



Review of 2016 1st Semi-annual Water Quality Monitoring Report for Tomoka Farms Road Landfill

Review Date: 8/16/16	Reviewed By: Allen Rainey, Environmental Specialist III	WACS Facility ID #: 27540 (COM_153864: B5/B-37) (COM_68271: LF1 AKA B-5)
Facility Name: Tomoka Farms Road Landfill		County: Volusia
Monitoring Period: May 2016		
Type: Routine & Evaluation Monitoring	Facility Class Types: Class I, Class III	
Report Date: July 2016	Received Date: 7/20/16	Date Uploaded to WACS: 7/20/16 8:07 pm
Prepared By: HDR Engineering, Inc.	Submitted By: HDR Engineering, Inc.	
Report Title: 2016 First Semiannual Water Quality Monitoring Report		

Review Details

Summary

- The Department intends to discuss the ammonia and arsenic exceedances during the meeting with the facility scheduled for 8/23/16.
- Permit Modification No. 0078767-039-SF-MM MPIS Condition 29 requires the facility to submit a technical report to the Department approximately every two and one-half years during the active life of the facility. Accordingly, the next technical report is due by March 2017. It needs to cover the sampling periods from November 2014 through November 2016.

Parameter Exceedances

- Benzene standard (1 µg/L) was exceeded in the following wells.

Well ID	Well Type	Concentration (µg/L)
B45-2	Compliance	1.4
B85-6	Assessment	2.1

- Arsenic standard (10 µg/L) was exceeded in the following wells:

Well ID	Well Type	Concentration (µg/L)
B45-2	Compliance	58.3
B75	Compliance	14.8
B64	Compliance	13.3

- Sodium standard (160 mg/L) was exceeded in assessment well B85-6 at 190 mg/L. The report on PDF page 6 states that according to a 10/26/09 letter from the Department, “implementation of evaluation monitoring for sodium is not required.” (That same statement appears in the 2015 2nd semiannual report dated January 2016.) However, the Department’s 10/26/09 letter indicated evaluation monitoring was not required for sodium concentrations in well B33-2, which is near the leachate basin on the west side of the North Cell.
- Chloride standard (250 mg/L) was exceeded in assessment well B85-6 at 272 mg/L. The report on PDF page 6 states that according to a 10/26/09 letter from the Department, “implementation of evaluation monitoring for chloride is not required.” That same statement appears in the 2015 2nd semiannual report dated January 2016.) The Department’s 10/26/09 letter indicated evaluation monitoring was not required for chloride concentrations in well B33-2, which is near the leachate basin on the west side of the North Cell.
- Ammonia 62-777 GCTL (2.8 mg/L) was exceeded in compliance wells B64 and B43-1, and assessment wells B85 and B85-6. Well B85 had the highest concentration at 15.3 mg/L. This 2016 1st semiannual report (and the 2015 2nd semiannual report dated January 2016) attributes the ammonia source to be “microbial degradation of organics including plant and animal tissues and discarded materials (see report PDF page 5). Additionally, the 2016 1st semiannual report references a 10/9/15 HDR Engineering response letter, but the date of that letter is actually 10/19/15.
- Iron standard (0.3 µg/L) was exceeded in a majority of the groundwater monitoring wells. Four of the 10 Floridan aquifer wells had iron exceedances.
- Iron surface water standard (1,000 mg/L) was exceeded in SW-5 at 1,130 µg/L.
- Total dissolved solids standard (500 mg/L) was exceeded in 9 groundwater monitoring wells.
- pH in about half of the groundwater wells was below within the range of 6.5 – 8.5. The rest had values within that range. This is consistent with pH data since November 2014.
- For surface water locations SW-4 and SW-5, the facility reported and uploaded to ADaPT the ammonia concentrations as ammonia-N (WACS Analyte ID 1515). In surface waters, however, the standard of 0.02 mg/L is for unionized ammonia (WACS Analyte ID 7664417). There were no reported unionized ammonia exceedances in surface water locations.

- On 4/14/15, the Department agreed to the facility's request to discontinue evaluation monitoring for benzene and end sampling in 11 Evaluation Monitoring wells. Previously, the Department ended evaluation monitoring for ammonia.
- Qualifier codes "J" and "U," indicating laboratory quality assurance and control issues, accompany the results for the following analytes in several wells:

acrylonitrile	chloromethane
antimony	vinyl acetate,
thallium	tetrachloroethene
bromomethane	1,1,2,2-tetrachloroethane
vinyl chloride	residues-filterable (total dissolved solids)

Purging Completion

Dissolved oxygen \leq 20% saturation? YES If no, \pm 0.2 mg/L or readings are within 10%? N/A	Turbidity \leq 20 NTUs? NO If no, \pm 5 NTUs or readings are within 10%? NO *
Temperature \pm 0.2° C? YES	pH \pm 0.2 standard units? YES
Specific conductance \pm 5% of reading? YES	
* criteria not achieved for well B33-2	

Sampling and Analysis

Sampling dates: May 10, 11, 12, 16	Last lab analysis date: 5/27/16
# of active groundwater monitoring locations: 50 (May Monitoring = 31, November Monitoring = 50)	
# of active surface water monitoring locations: 7	
Initial sampling device: peristaltic pump	Re-sampling device: N/A
All groundwater and surface water sampling points sampled? NO *	All analyses performed? YES
Trip blanks? YES	Field or equipment blanks? YES
Lab certified under National Environmental Laboratory Accreditation Program? YES	
Unionized ammonia analysis? YES	Phenols analysis? N/A
	Unfiltered samples? YES
* surface water location SW-3 was dry	

Monitoring Plan Implementation Schedule Reporting Requirements

Revision Date: N/A	Effective Date: 7/27/15	Permit Numbers: 0078767-031-SO-MM (North Cell 1 Class I) 0078767-034-SO-T3 (Class III) 0078767-039-SF-MM (North closure and South Cell post-closure care)
Notification made within 14 days of sampling? YES		
Cover letter? NO		
Ground Water Monitoring Report, DEP Form 62-520.900(2) (or equivalent)? YES		Certification Date: 7/14/16
Summary of exceedances & sampling issues? YES		
Groundwater contour maps? YES	Contour maps signed and sealed? YES	
Water levels & water elevation table? YES	Water level measurements made within one-day period? YES	
Groundwater Sampling Logs, DEP Form FD 9000-24? YES		
Chain of custody forms? YES		
Conclusions and recommendations? YES		
Lab and field EDD files named correctly (27540_201605_swldd.txt & 27540_201605_swfdd.txt)? YES		
Report named correctly (27540_201605_swgwmr.pdf)? YES		
File(s) indicate successful data export? YES		
Report signed and sealed by P.G.? YES	Date signed and sealed: 7/19/16	
Report received within 60 days of completing lab analysis? YES		