Commonwealth of Virginia

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FW: Semi-Monthly Daily LFG Well Temperature Update 10-15-22

1 message

Crystal Bazyk <crystal.bazyk@deq.virginia.gov> Tue, Oct 18, 2022 at 7:07 AM
To: Susan Blalock <susan.blalock@deq.virginia.gov>, Angela Sells <angela.p.sells@deq.virginia.gov>

From: King, Brandon <BKing@scsengineers.com>
Sent: Monday, October 17, 2022 5:23 PM
To: crystal.bazyk@deq.virginia.gov; hall.kristen@epa.gov; jeff.hurst@deq.virginia.gov; willard.erinm@epa.gov; stacy.bowers@deq.virginia.gov; David Cochran <dcochran@bristolva.org>; Randall Eads <CityManager@bristolva.org>; Joey Lamie <Joey.Lamie@bristolva.org>; Jake Chandler <jacob.chandler@bristolva.org>; 'mmartin@bristolva.org' (mmartin@bristolva.org) <mmartin@bristolva.org>
Cc: Nachman, Lucas <LNachman@scsengineers.com>; Mahon, Ryan <RMahon@scsengineers.com>; Warren, Charles <CWarren@scsengineers.com>; Dick, Bob <BDick@scsengineers.com>; Lock, Tom <TLock@scsengineers.com>
Subject: Semi-Monthly Daily LFG Well Temperature Update 10-15-22

Ms. Hall and Ms. Bazyk,

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, I am providing the October 15, 2022 status report on the existing wells, expansion of the gas collection system, and continuing operating and monitoring results, covering the period from October 1-15, 2022.

Thank you,

D. Brandon King

SCS Engineers

Project Manager

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Bimonthly Daily LFG Well Temperature Update_10-17-22_FINAL.pdf
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October 17, 2022
File No. 02218208.04

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 – October 1st through October 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 10/1/22 through 10/15/22, pursuant of compliance provision #2.

DAILY TEMPERATURE READINGS

The City recorded daily temperature readings throughout the first half of October and displayed on the attached table. Existing wells GW-37 and GW-46 began this reporting period with temperatures greater than 145F. However, wells GW-37 and GW-46 recorded temperatures below 145F by the end of the reporting period according to the City's data. New well GW-54 recorded temperatures below 145F throughout this reporting period, subsequent to being greater than 145F the previous reporting period. New well GW-67 recorded temperatures greater than 145F during the first half of October and remained greater than 145F at the end of this reporting period according to the City's data. New well GW-57 recorded temperatures below 145F until the last day of this reporting period according to the City's data. SCS conducted the October monthly wellfield monitoring on 10/12/22.

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 SCS October 2022 LFG monthly wellfield data, exceedance temperatures continue in HOV requested wells GW-31R and GW-37. In addition, LFG wells GW-57 and GW-67 recorded a temperature above 145F on 10/12/22. Well GW-54 temperature was less than 145F according to SCS data.

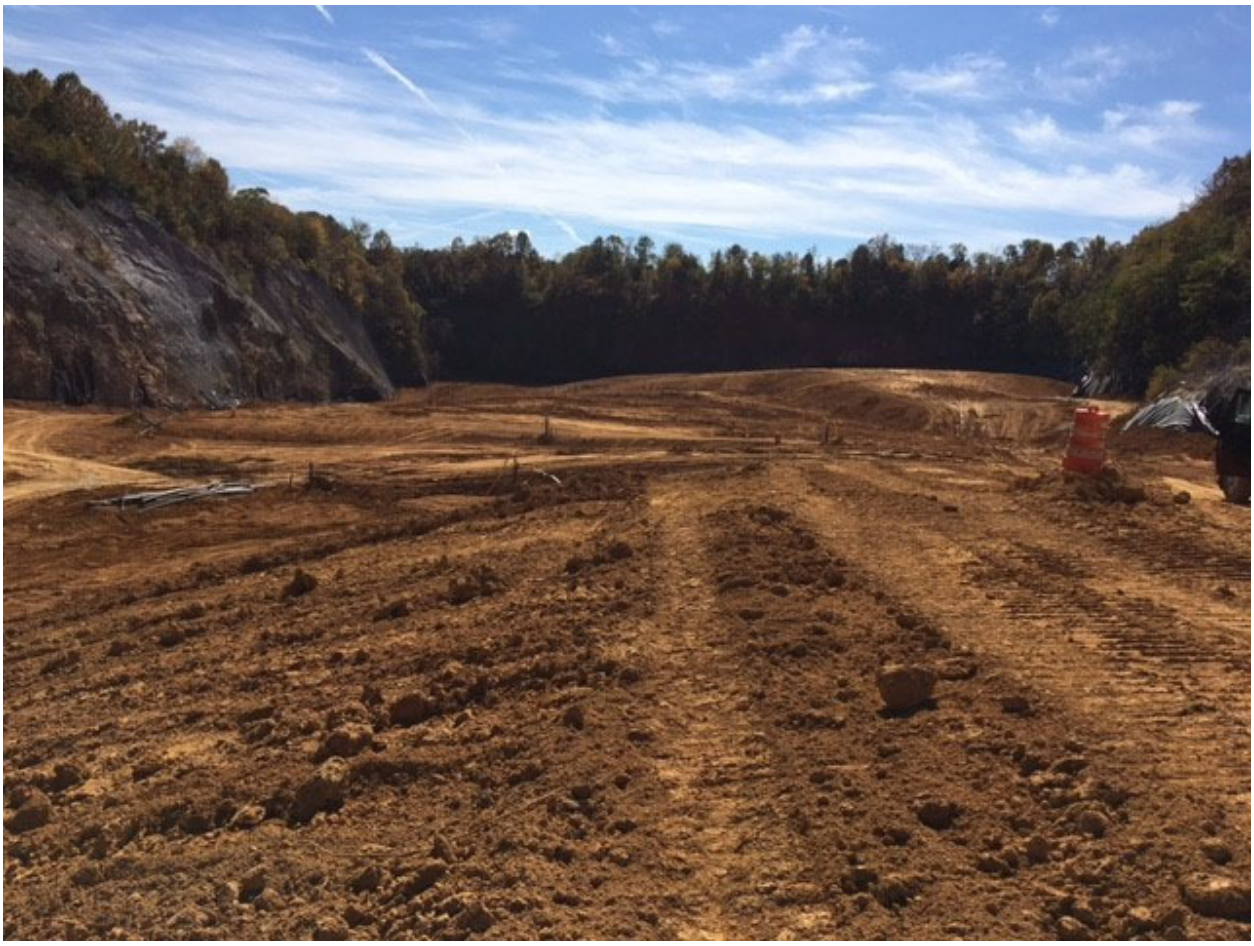
Wells GW-31R and GW-37 recorded temperatures of 168F and 152F respectively by SCS during initial monthly wellfield activities on 10/12/22. Wells GW-54 and GW-67 recorded temperatures of 184F and 155F respectively on 10/12/22 by SCS. SCS collected CO samples via 1.5L Summa Canister at wells GW-31R and GW-67 on 10/12/22. LFG well GW-57 could not be sampled due to liquid being pulled into the sampling train that could damage the canister and/or yield inaccurate results. SCS scheduled wells GW-37 and GW-57 for CO sampling during the week of 10/17/22. Those results will be available during the second half of October.

NON-ROUTINE O&M

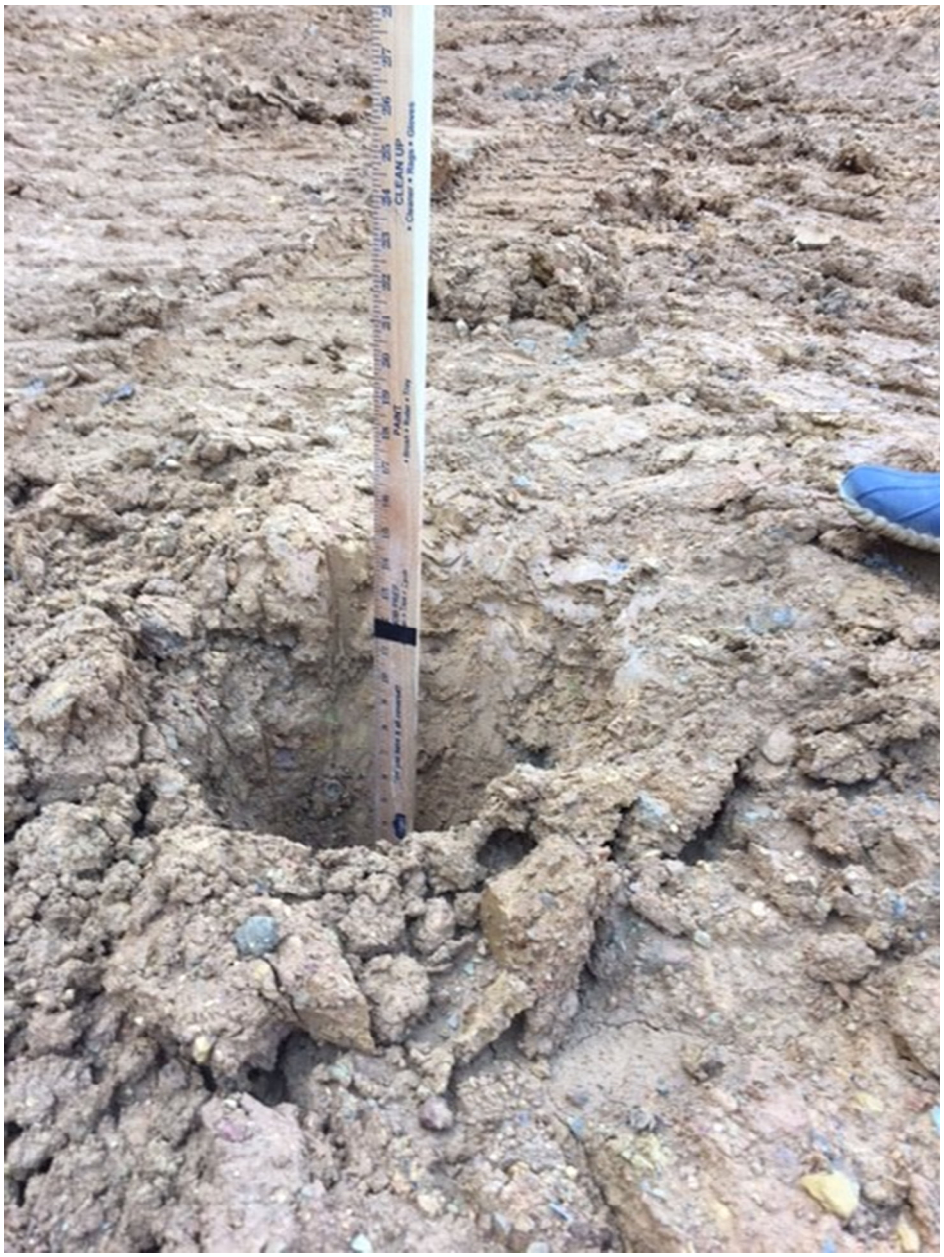
City personnel have been hauling cover soil into Permit #588 Landfill and spreading over exposed areas of waste during the first half of October, weather permitting. As you recall, the City of Bristol ceased acceptance of solid waste at the ISWMF on 9/9/22. The City's Street Department allocated several dump trucks to stockpile soil at a staging area at the north end of the Permit #588 Landfill. The City dispersed and compacted the soil throughout the Permit No. 588 Landfill, including the former active filling area. The City continues to work diligently to provide adequate comprehensive soil cover over the landfill surface of the Permit #588 Landfill. On 10/11/22, soil boring testing performed by Golder and Associates and observed by SCS, demonstrated minimum daily soil cover of 12-inches at each soil boring location in the Permit No. 588 Landfill. See photo for reference.

In addition, the City has commenced soil placement activities in the Permit No. 498 Landfill during the week of 10/10/22. The Permit No. 498 Landfill had previously been subject to intermittent reclamation mining activities prior to the closing of the Permit No. 588 Landfill. Additionally, SCS replaced a damaged 6-inch butterfly isolation valve that was seized shut, which obstructed applied vacuum to the Permit No. 498 Landfill. SCS is currently investigating the possibility of the 6-inch LFG header to the Permit No. 498 Landfill being blocked with liquid or damaged between the access road and well GW-19. This investigation and repair effort is ongoing.

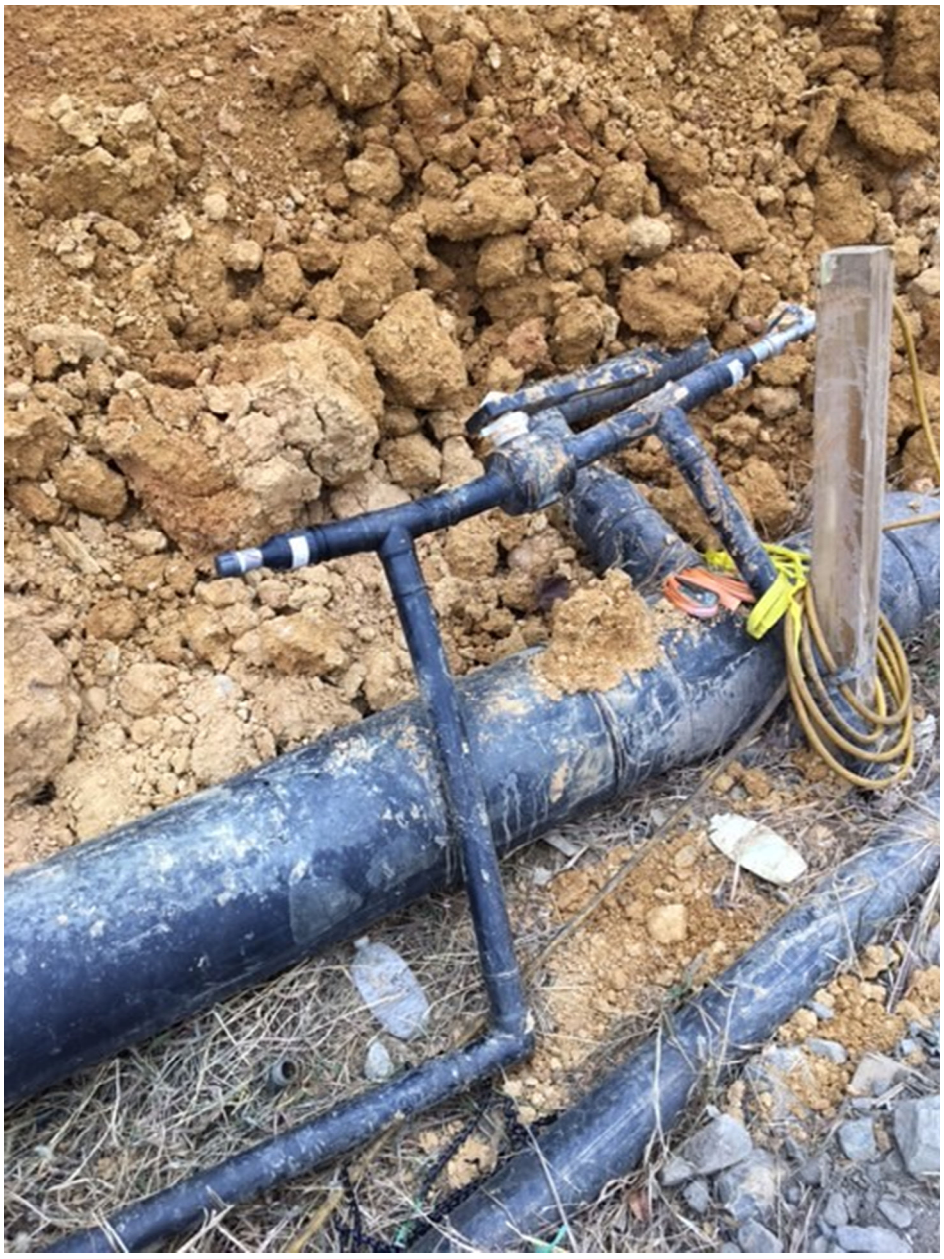
The City identified several damaged areas of the dewatering system between 10/6/22 and 10/9/22 during soil placement activities in the Permit No. 588 Landfill. SCS repaired two damaged sections of the 2-inch airline and one damaged section of 4-inch dewatering forcemain on 10/12/22 and restored air pressure on the dewatering system. See the photos below for reference.



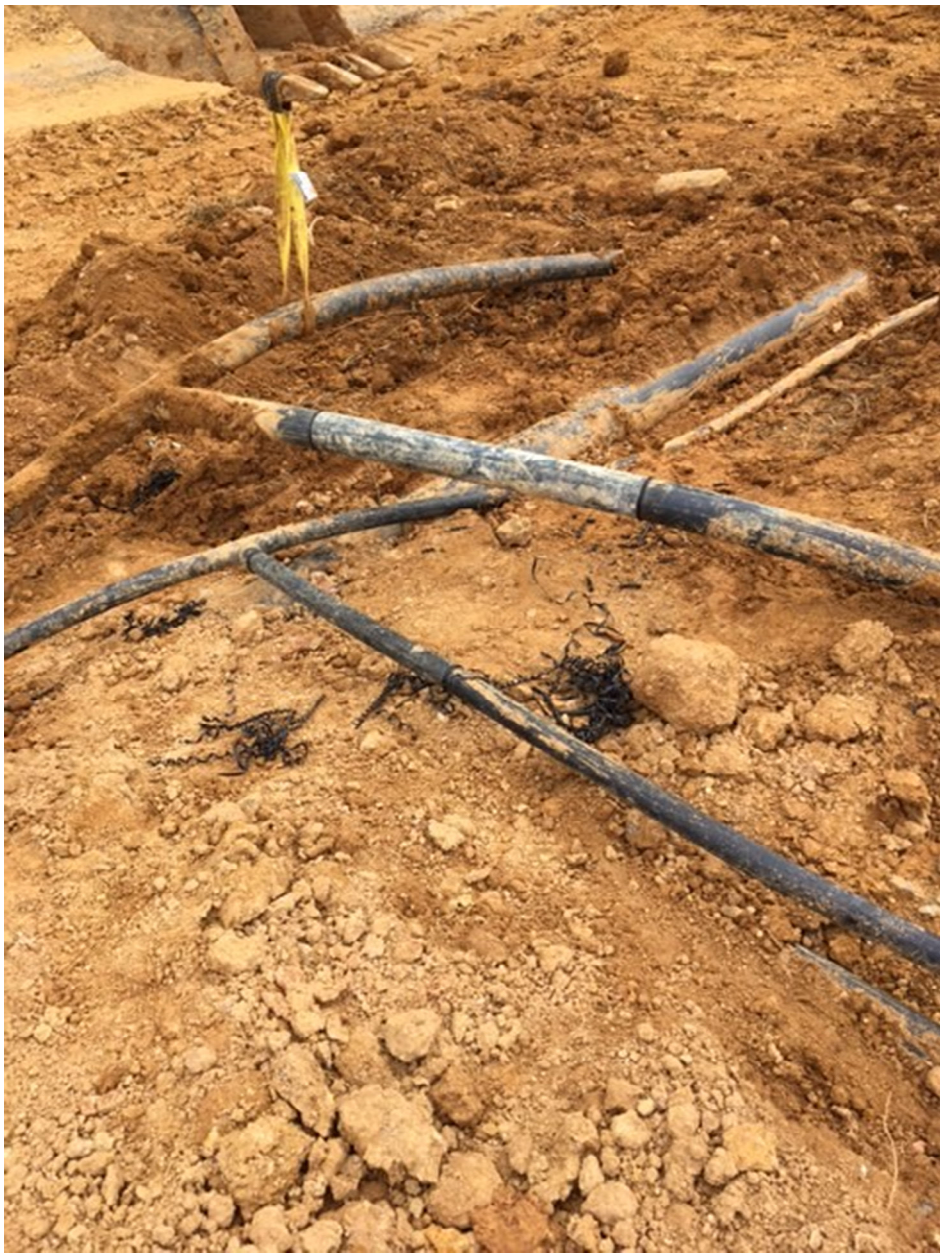
View of Permit No. 588 cover conditions on 10-11-22. Camera facing south.



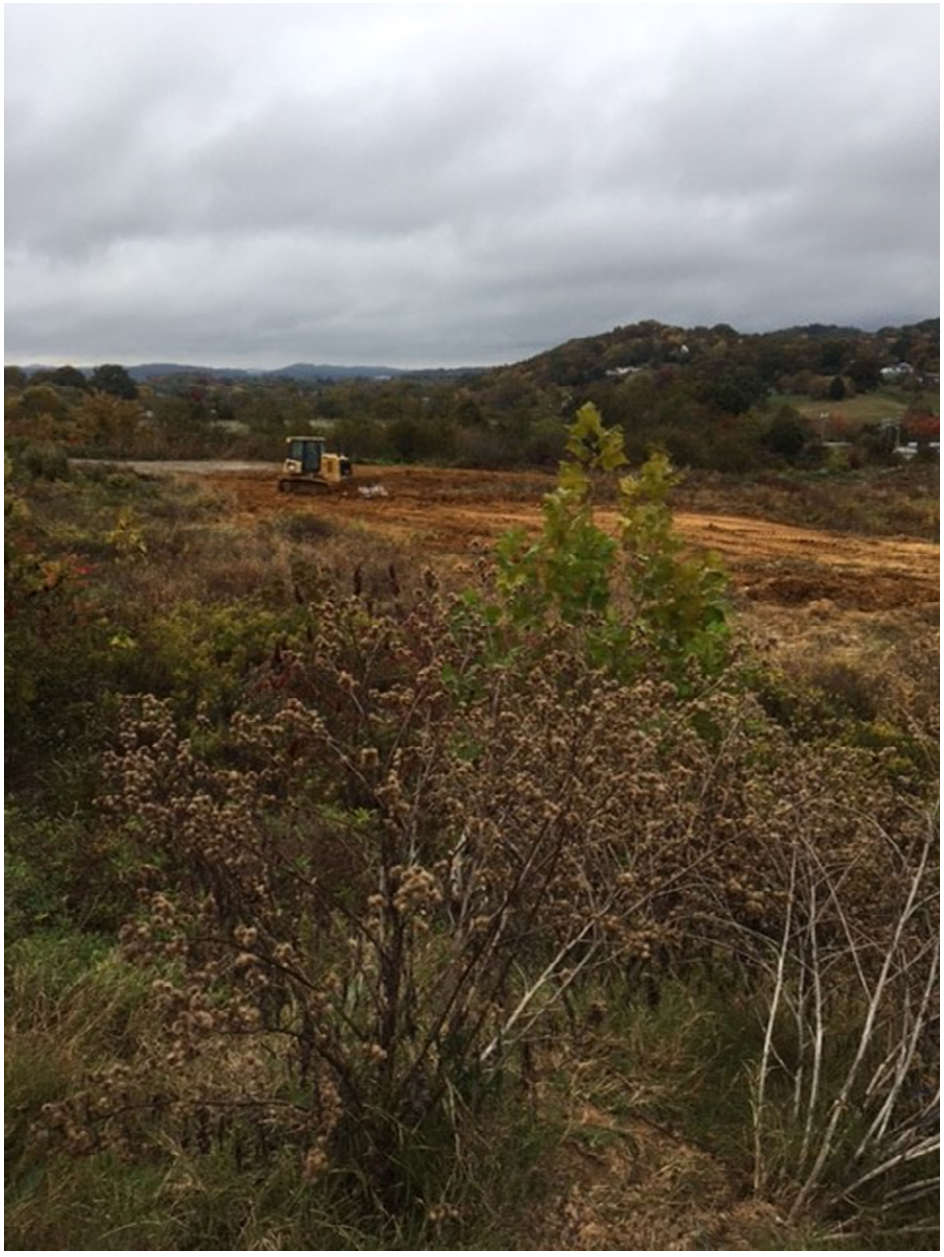
Soil Boring testing on the south end of Permit No. 588 by Golder and Associates on 10-11-22.



Airline repair to damaged bleed off valve south of condensate sump CPS-1.



Repair to damaged airline and dewatering forcemain down slope of well GW-64.



City personnel applying soil cover to the Permit #498 Landfill.

EVALUATION OF LFG SYSTEM

The City is equipped with several functional dedicated pneumatic dewatering pumps available on standby to be switched out in the event a well has a non-functioning pump. The City has set up a dedicated pump cleaning and testing station allowing SCS-FS O&M access to the City's wash bay. This includes an air compressor from a service truck and a water barrel to test the pneumatic pumps to satisfy this need from O&M. SCS-FS O&M will continue to use this testing and cleaning station to clean select pumps based on cycle counter data. SCS has communicated the need for pump maintenance, cleaning, and testing of select LFG well pumps to SCS-FS, which schedule is pending

the results of benzene testing in the wells and ambient benzene in the Permit No. 588 Landfill laboratory results. The results will determine the level of PPE for workers to wear when removing dewatering pumps from wells.

SCS is continuing weekly surface emissions monitoring per the Plan of Action Report dated 7/6/22. The City has provided daily cover throughout the Permit No. 588 Landfill based on soil boring testing results, including soil cover over the LFG, airline, and forcemain piping. This resulted in a couple damaged areas of the dewatering system piping, which were repaired on 10/12/22. Subsequent to the installation of the foam seals to nine select LFG wells for pipe penetrations monitored greater than 500 ppm during weekly SEM events, SCS monitoring data has shown continuing locations greater than 500 ppm. SCS and the City are looking into well bore skirts around the wells as an alternative to reduce LFG emissions around pipe penetrations.

SCS conducted the initial monthly LFG wellfield monitoring on 10/12/22 and recorded the pump stroke counter data. SCS updated the pump stroke counter analysis table. SCS provided O&M a list of wells to perform maintenance, cleaning, and testing activities at the City's dedicated pump servicing station. SCS removed one of the pumps in the poly leachate collection tank (LCT-1) to replace a pump in condensate sump CPS-2. SCS recommends a second pump to be installed in LCT-1 to enhance the City's dewatering efforts.

SCS Engineers understands the south end leachate cleanouts are connected to the existing LFG System from a pilot-scale collection system SCS installed on behalf of Ingenco in 2020. SCS completed the design phase of the leachate cleanout modifications on 10/14/22. SCS will prepare a materials list to complete the cleanout modifications and coordinate with SCS O&M to schedule installation. 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
Michael Maine, City of Bristol
Jeff Hurst, VDEQ-SWRO
Tom Lock, SCS Field Services
David Cochran, City of Bristol
Erin Willard, EPA Region III
Stacy Bowers, VDEQ-SWRO
Robert E. Dick, P.E., SCS Engineers

Note	Well Depth	Date Drill	Phase	Month	October	October	October	October	October	October	October	October	October	October	October	October	October	October
				Day	Saturday	Sunday	Monday	Tuesday	Vednesda	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Vednesda	Thursday	Friday	Saturday
				Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
				Well Number															
1	102	10/16/2016	Old Well	**35**	60	64	72	75	77	82	80	88	82	86	90	92	90	95	90
2	70	9/6/2017	Old Well	**39**	100	93	95	92	99	98	95	98	96	105	100	106	101	105	100
3	100	9/7/2017	Old Well	**40**	90	94	81	84	79	80	80	89	84	108	101	103	106	110	105
4	110	10/4/2016	Old Well	**46**	155	152	142	140	138	142	142	140	142	150	142	138	140	132	140
5	120	10/4/2016	Old Well	**47**	131	130	136	132	141	35	136	133	134	132	130	130	130	132	120
6	120	9/17/2013	Old Well	**29**	78	80	99	100	102	105	102	101	105	105	110	109	111	113	110
7	100	8/23/2017	Old Well	**30R**	134	138	131	128	128	130	130	129	131	130	125	130	132	134	130
8	120	8/30/2017	Old Well	**31R**	129	132	139	132	135	133	130	132	132	134	120	122	130	126	120
9	70	7/29/2016	Old Well	**32**	77	77	71	72	72	75	73	76	78	70	72	76	78	80	75
10	100	7/28/2016	Old Well	**33**	124	128	122	118	116	111	113	111	114	120	120	119	118	120	118
11	100	7/30/2016	Old Well	**34**	120	122	126	125	125	122	126	119	122	124	126	120	122	125	122
12	100	8/1/2016	Old Well	**36**	68	66	62	65	68	70	72	74	72	82	90	81	82	80	82
13	100	8/24/2017	Old Well	**37**	149	152	148	145	145	140	141	140	140	140	140	140	142	140	142
14	50	8/25/2017	Old Well	**38**	111	111	114	115	118	114	112	115	115	110	111	114	110	116	109
15	75	9/8/2017	Old Well	**41**	142	144	134	130	130	128	130	132	134	139	132	130	134	130	124
16	57	9/8/2017	Old Well	**42**	109	111	111	110	112	111	114	111	111	110	111	110	106	100	106
17	110	10/7/2016	Old Well	**48**	72	88	78	78	84	80	82	80	85	79	80	88	82	90	80
1	120	10/1/2021	New Well	**32R**	Has Senso	Has Senso	Has Senso	130	132	134	130	133	130	130	139	132	132	135	130
2	110	10/1/2021	New Well	**49**	136	136	132	134	134	130	128	130	128	136	138	140	140	144	140
3	96	10/1/2021	New Well	**50**	129	126	120	119	122	120	120	122	120	122	124	122	126	120	130
4	114	10/1/2021	New Well	**51**	132	134	133	128	127	125	125	125	122	140	142	144	140	132	140
5	109	10/1/2021	New Well	**52**	99	98	99	100	102	103	104	105	106	104	105	100	102	106	100
6	91	10/1/2021	New Well	**53**	120	120	125	122	122	109	122	120	120	125	127	125	125	128	125
7	91	10/1/2021	New Well	**54**	140	140	144	140	140	135	132	130	133	140	140	144	144	146	140
8	104	10/1/2021	New Well	**55**	99	99	97	99	95	100	95	96	98	90	100	102	98	106	100
9	109	10/1/2021	New Well	**56**	128	126	722	122	120	115	115	118	114	119	129	128	128	122	120
10	103	10/1/2021	New Well	**57**	130	132	133	130	130	124	125	130	131	140	144	142	144	140	145
11	92	10/1/2021	New Well	**58**	66	66	69	66	68	70	72	76	71	72	75	75	72	76	70
12	72	10/1/2021	New Well	**59**	112	113	114	110	112	111	115	114	113	122	119	118	119	123	125
13	120	10/1/2021	New Well	**60**	115	110	119	115	116	110	115	116	112	126	125	122	128	126	125
14	105	10/1/2021	New Well	**61**	90	92	101	110	105	115	115	109	112	102	101	102	100	102	100
15	120	10/1/2021	New Well	**62**	110	110	117	112	112	110	112	114	114	102	100	98	100	119	100
16	117	10/1/2021	New Well	**63**	119	116	125	120	122	118	120	120	122	129	129	128	126	128	125
17	120	10/1/2021	New Well	**64**	122	122	122	119	115	122	125	125	124	120	120	125	121	126	119
18	100	10/1/2021	New Well	**65**	126	125	121	116	118	120	122	121	120	125	125	125	122	128	125
19	102	10/1/2021	New Well	**66**	119	116	122	119	118	115	115	116	115	120	122	119	116	120	115
20	100	10/1/2021	New Well	**67**	142	148	150	145	145	140	142	140	143	158	150	149	150	143	150
21	75	10/1/2021	New Well	**68**	Has Senso	Has Senso	Has Senso	132	135	134	130	132	133	132	134	132	132	135	125