

MEMORANDUM

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To: Ms. Brenda Ardrey, CGFM
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From: Todd Thalhamer, P.E.

Date: June 15, 2014

RE: Data Package Review for the Month of May and June 2014

As we have discussed, I have reviewed the latest weekly and monthly data packages, June 10, 2014 and May 2014 respectively for the Bridgeton Landfill and will provide some observations on the data. We are again observing some of the highest recorded temperatures in a number of gas extraction wells, gas interceptor wells, and temperature monitoring probes at Bridgeton. Overall the subsurface fire/smoldering event continues to expand in the south quarry and the "neck" is experiencing some of the highest temperatures to date.

While reviewing the temperature data in the neck, one might conclude the subsurface fire/smoldering event is past the last line of gas interceptor wells (GIW-13, GIW-12, GIW-11, GIW-10, GIW-9, GIW-8); however, until additional carbon monoxide sampling is performed in the neck, I am not able to conclusively state the subsurface fire/smoldering event is past the GIW system. The heat front is continuing to progress through the neck around GIW-8/GIW-9/GIW-10, GEW-38, and TMP-12/TMP-13.

Based on a review of the available temperature data, here are my observations and comments to the May 2014 and June 2014 data packages.

Temperature of Concerns

The following temperature data is noted as elevated and is a concern.

Neck Area: GEW-38 / temperatures above 190 °F and GEW-109 / temperatures above 165 °F
GIW-1, -2, -3, -9, -10, -11, -12, -13 / temperatures above 165 °F to 200 °F

North Quarry: GEW-53 and GEW-54 /above NSPS temperature threshold of 131 °F

South Quarry: GEW-15, -16R, -18R, -21A, -34A, -57R, -58, -58A, -65A, -71, -72RR, -77, -81, -86, and -100.
SEW 13, 63, 74 / temperatures above 190 °F

Oxygen Readings

The following systems are all having oxygen intrusion issues over the NSPS threshold of 5%. The goal for these control systems should be to operate at or below 1% oxygen intrusion.

GIW -3, -7, and -8

GEW -10, -11, -14A, -20A, -24A, -27A, -28R, -34A, -35, -36, -61B, -71, -75, -76R, -83, -84, -101, -103, -104, and -116

PEW - 60

SEW -32R, -60R, -62R, and -79R

TMP Concerns

Overall the TMPs are indicating the subsurface fire/smoldering event is continuing to surface. Some of the highest temperatures to date have been recorded in late May of 2014 in the neck, specifically in the areas of TMP-7 to TMP-9 and TMP-12 to TMP-14. The temperatures at these monitoring locations have continued to increase at shallow depths.

1. TMP-7 and 8 are both experiencing significant temperatures of 220 °F at the 40 ft level below ground surface.
2. TMP-9 is experiencing record temperatures of 200 °F at the 20 ft elevation. This area needs additional oversight and monitoring by DNR staff.
3. TMP-12 is experiencing a new record temperature above 190 °F at 35 ft. This area needs additional oversight and monitoring by DNR staff.
4. I am most concerned with TMP-13 and the temperatures above 200 °F at 9 ft. The area around TMP-13 has the highest possible chance of a subsurface fire/smoldering event daylighting under the flexible membrane cap. This area needs additional oversight and monitoring by DNR staff.
5. Temperatures at TMP-14 have also increased at 21 feet below ground surface to 176 °F.