



**Review of 2016 2nd Semi-annual Water Quality Monitoring Report
for
Tomoka Farms Road Landfill**

Review Date: 4/6/17	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: November 2016		
Type: Routine & Evaluation Monitoring	Facility Class Types: Class I, Class III	
Report Date: 2/7/17 (date for P.E. seal)	Received Date: 2/8/17	Date Uploaded to WACS: 2/8/17 8:07 pm
Prepared By: HDR Engineering, Inc.	Submitted By: HDR Engineering, Inc.	
Report Title: 2016 Second Semiannual Water Quality Monitoring Report		

Review Details

Summary

The Department has no record of receiving the facility's technical report due by March 2017. It needs to cover the sampling periods from November 2014 through November 2016, address parameter exceedances, and respond to questions asked in the Department's 8/31/16 email to the facility.

Parameter Exceedances

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

Well ID	Well Type	Concentration (µg/L)
B36	Background	1.8
B37-1	Compliance	7.6
B85-6	Assessment	1.9

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

Well ID	Well Type	Concentration (µg/L)
B39	Compliance	21.4
B75	Compliance	20.2

- Lead standard (15 µg/L) was exceeded in assessment wells B82-1 at 16.9 µg/L and B87-6 at 21.2 µg/L. Lead exceedances should be summarized in the technical report due by March 2017.
- Mercury standard (2 µg/L) was exceeded in only one of the duplicate samples from compliance well B5 at 3.9 µg/L. The report contains a recommendation to observe mercury concentrations during future sampling events "to determine if these detections are anomalous or an indication of impacted groundwater." The Department concurs with that recommendation.
- Sodium standard (160 mg/L) was exceeded in compliance well B37-1 at 257 mg/L, and assessment well B85-6 at 188 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." 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 compliance well B44 at 286 mg/L, intermediate well B8-2 at 572 mg/L, and assessment well B85-6 at 268 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." 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 background well B-2, compliance wells B1-B, B-75, and MO5-B, and assessment wells B85 and B85-6. Well B1-B had the highest concentration at 21/7 mg/L. The report on PDF page 5 attributes the ammonia source to be "microbial degradation of organics including plant and animal tissues and discarded materials (see report PDF page 5). On the same page, the 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.
- Iron surface water standard (1,000 mg/L) was exceeded in SW-5 at 1,880 µg/L.
- Total dissolved solids standard (500 mg/L) was exceeded in 18 groundwater monitoring wells.
- pH in over 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 the surface water locations, the facility reported and uploaded to ADaPT the ammonia concentrations as ammonia-N (WACS Analyte ID 1515). The ammonia in surface water standard was recently changed in Chapter 62-302, F.A.C. The Solid Waste Program is deciding how the new standard should be implemented at solid waste facilities.

Notations

- 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 code "J" (indicating laboratory quality assurance and control issues) accompanies the results for the following analytes in several wells:

metals	chloride
total dissolved solids	2-butanone
1,2-dibromo-3-chloropropane	vinyl acetate
1,2-dibromoethane	

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? YES If no, \pm 5 NTUs or readings are within 10%? N/A
Temperature \pm 0.2° C? YES	pH \pm 0.2 standard units? YES
Specific conductance \pm 5% of reading? YES	

Sampling and Analysis

Sampling dates: Nov. 8, 9, 10, 11, 16, 17, 18, 21	Last lab analysis date: 12/6/16
# of active groundwater monitoring locations: 50 (May Monitoring = 31, November Monitoring = 50)	
# of active surface water monitoring locations: 7	
Initial sampling device: electric submersible and peristaltic pump	Re-sampling device: N/A
All groundwater and surface water sampling points sampled? YES	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

Monitoring Plan Implementation Schedule Reporting Requirements

Revision Date: N/A	Effective Date: 7/27/15	Permit Modification Numbers: 0078767-038-SO-MM (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: 2/6/17
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_201611_swldd.txt & 27540_201611_swfdd.txt)? NO (labeled "27540_20161108_swldd.txt" & "27540_20161108_swfdd.txt")		
Report named correctly (27540_201611_swgwmr.pdf)? YES		
File(s) indicate successful data export? YES		
Report signed and sealed by P.G.? YES	Date signed and sealed: 2/7/17	
Report received within 60 days of completing lab analysis? NO (received 4 days late—due 2/4/17)		