



**Review of 2015 1<sup>st</sup> Semi-annual Water Quality Monitoring Report  
for  
Tomoka Farms Road Landfill**

Review Date: 8/14/15	Reviewed By: Allen Rainey, Environmental Specialist III	WACS Facility ID #: 27540
Facility Name: Tomoka Farms Road Landfill	County: Volusia	
Monitoring Period: May 2015		
Type: Routine	Facility Class Types: Class I, Class III	
Report Date: July 2015	Received Date: 7/22/15	Date Uploaded to WACS: 7/23/15
Prepared By: HDR Engineering, Inc.	Submitted By: ----	
Report Title: 2015 First Semiannual Water Quality Monitoring Report		

**Review Details**

Summary

- Other than the continuation of contamination assessment, there are no actions needed to protect groundwater.
- Unionized ammonia surface water standard was exceeded in surface water location SW-5.

Parameter Exceedances

- Benzene standard (1 µg/L) was exceeded in the following wells and is being addressed by contamination assessment.

Well ID	Well Type	Concentration (µg/L)
B36	Background	2.6
B37-1	Compliance	11.9
B45-2	Compliance	1.1

- Arsenic standard (10 µg/L) was exceeded in compliance wells B39 at 23.4 µg/L, B45-2 at 49.2 µg/L, B73-2 at 12.4 µg/L, and B75 at 26 µg/L.
- Mercury surface water standard (0.012 µg/L) was exceeded in surface water location SW-1 at 0.031 µg/L. The report concludes that the mercury concentration is probably associated with stormwater runoff from Interstate 4, since FDOT has been working on widening the interstate near the facility. On 7/9/15, the facility requested that SW-1 be removed as a surface water monitoring point, but still allow for observation of impacts from Interstate 4. On 7/16/15, the Department accepted the conclusion but did not grant permission to remove SW-1 as a sampling point.
- Sodium standard (160 mg/L) was exceeded in compliance wells B37-1 at 246 mg/L. The sodium standard has been exceeded in well B37-1 since the May 2013 monitoring event; at that time, the well concentration was 227 mg/L.
- Chloride standard (250 mg/L) was exceeded in intermediate well B8-2 at 648 mg/L and background well B36 at 256 mg/L. The chloride standard has been exceeded in well B8-2 since the May 2013 monitoring event; at that time, the well concentration was 288 mg/L.
- Ammonia 62-777 GCTL (2.8 mg/L) was exceeded in background well B2, compliance wells B64, B85, B1B, MO5-B, and B43-1, detection wells B61R, B62-1R, and B62-2R, and contamination assessment well B85-6. Well B62-1R had the highest concentrations. The technicians took duplicate samples from that well, and there is a 53% difference between the results: 41 mg/L vs. 21.6 mg/L. The report does not give an explanation.
- Unionized ammonia surface water standard (0.02 mg/L) was exceeded in SW-5 at 0.1 mg/L. The report does not give any recommendations or conclusions for the exceedance.
- Iron standard (0.3 µg/L) and total dissolved solids standard (500 mg/L) were exceeded in a majority of the groundwater monitoring wells except those in the Floridan aquifer.
- Iron surface water standard (1,000 mg/L) was exceeded in SW-3 at 1,030 µg/L.
- pH in nearly half of the groundwater wells was below within the range of 6.5 – 8. Only two wells had pH values above that range. The pH for well B-2 was reported at 557 standard units, which is likely an error that needs to be corrected in WACS.

Notations

- The report states the lead surface water standard was exceeded in surface water location SW-1 at 31.1 ng/L (0.03 µg/L). The result for total hardness as CaCO<sub>3</sub> at that location was 63.4 mg/L. Using the total hardness value in the formula for lead within the table in Chapter 62-302, F.A.C., the surface water lead standard is 1.78 µg/L. That is not an exceedance. As with the mercury exceedance, the report indicates the lead concentration is probably associated with stormwater discharge from Interstate 4.
- On 10/26/09, the Department issued a letter to the facility for review of the facility's evaluation monitoring plan and related documents. Among other matters, that letter addresses sodium and chloride exceedances in the facility's leachate basin area and stated that standard semi-annual monitoring was sufficient for that area. None of the chloride or sodium exceedances during this monitoring event were in wells within the leachate basin area, except for the chloride exceedance in well B8-2. However, the report cites the 10/26/09 letter as a justification against additional action to protect groundwater.

- 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. Ammonia and benzene monitoring shall continue in wells that have been monitored for both parameters.
- The facility sampled wells B82-1, B85, B85-6 and B87-6 in accordance with the Department's 4/14/15 request. It also sampled all wells specified for November monitoring except for well B45-1.
- For the sample at well B34-1, the laboratory's matrix spike recovery exceeded quality control limits for over 40 parameters. However historically, the parameters have not been detected in that well.
- Iron was detected in well B73-2 at 8,900 µg/L, but qualifier code "J" indicates the laboratory's matrix spike recovery exceeded quality control limits.

**Purging Completion<sup>s</sup>**

Dissolved oxygen ≤ 20% saturation? YES If no, ± 0.2 mg/L or readings are within 10%? N/A	Turbidity ≤ 20 NTUs? YES If no, ± 5 NTUs or readings are within 10%? N/A
Temperature ± 0.2° C? YES	pH ± 0.2 standard units? YES
Specific conductance ± 5% of reading? YES	

<sup>s</sup> the Groundwater Sampling Log for well B73-2 has only partial purging data for one sampling time (PDF page 333)

**Sampling and Analysis**

Sampling dates: May 5, 6, 7, 12, 13, 18, 21, 22	Last lab analysis date: 6/3/15
# of active groundwater monitoring locations: May Monitoring = 28, November Monitoring = 48	
# 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 <sup>A</sup>	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

<sup>A</sup> The facility did not sample well B45-1

**Monitoring Plan Implementation Schedule Reporting Requirements**

Revision Date: N/A	Effective Date: 9/24/14	Permit: 0078767-034-SO-T3
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: 7/21/15
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_201505_swldd.txt & 27540_201505_swfdd.txt)? YES		
Report named correctly (27540_201505_swgwmr.pdf)? YES		
File(s) indicate successful data export? YES		
Report signed and sealed by P.G.? YES	Date signed and sealed: 7/22/15	
Report received within 60 days of completing lab analysis? YES		