – Groundwater Results Summary
Former Peregrine (US) Inc. (Peregrine) Coldwater Road Facility
Genesee Township, Michigan**

Conestoga-Rovers & Associates (CRA) has prepared the following memorandum on behalf of Revitalizing Auto Communities Environmental Response Trust (RACER) to summarize the results of the Third Quarter 2014 (Q3-2014) groundwater sampling completed on September 9/10, 2014 at the Former Peregrine (US) Inc. (Peregrine) Coldwater Road Facility in Genesee Township, Michigan (Site). Please note that a more detailed evaluation of these results (including laboratory reports, field notes, etc.) will be submitted as part of the Annual Monitoring Report (AMR) in accordance with the "Supplemental RFI Groundwater Investigation Work Plan and Groundwater Monitoring Plan" (CRA, September 16, 2013) which was approved by the MDEQ on October 15, 2013. The AMR will be completed following the receipt of the results of the comprehensive annual sampling to be completed in Q1-2014.

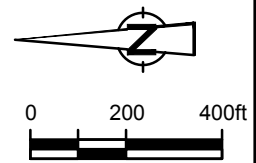
The results of the Q3-2014 groundwater monitoring event are presented in Figure 1 along with historic sampling results. Table 1 presents a summary of the Q3-2014 groundwater monitoring event results screened against the Site-specific background values (BVs). Those constituents exceeding Site-specific BVs were then screened against the residential/nonresidential drinking water. Please note that there are no residential or nonresidential groundwater volatilization to indoor air inhalation criteria for the constituents analyzed.

As presented in the monitoring plan, eight perched aquifer (shallow) monitoring wells were sampled during the Q3-2014 monitoring event and the groundwater samples were analyzed for total and dissolved lead/manganese. Two samples from two locations exceeded the residential/non-residential drinking water criteria (aesthetic value) for total and dissolved manganese; however, both results were below the residential/non-residential drinking water criteria (health based value). The results of the samples analyzed during the Q3-2014 monitoring event are consistent with recent monitoring results.

Should you have any questions or comments please feel free to contact us (519-884-0510).

LEGEND

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



SAMPLE LOCATION		SAMPLE DATE	
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)		

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:
- 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.

PFW-2	12/3/2010	5/13/2011	9/12/2011	12/6/2011	3/26/2014	6/9/2014	9/9/2014
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	0.0023 J	0.003 U
Lead (dissolved)	-	-	-	-	0.003 U	0.003 U	0.003 U
Manganese	0.963/0.91	0.581	1.4 (AB)	0.54	0.66 J	1.5 (AB)	1.6 (AB)
Manganese (dissolved)	-	-	-	-	0.97 J (AB)	1.5 (AB)	1.6 (AB)

MW-4-02	5/11/2011	9/13/2011	12/5/2011	3/27/2014	6/10/2014	9/9/2014
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	0.003 U	0.003 U/0.003 U
Lead (dissolved)	-	-	-	0.003 U	0.003 U	0.003 U/0.003 U
Manganese	0.0418	0.023 J	0.01 J/0.01 J	0.013 J	0.023	0.0037 J/0.0044 J
Manganese (dissolved)	-	-	-	0.003 J	0.0016 J	0.015 U/0.015 U

PFW-9	12/2/2010	5/13/2011	9/12/2011	12/6/2011	3/26/2014	6/9/2014	9/9/2014
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	0.003 U	0.003 U
Lead (dissolved)	-	-	-	-	0.003 U	0.003 U	0.003 U
Manganese	0.0519 J/0.0208 J	0.008 J	0.41	0.015 U	0.0028 J	0.015 U	0.21
Manganese (dissolved)	-	-	-	-	0.0041 J	0.0011 J	0.22

MW-17-13	3/26/2014	6/10/2014	9/10/2014
Arsenic	0.01	-	-
Arsenic (dissolved)	0.012 (ABC)	-	-
Iron	5.8	-	-
Iron (dissolved)	5.9 (AB)	-	-
Lead	0.003 U	0.003 U	0.003 U
Lead (dissolved)	0.003 U	0.003 U	0.003 U
Manganese	0.6	1.6 (AB)	1.1 (AB)
Manganese (dissolved)	0.58 (AB)	1.7 (AB)	1.2 (AB)

MW-18-13	3/27/2014	6/10/2014	9/10/2014
Arsenic	0.005 U	-	-
Arsenic (dissolved)	0.005 U	-	-
Iron	0.1 U	-	-
Iron (dissolved)	0.1 U	-	-
Lead	0.003 U	0.003 U	0.003 U
Lead (dissolved)	0.003 U	0.003 U	0.003 U
Manganese	0.009 J	0.071	0.17
Manganese (dissolved)	0.0085 J	0.061	0.18

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	6/9/2014	9/9/2014
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	-	0.003 U	0.003 U
Lead (dissolved)	-	-	-	-	0.003 U	0.003 U	0.003 U
Manganese	0.391	0.211	6.8 J (AB)	0.31	-	0.03	0.21
Manganese (dissolved)	-	-	-	-	0.047	0.019	0.2

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	6/9/2014	9/10/2014
Arsenic	0.005 U	-	-
Arsenic (dissolved)	0.005 U	-	-
Iron	0.1 U	-	-
Iron (dissolved)	0.1 U	-	-
Lead	0.003 U	0.003 U	0.003 U
Lead (dissolved)	0.003 U	0.003 U	0.003 U
Manganese	0.0062 J	0.0023 J	0.015 U
Manganese (dissolved)	0.0056 J	0.0012 J	0.015 U

MW-19-13	3/27/2014	6/9/2014	9/9/2014
Arsenic	0.005 U	-	-
Arsenic (dissolved)	0.005 U	-	-
Iron	0.12	-	-
Iron (dissolved)	0.1 U	-	-
Lead	0.003 U	0.003 U	0.003 U
Lead (dissolved)	0.003 U	0.003 U	0.003 U
Manganese	0.11	0.092	0.28
Manganese (dissolved)	0.11	0.11	0.27

PFW-4	5/11/2011	9/12/2011	6/10/2014
Arsenic	0.0034 J/0.0035 J	0.0044 J	-
Arsenic (dissolved)	-	0.0034 J	0.005 U/0.005 U
Iron	5.62/5.71	0.66	-
Iron (dissolved)	-	0.1 U	0.1 U/0.1 U
Lead	0.0356 (AB)/0.0358 (AB)	0.013 (AB)	-
Lead (dissolved)	-	0.003 U	0.003 U/0.003 U
Manganese	0.0962/0.0982	0.031	-
Manganese (dissolved)	-	0.017	0.052/0.052

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	-
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

figure 1
 SHALLOW GROUNDWATER MONITORING RESULTS SUMMARY
 FORMER PEREGRINE (US), INC. COLDWATER ROAD FACILITY
 Genesee Township, Michigan



TABLE 1

Q3 2014 - SHALLOW GROUNDWATER RESULTS SUMMARY
 FORMER PEREGRINE (US) INC. COLDWATER ROAD FACILITY
 GENESEE TOWNSHIP, MICHIGAN

Sample Location:
 Sample ID:
 Sample Date:

B-9
 GW-12636-090914-SSH-1428
 9/9/2014

MW-4-02
 GW-12636-090914-SSH-1431
 9/9/2014

MW-4-02
 GW-12636-090914-SSH-1432
 9/9/2014
 (Duplicate)

MW-17-13
 GW-12636-091014-SSH-1435
 9/10/2014

MW-18-13
 GW-12636-091014-SSH-1436
 9/10/2014

Parameters:	Units	Background -	Residential	Nonresidential					
		Shallow Aquifer	Drinking Water	Drinking Water					
		a	b	c					
Metals									
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
Manganese	mg/L	0.963	0.05 (0.86) ¹	0.05 (2.5) ¹	0.21		0.0037 J	0.0044 J	1.1 ^b
Manganese (dissolved)	mg/L	0.547	0.05 (0.86) ¹	0.05 (2.5) ¹	0.2		0.015 U	0.015 U	1.2 ^b

Sample Location:
 Sample ID:
 Sample Date:

MW-19-13
 GW-12636-090914-SSH-1433
 9/9/2014

MW-20-13
 GW-12636-091014-SSH-1434
 9/10/2014

PFW-2
 GW-12636-090914-SSH-1429
 9/9/2014

PFW-9
 GW-12636-090914-SSH-1430
 9/9/2014

Parameters:	Units	Background -	Residential	Nonresidential					
		Shallow Aquifer	Drinking Water	Drinking Water					
		a	b	c					
Metals									
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
Manganese	mg/L	0.963	0.05 (0.86) ¹	0.05 (2.5) ¹	0.28		0.015 U	1.6 ^b	0.21
Manganese (dissolved)	mg/L	0.547	0.05 (0.86) ¹	0.05 (2.5) ¹	0.27		0.015 U	1.6 ^b	0.22

Notes:

- (1) Health Based Screen Criteria shown in brackets
- 1.1^a Exceeds Aesthetic Criteria shown in superscript but below Nonresidential Health Based Criteria
- 1.1^a Exceeds Screening Criteria shown in superscript
- J Estimated concentration.
- U Not present at or above the associated value.
- UJ Estimated reporting limit.
- Not analyzed.