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New York State Department of Environmental Conservation (NYSDEC)
Division of Environmental Remediation
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Subject:
November 2017 Monthly Report
Fort Edward Landfill
NYSDEC Site No. 558001
Contract No. D007618-39

Date:
January 22, 2018

Contact:
Andy Vitolins

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 November 2017 reporting period.

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Leachate Collection and Treatment System Operation and Maintenance

The leachate treatment system shut down on 11 occasions between November 1, 2017 and November 16, 2017 due to discharge pump alarms reported by the program logic controller (PLC). The alarms (first reported in October 2017) indicated that a discharge pump(s) for the clarifier catch tank was being called to run, but the return signal indicating the pump was running, was not being received by the PLC. Field staff attempted repeatedly to identify the cause of the shut-downs; however, since the fault was intermittent, it was difficult to evaluate the issue. Through a process of elimination, the alarms were found to be caused by a faulty PLC input. The PLC interpreted the faulty input as a failure of the discharge pump to run when it was being called to operate. The program logic was changed to ignore the pump input signal and treatment plant operations were restored. Arcadis will evaluate and present options to repair/replace the PLC.

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A total of 470,850 gallons of leachate were collected and treated through the system during November 2017. The corresponding average leachate recovery rate for the month was approximately 10.9 gallons per minute (gpm).

The following O&M activities were completed during the November 2017 operating period:

- The pump in leachate collection well EW-4 was cleaned and replaced due to declining flow rates.
- Ice guards were installed on the treatment system building roof to reduce the potential for injuries from falling ice.
- The landfill cap was mowed by NYSDEC Operations.
- The motor starter for the air compressor was replaced after being damaged during the October 23, 2017 power interruption.
- Iron and solids sludge processing was able to be performed after replacement of the air compressor motor starter. In total, three 55-gallon drums of sludge were generated during the remainder of November 2017.
- On November 6, 2017, nine drums of filter sludge were transported for off-site disposal by Veolia Environmental Solutions, Inc. The disposal documents are attached to this report.
- The annual landfill inspection was performed on November 6, 2017. The results of the inspection will be provided to NYSDEC under a separate cover.

System Sampling

The monthly samples were collected on November 27, 2017 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 discharge into the Cell 2/3 bypass pipe);
- Cell 2 Chamber (i.e. treatment cell discharge into the effluent collection chamber); and
- Polishing Pond Effluent.

No samples were collected from extraction wells EW-1, EW-2, EW-3 or leachate collection well EW-4. Samples from these locations are collected on a quarterly basis and will be sampled again in first quarter 2018.

The monthly 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 Influent, Clarifier Catch Tank, and Cell 3 bypass samples at concentrations that exceeded the corresponding NYSDEC Effluent Limits. The treatment system Influent sample contained cis-1,2-dichloroethene (cDCE) (13 micrograms per liter [$\mu\text{g/L}$]) and vinyl chloride 14 $\mu\text{g/L}$. These compounds were also present in the treatment plant discharge (Clarifier Catch). As shown in Table 1, the Clarifier Catch sample concentrations of cDCE and vinyl chloride were 8.9 $\mu\text{g/L}$

and 8.0 µg/L, respectively. As shown in Table 1, cDCE (5 µg/L), 1,2-dichloroethane (0.74 µg/L), 1,1,2-trichloroethane (1.1 µg/L), and vinyl chloride (4.2 µg/L) were also detected in the sample collected from the Cell 3 bypass. Table 1 shows that VOCs were detected at estimated concentrations and did not exceed NYSDEC Standards in Cell 2 Effluent sample or the Effluent sample from the Polishing Pond.

PCBs

PCB Aroclor 1232 was detected in the Influent, Clarifier Catch Tank, Cell 3 bypass, and Cell 2 effluent samples at concentrations greater than the respective NYSDEC Effluent Limits. PCBs were not detected in the Polishing Pond Effluent sample during the November 2017 sampling event (Table 1).

Metals

Iron and manganese were detected in all of the treatment system samples at concentrations greater than the corresponding NYSDEC Standards of 0.3 mg/L and 0.6 mg/L, respectively. Iron concentration ranged from a maximum 28 mg/L (Influent) to 1.5 mg/L (Polishing Pond Effluent). This corresponds to a 95 percent reduction in iron through the treatment system. Manganese concentrations ranged from a maximum of 1.8 mg/L (Influent and Clarifier Catch) to 0.85 mg/L (Polishing Pond Effluent).

TDS and TSS

The concentrations of TDS and TSS continue to fluctuate between sampling events. During the November sampling event, TDS concentrations ranged between 470 mg/L and 590 mg/L; TSS concentrations ranged from non-detect and 36 mg/L. These data are consistent with the results from previous sampling events. Since September 2016, TDS and TSS have ranged from 210 to 1,300 mg/L and non-detect to 120 mg/L, respectively.

Next Reporting Period Planned Activities

The following activities are anticipated for December 2017:

- Inspection and high-pressure jetting of leachate collection lines;
- Extraction well EW-4 pump optimization; and
- Continuation of iron and solids treatment and processing;

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

NYSDEC Site No. 558001
Payson Long
January 22, 2018

Copies:

Jeremy Wyckoff, Arcadis
File

Enclosures:

Table 1 - November Treatment System Analytical Data
Waste Disposal Documents