APPENDIX C

NYSDEC, AUGUST 24, 2012, REGION 3/SOLID WASTE PROGRAM, SOLID WASTE MANAGEMENT FACILITY SITE VISIT REPORT (AUGUST 22, 2012) - ORANGE COUNTY LANDFILL, TOWN OF GOSHEN, ORANGE COUNTY

Region 3/Solid Waste Program
Solid Waste Management Facility Site Visit Report

Facility Name/Location:	Orange County Landfill, T-Goshen, Orange County
Date of Site Visit:	August 22, 2012
DEC Staff Present:	Steven Parisio, Carl Hoffman
Others Present:	Mark Millspaugh, Nathan Shafer Sterling Environmental Engineering P.C.
Background Information:	Concerns have been expressed by the public regarding "orange goo" seeping from the bank of the Cheechunk Canal (Wallkill River) downslope of the landfill. The County has agreed to collect and analyze environmental samples to determine whether these discharges are impacting water quality or otherwise pose a threat to the environment. After consultation with Department staff, a sampling plan was submitted on August 17, 2012 by Sterling Environmental Engineering P.C on behalf of the County. The plan includes sampling of groundwater (from seeps), surface water and leachate for Part 360 baseline parameters and sampling of iron flocs for iron, TOC, arsenic and other selected metals.
Purpose of Site Visit:	To observe and assist with sampling and to collect split samples for analysis by the Department's contact lab.
New Issues and Follow-up Required:	Department staff collected 3 water samples and 2 iron floc samples which were splits of samples collected by Sterling. Table 1 provides a summary of the samples collected and Figure 1 shows the sampling locations.
Report prepared by:	Steven Parisio
Report Date:	August 24, 2012

Figure 1. Orange County Landfill and vicinity, August 22, 2012 sampling locations.

Table 1. Samples Collected at Orange Co. Landfill on August 22, 2012 by Sterling Environmental Engineering, P.C. & NYSDEC					
Sterling Sample ID	DEC Split Sample ID	Sample Time	Latitude	Longitude	Sample Description/Comments
FLOC 02	NA	11:00	N41.39458	W74.39368	Background sample of grey silt w/iron floc coatings; No DEC split due to insufficient sample volume
SW 01	121115-OCLF-01	12:11	N41.38489	W74.40900	Surface water from Cheechunk Canal upstream of landfill
LMH	121115-OCLF-02	13:00	N41.38882	W74.40141	Leachate from manhole upslope of seeps
FLOC 01	121115-OCLF-04	13:15	N41.38846	W74.40131	Gray silt with iron floc coating on river bank downslope of leachate manhole; Upstream and smaller of two adjacent seeps
FLOC 03	121115-OCLF-05	13:40	N41.38846	W74.40128	Gray silt with iron floc coating on river bank downslope of leachate manhole; Downstream and larger of two adjacent seeps
GW 03	121115-OCLF-03	14:00	N41.38846	W74.40128	Groundwater discharging from seep in area of sample FLOC 03 (DEC Split 121115-OCLF-05)
SW 02	NA	14:00	N41.38846	W74.40128	Surface water where seeps with iron flocs enter the Cheechunk Canal
GW 01	NA	15:00	N41.38846	W74.40131	Groundwater discharging from seep in area of sample FLOC 01 (DEC Split 121115-OCLF-04)

A thorough reconnaissance of the Cheechunk Canal was carried out using a canoe provided by Sterling. Both banks were examined along a stretch extending from the upstream end of the landfill to a point well beyond the downstream end of the landfill (see figure 1). Several flowing seeps with iron flocs were observed in the area immediately downslope of the leachate manhole. Dried iron floc residues without active seepage were observed at two locations considered to be outside of the influence of landfill-derived groundwater contamination.

Iron floc residues were observed adhering to exposed plant roots in an erosional gully in the bank of the canal opposite the landfill.. No moisture was present on the day of our sampling event. This is the location where seepage and iron flocs had been observed by Department staff during a site visit on April 18, 2012. A sample was collected from this location but was not submitted for analysis because a more suitable background sample was observed further downstream.

Sterling collected a floc sample (FLOC 02) from the northwest bank (landfill side) of the canal at a location far enough downstream to be outside of the immediate influence of landfill-derived groundwater contamination. The sample consisted of gray silt with a coating of iron floc. A DEC split sample was not collected due to inadequate sample volume. No groundwater sample was collected here because the rate and volume of the seep was inadequate to allow collection of a liquid sample.

An upstream surface water sample (SW 01) was collected by Sterling in the Cheechunk Canal. A split sample (121115-OCLF-01) was collected by DEC staff.

An iron floc sample (Sterling FLOC 01, DEC split 121115-OCLF-04) and a groundwater seep sample (Sterling GW 01) was collected from this location which is downslope of the leachate manhole. Iron floc was present as only a thin film on the surface of the gray silt and a pure iron floc sample could not be collected. The iron floc sample consisted of gray silt with a thin coating of iron floc.

Slightly downstream of the FLOC 02 sampling location, a larger area of seepage and iron floc was observed. Iron floc sample FLOC3 (Sterling ID) and 121115-OCLF-05 (DEC split) were collected here. Iron floc was present as only a thin film on the surface of the gray silt and a pure iron floc sample could not be collected. The iron floc sample consisted of gray silt with a thin coating of iron floc.

Groundwater seeping out of the area of iron floc deposition at sample location FLOC 03 was collected using a peristaltic pump. A small depression was excavated in the seepage channel downstream of the iron floc deposits and just upstream of where the seep enters the canal. By letting the silt settle out and by keeping the end of the pump tubing just below the water surface, a turbidity-free sample of the seep discharge was collected. This was sample GW 03 (Sterling) and 121115-OCLF-05 (DEC split sample).