Rainey, Allen

From: Rainey, Allen
Sent: Thursday, January 28, 2016 9:08 AM
To: Michael Kaiser
Cc: DePradine, Gloria-Jean; Parker, Wanda; Lubozynski, Tom
Subject: FDEP Review of 2nd, 3rd, and 4th Qtr. 2015 Gas Migration Monitoring Report for J.E.D. Solid Waste Management Facility, WACS ID #89544

Mr. Kaiser,

I have reviewed the following reports for J.E.D. Solid Waste Management Facility:

- "Quarterly Monitoring Report, Perimeter Gas Monitoring Probes – 2nd Quarter 2015" dated and submitted 7/16/15
- "Quarterly Monitoring Report, Perimeter Gas Monitoring Probes – 3rd Quarter 2015" dated and submitted 10/14/15
- "Quarterly Monitoring Report, Perimeter Gas Monitoring Probes – 4th Quarter 2015" dated and submitted 1/11/2016

The facility is required by Rule 62-701.530(2)(c), Florida Administrative Code (F.A.C.), to sample quarterly for landfill gas migration and report the results to the Department. The facility's solid waste permit requires submittal of the report no later than 15 days after the end of the period in which the monitoring occurred.

The lower explosive limit (LEL) for methane is 5% by volume of air. Rule 62.701.530, F.A.C., limits combustible gases generated by the facility from exceeding:

- 25% of the LEL in structures (excluding gas control or recovery components), and
- 100% of the LEL at or beyond the property boundary.

The reports give the methane concentrations as a percent of methane by volume of air. On 6/30/15, 9/29/15 and 12/31/15, the facility measured methane concentrations at monitoring locations used to determine offsite landfill gas migration, as well as the temporary probes installed in 2011.

Methane Measurements

2nd Quarter

ambient monitoring points in structures (3): there were no measurable methane concentrations

soil monitoring probes (16): Only GP-21 had a methane concentration that exceeded 100% of the LEL (5% methane by volume); there were no measurable methane concentrations in the rest of the probes

temporary gas probes (13): TGP-5, TGP-8, TGP-12, and TGP-13 had methane concentrations that exceeded 100% of the LEL; there were no measurable methane concentrations in the rest of the temporary probes

3rd Quarter

ambient monitoring points in structures (3): there were no measurable methane concentrations

soil monitoring probes (16): Only GP-9 had a methane concentration that exceeded 100% of the LEL. The rest of the probes had had concentrations of 2% or less of the LEL.

temporary gas probes (13): TGP-5, TGP-7, TGP-8, and TGP-12 had methane concentrations that exceeded 100% of the LEL; there were no measurable methane concentrations in the rest of the temporary probes.

4th Quarter

In July of 2015, your facility installed new probes GP-5, GP-6, GP-23, GP-24, GP-25, GP-26, and GP-27 next to cells 12 – 15 and 20. Those probes are in the vicinity of cell 10, which the Department authorized to begin accepting waste in September 2014. Monitoring results for those probes are first presented in this 4th quarter report.

ambient monitoring points in structures (3): there were no measurable methane concentrations

soil monitoring probes (23): Only GP-21 had a methane concentration that exceeded 100% of the LEL. GP-16, GP-24, and GP-25 had methane concentrations of 2, 26, and 68% of the LEL, respectively. The rest of the probes had had concentrations of 2% or less of the LEL.

temporary gas probes (13): TGP-8 and TGP-12 had methane concentrations that exceeded 100% of the LEL; the rest of the temporary probes had methane concentrations of 2% or less of the LEL.

The charts below depict methane percentages in all gas probes that have had at least one monitoring measurement when the %LEL was greater than 100 (that is, greater than 5% methane by volume). Note that for the routinely monitored soil monitoring probes, the number of occurrences when the %LEL is greater than 100 has decreased. However, for the temporary soil probes, the data is too erratic to indicate whether there is a decreasing trend.

The Department recommends that we schedule a meeting to discuss the status of actions being taken to eliminate the gas migration problem. We are concerned that the temporary gas probe concentrations indicate some landfill gas is escaping from the lined cells. Also, benzene concentrations in groundwater continue to exceed the groundwater quality standards. The following topics are proposed:

1. Have all the promised corrective actions been accomplished (for example, the actions described in your 8/6/2013 letter)? If not, what remains to be done and when will it be accomplished?
2. Which actions have eliminated or reduced landfill gas migration in most of the soil monitoring probes, as indicated by decreasing trend in all but GP-21?
3. What additional actions are proposed to:
    a. Reduce the landfill gas concentration at GP-21?
    b. Reduce the benzene concentration in the water monitoring wells currently indicating an exceedance?
    c. Reduce the landfill gas migration in temporary gas probes?

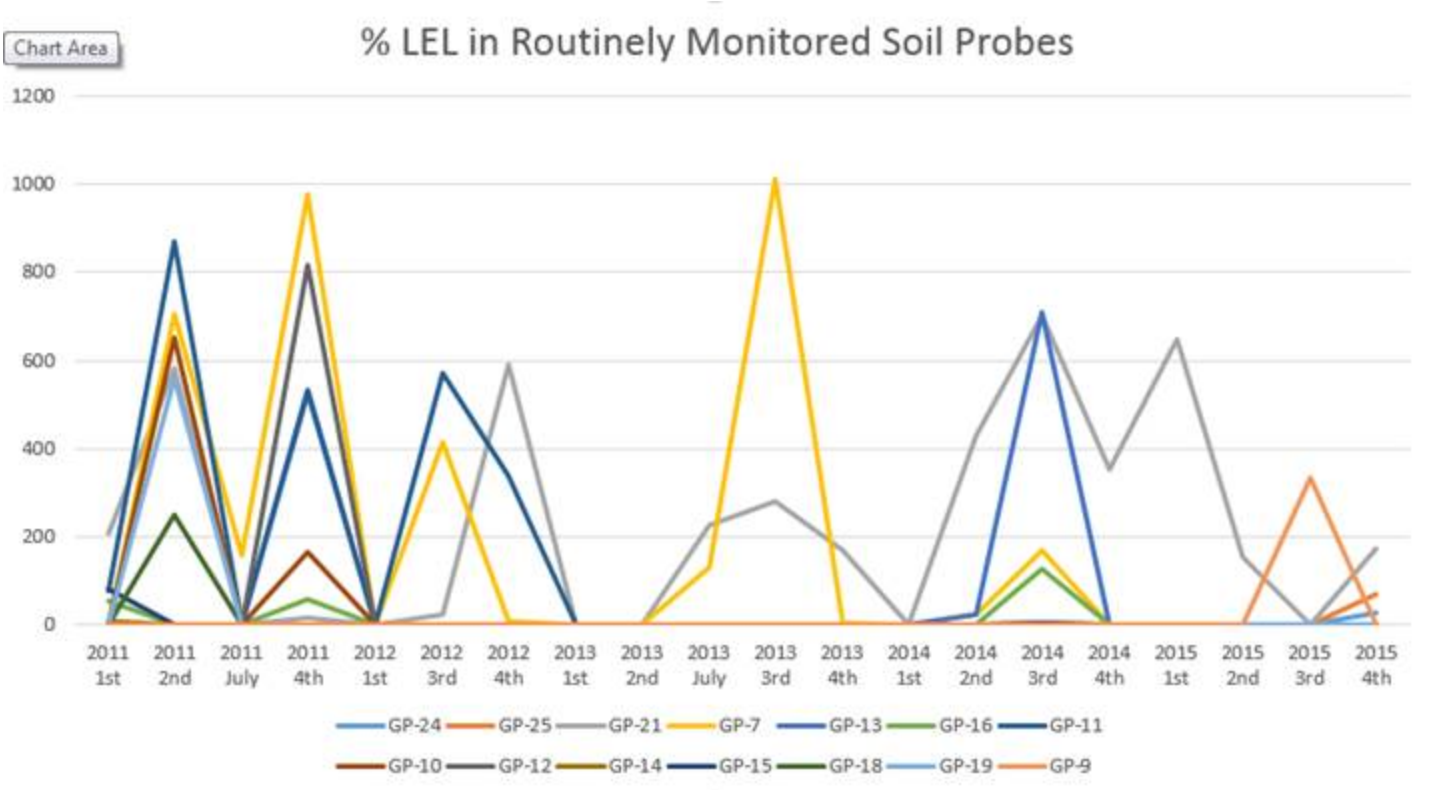
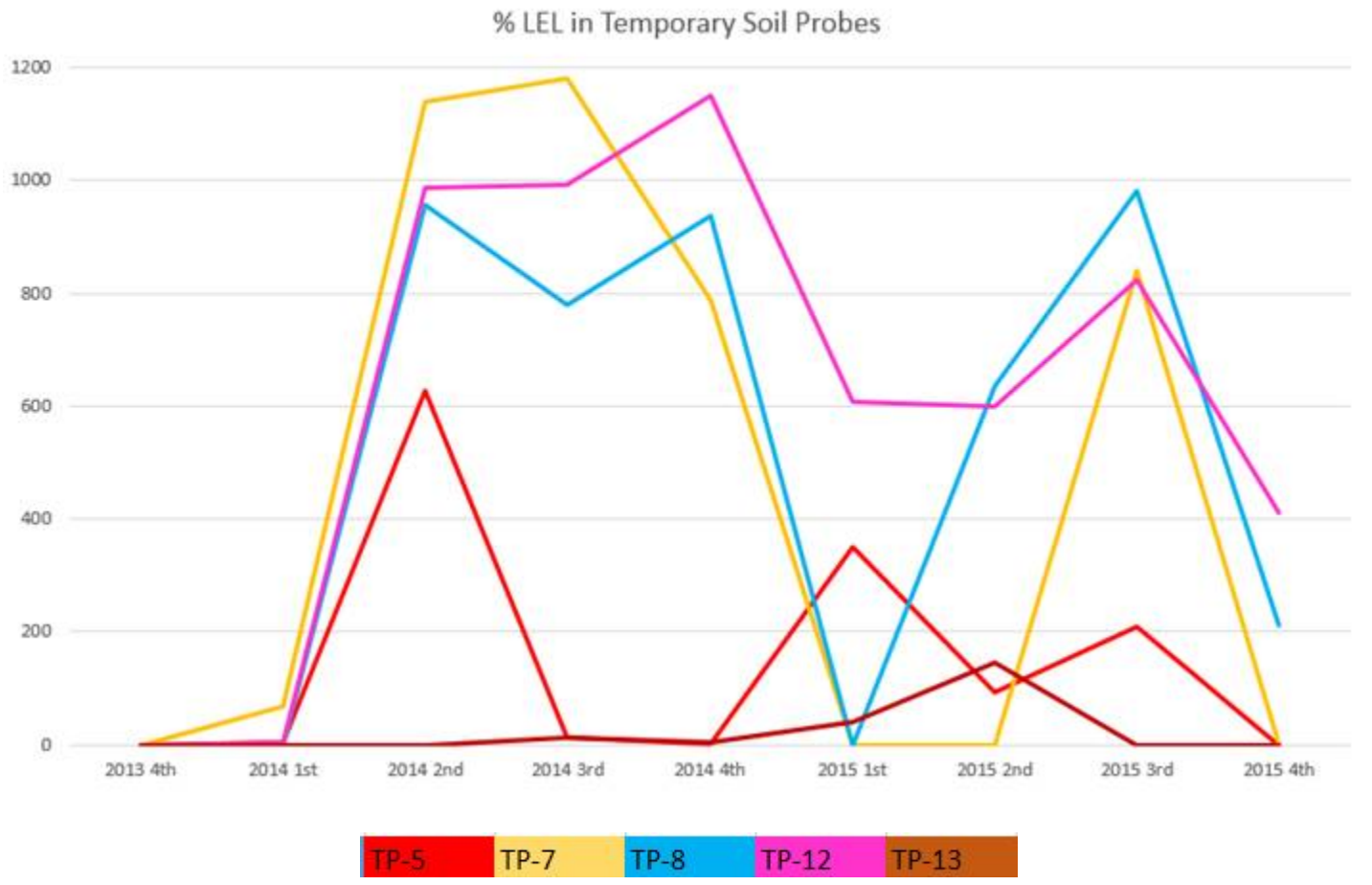
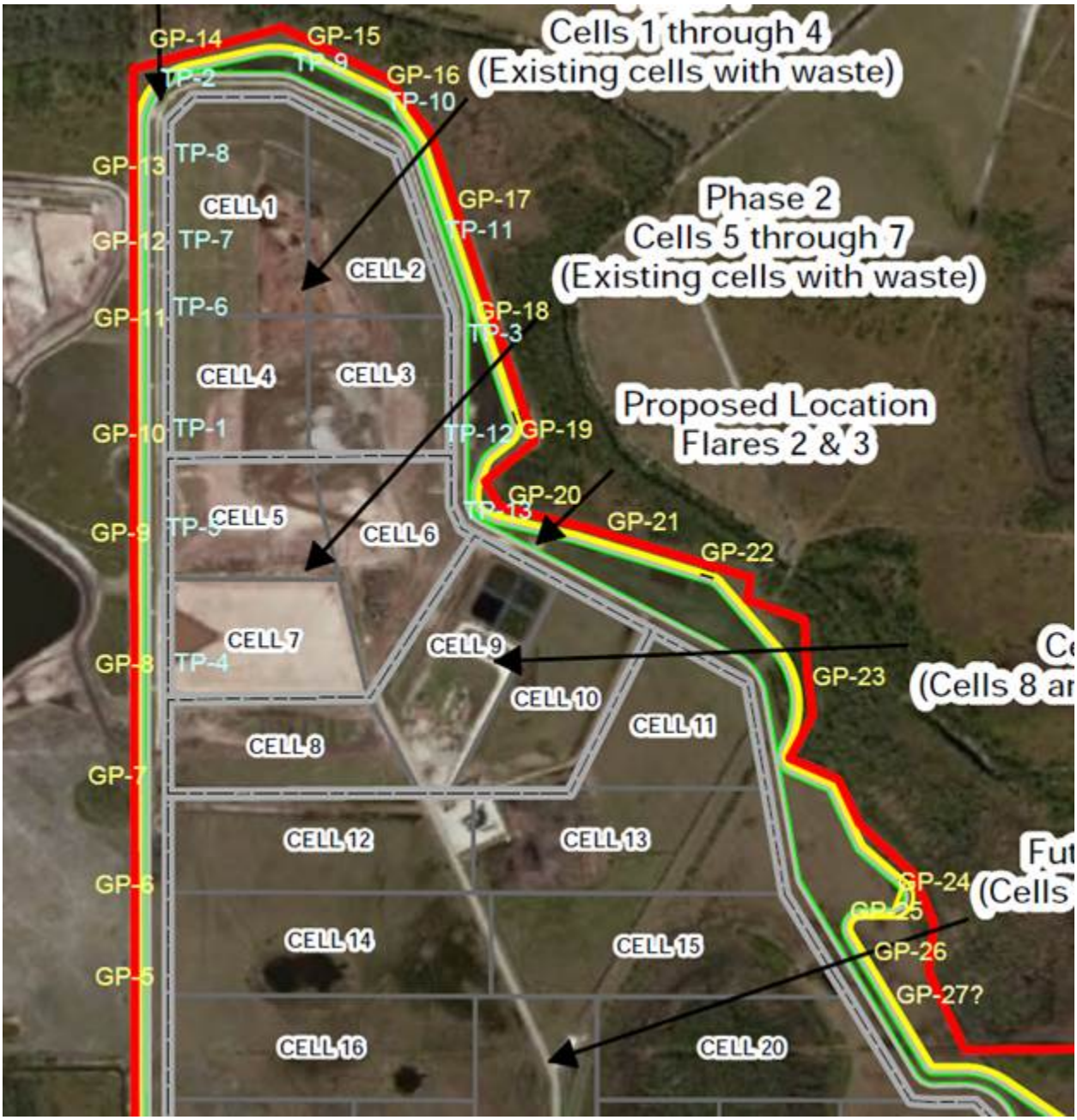


Chart Area
% LEL in Routinely Monitored Soil Probes
1200
1000
800
600
400
200
0
2011 1st
2011 2nd
2011 July
2011 4th
2012 1st
2012 3rd
2012 4th
2013 1st
2013 2nd
2013 July
2013 3rd
2013 4th
2014 1st
2014 2nd
2014 3rd
2014 4th
2015 1st
2015 2nd
2015 3rd
2015 4th
GP-24
GP-25
GP-21
GP-7
GP-13
GP-16
GP-11
GP-10
GP-12
GP-14
GP-15
GP-18
GP-19
GP-9


% LEL in Temporary Soil Probes
1200
1000
800
600
400
200
0
2013 4th
2014 1st
2014 2nd
2014 3rd
2014 4th
2015 1st
2015 2nd
2015 3rd
2015 4th
TP-5
TP-7
TP-8
TP-12
TP-13



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