Commonwealth of Virginia

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Semi-Monthly Daily LFG Well Temperature Update

1 message

Dick, Bob <BDick@scsengineers.com> Sat, Dec 31, 2022 at 12:32 PM
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Ms. Hall and Ms. Blalock,

In accordance with EPA's letter, "Approval of Higher Operating Temperature Values of Landfill Gas Wells and Submission of Gas Treatment Alternatives at the Bristol Virginia Integrated Solid Waste Facility" from August 2021, SCS is providing the December 15th, 2022 status update on the existing wells, expansion of the gas collection system, and continuing operating and monitoring results, covering the period from December 1-15, 2022.

Thanks, Bob D.

Robert E. Dick, PE, BCEE

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MEMORANDUM

TO: Kristin Hall, EPA Region III
Crystal Bayzk, VDEQ-SWRO

FROM: D. Brandon King, SCS Engineers
Robert E. Dick, SCS Engineers

SUBJECT: Semi-Monthly Status Update – December 1st through December 15th, 2022
Bristol Integrated Waste Management Facility, Bristol, Virginia

In accordance with the Environmental Protection Agency (EPA) Region III letter, *Approval of Higher Operating Temperature Values for Landfill Gas Wells and Submission of Gas Treatment Alternatives at the Bristol Virginia Integrated Solid Waste Management Facility*, dated 8/23/21, SCS is submitting this semi-monthly status update to satisfy the condition of compliance provision #2. This compliance provision report includes daily temperature readings of the existing and new wells installed. In addition, this report includes a summary of work accomplished during this reporting period of 12/1/22 through 12/15/22, pursuant of compliance provision #2.

DAILY TEMPERATURE READINGS

Twenty-five (25) individual landfill gas (LFG) wellheads in the Permit #588 Landfill have automated temperature sensors installed. Beginning on 12/1/22, VDEQ and USEPA are receiving Daily Landfill Gas Well Temperature Averages Reports presenting the data measured by the automated temperature sensors.

The LFG wellhead automated temperature sensor system is still undergoing commissioning and SCS staff is still conducting verification testing and making minor field modifications to this system. Some values reported may differ from recordings made by other field instrumentation. SCS may elect to report values gathered from other data sources (GEM, field thermometer) for regulatory purposes until commissioning is complete.

SCS has reviewed and analyzed the wellhead temperature data being recorded by the automated sensors and prepared a memorandum for submittal to VDEQ addressing the time period of 12/5/22 through 12/11/22. Analyses of the data from subsequent periods will be submitted in the future.

LFG ANALYTICAL DATA REVIEW

The City and SCS are still awaiting the EPA's evaluation of the Higher Operating Value for Temperature Request letter submitted to EPA on 3/8/22. According to LFG monthly wellfield data recorded during December 2022, exceedance temperatures continue in HOV requested well GW-37. In addition, LFG wells GW-51, GW-54, and GW-67 recorded temperatures above 145F on 12/8/22 during the December wellfield monitoring event by SCS. Wells GW-51 and GW-54 recorded temperatures less than 145F during the 12/14/22 and 12/9/22 retest respectively by SCS. Well GW-67 recorded temperatures greater than 145F during retest monitoring. SCS conducted CO sampling at well GW-67, but has not received the laboratory analytical results to-date.

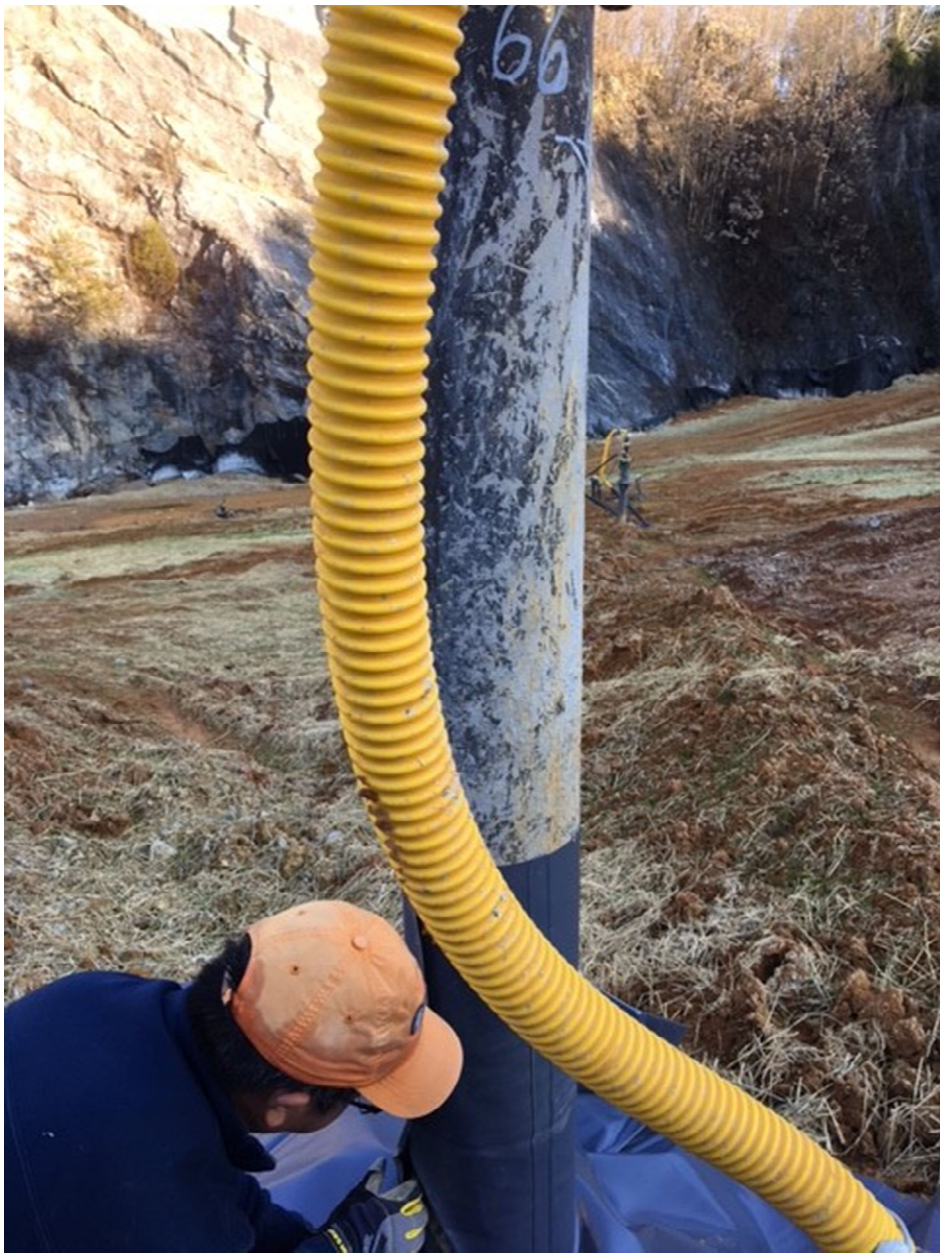
NON-ROUTINE O&M

On 12/5/22, the City's O&M contractor cleaned, tested and replaced five dewatering pumps in LFG wells GW-51, GW-55, GW-68, and GW-62 and GW-63. On 12/6/22, the contractor pulled, cleaned, and reinserted pumps in wells GW-52, GW-53, and GW-54.

The O&M contractor strategically placed well bore skirts around select wells, while the pump and wellhead were removed. In addition, the contractor placed two bags of hydrated bentonite around the surface penetration of the select well casings prior to installation of the well bore skirts. The completed well bore skirt involved excavating a 10'x10' area around the well casing to create a flat area, unfolding the well bore skirt to cover this area with the neck of the skirt around the well casing, and covering the 10'x10' well bore skirt with approximately one foot of cover soil that overlaps the edges of the skirt. The soil was compacted with excavator bucket and the neck of the skirt was secured to the well casing using a banding clamp. See photos for reference.

Connelly completed the drilling activities of temperature probes TP-1 through TP-9. Connelly also completed the bollard installation at the end of this reporting period. SCS anticipates the digital temperature cable and remote monitoring control equipment to be installed during the second half of December.

SCS is continuing work monitoring, balancing, and tuning the south end leachate cleanouts.



View of carbon steel well GW-66 well bore skirt leister.

View of 12” 10’x10’ well bore skirt placement prior to cover soil backfill.

View of completed well bore skirt with banding clamp and approximately one foot cover soil.

EVALUATION OF LFG SYSTEM

The City has four pumps cleaned and tested by their O&M contractor at the ready for switching out the week of 12/19/22. In addition, five pumps were sent to Pump One for replacement part repair and testing. Pumps were pulled from wells GW-56 and GW-63, but the pumps couldn't be reinserted. SCS identified well GW-53 to be a dry well and therefore the pump was removed and serve as a spare. Some of the pumps pulled were deemed non-repairable upon inspection by the City's O&M contractor.

SCS is continuing weekly surface emissions monitoring per the Plan of Action Report dated 7/6/22. The City has placed intermediate cover throughout the Permit No. 588 Landfill based on soil boring testing results, including soil cover over the LFG, airline, and forcemain piping. Subsequent to the installation of the foam seals to nine select LFG wells exhibiting methane exceedances at pipe penetrations during weekly SEM events, SCS monitoring data has shown these locations continue to exhibit methane concentrations greater than 500 ppm. The City has procured well bore skirts per SCS recommendation for installation around the wells as an alternative to reduce LFG emissions around pipe penetrations. SCS and the City's O&M contractor have installed ten well bore skirts to-date. Additional well bore skirts are scheduled for installation during the second half of December.

SCS Engineers will continue to balance and tune the LFG wellheads on the south leachate cleanouts in December, as well as other LFG System wells. SCS has already noticed improvements in LFG quality at the blower/flare station as a result of the south cleanout improvements. Furthermore, SCS is assessing additional LFG components for future installation in the Permit #588 Landfill at this time.

Please contact SCS or City personnel if you have any questions or require additional information.

cc: Randall Eads, City of Bristol
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