

Payson Long

New York State Department of Environmental Conservation (NYSDEC)  
Division of Environmental Remediation  
Bureau of Program Management  
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Subject:

March 2019 Monthly Report  
Fort Edward Landfill  
NYSDEC Site No. 558001  
Contract No. D007618-39

Date:  
April 22, 2019

Dear Mr. Long:

Arcadis CE, Inc. (Arcadis) has prepared this letter report to summarize the leachate collection and treatment system operation, maintenance, and monitoring (OM&M) activities completed during the March 2019 reporting period at the above-referenced site.

#### **Leachate Collection and Treatment System Operation and Maintenance**

The leachate collection system operated with minimal downtime during the March 2019 operating period. A total of 491,065 gallons of leachate were collected and treated through the system during March 2019. The corresponding average leachate recovery rate for the month was approximately 11.0 gallons per minute (gpm).

The following operation and maintenance (O&M) activities were completed during the March 2019 operating period:

- On March 7, 2019, seven drums of filter sludge were transported for off-site disposal by HEPACO, LLC. The disposal documents are attached to this report.
- Iron and solids sludge processing was performed throughout the month. Two 55-gallon drums of sludge were generated during March 2019.

Contact:  
Andy Vitolins

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Our ref:  
00266434.0000

## **System Sampling**

Water samples were collected on March 26, 2019 from the following treatment system locations:

- Influent (i.e. combined flow from extraction wells EW-1, EW-2, EW-3, and EW-4);
- Clarifier Catch Tank discharge;
- Cell 3 Bypass (i.e. treatment Cell 3 discharge into the Cell 2/3 bypass pipe);
- Cell 2 Chamber (i.e. treatment Cell 2 discharge into the effluent collection chamber); and
- Polishing Pond Effluent.

Samples were also collected from extraction wells EW-1, EW-2, EW-3, leachate collection well EW-4, and Cell 1 Chamber (treatment Cell 1 discharge into the effluent collection chamber). Samples from these locations are collected on a quarterly basis and will be sampled again in the second quarter of 2019.

The monthly and quarterly samples were submitted to Con-Test Analytical for analysis of volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), metals, total dissolved solids (TDS), and total suspended solids (TSS).

The analytical results are discussed in the sections below and have been summarized in Table 1. The laboratory analytical data will be submitted to NYSDEC's EIMS Administrator in the required EQuIS EDD format.

## **Analytical Results**

### **VOCs**

As shown in Table 1, VOCs were detected in the EW-1, EW-2, and EW-3 samples at concentrations that exceeded the corresponding NYSDEC Class GA Standards. The highest concentrations of VOCs were reported in the samples from EW-1. As shown in Table 1, VOCs were detected in the EW-4, Influent, Clarifier Catch Tank, Cell 3 Bypass, Cell 2 Effluent, Cell 1, and Polishing Pond Effluent samples but did not exceed the corresponding NYSDEC Class GA Standards.

### **PCBs**

The PCB Aroclor 1016 was detected in the EW-1, Influent, and Cell 3 bypass samples at concentrations greater than the respective NYSDEC GA Standard. PCBs were not detected in the EW-2, EW-3, EW-4, Clarifier Catch Tank, Cell 2 Effluent, Cell 1 Effluent or Polishing Pond Effluent samples during the March 2019 sampling event (Table 1).

### **Metals**

Iron and manganese were detected at one or more of the treatment system samples at concentrations greater than the corresponding NYSDEC Standards of 0.3 milligrams per liter (mg/L) and 0.6 mg/L, respectively. Iron concentration ranged from a maximum 44 mg/L (EW-2) to 0.11 mg/L (Cell 1 Effluent). Manganese concentrations ranged from a maximum of 1.7 mg/L (EW-1) to 0.032 mg/L (Cell 1 Effluent), which are consistent with previous data.

### **TDS and TSS**

The concentrations of TDS and TSS continue to fluctuate between sampling events. During the March sampling event, TDS concentrations ranged between 260 mg/L and 720 mg/L; TSS concentrations

Payson Long

April 22, 2019

ranged from non-detect and 96 mg/L. These data are consistent with the results from previous sampling events. Since September 2016, TDS and TSS have ranged from 210 to 4,900 mg/L and non-detect (ND) to 200 mg/L, respectively.

### **Next Reporting Period Planned Activities**

The following activities are anticipated for April 2019:

- Continuation of iron and solids treatment and processing; and
- Routine monthly system sampling.

If you have any questions, please do not hesitate to contact me or Jeremy Wyckoff.

Sincerely,

Arcadis CE, Inc.



Andy Vitolins, P.G.  
Associate Vice President

Copies:

Jeremy Wyckoff, Arcadis

File

Enclosures:

**Table 1 – March 2019 Treatment System Analytical Data**

Waste Disposal Documents

**Table 1. March 2019 Treatment System Analytical Data, Fort Edward Landfill**  
**Fort Edward, New York. NYSDEC Site No. 558001**



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 built assets

Chemical Name	NYSDEC Class GA GW Standard	NYSDEC Class GA GW Effluent Limitation	EW-1	EW-2	EW-3	EW-4	INFLUENT	CLARIFIER CATCH	CELL 3	CELL 2	CELL 1	EFFLUENT
	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019
<b>Volatile Organic Compounds (ug/L)</b>												
ACETONE	50	50	500 U	37 J	16 J	50 U	50 U	5.5 J	11 J	50 U	50 U	9.4 J
BENZENE	1	1	20 U	<b>1.5</b>	0.88 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BROMOCHLOROMETHANE	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BROMODICHLOROMETHANE	50	50	5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.85	0.5 U	0.5 U	0.5 U	0.5 U
BROMOFORM	50	50	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
BROMOMETHANE	5	5	20 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
2-BUTANONE (MEK)	50	50	100 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U	20 U
CARBON DISULFIDE	60	60	40 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U	4.0 U
CARBON TETRACHLORIDE	5	5	50 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
CHLOROBENZENE	5	5	20 U	0.55 J	<b>12</b>	0.24 J	0.22 J	0.17 J	1.0 U	1.0 U	1.0 U	1.0 U
CHLORODIBROMOMETHANE	50	--	5.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.25 J	0.5 U	0.5 U	0.5 U	0.5 U
CHLOROETHANE	5	5	20 U	2.0 U	2.0 U	0.58 J	0.35 J	0.41 J	2.0 U	2.0 U	2.0 U	2.0 U
CYCLOHEXANE	--	--	100 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-DIBROMO-3-CHLOROPROPANE	0.04	0.04	50 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-DIBROMOETHANE (ETHYLENE DIBROMIDE)	0.0006	0.0006	5.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-DICHLOROBENZENE	3	3	10 U	1.0 U	0.37 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-DICHLOROBENZENE	3	3	10 U	1.0 U	0.25 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-DICHLOROBENZENE	3	3	10 U	0.28 J	<b>5.5</b>	0.34 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
DICHLORODIFLUOROMETHANE	5	5	20 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1-DICHLOROETHANE	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CIS-1,2-DICHLOROETHYLENE	5	5	<b>770</b>	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TRANS-1,2-DICHLOROETHYLENE	5	5	20 U	1.0 U	0.5 U	1.0 U	0.5 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-DICHLOROETHANE	0.6	0.6	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-DICHLOROETHYLENE	5	5	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-DICHLOROPROPANE	1	1	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
CIS-1,3-DICHLOROPROPENE	0.4	0.4	5.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TRANS-1,3-DICHLOROPROPENE	0.4	0.4	5.0 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-DIOXANE	--	--	1000 U	44 J	56	100 U	50 U	50 U	50 U	50 U	50 U	50 U
ETHYLBENZENE	5	5	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-HEXANONE	50	50	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
ISOPROPYLBENZENE (CUMENE)	5	5	10 U	1.0 U	0.51 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
METHYL ACETATE	--	--	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
METHYL TERT-BUTYL ETHER (MTBE)	10	10	10 U	0.34 J	0.44 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
METHYL CYCLOHEXANE	--	--	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
METHYLEN CHLORIDE	5	5	50 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
METHYL ISOBUTYL KETONE (4-METHYL-2-PENTANONE)	--	--	100 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
STYRENE	5	930	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1,2-TETRACHLOROETHANE	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TETRACHLOROETHYLENE (PCE)	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TOLUENE	5	5	20 U	0.84 J	1.0 U	1.0 U	1.0 U	1.0 U	0.39 J	1.0 U	1.0 U	1.0 U
1,2,3-TRICHLOROBENZENE	5	5	50 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2,4-TRICHLOROBENZENE	5	5	20 U	2.0 U	2.0 U	2.0 U	2.0 U	1.0 U	1.0 U	1.0 U	2.0 U	1.0 U
1,1,1-TRICHLOROETHANE	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2-TRICHLOROETHANE	1	1	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TRICHLOROETHYLENE (TCE)	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
TRICHLOROFLUOROMETHANE	5	5	20 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	5	5	10 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
VINYL CHLORIDE	2	2	<b>1500</b>	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
M,P-XYLENES	5	5	40 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U
O-XYLENE (1,2-DIMETHYLBENZENE)	5	5	20 U	0.2 U	0.2 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
XYLENES, TOTAL	5	5	30 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U

**Notes:**

Constituents detected above the NYSDEC Class GA GW Standard are in **bold**.

Constituents detected above the NYSDEC Class GA GW Effluent Limitation are highlighted in yellow.

NYSDEC Class GA GW Standard - New York State Department of Environmental Conservation Groundwater Standard and Guidance Value.

NYSDEC Class GA GW Effluent Limitation - New York State Department of Environmental Conservation Effluent Limitation.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J - The concentration is an approximate value.

ug/L - micrograms per liter

mg/L - milligrams per liter

Table 1. March 2019 Treatment System Analytical Data, Fort Edward Landfill  
Fort Edward, New York. NYSDEC Site No. 558001



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for natural and  
built assets

Chemical Name	NYSDEC Class GA GW Standard	NYSDEC Class GA GW Effluent Limitation	EW-1	EW-2	EW-3	EW-4	INFLUENT	CLARIFIER CATCH	CELL 3	CELL 2	CELL 1	EFFLUENT
	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019	3/26/2019
<b>Polychlorinated Biphenyls (ug/L)</b>												
PCB-1016 (Aroclor 1016)	*	*	<b>240</b>	0.14 U	0.14 U	0.14 U	<b>0.16</b>	0.14 U	<b>0.2</b>	0.14 U	0.17 U	0.14 U
PCB-1221 (Aroclor 1221)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1232 (Aroclor 1232)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1242 (Aroclor 1242)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1248 (Aroclor 1248)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1254 (Aroclor 1254)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1260 (Aroclor 1260)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1262 (Aroclor 1262)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
PCB-1268 (Aroclor 1268)	*	*	<b>28 U</b>	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U
<b>Conventional Chemistry (mg/L)</b>												
TOTAL DISSOLVED SOLIDS	--	--	<b>720</b>	680	540	370	<b>380</b>	380	230	350	270	260
TOTAL SUSPENDED SOLIDS	--	--	<b>14</b>	96	70	12	<b>82</b>	13	15	2.8	2.0 U	21

**Notes:**

Constituents detected above the NYSDEC Class GA GW Standard are in **bold**.

Constituents detected above the NYSDEC Class GA GW Effluent Limitation are highlighted in yellow.

\* The NYSDEC Class GA GW Standard and Effluent Limitation for PCBs is 0.09 ug/L.

NYSDEC Class GA GW Standard - New York State Department of Environmental Conservation Groundwater Standard and Guidance Value.

NYSDEC Class GA GW Effluent Limitation - New York State Department of Environmental Conservation Effluent Limitation.

U - The compound was analyzed for but not detected. The associated value is the compound quantitation limit.

J - The concentration is an approximate value.

mg/L - milligrams per liter

ug/L - micrograms per liter

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator ID Number <i>NYR0023S424</i>	2. Page 1 of 1	3. Emergency Response Phone <i>502-555-7654</i>	4. Manifest Tracking Number <b>009171706 JJK</b>	
5. Generator's Name and Mailing Address <i>NYSDEC Fort Edward Landfill 45 Leavy Hollow Lane</i>		Generator's Site Address (if different than mailing address)				
Generator's Phone: <i>502-555-7659</i>		U.S. EPA ID Number <i>NJD05412164</i>				
6. Transporter 1 Company Name <i>Freightliner Inc.</i>		U.S. EPA ID Number				
7. Transporter 2 Company Name						
8. Designated Facility Name and Site Address <i>Wayne Disposal Inc 49350 North I-94 Service Drive Belleville MI 48111</i>		U.S. EPA ID Number				
Facility's Phone:						
9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any)) <i>RG UN3432, Polychlorinated biphenyls solid, MIXTURE, 9, PG III, ERG 171 # E180070W01</i>	10. Containers		11. Total Quantity	12. Unit Wt/Vol.	13. Waste Codes <i>B00F PCB6</i>
		No.	Type			
1.	<i>7</i>	DM	<i>3150 P</i>			
2.						
3.						
4.						
14. Special Handling Instructions and Additional Information <i>Needs to be sent to NY Waste HEPACUTE 91A 10C221 Hepaco project 1992 4015</i>						
15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.						
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.						
Generator's/Offeror's Printed/Typed Name <i>Jasmine Mullins on behalf of NYSDEC</i>		Signature		Month	Day	Year
16. International Shipments		<input type="checkbox"/> Import to U.S.	<input type="checkbox"/> Export from U.S.	Port of entry/exit:		
Transporter signature (for exports only):				Date leaving U.S.:		
17. Transporter Acknowledgment of Receipt of Materials		Signature		Month	Day	Year
Transporter 1 Printed/Typed Name <i>Michael Brohoj</i>		<i>Michael Brohoj</i>		<i>03</i>	<i>07</i>	<i>19</i>
Transporter 2 Printed/Typed Name		Signature		Month	Day	Year
18. Discrepancy						
18a. Discrepancy Indication Space		<input type="checkbox"/> Quantity	<input type="checkbox"/> Type	<input type="checkbox"/> Residue	<input type="checkbox"/> Partial Rejection	<input type="checkbox"/> Full Rejection
		Manifest Reference Number:				
18b. Alternate Facility (or Generator)		U.S. EPA ID Number				
Facility's Phone:						
18c. Signature of Alternate Facility (or Generator)						
		Month	Day	Year		
19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)						
1.	2.	3.	4.			
20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a						
Printed/Typed Name		Signature		Month	Day	Year