Review of 2015 2nd Semi-annual Groundwater Monitoring Report
for
J.E.D. Solid Waste Management Facility

Review Dates: 2/23/16 & 3/28/16	Reviewed By: Allen Rainey, Environmental Specialist III	WACS Facility ID #: 89544
Facility Name: J.E.D. Solid Waste Management Facility	County: Osceola	
Monitoring Period: November 2015		
Type: Routine and Evaluation Monitoring	Facility Class Types: Class I, Construction & Demolition Debris	
Report Date: 2/7/16	Received Date: 2/8/16	WACS Upload Date: 2/8/16 (8:07 pm)
Prepared By: Geosyntec Consultants	Submitted By: ----	
Report Title: 23rd Semi-annual Water Quality Monitoring Report		

Review Details

Summary

- There are no immediate actions needed to protect groundwater.
- Benzene concentrations in several wells (see table and graphs below) have decreased since the May 2015 monitoring period. The report indicates that a likely source of benzene in the wells is landfill gas. On 2/24/16, the Department met at the facility to discuss landfill gas migration issues and impacts to groundwater. The facility is expected to submit documentation that addresses the benzene concerns contained in the Department's 1/28/16 email to the facility.
- The Department is discussing the addition of evaluation monitoring wells CW-1A, CW-2A, and CW-3A to the semi-annual monitoring requirements in the MPIS to ensure benzene is not migrating to the edge of the ZOD.

Parameter Exceedances

- Benzene standard (1 µg/L) was exceeded in groundwater wells as follows. The report indicates that a likely source of benzene is landfill gas.

Well ID	Well Type	Concentration (µg/L)
MW-3A	Detection	6.6
MW-4A	Detection	1.7
MW-6A	Detection	4.3
MW-8A	Detection	4.9
MW-9A	Detection	12
MW-10A	Detection	4.4
MW-11A	Detection	6.6
MW-12A	Detection	5.5
MW-13A	Detection	1.9
MW-1A	Detection	2
MW-1B	Detection	1.2

- Sodium standard (160 mg/L) was exceeded in detection well MW-1A at 243 mg/L.
- Chloride standard (250 mg/L) was exceeded in detection well MW-1A at 470 mg/L.
- Ammonia 62-777 GCTL (2.8 mg/L) was exceeded in 15 A-zone groundwater wells and 3 B-zone groundwater wells. The facility's MPIS establishes a background concentration of 10 mg/L for wells MW-5A, MW-9A, MW-10A, and MW-11A. Ammonia concentrations in those wells were below the MPIS background.
- Total dissolved solids standard (500 mg/L) was exceeded in 8 A-zone groundwater wells and 8 B-zone groundwater wells.
- Iron standard (0.3 mg/L) exceeded in a majority of groundwater wells.
- pH in a majority of the wells was below the range of 6.5 to 8.5.

Purging Completion

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

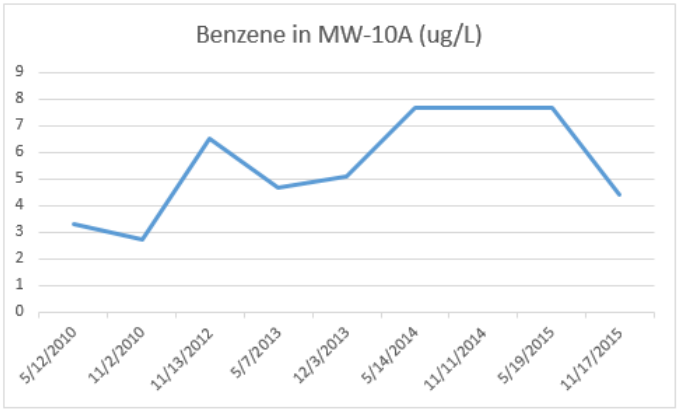
Sampling and Analysis

Sampling dates: Nov. 11, 12, 16, 17, 18, 19, 2015	Last lab analysis date: 12/1/15
# of active groundwater monitoring locations: 46	# of active surface water monitoring locations: 2
Initial sampling device: peristaltic & electric submersible pumps	Re-sampling device: N/A

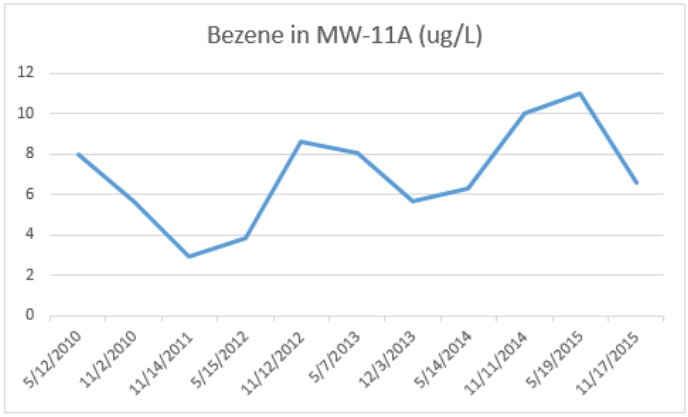
All groundwater and surface water sampling points sampled? NO [A]	All analyses performed? YES	
Trip blanks? YES	Field or equipment blanks? YES	
Lab certified under National Environmental Laboratory Accreditation Program? YES		
Unionized ammonia analysis? N/A [A]	Phenols analysis? N/A [X]	Unfiltered samples? YES
[A] *both surface water sample locations were dry* [X] *Department approval granted on 5/14/14 to end total phenols analyses.*		
Monitoring Plan Implementation Schedule Reporting Requirements		
Revision Date: N/A	Effective Date: 7/16/15	Permit: SO49-0199726-022
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: 2/1/16	
Summary of exceedances & sampling issues? YES		
Groundwater contour maps? YES [a]	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 [N]		
Conclusions and recommendations? YES		
Lab and field EDD files named correctly (89544_201511_swldd.txt & 89544_201511_swfdd.txt)? YES		
Report named correctly (89544_201511_swgwmr.pdf)? YES		
File(s) indicate successful data export? YES		
Report signed and sealed by P.G.? YES	Date signed and sealed: 2/7/16	
Report received within 60 days of completing lab analysis? NO (The last day of laboratory analysis was 12/1/2015. The Department received the report on 2/9/16, which is 10 days past the 1/30/16 due date.)		
[a] *contour map for A-zone wells only* [N] *none of the Chain of Custody forms are signed as received by the laboratory*		
Graphs		

Benzene concentrations in monitoring wells (µg/L)

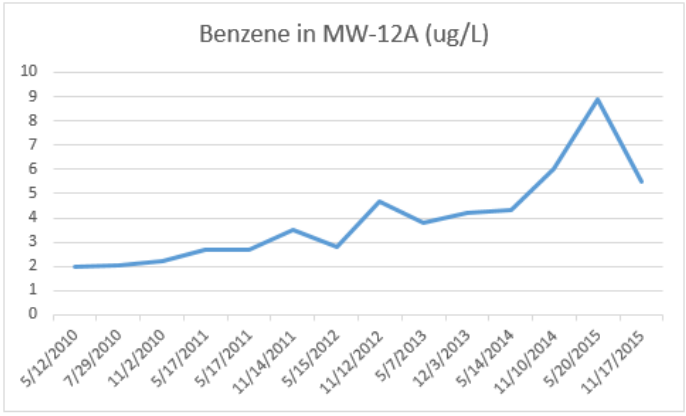
MW-10A	5/12/2010	3.3	ug/L
MW-10A	11/2/2010	2.74	ug/L
MW-10A	11/13/2012	6.5	ug/L
MW-10A	5/7/2013	4.7	ug/L
MW-10A	12/3/2013	5.1	ug/L
MW-10A	5/14/2014	7.7	ug/L
MW-10A	11/11/2014	7.7	ug/L
MW-10A	5/19/2015	7.7	ug/L
MW-10A	11/17/2015	4.4	ug/L



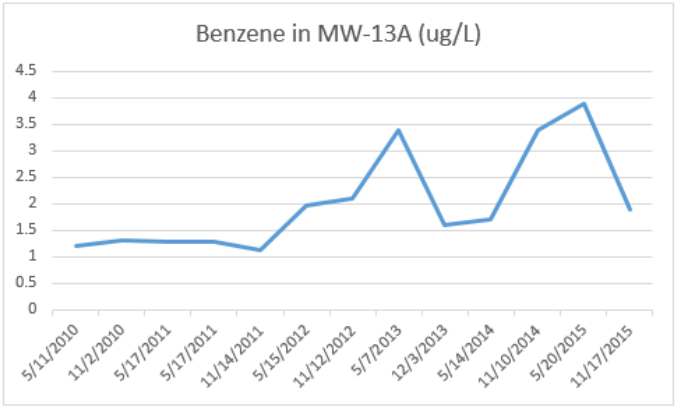
MW-11A	5/12/2010	8	ug/L
MW-11A	11/2/2010	5.65	ug/L
MW-11A	11/14/2011	2.95	ug/L
MW-11A	5/15/2012	3.84	ug/L
MW-11A	11/12/2012	8.6	ug/L
MW-11A	5/7/2013	8.1	ug/L
MW-11A	12/3/2013	5.7	ug/L
MW-11A	5/14/2014	6.3	ug/L
MW-11A	11/11/2014	10	ug/L
MW-11A	5/19/2015	11	ug/L
MW-11A	11/17/2015	6.6	ug/L



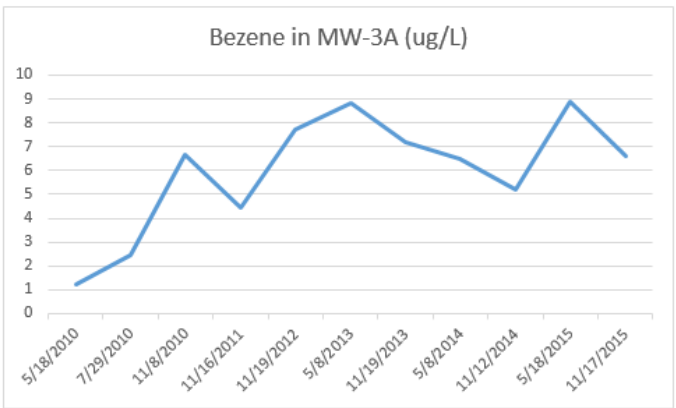
MW-12A	5/12/2010	2	ug/L
MW-12A	7/29/2010	2.03	ug/L
MW-12A	11/2/2010	2.19	ug/L
MW-12A	5/17/2011	2.69	ug/L
MW-12A	5/17/2011	2.69	ug/L
MW-12A	11/14/2011	3.5	ug/L
MW-12A	5/15/2012	2.83	ug/L
MW-12A	11/12/2012	4.7	ug/L
MW-12A	5/7/2013	3.8	ug/L
MW-12A	12/3/2013	4.2	ug/L
MW-12A	5/14/2014	4.3	ug/L
MW-12A	11/10/2014	6	ug/L
MW-12A	5/20/2015	8.9	ug/L
MW-12A	11/17/2015	5.5	ug/L



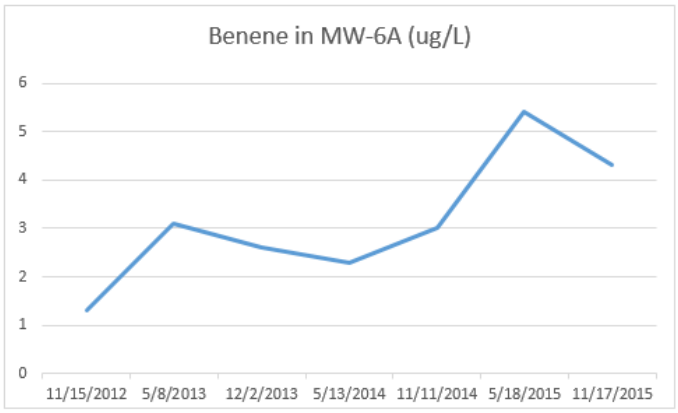
MW-13A	5/11/2010	1.2	ug/L
MW-13A	11/2/2010	1.31	ug/L
MW-13A	5/17/2011	1.28	ug/L
MW-13A	5/17/2011	1.28	ug/L
MW-13A	11/14/2011	1.14	ug/L
MW-13A	5/15/2012	1.98	ug/L
MW-13A	11/12/2012	2.1	ug/L
MW-13A	5/7/2013	3.4	ug/L
MW-13A	12/3/2013	1.6	ug/L
MW-13A	5/14/2014	1.7	ug/L
MW-13A	11/10/2014	3.4	ug/L
MW-13A	5/20/2015	3.9	ug/L
MW-13A	11/17/2015	1.9	ug/L



MW-3A	5/18/2010	1.2	ug/L
MW-3A	7/29/2010	2.43	ug/L
MW-3A	11/8/2010	6.65	ug/L
MW-3A	11/16/2011	4.46	ug/L
MW-3A	11/19/2012	7.7	ug/L
MW-3A	5/8/2013	8.8	ug/L
MW-3A	11/19/2013	7.2	ug/L
MW-3A	5/8/2014	6.5	ug/L
MW-3A	11/12/2014	5.2	ug/L
MW-3A	5/18/2015	8.9	ug/L
MW-3A	11/17/2015	6.6	ug/L



MW-6A	11/15/2012	1.3	ug/L
MW-6A	5/8/2013	3.1	ug/L
MW-6A	12/2/2013	2.6	ug/L
MW-6A	5/13/2014	2.3	ug/L
MW-6A	11/11/2014	3	ug/L
MW-6A	5/18/2015	5.4	ug/L
MW-6A	11/17/2015	4.3	ug/L



MW-9A	5/13/2010	11	ug/L
MW-9A	11/3/2010	11.5	ug/L
MW-9A	11/15/2011	10.3	ug/L
MW-9A	5/16/2012	5.24	ug/L
MW-9A	11/13/2012	1.4	ug/L
MW-9A	5/7/2013	2.3	ug/L
MW-9A	12/2/2013	3.7	ug/L
MW-9A	5/15/2014	6.6	ug/L
MW-9A	11/11/2014	8.5	ug/L
MW-9A	5/19/2015	11	ug/L
MW-9A	11/17/2015	12	ug/L