Commonwealth of Virginia

Blalock, Susan <susan.blalock@deq.virginia.gov>

FW: Semi-Monthly Daily LFG Well Temperature Update 9-15-22

1 message

Crystal Bazyk <crystal.bazyk@deq.virginia.gov> Mon, Sep 19, 2022 at 8:14 AM
To: Angela Sells <angela.p.sells@deq.virginia.gov>
Cc: "Blalock, Susan" <susan.blalock@deq.virginia.gov>

From: King, Brandon <BKing@scsengineers.com>
Sent: Thursday, September 15, 2022 4:49 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>; 'mmartin@bristolva.org' (mmartin@bristolva.org) <mmartin@bristolva.org>; Joey Lamie <Joey.Lamie@bristolva.org>; Jake Chandler <jacob.chandler@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 9-15-22

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

Thank you,

D. Brandon King

SCS Engineers

Project Manager

15521 Midlothian Turnpike, Suite 305

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Bimonthly Daily LFG Well Temperature Update_9-15-22_FINAL.pdf
8265K

September 15, 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 – September 1st through September 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 9/1/22 through 9/15/22, pursuant of compliance provision #2.

DAILY TEMPERATURE READINGS

The City recorded daily temperature readings throughout the first half of September and displayed on the attached table. Existing wells GW-31R, GW-37, and GW-47 began this reporting period with temperatures greater than 145F throughout the majority of this reporting period. However, wells GW-31R and GW-47 recorded temperatures below 145F by the end of the reporting period according to the City's data. Existing well GW-46 continued to exhibit temperatures below 145F during this reporting period. New well GW-54 recorded temperatures above 145F throughout this reporting period. New wells GW-49, GW-50, GW-51, and GW-57 recorded temperatures greater than 145F at times, but were less than 145F by the end of the reporting period according to the City's data. In addition, new wells GW-56, GW-64, and GW-67 recorded temperatures below 145F during the majority of this reporting period, yet recorded temperatures greater than 145F at the end of this reporting period. All other LFG wells recorded temperatures below 145F during the first half of September. SCS conducted the September monthly wellfield monitoring on 9/1/22. Subsequently, SCS performed LFG retest monitoring on 9/8/22 at select LFG wellheads.

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 September 2022 LFG monthly wellfield data, exceedance temperatures continue in HOV requested wells GW-31R and GW-37, as well as GW-54. LFG wells GW-51 and GW-67 recorded a temperature above 145F on 9/1/22, but below 145F during the 15-day retest conducted on 9/8/22.

Wells GW-31R and GW-37 recorded temperatures of 159F and 155F respectively by SCS during initial monthly wellfield activities on 9/1/22. Well GW-54 recorded a temperature of 153F on 9/1/22 and 151F on 9/8/22 by SCS. SCS collected CO samples via 1.5L Summa Canister at wells

GW-31R, GW-37, and GW-54 on 8/24/22. SCS collected CO samples via 1.5L Summa Canister at wells GW-31R, GW-37, GW-51, GW-54, and GW-67 on 9/1/22. Well GW-31R recorded a CO concentration of 187 parts per million (ppm) on 8/24/22 and 240 ppm on 9/1/22. GW-37 and GW-54 recorded CO readings below the detection limit of 90 ppm during both sampling events. Wells GW-51 and GW-67 recorded CO concentrations of 141 ppm and 200 ppm respectively on 9/1/22. None of the concentrations recorded show evidence of a subsurface fire. The results of the CO sampling events are included for reference.

NON-ROUTINE O&M

City personnel have been hauling cover soil into Permit #588 Landfill and spreading over exposed areas of waste in non-active filling areas during the first half of September, weather permitting. 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, which is moved by the Facility to the south end and spread over non-active filling areas. The City's O&M contractor, SCS-FS, mobilized on-site during the week of 9/6/22 to move the final LFG lateral, pneumatic airline and dewatering forcemain pipe in a non-active area of the landfill. The City collaborated with the contractor to spread cover soil in the exposed areas under LFG system piping. This area received soil cover, while SCS-FS extended the piping accordingly, before moving the piping back into place and reconnecting to the LFG System. It completed the additional soil cover activities underneath existing above grade LFG piping.

SCS-FS also installed foam seals around the well casings of nine total LFG vertical extraction wells during the week of 9/6/22. The foam seals satisfied the condition under the alternate remedy letter dated 8/22/22 corresponding to 2nd Quarter 2022 surface emissions monitoring (SEM) pipe penetration exceedances greater than 500 ppm for three LFG wells. Six additional LFG wells received a foam seal based upon review of the weekly SEM data. See the photo below for reference.

SCS-FS installed the first temperature sensor in well GW-68 during the week of 9/6/22. SCS-FS coordinated with the manufacturer for proper installation as well as SCS Remote Monitoring Controls (RMC) team to verify data transmission to the cloud based data system. SCS-FS is currently on-site installing the remaining temperature sensors and coordinating with SCS RMC. See photo for reference.

The City of Bristol ceased acceptance of solid waste at the ISWMF on 9/9/22. The City has placed soil cover over the former active disposal area in Permit #588. The City continues to work diligently to provide adequate comprehensive soil cover over the landfill surface of the Permit #588 Landfill. See photos for reference.

View of the EFS 9.0B foam seal installed around a well casing in which surface fugitive emissions were greater than 500 ppm.

Temperature sensor installed in well GW-32R.

City personnel covering the former active fill area of the Permit #588 Landfill. Camera facing south.

City applied cover soil to the Permit #588 Landfill. Camera facing southeast.

City applied soil cover to the north end of Permit #588 Landfill. Camera facing east.

City applied soil cover to the north end of Permit #588 Landfill. Camera facing northeast.

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 is scheduled for the second half of September.

SCS is continuing weekly surface emissions monitoring per the Plan of Action Report dated 7/6/22. SCS-FS O&M mobilized the week of 9/6/22 and completed the work with the City in moving the last section of lateral, air, and forcemain piping to apply cover soil in the area under those lines to control fugitive emissions. SCS-FS O&M extended and reconnected those lines to the LFG System once the City placed adequate cover soil in the area. In addition, SCS-FS O&M installed foam seals to nine select LFG wells to satisfy the alternate remedy for the 2nd Quarter SEM event and address repeating pipe penetrations monitored greater than 500 ppm during weekly SEM events. SCS-FS O&M is currently installing autonomous temperature sensors in 25 LFG extraction wells with the programming support from SCS RMC. SCS will make every effort to provide daily temperature data using the SCS RMC format during the next semi-monthly report.

SCS conducted the initial monthly LFG wellfield monitoring on 9/1/22 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 during the second half of September reporting period.

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 is assessing the south end cleanouts to possibly be upgraded with a larger LFG header to increase the volume of LFG collected from these south end cleanouts. SCS anticipates beginning the design phase of these leachate cleanout modifications in September. 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	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept	Sept
				Day	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Vednesda	Thursday	Friday	Saturday	Sunday	Monday	Tuesday	Vednesda	Thursday
				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**	80	80	80	80	80	85	75	70	80	68	70	75	65	65	65
2	70	9/6/2017	Old Well	**39**	120	110	115	120	115	113	110	110	110	110	110	95	105	115	110
3	100	9/7/2017	Old Well	**40**	110	110	110	110	110	117	NR	120	120	105	110	Meter	105	110	105
4	110	10/4/2016	Old Well	**46**	10	100	110	100	110	108	NR	138	135	108	112	Meter	95	120	120
5	120	10/4/2016	Old Well	**47**	145	145	145	145	145	142	145	140	145	140	142	Meter	135	145	140
6	120	9/17/2013	Old Well	**29**	120	110	120	110	120	122	105	100	110	112	110	85	100	100	100
7	100	8/23/2017	Old Well	**30R**	140	140	135	140	135	141	140	140	145	148	145	130	140	145	145
8	120	8/30/2017	Old Well	**31R**	160	150	165	150	160	159	160	155	145	118	140	100	145	120	120
9	70	7/29/2016	Old Well	**32**	80	75	80	75	80	88	80	70	75	70	68	Meter	60	65	70
10	100	7/28/2016	Old Well	**33**	120	120	120	130	125	128	120	120	125	122	120	120	120	125	125
11	100	7/30/2016	Old Well	**34**	100	100	125	120	110	98	105	100	100	108	112	Meter	105	110	110
12	100	8/1/2016	Old Well	**36**	85	84	90	90	90	95	75	75	80	60	70	Meter	60	60	60
13	100	8/24/2017	Old Well	**37**	150	160	150	160	155	148	155	150	155	150	150	145	150	155	150
14	50	8/25/2017	Old Well	**38**	115	110	115	110	115	117	110	110	110	116	100	105	110	110	110
15	75	9/8/2017	Old Well	**41**	125	120	125	120	125	128	NR	140	130	142	132	Meter	115	120	120
16	57	9/8/2017	Old Well	**42**	115	120	115	120	115	110	NR	120	120	112	122	105	115	110	115
17	110	10/7/2016	Old Well	**48**	95	75	95	75	95	84	80	70	80	68	70	75	60	60	NR
1	120	10/1/2021	New Well	**32R**	NR	NR	140	140	140	142	NR	NR	NR	130	120	Meter	Meter	Meter	Meter
2	110	10/1/2021	New Well	**49**	140	140	145	140	145	147	NR	NR	NR	138	140	130	130	145	140
3	96	10/1/2021	New Well	**50**	145	140	145	140	145	148	135	135	140	140	140	130	140	135	135
4	114	10/1/2021	New Well	**51**	180	145	140	145	140	152	135	135	135	142	150	Meter	140	145	140
5	109	10/1/2021	New Well	**52**	120	110	120	110	125	124	110	110	110	110	115	100	105	110	110
6	91	10/1/2021	New Well	**53**	100	100	120	120	125	116	NR	135	125	130	130	Meter	140	140	140
7	91	10/1/2021	New Well	**54**	160	150	140	150	155	151	150	150	150	155	152	Meter	155	160	160
8	104	10/1/2021	New Well	**55**	80	85	80	85	80	90	95	90	95	82	90	Meter	75	80	85
9	109	10/1/2021	New Well	**56**	135	130	135	130	135	142	135	NR	125	138	122	Meter	140	140	145
10	103	10/1/2021	New Well	**57**	140	130	140	130	140	132	145	NR	140	138	140	Meter	130	140	140
11	92	10/1/2021	New Well	**58**	125	NR	125	120	125	128	80	125	120	128	120	Meter	105	115	120
12	72	10/1/2021	New Well	**59**	115	NR	115	120	110	120	110	115	NR	118	109	Meter	115	120	120
13	120	10/1/2021	New Well	**60**	125	130	125	130	120	122	130	135	135	130	122	120	125	140	130
14	105	10/1/2021	New Well	**61**	120	115	125	115	125	118	110	110	120	120	112	Meter	110	105	115
15	120	10/1/2021	New Well	**62**	120	95	120	95	115	120	115	110	120	110	120	95	115	110	110
16	117	10/1/2021	New Well	**63**	130	130	130	125	120	136	130	130	130	135	135	105	130	130	105
17	120	10/1/2021	New Well	**64**	140	140	140	140	140	138	140	140	140	140	142	135	135	145	145
18	100	10/1/2021	New Well	**65**	135	125	135	125	130	140	125	130	140	130	150	110	125	125	140
19	102	10/1/2021	New Well	**66**	140	NR	140	135	140	132	110	140	135	138	140	Meter	140	140	135
20	100	10/1/2021	New Well	**67**	145	140	145	140	145	144	140	145	140	148	140	Meter	145	155	155
21	75	10/1/2021	New Well	**68**	125	120	125	120	130	122	120	120	130	122	110	115	120	125	130

Note: Personal gas monitor went into alarm when City personnel approached the well. Therefore, the well was not checked for temperature for safety.

1941 Reymet Road ● Richmond, Virginia 23237 ● Tel: (804)-358-8295 Fax: (804)-358-8297

Certificate of Analysis

Final Report

Laboratory Order ID 22H1523

Client Name:	SCS Field Services - Harrisburg, PA	Date Received:	August 26, 2022 10:16
	4330 Lewis Road, Suite 1	Date Issued:	September 2, 2022 16:44
	Harrisburg, PA 17111	Project Number:	[none]
Submitted To:	Mike Gibbons	Purchase Order:	
Client Site I.D.:	Bristol		

Enclosed are the results of analyses for samples received by the laboratory on 08/26/2022 10:16. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars

Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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	Harrisburg, PA 17111	Project Number:	[none]
Submitted To:	Mike Gibbons	Purchase Order:	

Client Site I.D.: Bristol

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
31R	22H1523-02	Air	08/24/2022 11:20	08/26/2022 10:16
54	22H1523-03	Air	08/24/2022 12:03	08/26/2022 10:16
37	22H1523-04	Air	08/24/2022 11:50	08/26/2022 10:16

ENTHALPY ANALYTICAL

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Submitted To:	Mike Gibbons	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 31R

Sample ID: 22H1523-02

Sample Matrix: Air

Sampled: 8/24/2022 11:20

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 063-00003::12662

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 3.8

Receipt Vacuum(in Hg): 3.8

Flow Controller Type: Passive

Flow Controller ID: SS-43GXS4

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis

ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	187	90.0	90.0		9	1	8/29/22 10:45	DFH

ENTHALPY ANALYTICAL

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Submitted To:	Mike Gibbons	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 54

Sample ID: 22H1523-03

Sample Matrix: Air

Sampled: 8/24/2022 12:03

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 063-00163::12862

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 4.0

Receipt Vacuum(in Hg): 4.0

Flow Controller Type: Passive

Flow Controller ID: SS-43GXS4

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	ND	90.0	90.0		9	1	8/29/22 11:38	DFH

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Submitted To:	Mike Gibbons	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 37

Sample ID: 22H1523-04

Sample Matrix: Air

Sampled: 8/24/2022 11:50

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 063-00323::12068

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 4.4

Receipt Vacuum(in Hg): 4.4

Flow Controller Type: Passive

Flow Controller ID: SS-43GXS4

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	ND	90.0	90.0		9	1	8/29/22 12:31	DFH

ENTHALPY ANALYTICAL

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Submitted To:	Mike Gibbons	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis			**Preparation Method:**	**No Prep VOC GC Air**	
22H1523-02	1.00 mL / 1.00 mL	ALT-145	BFH1135	SFH1048	AG00026
22H1523-03	1.00 mL / 1.00 mL	ALT-145	BFH1135	SFH1048	AG00026
22H1523-04	1.00 mL / 1.00 mL	ALT-145	BFH1135	SFH1048	AG00026

ENTHALPY ANALYTICAL

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Submitted To:	Mike Gibbons	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BFH1135 - No Prep VOC GC Air										
Blank (BFH1135-BLK1)					Prepared & Analyzed: 08/29/2022					
Carbon Monoxide	<	10.0	ppmv							
LCS (BFH1135-BS1)					Prepared & Analyzed: 08/29/2022					
Methane	4490	500	ppmv	5000		89.7	0-200			
Carbon dioxide	3950	500	ppmv	5000		79.1	0-200			
Oxygen (O2)	4970	500	ppmv	5000		99.5	0-200			
Nitrogen (N2)	5370	2000	ppmv	5000		107	0-200			
Hydrogen (H2)	5610	200	ppmv	5100		110	0-200			
Carbon Monoxide	4810	10	ppmv	5000		96.3	0-200			
Duplicate (BFH1135-DUP1)				**Source: 22H1523-02**	Prepared & Analyzed: 08/29/2022					
Methane	237000	4500	ppmv		238000			0.350	25	
Carbon dioxide	445000	4500	ppmv		445000			0.0621	25	
Oxygen (O2)	32100	4500	ppmv		32300			0.388	25	
Nitrogen (N2)	173000	18000	ppmv		174000			0.366	25	
Hydrogen (H2)	29700	1800	ppmv		29700			0.0145	25	
Carbon Monoxide	183	90.0	ppmv		187			2.48	25	
Duplicate (BFH1135-DUP2)				**Source: 22H1523-03**	Prepared & Analyzed: 08/29/2022					
Methane	359000	4500	ppmv		360000			0.373	25	
Carbon dioxide	387000	4500	ppmv		387000			0.250	25	
Oxygen (O2)	8720	4500	ppmv		8760			0.425	25	
Hydrogen (H2)	6700	1800	ppmv		6620			1.18	25	
Nitrogen (N2)	136000	18000	ppmv		137000			0.385	25	
Carbon Monoxide	<	90.0	ppmv		<90.0			NA	25	
Duplicate (BFH1135-DUP3)				**Source: 22H1523-04**	Prepared & Analyzed: 08/29/2022					
Methane	134000	4500	ppmv		132000			1.15	25	
Carbon dioxide	206000	4500	ppmv		183000			11.6	25	
Oxygen (O2)	77000	4500	ppmv		76600			0.578	25	
Hydrogen (H2)	7550	1800	ppmv		7540			0.0954	25	
Nitrogen (N2)	478000	18000	ppmv		476000			0.514	25	
Carbon Monoxide	<	90.0	ppmv		<90.0			NA	25	

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Certificate of Analysis

Final Report

Laboratory Order ID 22H1523

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	August 26, 2022 10:16 September 2, 2022 16:44
Submitted To:	Mike Gibbons	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual

Batch BFH1135 - No Prep VOC GC Air

Certified Analytes included in this Report

Analyte	Certifications	Analyte	Certifications

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #11900	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
PF	Preparation Factor
MDL	Method Detection Limit
LOQ	Limit of Quantitation
ppbv	parts per billion by volume
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

All EPA method 3C results are reported as normalized values when the sum total of all evaluated constituents is outside ± 10% of the absolute.

PHONE #:		INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL:		Pretreatment Program:

Is sample for compliance reporting? (YES) NO | **Regulatory State:** VA | Is sample from a chlorinated supply? YES (NO) | PW

SAMPLER NAME (PRINT): Ryan Seymour | SAMPLER SIGNATURE: Ryan Seymour | **Turn Around Time:** Circ

Matrix Codes: AA=Indoor/Ambient Air SG=Soil Gas LV=Landfill/Vent Gas OT=Other OT | **063-22H-000**

	CLIENT SAMPLE I.D.	Regulator Info		Canister Information					Sampling Start Information				Sampling Stop Inform	
									Barometric Pres. (in Hg):				Barometric Pres. (in H	
		Flow Controller ID	Cal Flow (mL/min)	Canister ID	Size (L)	Cleaning Batch ID	LAB Outgoing Canister Vacuum (in Hg)	LAB Receiving Canister Vacuum (in Hg)	Start Date	Start Time (24hr clock)	Initial Canister Vacuum (in Hg)	Starting Sample Temp °F	Stop Date	Stop Time (24hr clock)
1)	37	SS-43GXS4	20 V S4	12473	1.4	220801-03	30	~~30~~	8/24/22	11:48	23	152	8/24/22	11:50
2)	31R	SS-43GXS4	20 V S4	12662	1.4	220801-03	30	L0 3.8	8/24/22	11:15	30	156	8/24/22	11:20
3)	54	SS-43GXS4	20 V S4	12862	1.4	220624-02	24	7 4.0	8/24/22	12:00	24	150°	8/24/22	12:03
4)														

20.9°C 310 No

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Ryan Seymour	8/24/22	FedEx E	
FedEx E		Daniel Mus	8/26/22 1016

QC Data Package
- Level I ☐
- Level II ☐
- Level III ☐
- Level IV ☐

22H1523

LAB USE ONLY

SCS Field Services
Bristol
Recd: 08/26/2022 Due

PHONE #:		INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL:		Pretreatment Program:
Is sample for compliance reporting? YES NO	**Regulatory State:**	Is sample from a chlorinated supply? YES NO	P
SAMPLER NAME (PRINT):	SAMPLER SIGNATURE:		**Turn Around Time:** Cl

Matrix Codes: AA=Indoor/Ambient Air SG=Soil Gas LV=Landfill/Vent Gas OT=Other_____ **063-22F-00**

	CLIENT SAMPLE I.D.	Regulator Info		Canister Information					Sampling Start Information				Sampling Stop Infor	
									Barometric Pres. (in Hg):				Barometric Pres. (in	
		Flow Controller ID	Cal Flow (mL/min)	Canister ID	Size (L)	Cleaning Batch ID	LAB Outgoing Canister Vacuum (in Hg)	LAB Receiving Canister Vacuum (in Hg)	Start Date	Start Time (24hr clock)	Initial Canister Vacuum (in Hg)	Starting Sample Temp °F	Stop Date	Stop Time (24hr clock)
1)				12862	1.4	IC220624-02	20.6							
2)				12068	1.4	IC220624-02	20.6	4,4						
3)														
4)														

20.9°C 310 no

RELINQUISHED:		RECEIVED: DATE / TIME	QC Data Package	LAB USE ONLY
		AEAExE	Level I ☐	SCS Field Serv
LINQUISHED: AEAExE	DATE / TIME	RECEIVED: 8/26/22 1010 DATE / TIME	Level II ☐	Bristol
LINQUISHED:	DATE / TIME	RECEIVED: DATE / TIME	Level III ☐	Recd: 08/26/2022
			Level IV ☐	22H1523

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA	Date Received:	September 6, 2022 8:00
	4330 Lewis Road, Suite 1	Date Issued:	September 12, 2022 13:15
	Harrisburg, PA 17111	Project Number:	[none]
Submitted To:	Ryan Seymour	Purchase Order:	
Client Site I.D.:	Bristol		

Enclosed are the results of analyses for samples received by the laboratory on 09/06/2022 08:00. If you have any questions concerning this report, please feel free to contact the laboratory.

Sincerely,

Ted Soyars

Technical Director

End Notes:

The test results listed in this report relate only to the samples submitted to the laboratory and as received by the Laboratory.

Unless otherwise noted, the test results for solid materials are calculated on a wet weight basis. Analyses for pH, dissolved oxygen, temperature, residual chlorine and sulfite that are performed in the laboratory do not meet NELAC requirements due to extremely short holding times. These analyses should be performed in the field. The results of field analyses performed by the Sampler included in the Certificate of Analysis are done so at the client's request and are not included in the laboratory's fields of certification nor have they been audited for adherence to a reference method or procedure.

The signature on the final report certifies that these results conform to all applicable NELAC standards unless otherwise specified. For a complete list of the Laboratory's NELAC certified parameters please contact customer service.

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TNI Accredited
VELAP ID 460021

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA	Date Received:	September 6, 2022 8:00
	4330 Lewis Road, Suite 1	Date Issued:	September 12, 2022 13:15
	Harrisburg, PA 17111	Project Number:	[none]
Submitted To:	Ryan Seymour	Purchase Order:	
Client Site I.D.:	Bristol		

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
31R	22I0129-01	Air	09/01/2022 12:33	09/06/2022 08:00
37	22I0129-02	Air	09/01/2022 12:38	09/06/2022 08:00
51	22I0129-03	Air	09/01/2022 13:49	09/06/2022 08:00
67	22I0129-04	Air	09/01/2022 13:59	09/06/2022 08:00
54	22I0129-05	Air	09/01/2022 14:12	09/06/2022 08:00

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 31R

Sample ID: 22I0129-01

Sample Matrix: Air

Sampled: 9/1/2022 12:33

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 304: 063-00291

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 7.4

Receipt Vacuum(in Hg): 7.4

Flow Controller Type: Passive

Flow Controller ID: S5-43GX54

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	240	90.0	90.0		9	1	9/7/22 14:59	DFH

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Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 37

Sample ID: 22I0129-02

Sample Matrix: Air

Sampled: 9/1/2022 12:38

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 10041: 063-00073

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 6.6

Receipt Vacuum(in Hg): 6.6

Flow Controller Type: Passive

Flow Controller ID: S5-43GX54

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	ND	90.0	90.0		9	1	9/8/22 8:39	DFH

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Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 51

Sample ID: 22I0129-03

Sample Matrix: Air

Sampled: 9/1/2022 13:49

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 10094: 063-00176

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 4.8

Receipt Vacuum(in Hg): 4.8

Flow Controller Type: Passive

Flow Controller ID: S5-43GX54

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	141	90.0	90.0		9	1	9/8/22 9:32	DFH

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Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 67

Sample ID: 22I0129-04

Sample Matrix: Air

Sampled: 9/1/2022 13:59

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 11300: 063-00078

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 5.6

Receipt Vacuum(in Hg): 5.6

Flow Controller Type: Passive

Flow Controller ID: S5-43GX54

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	200	90.0	90.0		9	1	9/8/22 10:26	DFH

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

ANALYTICAL RESULTS

Project Location:

Field Sample #: 54

Sample ID: 22I0129-05

Sample Matrix: Air

Sampled: 9/1/2022 14:12

Sample Type: LG

Sample Description/Location:

Sub Description/Location:

Canister ID: 11305: 063-00109

Canister Size: 1.4

Initial Vacuum(in Hg): 30

Final Vacuum(in Hg): 4.4

Receipt Vacuum(in Hg): 4.4

Flow Controller Type: Passive

Flow Controller ID: S5-43GX54

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis
ALT-145

Analyte	ppmv Result	MDL	LOQ	Flag/Qual	Dilution	PF	Date/Time Analyzed	Analyst
Carbon Monoxide, as received	ND	90.0	90.0		9	1	9/8/22 11:19	DFH

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Analytical Summary

Sample ID	Preparation Factors Initial / Final	Method	Batch ID	Sequence ID	Calibration ID
Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis			**Preparation Method:**	**No Prep VOC GC Air**	
22I0129-01	1.00 mL / 1.00 mL	ALT-145	BFI0173	SFI0181	AG00026
22I0129-02	1.00 mL / 1.00 mL	ALT-145	BFI0173	SFI0231	AG00026
22I0129-03	1.00 mL / 1.00 mL	ALT-145	BFI0173	SFI0231	AG00026
22I0129-04	1.00 mL / 1.00 mL	ALT-145	BFI0173	SFI0231	AG00026
22I0129-05	1.00 mL / 1.00 mL	ALT-145	BFI0173	SFI0231	AG00026

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Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BFI0173 - No Prep VOC GC Air										
Blank (BFI0173-BLK1)					Prepared & Analyzed: 09/07/2022					
Carbon Monoxide	<	10.0	ppmv							
LCS (BFI0173-BS1)					Prepared & Analyzed: 09/07/2022					
Methane	4390	500	ppmv	5000		87.8	0-200			
Carbon dioxide	4540	500	ppmv	5000		90.9	0-200			
Oxygen (O2)	5050	500	ppmv	5000		101	0-200			
Nitrogen (N2)	5710	2000	ppmv	5000		114	0-200			
Hydrogen (H2)	5640	200	ppmv	5100		111	0-200			
Carbon Monoxide	4740	10	ppmv	5000		94.8	0-200			
Duplicate (BFI0173-DUP1)				**Source: 22I0007-01**	Prepared & Analyzed: 09/07/2022					
Methane	196000	4500	ppmv		194000			1.03	25	
Carbon dioxide	623000	4500	ppmv		616000			1.22	25	
Oxygen (O2)	4850	4500	ppmv		4820			0.646	25	
Nitrogen (N2)	47600	18000	ppmv		47100			1.04	25	
Hydrogen (H2)	80200	1800	ppmv		79600			0.785	25	
Carbon Monoxide	778	90.0	ppmv		769			1.18	25	
Duplicate (BFI0173-DUP2)				**Source: 22I0009-01**	Prepared & Analyzed: 09/07/2022					
Methane	211000	4500	ppmv		209000			0.895	25	
Carbon dioxide	639000	4500	ppmv		634000			0.660	25	
Oxygen (O2)	<	4500	ppmv		<4500			NA	25	
Hydrogen (H2)	76800	1800	ppmv		75500			1.62	25	
Nitrogen (N2)	<	18000	ppmv		<18000			NA	25	
Carbon Monoxide	682	90.0	ppmv		677			0.702	25	
Duplicate (BFI0173-DUP3)				**Source: 22I0010-01**	Prepared & Analyzed: 09/07/2022					
Methane	130000	4500	ppmv		130000			0.160	25	
Carbon dioxide	465000	4500	ppmv		464000			0.227	25	
Oxygen (O2)	17100	4500	ppmv		17000			0.330	25	
Nitrogen (N2)	69600	18000	ppmv		69400			0.395	25	
Hydrogen (H2)	249000	1800	ppmv		247000			0.790	25	
Carbon Monoxide	582	90.0	ppmv		575			1.32	25	

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BFI0173 - No Prep VOC GC Air										
Duplicate (BFI0173-DUP4)				**Source: 22I0010-02**	Prepared & Analyzed: 09/07/2022					
Methane	170000	4500	ppmv		169000			0.402	25	
Carbon dioxide	381000	4500	ppmv		380000			0.0863	25	
Oxygen (O2)	43400	4500	ppmv		43200			0.402	25	
Hydrogen (H2)	119000	1800	ppmv		119000			0.137	25	
Nitrogen (N2)	163000	18000	ppmv		162000			0.358	25	
Carbon Monoxide	583	90.0	ppmv		586			0.570	25	
Duplicate (BFI0173-DUP5)				**Source: 22I0010-03**	Prepared & Analyzed: 09/07/2022					
Methane	99000	4500	ppmv		98300			0.692	25	
Carbon dioxide	537000	4500	ppmv		532000			1.03	25	
Oxygen (O2)	27400	4500	ppmv		27100			1.00	25	
Nitrogen (N2)	105000	18000	ppmv		104000			0.862	25	
Hydrogen (H2)	164000	1800	ppmv		163000			0.689	25	
Carbon Monoxide	983	90.0	ppmv		976			0.698	25	
Duplicate (BFI0173-DUP6)				**Source: 22I0010-04**	Prepared & Analyzed: 09/07/2022					
Methane	128000	4500	ppmv		129000			0.787	25	
Carbon dioxide	611000	4500	ppmv		614000			0.514	25	
Oxygen (O2)	12100	4500	ppmv		12200			0.516	25	
Nitrogen (N2)	53100	18000	ppmv		53300			0.370	25	
Hydrogen (H2)	103000	1800	ppmv		104000			0.373	25	
Carbon Monoxide	604	90.0	ppmv		611			1.02	25	
Duplicate (BFI0173-DUP7)				**Source: 22I0129-01**	Prepared & Analyzed: 09/07/2022					
Methane	244000	4500	ppmv		242000			0.665	25	
Carbon dioxide	511000	4500	ppmv		522000			2.13	25	
Oxygen (O2)	14000	4500	ppmv		14000			0.495	25	
Hydrogen (H2)	38500	1800	ppmv		38000			1.44	25	
Nitrogen (N2)	112000	18000	ppmv		112000			0.611	25	
Carbon Monoxide	241	90.0	ppmv		240			0.598	25	

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Certificate of Analysis

Final Report

Laboratory Order ID 22I0129

Client Name: SCS Field Services - Harrisburg, PA
4330 Lewis Road, Suite 1

Harrisburg, PA 17111

Date Received: September 6, 2022 8:00
Date Issued: September 12, 2022 13:15

Submitted To: Ryan Seymour
Client Site I.D.: Bristol

Project Number: [none]
Purchase Order:

Volatile Organic Compounds by GC/TCD - Unadjusted, as received basis - Quality Control

Enthalpy Analytical

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Qual
Batch BFI0173 - No Prep VOC GC Air										
Duplicate (BFI0173-DUP8)			**Source: 22I0129-02**		Prepared: 09/07/2022 Analyzed: 09/08/2022					
Methane	134000	4500	ppmv		134000			0.179	25	
Carbon dioxide	185000	4500	ppmv		184000			0.349	25	
Oxygen (O2)	76000	4500	ppmv		75700			0.348	25	
Nitrogen (N2)	475000	18000	ppmv		474000			0.287	25	
Hydrogen (H2)	8130	1800	ppmv		8280			1.82	25	
Carbon Monoxide	<	90.0	ppmv		<90.0			NA	25	
Duplicate (BFI0173-DUP9)			**Source: 22I0129-03**		Prepared: 09/07/2022 Analyzed: 09/08/2022					
Methane	325000	4500	ppmv		329000			1.18	25	
Carbon dioxide	367000	4500	ppmv		372000			1.47	25	
Oxygen (O2)	46400	4500	ppmv		47000			1.23	25	
Nitrogen (N2)	169000	18000	ppmv		170000			1.12	25	
Hydrogen (H2)	22300	1800	ppmv		22500			0.718	25	
Carbon Monoxide	138	90.0	ppmv		141			2.00	25	
Duplicate (BFI0173-DUPA)			**Source: 22I0129-04**		Prepared: 09/07/2022 Analyzed: 09/08/2022					
Methane	409000	4500	ppmv		404000			1.20	25	
Carbon dioxide	445000	4500	ppmv		439000			1.23	25	
Oxygen (O2)	11700	4500	ppmv		11400			2.16	25	
Hydrogen (H2)	36200	1800	ppmv		35400			2.12	25	
Nitrogen (N2)	43600	18000	ppmv		43200			0.844	25	
Carbon Monoxide	200	90.0	ppmv		200			0.360	25	
Duplicate (BFI0173-DUPB)			**Source: 22I0129-05**		Prepared: 09/07/2022 Analyzed: 09/08/2022					
Methane	388000	4500	ppmv		386000			0.471	25	
Carbon dioxide	393000	4500	ppmv		392000			0.232	25	
Oxygen (O2)	5820	4500	ppmv		5780			0.743	25	
Hydrogen (H2)	7900	1800	ppmv		7760			1.81	25	
Nitrogen (N2)	147000	18000	ppmv		146000			0.537	25	
Carbon Monoxide	<	90.0	ppmv		<90.0			NA	25	

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Final Report

Laboratory Order ID 22I0129

Client Name:	SCS Field Services - Harrisburg, PA 4330 Lewis Road, Suite 1 Harrisburg, PA 17111	Date Received: Date Issued:	September 6, 2022 8:00 September 12, 2022 13:15
Submitted To:	Ryan Seymour	Project Number:	[none]
Client Site I.D.:	Bristol	Purchase Order:	

Certified Analytes included in this Report

Analyte	Certifications	Analyte	Certifications

Code	Description	Laboratory ID	Expires
MdDOE	Maryland DE Drinking Water	341	12/31/2022
NCDEQ	North Carolina DEQ	495	12/31/2022
NYDOH	New York DOH Drinking Water	12096	04/01/2023
PADEP	NELAP-Pennsylvania Certificate #007	68-03503	10/31/2022
VELAP	NELAP-Virginia Certificate #11900	460021	06/14/2023
WVDEP	West Virginia DEP	350	11/30/2022

Qualifiers and Definitions

RPD	Relative Percent Difference
Qual	Qualifers
-RE	Denotes sample was re-analyzed
PF	Preparation Factor
MDL	Method Detection Limit
LOQ	Limit of Quantitation
ppbv	parts per billion by volume
TIC	Tentatively Identified Compounds are compounds that are identified by comparing the analyte mass spectral pattern with the NIST spectral library. A TIC spectral match is reported when the pattern is at least 75% consistent with the published pattern. Compound concentrations are estimated and are calculated using an internal standard response factor of 1.

All EPA method 3C results are reported as normalized values when the sum total of all evaluated constituents is outside ± 10% of the absolute.

PHONE #:		INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL:		Pretreatment Program:

Is sample for compliance reporting? YES NO | **Regulatory State:** VA | Is sample from a chlorinated supply? YES NO | PW

SAMPLER NAME (PRINT): Ryan Seymour SAMPLER SIGNATURE: Ryan Seymour **Turn Around Time:** Cl

Matrix Codes: AA=Indoor/Ambient Air SG=Soil Gas LV=Landfill/Vent Gas OT=Other_____ **063-22H-001**

	CLIENT SAMPLE I.D.	Regulator Info		Canister Information					Sampling Start Information				Sampling Stop Inform	
									Barometric Pres. (in Hg):				Barometric Pres. (in H	
		Flow Controller ID	Cal Flow (mL/min)	Canister ID	Size (L)	Cleaning Batch ID	LAB Outgoing Canister Vacuum (in Hg)	LAB Receiving Canister Vacuum (in Hg)	Start Date	Start Time (24hr clock)	Initial Canister Vacuum (in Hg)	Starting Sample Temp °F	Stop Date	Stop Time (24hr clock)
1)	31R	SG-436X54		304	1.4	220803-01	30	7.4	9/1/22	12:30	30	157	9/1/22	12:33
2)	37	SG-436X54		10041	1.4	220803-01	30	6.6	9/1/22	12:35	30	152	9/1/22	12:38
3)	51	SG-436X54		10094	1.4	220803-01	30	4.8	9/1/22	13:46	30	149.5	9/1/22	13:49
4)	67	SG-436X54		11300	1.4	220803-01	30	5.6	9/1/22	1356	30	148	9/1/22	1359

3 1 6 21.0 C

RELINQUISHED:		RECEIVED:	DATE / TIME	QC Data Package	LAB USE ONLY
[illegible]		YO	9/6/22 0800	Level I ☐	
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME	Level II ☐	SCS Field
					Bristol
RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME	Level III ☐	Recd: 09/06
				Level IV ☐	

PHONE #:		INVOICE PHONE #:	P.O. #:
FAX #:	EMAIL:		Pretreatment Program:
Is sample for compliance reporting? (YES) NO	**Regulatory State:** VA	Is sample from a chlorinated supply? YES (NO)	PW
SAMPLER NAME (PRINT): Ryan Seymour	SAMPLER SIGNATURE: Ryan Seymour	**Turn Around Time:** Cl	

Matrix Codes: AA=Indoor/Ambient Air SG=Soil Gas LV=Landfill/Vent Gas OT=Other ef

063-22H-001

	CLIENT SAMPLE I.D.	Regulator Info		Canister Information					Sampling Start Information				Sampling Stop Infor	
									Barometric Pres. (in Hg):				**Barometric Pres. (in**	
		Flow Controller ID	Cal Flow (mL/min)	Canister ID	Size (L)	Cleaning Batch ID	LAB Outgoing Canister Vacuum (in Hg)	LAB Receiving Canister Vacuum (in Hg)	Start Date	Start Time (24hr clock)	Initial Canister Vacuum (in Hg)	Starting Sample Temp °F	Stop Date	Stop Time (24hr clock)
1)	54	SS-436X54		11305	1.4	220803-01	30	4.4	9/1/22	1409	-30	151	9/1/22	1412
2)				11326	1.4	220803-01	30							
3)														
4)														

RELINQUISHED:	DATE / TIME	RECEIVED:	DATE / TIME
Fedex		JO	9/6/22 0800
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QC Data Package

- Level I ☐
- Level II ☐
- Level III ☐
- Level IV ☐

LAB USE ONLY

SCS Field
Bristol
Recd: 09/0