



Remedial Investigation Report
Cumberland County/Cliffdale Landfill (NCD980502900)
7583 Lowell Harris Road, Fayetteville, North Carolina
Task Order 2900 RI-22
S&ME Project No. 23050459

PREPARED FOR:

**North Carolina Department of Environmental Quality
Division of Waste Management – Special Remediation Branch
Pre-Regulatory Landfill Unit
1646 Mail Service Center
Raleigh, NC 27699-1646**

PREPARED BY:

**S&ME, Inc.
3201 Spring Forest Road
Raleigh, NC 27616**

December 4, 2025



December 4, 2025

North Carolina Department of Environmental Quality
Division of Waste Management – Special Remediation Branch
Pre-Regulatory Landfill Unit
1646 Mail Service Center
Raleigh, NC 27699-1646

Attention: Ms. Analee Thornburg via email: analee.thornburg@deq.nc.gov
Project Manager

Reference: **Remedial Investigation Report – Alarm Response & Additional Residential LFG Evaluation
Cumberland County/Cliffdale Landfill**
7583 Lowell Harris Road, Fayetteville, Cumberland County, North Carolina
NCDEQ ID No. NCD98052900
NCDEQ Task Order 2900RI-22
S&ME Project No. 23050459

Dear Ms. Thornburg:

S&ME, Inc. (S&ME) is submitting this report to NCDEQ to summarize the results of the recent activities associated with the 1021 Leslie Drive residence investigation phase remedial investigation activities conducted at the above-referenced site in Fayetteville, North Carolina. S&ME completed this investigation in general conformance with S&ME Proposal No. 23050459N, dated November 7, 2025, between NCDEQ and S&ME. The attached report includes the results of the following tasks:

- Complete a confirmational LFG probe screening event for six existing residential properties;
- Respond to Natural Gas (Methane) Alarm at 1021 Leslie Dr, replacement alarms & screening;
- Conduct Indoor Air Testing at 1021 Leslie; and
- Conduct LFG screening of certain exterior LFG probes.

We appreciate the opportunity to provide environmental consulting services to NCDEQ. Please contact us if you have any questions about the information included in this report.

Sincerely,

S&ME, Inc.

A handwritten signature in blue ink, appearing to read 'John Palmer'.

John Palmer, P.G.
Senior Geologist
jpalmer@smeinc.com

A handwritten signature in blue ink, appearing to read 'Thomas Raymond'.

Thomas Raymond, P. E., PMP
Principal Engineer / Project Manager
traymond@smeinc.com

Copy: Gerald Paul, S&ME, Inc. gpaul@smeinc.com

Attachment: *Remedial Investigation Report*



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1.0 Summary of Current Investigation

S&ME's services were performed in general accordance with the North Carolina Department of Environmental Quality (NCDEQ), *Guidelines for Addressing Pre-Regulatory Landfills and Dumps* (March 2022) and S&ME's approved *Standard Operating Procedures and Quality Assurance (SOP/QA) Manual (July 2010)*, previously approved by NCDEQ.

2.0 Landfill Gas Assessment

2.1 Soil Gas Probe Screening on October 27, 2025

Based upon observed elevated probe screening during the previously completed residential landfill gas (LFG) sampling event (2900RI-16), S&ME mobilized to the site to provide LFG probe screening of certain properties. A total of twelve probes located within six residential backyards were screened for the presence of LFG with a Landtec/GEM 5000+ meter to include:

- 7586 Beverly Drive, SGP-52 & SGP-52H
- 1013 Leslie Drive, SGP-35 & SGP-35H
- 1017 Leslie Drive, SGP-50 & SGP-50H
- 1021 Leslie Drive, SGP-36 & SGP-36H
- 1025 Leslie Drive, SGP-37 & SGP-37H
- 1033 Leslie Drive, SGP-39 & SGP-39H

The results were tabulated in S&ME's Landfill Gas Screening Form, reported to the Unit via email on October 28, 2025. Methane concentrations were measured at 49.6% and 55.1% in the LFG probes at 1021 Leslie Drive. Methane detections were measured in the other LFG probes from 0.0% to 51.1%. The field Landfill Gas Screening Form is included in the **Appendix** of this Report.

2.2 Alarm Activation Response at 1021 Leslie on October 30, 2025

S&ME was notified by the property owner, Mr. Jerry McCoy, that the installed natural gas detector (referred to as an "alarm" in the remainder of this Report) had activated at 1:00 am on October 30, 2025. The activated alarm was replaced with a new alarm, and a second new alarm was installed within an adjacent room of the home.

In addition, the home was screened by slowly progressing along perimeter and foundational baseboards; and, along the top of the walls near the ceilings along the rear of the structure which parallels the landfill. No detections of LFG parameters were observed during the performance of the work. A properly-calibrated Landtec/GEM 5000+ LFG meter was utilized to conduct interior screening within the homes in which alarms were installed. Observed parameters included:



Remedial Investigation Report – Alarm Response & Additional Residential LFG Evaluation Cumberland County/Cliffdale Landfill

7583 Lowell Harris Road, Fayetteville, Cumberland County, North Carolina
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- methane: 0-100%, +/- 0.3% to 1.5% accuracy
- hydrogen sulfide: 0-500 parts per million-volume (ppm-v), with +/- 2.0% accuracy
- carbon dioxide: 0-100%, +/- 0.5% to 1.5% accuracy
- oxygen: 0-25%, +/- 1.0% accuracy

2.3 Indoor Residential Air Sampling at 1021 Leslie on November 5, 2025

S&ME returned to the 1021 Leslie residence to perform indoor air (IA) sampling (see **Figure 1**). Individually certified 2.7 liter sampling canisters to collect samples, and regulators set by the laboratory collect a sample of eight-hour duration for laboratory analysis of Methane by EPA Method 3C. At approximately 0900, the sampling array was placed within the living room, adjacent to the wall of the home that parallels the landfill. One sample (1021-Leslie-Low), and the duplicate sample (1021-Leslie-Dup) was collected at ground level next to the fireplace; the second sample (1021-Leslie-High) was collected approximately "head-high," with the cannister placed upon the mantle (and directly across the room from the methane alarm). The outdoor ambient air sample (1021 Leslie-Out) placed adjacent to the outdoor shed, located near the fence line.

In addition to and concurrently with IA sampling efforts, S&ME measured LFG concentrations in multiple homes along Leslie Drive, and a portion of Beverly Drive. A total of 29 probes located in 16 residential backyards were screened for the presence of LFG with a Landtec 5000+ meter to include:

- 7513 Beverly Drive, SGP-48 & SGP-48-H
- 7526 Beverly Drive, SGP-47 & SGP-47-H
- 7530 Beverly Drive, SGP-58
- 7534 Beverly Drive, SGP-57 & SGP-57-H
- 7538 Beverly Drive, SGP-56 & SGP-56-H
- 7546 Beverly Drive, SGP-46 & SGP-46-H
- 7550 Beverly Drive, SGP-45 & SGP-45-H
- 7554 Beverly Drive, SGP-44 & SGP-44-H
- 7562 Beverly Drive, SGP-55 & SGP-55-H
- 7566 Beverly Drive, SGP-54 & SGP-54-H
- 7586 Beverly Drive, SGP-52 & SGP-52-H
- 1013 Leslie Drive, SGP-35 & SGP-35-H
- 1017 Leslie Drive, SGP-50-H
- 1021 Leslie Drive, SGP-36 & SGP-36-H
- 1029 Leslie Drive, SGP-38 & SGP-38-H
- 1033 Leslie Drive, SGP-39 & SGP-39-H

Unable to enter backyard (locked gates or unattended dogs)

- 7570 Beverly Drive, SGP-53 & SGP-53-H
- 7578 Beverly Drive, SGP-43 & SGP-43-H

The Environmental Field Report is attached in the **Appendix** of this Report.



2.3.1 Residential Landfill Gas Screening Results

Volatile Organic Compound Screening:

Volatile organic compounds (VOCs) were observed in relatively low concentrations in five of the 29 probes, and observed to range from 0.5 ppm (in probe SGP-50-H located at 1017 Leslie Drive) to 2.1 (in probe SGP-50-H located at 1017 Leslie Drive).

Methane Screening:

Methane was observed at varying concentrations in nine of the 29 probes, and observed to range from 0.1 ppm (in probe SGP-52-H located at 7586 Beverly Drive) to 60.1 (in probe SGP-36 located at 1021 Leslie Drive).

Hydrogen Sulfide Screening:

Hydrogen sulfide was observed at varying concentrations in six of the 29 probes, and observed to range from 1 ppm (in probe SGP-36-H located at 1021 Leslie Drive) to 71 (in probe SGP-35 located at 1013 Leslie Drive).

The landfill gas screening results are summarized in the attached Landfill Gas Screening Form located in the **Appendix** of this Report.

2.3.2 Indoor Air Sampling Results (1021 Leslie)

Laboratory analysis of IA for methane only by EPA Method 3C was limited to 1021 Leslie Drive. The laboratory reported the following results:

- The floor sample (1021-Leslie-Low) - resulted in a concentration of 889 ppmV (correlating to 583,213 $\mu\text{g}/\text{M}^3$ or 0.0889%)
- the duplicate (floor) sample (1021-Leslie-Dup) - resulted in a concentration of 891 ppmV (correlating to 584,525 $\mu\text{g}/\text{M}^3$ or 0.0891%)
- The elevated (mantle) sample (1021-Leslie-High) - resulted in a concentration of 814 ppmV (correlating to 534,010 $\mu\text{g}/\text{M}^3$ or 0.0814%)
- The outdoor ambient air sample (1021 Leslie-Out) resulted in a concentration of 8.76 ppmV (correlating to 5,746 $\mu\text{g}/\text{M}^3$ or 0.000876%)

The laboratory report is in the **Appendix** of this Report.

3.0 Quality Control

One IA duplicate sample was collected and identified as 1021-Leslie-Dup. The duplicate was collected concurrently with the primary samples, and analyzed for the same parameters. Analytical results of the duplicate sample was within an acceptable relative difference from the record samples.



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4.0 Deviation From Work Plan

The laboratory (Pace Analytical) reported the cannister for sample 1021-Leslie-High (L2570735-03) was received at an elevated vacuum of 16.1 inHg. S&ME directed that the sample be processed, requiring a 1.5x dilution per laboratory standard protocol. The laboratory results for sample 1021-Leslie-High were reported at similar levels as the other samples.

5.0 Sole Use Statement

This report is solely intended for use by NCDEQ for the services that were performed in accordance with S&ME Proposal No. 23050459N, dated November 7, 2025, for Task Order 2900RI-22 as authorized by NCDEQ.



**Remedial Investigation Report – Alarm Response & Additional Residential LFG Evaluation
Cumberland County/Cliffdale Landfill**

7583 Lowell Harris Road, Fayetteville, Cumberland County, North Carolina
NCDEQ Task Order 2900RI-22
S&ME Project No. 23050459

6.0 Certification Acknowledgement

"I certify that to the best of my knowledge, after thorough investigation, the information contained in or accompanying this certification is true, accurate, and complete."

Thomas P. Raymond / S&ME, Inc.

Name of Environmental Consultant / Company

Signature of Environmental Consultant

Dec. 4, 2025

Date

I, Gail L. Kluever, a Notary Public of said County and State, do hereby certify that Thomas P. Raymond did personally appear and sign before me this day, produced proper identification in the form of Driver's License, was duly sworn or affirmed, and declared that, he or she is the duly authorized environmental consultant referenced above and that, to the best of his or her knowledge and belief, after thorough investigation, the information contained in the above certification is true and accurate, and he or she then signed this Certification in my presence.

WITNESS my hand and official seal this 4th day of December, 2025.

Notary Public (signature)

(OFFICIAL SEAL)

My commission expires: 7/26/2026



Appendices

Field Documentation

LANDFILL GAS SCREENING FORM



Project Name:	Cliffdale LF	Location:	7583 Lowell Harris Rd	Meter Type/ Meter Name/ Serial No.:		
NCDEQ ID No.:	NCD980502900	Date:	10/27/2025	Gas Analyzer	GEM 5000	500537
S&ME Project No.:	23050459	Weather:	Overcast / Mod to Heavy Rain			
Task Order:	RI-16	S&ME Personnel:	John Palmer			

PRE Equipment Calibration					Calibration Notes	POST Equipment Calibration				
Fresh Air	CH ₄ (0%) =	0.0%	O ₂ (20.9%) =	NA		PID (Isobutylene)	0 ppm =	NA	100 ppm =	NA
Methane High	CH ₄ (50%) =	50.0%	CO ₂ (35%) =	NA		Fresh Air	CH ₄ (0%) =	0.0%	O ₂ (20.9%) =	NA
	O ₂ (0%) =	0.0%				Methane High	CH ₄ (50%) =	50.2%	CO ₂ (35%) =	NA
							O ₂ (0%) =	0.0%		
H2S Mix	CH ₄ (2.5%) =	2.5%	O ₂ (18%) =	NA		H2S Mix	CH ₄ (2.5%) =	2.5%	O ₂ (18%) =	NA
	H ₂ S (10 ppm) =	10 ppm	CO (50 ppm) =	NA		H ₂ S (10 ppm) =	10 ppm	CO (50 ppm) =	NA	

Screening Data											
Sample Location	Address	VOCs		Methane		Carbon Dioxide	Oxygen	Hydrogen Sulfide	Barometric Pressure	Temperature	Humidity
ID		ppm-v	%	volume in air (%)	% LEL (100% LEL = 5% CH4)	%	%	ppm-v	in-Hg	°F	%
SGP-52H	7586 Beverly Drive			51.1		14.3	4.3	0			
SGP-52	Rear Probe Flooded			ND		ND	ND	ND			
SGP-50H	1017 Leslie Drive			31.6		31.6	0.1	0			
SGP-50				22.8		31.9	0.1	0			
SGP-36H	1021 Leslie Drive			49.6		34.7	0.1	0			
SGP-36				55.1		44.9	0.1	0			
SGP-39H	1033 Leslie Drive			0.3		2.2	18.0	0			
SGP-39				43.1		34.1	0.1	0			
SGP-37H	1025 Leslie Drive			0.0		5.6	15.8	0			
SGP-37				46.0		45.6	0.1	29			
SGP-35H	1013 Leslie Drive			0.3		0.4	21.1	0			
SGP-35				24.1		34.4	0.1	33			

Name	Signature	Date	Notes:
(1) John Palmer		10/27/2025	1) Unable to perform equipment calibration for this unscheduled confirmation screening event due to time constraints & worsening weather conditions. 2) IDs containing an "H" indicate readings collected at the home's foundation. 3) Found multiple rubber plugs loose at the well heads; this condition should be corrected at the next sampling event.



Environmental Field Report	
Date: 11/05/2025	Job Number: 23050459
Project Name: Cliffdale Landfill NCDEQ ID NO. NONCD980502900 Task Order 807RI-16	Weather/Temperature: Sunny, 55-70
Project Location: Leslie & Beverly Drive, Fayetteville, Cumberland County, NC	
Notes By: <input checked="" type="checkbox"/>	Present at the Site: Clay Faircloth (S&ME)

Equipment Used
GEM 5000+ Mini Rae 3000 PID


0815 – C. Faircloth arrives to 1021 Leslie Drive. Met with Mr. Jerry McCoy who had recently arrived and was in his truck parked in the yard. Spoke with Mr. McCoy briefly – he stated that the alarm had gone off and they called 911 a few days prior. Mr McCoy further stated that his son was at the home and would be there during the day, and that he would be home intermittently if I needed access throughout the day.

0900 – Screened inside the house with GEM 5000+ LFG meter and PID and set up cannisters to collect indoor air samples and outdoor ambient sample. Did not detect any methane or VOCs in the house at ground level or at methane monitor. Methane monitor is set up on wall adjacent to the landfill side of the living room. Indoor samples were collected as follows: one sample collected at ground level as well as the duplicate – sample cans placed beside the fireplace (just right of the fireplace if you're looking at it), one sample collected approximately "head-high" – can placed on the mantle directly across the room from the methane monitor, outdoor ambient air sample placed adjacent to the outdoor shed near the fence line. After setting up cans, went and screened probes in yard. Probe closest to landfill (SGP-36) read methane at 60.1% and probe closest to house (SGP-36-H) read 49.4%.

10:30 – Began screening selected soil points for the rest of the day. Began at the furthest point on Beverly Drive and began working my way back to 1021 Leslie Drive. The following SGPs were screened based on ability to enter the yard and amount of time available in the day (assuming both points in yard were screened unless stated otherwise: SGP-36, SGP-48, SGP-47, SGP-58 (could not locate 58-H), SGP-57, SGP-56, SGI-46, SGP-45, SGI-44, SGP-55, SGP-54, SGP-52, SGP-35, SGP-39, SGP-38, SGP-50-H (could not located SGP-50 – later found out it is located underneath the trailer adjacent to the fence line. Stopped in at 1021 Leslie at approximately 1500 to ensure can pressures were decreasing.

1715 – Returned to 1021 Leslie Drive to collect canisters. Screened inside the house in both the living room and bedroom where methane alarms were located. Methane read between 0.1% and 0.2% inside the house. No PID readings. Collected canisters and spoke with Mr. McCoy.

1850 – C. Faircloth delivers samples to FedEx – FedEx stated the earliest they could be delivered was Friday. Depart site, return home approximately 20:00.

Hours	Mileage	Signature of S&ME Personnel
14	170	

LANDFILL GAS SCREENING FORM



Project Name:		Cliffdale LF		Location:		7583 Lowell Harris Rd		Meter Type/ Meter Name/ Serial No.:			
NCDEQ ID No.:		NCD980502900		Date:		11/5/2025		Gas Analyzer		GEM 5000+ 500537	
S&ME Project No.:		23050459		Weather:		Clear		PID		Mini Rae 3000	
Task Order:		RI-22		S&ME Personnel:		Clay Faircloth		Thermo Hygrometer		PROTMEX	
										Pre Calibration Time: 8:30	
										Post Calibration Time: NA	

PRE Equipment Calibration					Calibration Notes	POST Equipment Calibration				
PID (Isobutylene)	0 ppm =	NA	100 ppm =	NA		PID (Isobutylene)	0 ppm =		100 ppm =	
Fresh Air	CH ₄ (0%) =	0.0%	O ₂ (20.9%) =	20.9%		Fresh Air	CH ₄ (0%) =		O ₂ (20.9%) =	
Methane High	CH ₄ (50%) =	15.3%	CO ₂ (35%) =	15.1%		Methane High	CH ₄ (50%) =		CO ₂ (35%) =	
	O ₂ (0%) =	0.0%					O ₂ (0%) =			
H2S Mix	CH ₄ (2.5%) =	0.0%	O ₂ (18%) =	18.0%		H2S Mix	CH ₄ (2.5%) =		O ₂ (18%) =	
	H ₂ S (10 ppm) =	58 ppm	CO (50 ppm) =	253	H ₂ S (10 ppm) =			CO (50 ppm) =		

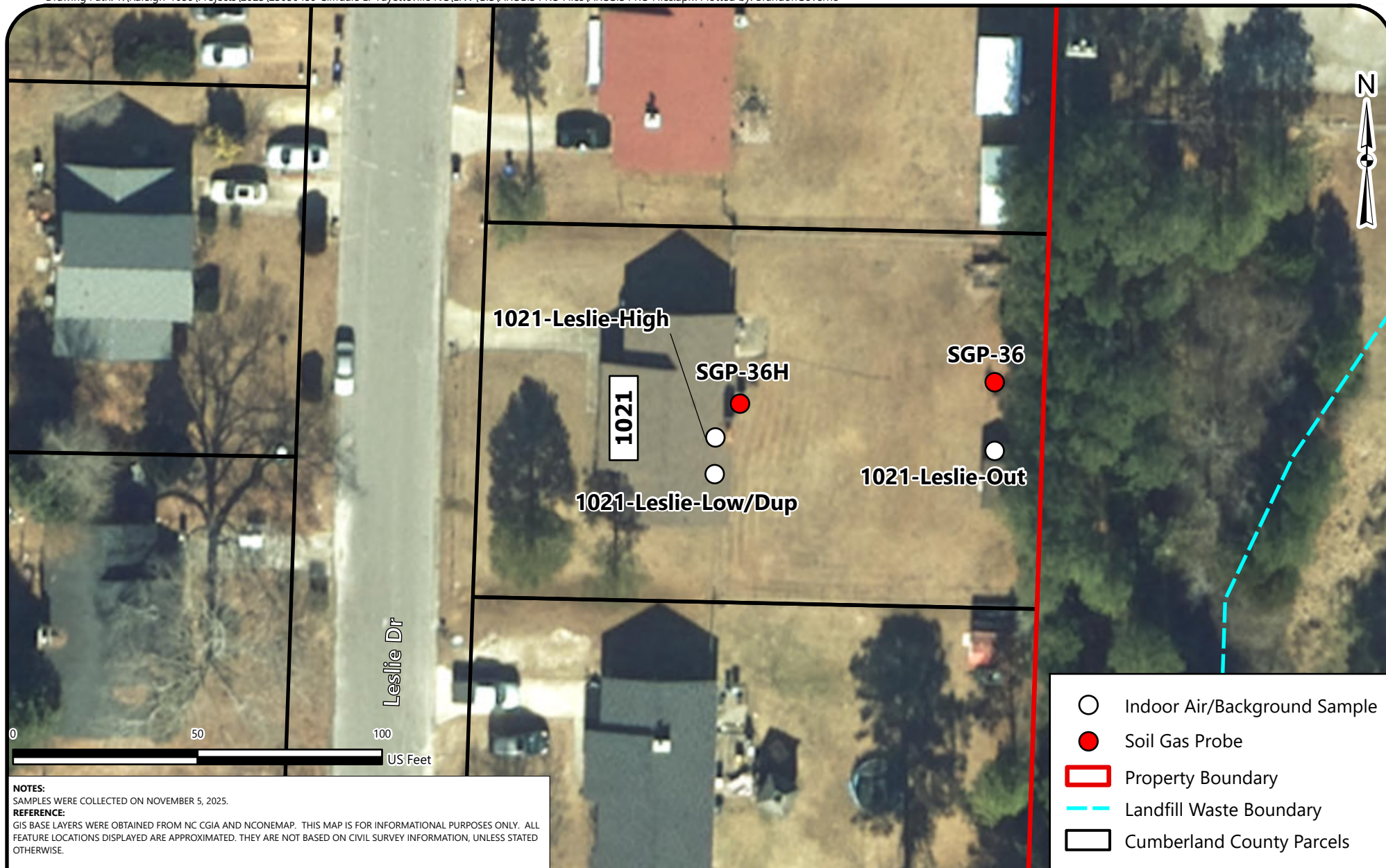
Hydrogen sulfide and CO readings were observed high during calibration.

Screening Data											
Sample Location	Sample Location	Time	VOCs		Methane		Carbon Dioxide	Oxygen	Hydrogen Sulfide	Barometric Pressure	Temperature
ID	Address	hr:min	ppm-v	%	volume in air (%)	% LEL (100% LEL = 5% CH4)	%	%	ppm-v	in-Hg	°F
BG-1	Leslie Dr.	09:30	0.0		0.0	0	0.1	20.3	0	30.04	55.0
BG-2		09:35	0.0		0.0	0	0.1	20.3	0	30.04	55.0
SGP-36	1021 Leslie Dr.	09:50	0.0		60.1	>100	36.8	0.6	0	30.07	57.0
SGP-36H		10:00	0.5		49.4	>100	28.7	3.1	1	30.07	57.0
SGP-48	7513 Beverly Dr.	10:50	0.0		0.0	0	1.3	19.3	0	30.08	60.0
SGP-48-H		11:00	0.0		0.0	0	0.2	20.2	0	30.08	60.0
SGP-47	7526 Beverly Dr.	11:22	0.0		0.0	0	0.7	19.8	0	30.08	60.0
SGP-47H		11:29	0.0		0.0	0	0.9	19.4	0	30.08	60.0
SGP-58	7530 Beverly Dr.	11:38	0.0		0.0	0	1.7	18.6	0	30.08	60.0
SGP-57	7534 Beverly Dr.	11:58	0.0		0.0	0	1.5	19.0	0	30.08	60.0
SGP-57H		12:08	0.0		0.0	0	0.1	20.2	0	30.08	60.0
SGP-56	7538 Beverly Dr.	12:20	0.0		0.0	0	2.6	17.9	0	30.08	60.0
SGP-56-H		12:22	0.0		0.0	0	1.9	19.4	0	30.08	65.0
SGI-46	7546 Beverly Dr.	12:30	0.0		0.0	0	1.3	19.1	0	30.08	65.0
SGI-46-H		12:34	0.0		0.0	0	1.1	18.5	0	30.08	65.0
SGP-45	7550 Beverly Dr.	12:40	0.0		0.0	0	0.1	20.1	0	30.08	65.0
SGP-45-H		12:43	0.0		0.0	0	0.5	19.6	0	29.95	65.0
SGI-44	7554 Beverly Dr.	12:58	0.0		0.0	0	2.3	17.3	0	29.95	65.0
SGP-44-H		13:02	0.0		0.0	0	12.7	3.7	0	29.95	65.0
SGP-55	7562 Beverly Dr.	13:20	0.0		0.0	0	3.3	14.3	0	29.95	65.0
SGP-55-H		13:16	1.7		0.4	8	3.4	3.4	2	29.95	65.0
SGP-54	7566 Beverly Dr.	13:40	0.0		0.0	0	0.0	19.5	0	29.92	65.0
SGP-54-H		13:50	0.0		0.0	0	0.0	19.6	0	29.92	65.0

Name		Signature		Date	Notes:
(1) Clay Faircloth				11/5/2025	Sampled first point (SGP-36) with 2 different GEMs to confirm high reading. Water flooded the GEM 5000+ tubing at SGP-45-H.

Project Name:		Cliffdale LF		Location:		7583 Lowell Harris Rd		Meter Type/ Meter Name/ Serial No.:					
NCDEQ ID No.:		NCD980502900		Date:		11/5/2025		Gas Analyzer		GEM 5000		500537	
S&ME Project No.:		23050459		Weather:		Clear		PID		Mini Rae 3000		Pre Calibration Time: 8:30	
Task Order:		RI-22		S&ME Personnel:		Clay Faircloth		Thermo Hygrometer		PROTMEX		Post Calibration Time: NA	
PRE Equipment Calibration					Calibration Notes		POST Equipment Calibration						
PID (Isobutylene)	0 ppm =	NA	100 ppm =	NA	Hydrogen sulfide and CO readings were observed high during calibration.	PID (Isobutylene)	0 ppm =		100 ppm =				
Fresh Air	CH ₄ (0%) =	0.0%	O ₂ (20.9%) =	20.9%		Fresh Air	CH ₄ (0%) =		O ₂ (20.9%) =				
Methane	CH ₄ (15%) =	15.3%	CO ₂ (15%) =	15.1%		Methane High	CH ₄ (50%) =		CO ₂ (35%) =				
	O ₂ (0%) =	0.0%					O ₂ (0%)=						
H2S Mix	CH ₄ (0%) =	0.0%	O ₂ (18%) =	18.0%		H2S Mix	CH ₄ (2.5%) =		O ₂ (18%) =				
	H ₂ S (10 ppm) =	58 ppm	CO (50 ppm) =	253	H ₂ S (10 ppm) =			CO (50 ppm) =					
Screening Data													
Sample Location	Sample Location	Time	VOCs		Methane		Carbon Dioxide	Oxygen	Hydrogen Sulfide	Barometric Pressure	Temperature		
ID	Address	hr:min	ppm-v	%	volume in air (%)	% LEL (100% LEL = 5% CH4)	%	%	ppm-v	in-Hg	°F		
SGP-52	7586 Beverly Dr.	14:25	0.7		21.3	>100	7.1	11.8	0	29.87	71.0		
SGP-52-H		14:35	0.0		0.1	2	0.0	19.8	0	29.87	71.0		
SGP-35	1013 Leslie Dr.	15:00	0.0		31.5	>100	31.3	0.2	71	29.87	71.0		
SGP-35-H		15:10	0.0		0.2	4	0.1	19.4	0	29.87	71.0		
SGP-39	1033 Leslie Dr.	16:20	1.8		39.8	>100	28.5	0.4	8	29.87	71.0		
SGP-38	1029 Leslie Dr.	16:35	0.0		0.0	0	2.5	16.6	3	29.90	71.0		
SGP-38-H		16:40	0.0		0.0	0	1.4	20.0	0	29.90	71.0		
SGP-50-H	1017 Leslie Dr.	17:00	2.1		30.8	>100	23.0	0.0	4	29.89	71.0		
Name	Signature				Date	Notes:	Took pressure readings at selected houses in proximity to 1021 Leslie - readings were approximately the same as ambient pressure at each probe. Water began flooding the GEM 5000+ tubing at SGP-35-H and SGP-39-H and the reading was terminated. Sulfuric odor was observed at SGP-35. Unable to locate SGP-50-H - later discovered it indicated underground trail leading up to the fence line.						
(1)	Clay Faircloth					11/5/2025							

Figure for 2021 Leslie Drive



1021 LESLIE INDOOR AIR SAMPLE LOCATION

CUMBERLAND COUNTY / CLIFFDALE LANDFILL
NCDEQ NCD980502900 TASK ORDER 2900RI-22
7583 LOWELL HARRIS ROAD FAYETTEVILLE, NORTH CAROLINA

SCALE:
1 IN = 50 FT

DATE:
12/2/2025

PROJECT NUMBER
23050459

FIGURE NO.

1

Laboratory Reports and Chains of Custody



ANALYTICAL REPORT

Lab Number:	L2570735
Client:	S&ME, Inc. 3201 Spring Forest Rd. Suite 140 Raleigh, NC 27616
ATTN:	Thomas Raymond
Phone:	(919) 872-2660
Project Name:	CLIFFDALE LF
Project Number:	Not Specified
Report Date:	11/10/25

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: NH ELAP (2249).

120 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.pacelabs.com



Project Name: CLIFFDALE LF
Project Number: Not Specified

Lab Number: L2570735
Report Date: 11/10/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2570735-01	1021-LESLIE-LOW	AIR	Not Specified	11/05/25 09:01	11/07/25
L2570735-02	1021-LESLIE-DUP	AIR	Not Specified	11/05/25 09:02	11/07/25
L2570735-03	1021-LESLIE-HIGH	AIR	Not Specified	11/05/25 09:05	11/07/25
L2570735-04	1021-LESLIE-OUT	AIR	Not Specified	11/05/25 09:07	11/07/25

Project Name: CLIFFDALE LF
Project Number: Not Specified

Lab Number: L2570735
Report Date: 11/10/25

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Pace Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet weight basis, unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Pace's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Pace Project Manager and made arrangements for Pace to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name: CLIFFDALE LF
Project Number: Not Specified

Lab Number: L2570735
Report Date: 11/10/25

Case Narrative (continued)

Methane in Air

Canisters were released from the laboratory on November 3, 2025. The canister certification data is provided as an addendum.

L2570735-03D: Prior to sample analysis, the canisters were pressurized with UHP Nitrogen in order to facilitate the transfer of sample to the Gas Chromatograph. The addition of Nitrogen resulted in a dilution of the samples. The reporting limits have been elevated accordingly.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 11/10/25

AIR

Project Name: CLIFFDALE LF**Lab Number:** L2570735**Project Number:** Not Specified**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2570735-01

Date Collected: 11/05/25 09:01

Client ID: 1021-LESLIE-LOW

Date Received: 11/07/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 11/07/25 12:49

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	889		ppmV	1.00	--	1
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Project Name: CLIFFDALE LF**Project Number:** Not Specified**Lab Number:** L2570735**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2570735-02

Client ID: 1021-LESLIE-DUP

Sample Location: Not Specified

Date Collected: 11/05/25 09:02

Date Received: 11/07/25

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Analytical Method: 51,3C(M)

Analytical Date: 11/07/25 13:37

Analyst: DJR

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Dissolved Gases in Air - Mansfield Air Lab

Methane	891		ppmV	1.00	--	1
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Project Name: CLIFFDALE LF**Project Number:** Not Specified**Lab Number:** L2570735**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2570735-03 D

Client ID: 1021-LESLIE-HIGH

Sample Location: Not Specified

Date Collected: 11/05/25 09:05

Date Received: 11/07/25

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Analytical Method: 51,3C(M)

Analytical Date: 11/07/25 14:13

Analyst: DJR

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	814		ppmV	4.35	--	4.348
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Project Name: CLIFFDALE LF**Lab Number:** L2570735**Project Number:** Not Specified**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2570735-04

Date Collected: 11/05/25 09:07

Client ID: 1021-LESLIE-OUT

Date Received: 11/07/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 11/07/25 14:49

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	8.76		ppmV	1.00	--	1
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Project Name: CLIFFDALE LF**Project Number:** Not Specified**Lab Number:** L2570735**Report Date:** 11/10/25**Method Blank Analysis**
Batch Quality Control

Analytical Method: 51,3C(M)
Analytical Date: 11/06/25 18:28
Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases in Air - Mansfield Air Lab for sample(s): 01-04 Batch: WG2138654-3					
Methane	ND		ppmV	1.00	--

Lab Control Sample Analysis **Batch Quality Control**

Project Name: CLIFFDALE LF

Project Number: Not Specified

Lab Number: L2570735

Report Date: 11/10/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 01-04 Batch: WG2138654-2								
Methane	97		-		80-120	-		
Ethene	115		-		80-120	-		
Ethane	98		-		80-120	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: CLIFFDALE LF
Project Number: Not Specified

Lab Number: L2570735
Report Date: 11/10/25

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 01-04 QC Batch ID: WG2138654-4 QC Sample: L2570735-01 Client ID: 1021-LESLIE-LOW						
Methane	889	891	ppmV	0		5
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 01-04 QC Batch ID: WG2138654-5 QC Sample: L2570735-02 Client ID: 1021-LESLIE-DUP						
Methane	891	872	ppmV	2		5
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 01-04 QC Batch ID: WG2138654-6 QC Sample: L2570735-03 Client ID: 1021-LESLIE-HIGH						
Methane	814	821	ppmV	1		5
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 01-04 QC Batch ID: WG2138654-7 QC Sample: L2570735-04 Client ID: 1021-LESLIE-OUT						
Methane	8.76	8.83	ppmV	1		5

Project Name: CLIFFDALE LF

Serial_No:11102508:56
Lab Number: L2570735

Project Number:

Report Date: 11/10/25

Canister and Flow Controller Information

Samplenum	Client ID	Media ID	Media Type	Date Prepared	Bottle Order	Cleaning Batch ID	Can Leak Check	Initial Pressure (in. Hg)	Pressure on Receipt	Flow Controller Leak Chk	Flow Out mL/min	Flow In	% RPD
L2570735-01	1021-LESLIE-LOW	02689	Flow 4	11/03/25	542795		-	-	-	Pass	4.5	4.3	5
L2570735-01	1021-LESLIE-LOW	515	2.7L Can	11/03/25	542795	L2569035-04	Pass	-28.7	-5.7	-	-	-	-
L2570735-02	1021-LESLIE-DUP	01487	Flow 5	11/03/25	542795		-	-	-	Pass	4.5	5.1	13
L2570735-02	1021-LESLIE-DUP	3453	2.7L Can	11/03/25	542795	L2569035-02	Pass	-28.5	-8.6	-	-	-	-
L2570735-03	1021-LESLIE-HIGH	0783	Flow 4	11/03/25	542795		-	-	-	Pass	4.5	4.7	4
L2570735-03	1021-LESLIE-HIGH	3207	2.7L Can	11/03/25	542795	L2569035-01	Pass	-28.6	-16.1	-	-	-	-
L2570735-04	1021-LESLIE-OUT	01705	Flow 5	11/03/25	542795		-	-	-	Pass	4.5	4.8	6
L2570735-04	1021-LESLIE-OUT	3023	2.7L Can	11/03/25	542795	L2569035-03	Pass	-28.6	-5.7	-	-	-	-

Project Name: CLIFFDALE LF**Lab Number:** L2570735**Project Number:** Not Specified**Report Date:** 11/10/25**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

NA Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2570735-01A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2570735-02A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2570735-03A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2570735-04A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)

Project Name: CLIFFDALE LF**Lab Number:** L2570735**Project Number:** Not Specified**Report Date:** 11/10/25

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name: CLIFFDALE LF
Project Number: Not Specified

Lab Number: L2570735
Report Date: 11/10/25

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: CLIFFDALE LF**Lab Number:** L2570735**Project Number:** Not Specified**Report Date:** 11/10/25**Data Qualifiers**

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: CLIFFDALE LF**Lab Number:** L2570735**Project Number:** Not Specified**Report Date:** 11/10/25

REFERENCES

- 51 Determination of Carbon Dioxide, Methane, Nitrogen and Oxygen from Stationary Sources. Method 3C. Appendix A, Part 60, 40 CFR (Code of Federal Regulations). June 20, 1996.

LIMITATION OF LIABILITIES

Pace Analytical Services performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Pace Analytical Services.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Pace Analytical Services LLCFacility: **Northeast**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**Revision **28**Published Date: **07/25/2025**Page **1 of 2****Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581**EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

MADEP-APH.**Nonpotable Water:** EPA RSK-175 Dissolved Gases**Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048**Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)**

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,****EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:**Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,****SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, SM4500CL-G, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride,

Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg.****EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1:** Hg. **EPA 245.7:** Hg.**SM2340B**

Pace Analytical Services LLCID No.: **17873**Facility: **Northeast**

Revision 28

Department: **Quality Assurance**

Published Date: 07/25/2025

Title: **Certificate/Approval Program Summary**

Page 2 of 2

Certification IDs:**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581**

CT PH-0826, IL 200077, IN C-MA-03, KY KY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

MA M-MA00030, CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 85084, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048

ANAB/DoD L2474, LA 245052, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

For a complete listing of analytes and methods, please contact your Project Manager.

Environment Testing

11/7/25 L2570735

ORIGIN ID:FAYA (919) 872-2660
 GAIL KLUEVER
 S & ME, INC
 3201 SPRING FOREST RD

RALEIGH, NC 27616
 UNITED STATES US

SHIP DATE: 06NOV25
 ACTWGT: 27.45 LB
 CAD: 6570911/ROSA2670
 DIMS: 22x17x15 IN

BILL THIRD PARTY

Part # 156297-435 RPOB EXP 10/26

TO **PACE ANALYTICAL LABS**

**120 FORBES BOULEVARD
 STE 170
 MANSFIELD MA 02048**

(000) 000-0000

REF:

PO:

DEPT:



FedEx
 Express



TRK#
 0201 8857 9480 1870

**FRI - 07 NOV 5:00P
 STANDARD OVERNIGHT**

XG PYMA

**AHS
 02048
 MA-US BOS**





ANALYTICAL REPORT

Lab Number:	L2569035
Client:	Alpha Analytical 120 Forbes Blvd. Mansfield, MA 02048
ATTN:	Chris Anderson
Phone:	(508) 822-9300
Project Name:	INDIV. CANISTER CERTIFICATION
Project Number:	CANISTER QC INDIV
Report Date:	11/10/25

The original project report/data package is held by Pace Analytical Services. This report/data package is paginated and should be reproduced only in its entirety. Pace Analytical Services holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0825), DoD (L2474), FL (E87814), IL (200081), IN (C-MA-04), KY (KY98046), LA (85084), ME (MA00030), MD (350), MI (9110), MN (025-999-495), NJ (MA015), NY (11627), NC (685), OR (MA-0262), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #525-23-107-88708A1), USFWS (Permit #A24920).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com



Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

Lab Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2569035-01	3207	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-02	3453	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-03	3023	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-04	515	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-05	2024	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-06	260	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-07	2434	AIR	Not Specified	10/30/25 12:00	10/30/25
L2569035-08	4385	AIR	Not Specified	10/30/25 12:00	10/30/25

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Pace Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments and solids are reported on a dry weight basis unless otherwise noted. Tissues are reported "as received" or on a wet weight basis, unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Pace's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Pace Project Manager and made arrangements for Pace to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature:  Christopher J. Anderson

Title: Technical Director/Representative

Date: 11/10/25

AIR

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-01

Date Collected: 10/30/25 12:00

Client ID: 3207

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 10/31/25 10:27

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
Ethene	ND		ppmV	1.00	--	1
Ethane	ND		ppmV	1.00	--	1

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-02

Date Collected: 10/30/25 12:00

Client ID: 3453

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 10/31/25 11:15

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Dissolved Gases in Air - Mansfield Air Lab						
Methane	ND		ppmV	1.00	--	1
Ethene	ND		ppmV	1.00	--	1
Ethane	ND		ppmV	1.00	--	1

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-03

Date Collected: 10/30/25 12:00

Client ID: 3023

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 10/31/25 11:40

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
Ethene	ND		ppmV	1.00	--	1
Ethane	ND		ppmV	1.00	--	1

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-04

Date Collected: 10/30/25 12:00

Client ID: 515

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 10/31/25 12:04

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
Ethene	ND		ppmV	1.00	--	1
Ethane	ND		ppmV	1.00	--	1

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-05

Date Collected: 10/30/25 12:00

Client ID: 2024

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 11/04/25 19:26

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
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Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-06

Date Collected: 10/30/25 12:00

Client ID: 260

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 11/04/25 19:50

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
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Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-07

Date Collected: 10/30/25 12:00

Client ID: 2434

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 11/04/25 20:15

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
-----------	--------	-----------	-------	----	-----	-----------------

Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
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Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**SAMPLE RESULTS**

Lab ID: L2569035-08

Date Collected: 10/30/25 12:00

Client ID: 4385

Date Received: 10/30/25

Sample Location: Not Specified

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Extraction Method:

Analytical Method: 51,3C(M)

Analytical Date: 11/04/25 20:39

Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Dissolved Gases in Air - Mansfield Air Lab

Methane	ND		ppmV	1.00	--	1
---------	----	--	------	------	----	---

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**Method Blank Analysis**
Batch Quality Control

Analytical Method: 51,3C(M)
Analytical Date: 10/30/25 19:53
Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases in Air - Mansfield Air Lab for sample(s): 01-04 Batch: WG2135524-3					
Methane	ND		ppmV	1.00	--
Ethene	ND		ppmV	1.00	--
Ethane	ND		ppmV	1.00	--

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

Method Blank Analysis
Batch Quality Control

Analytical Method: 51,3C(M)
Analytical Date: 11/04/25 16:42
Analyst: DJR

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases in Air - Mansfield Air Lab for sample(s): 05-08 Batch: WG2137096-3					
Methane	ND		ppmV	1.00	--
Ethene	ND		ppmV	1.00	--
Ethane	ND		ppmV	1.00	--

Lab Control Sample Analysis
Batch Quality Control

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 01-04 Batch: WG2135524-2								
Methane	99		-		80-120	-		
Ethene	80		-		80-120	-		
Ethane	98		-		80-120	-		



Lab Control Sample Analysis
Batch Quality Control

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Gases in Air - Mansfield Air Lab Associated sample(s): 05-08 Batch: WG2137096-2								
Methane	98		-		80-120	-		
Ethene	94		-		80-120	-		
Ethane	98		-		80-120	-		



Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

Cooler Information**Cooler** **Custody Seal**

NA Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2569035-01A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-02A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-03A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-04A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-05A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-06A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-07A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2569035-08A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)

Project Name: INDIV. CANISTER CERTIFICATION**Lab Number:** L2569035**Project Number:** CANISTER QC INDIV**Report Date:** 11/10/25

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

Footnotes

- 1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA, this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

- A** - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.
- B** - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).
- C** - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.
- D** - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.
- E** - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.
- F** - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.
- G** - The concentration may be biased high due to matrix interferences (i.e. co-elution) with non-target compound(s). The result should be considered estimated.
- H** - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.
- I** - The lower value for the two columns has been reported due to obvious interference.
- J** - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).
- M** - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report



Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

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Report Date: 11/10/25

Data Qualifiers

- ND** - Not detected at the reporting limit (RL) for the sample.
- NJ** - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.
- P** - The RPD between the results for the two columns exceeds the method-specified criteria.
- Q** - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)
- R** - Analytical results are from sample re-analysis.
- RE** - Analytical results are from sample re-extraction.
- S** - Analytical results are from modified screening analysis.
- V** - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)
- Z** - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Project Name: INDIV. CANISTER CERTIFICATION
Project Number: CANISTER QC INDIV

Lab Number: L2569035
Report Date: 11/10/25

REFERENCES

- 51 Determination of Carbon Dioxide, Methane, Nitrogen and Oxygen from Stationary Sources. Method 3C. Appendix A, Part 60, 40 CFR (Code of Federal Regulations). June 20, 1996.

LIMITATION OF LIABILITIES

Pace Analytical Services performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Pace Analytical Services shall be to re-perform the work at it's own expense. In no event shall Pace Analytical Services be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Pace Analytical Services.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.



Pace Analytical Services LLCFacility: **Northeast**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**Revision **28**Published Date: **07/25/2025**Page **1** of **2****Certification Information**

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581**EPA 624.1:** m/p-xylene, o-xylene, Naphthalene**EPA 625.1:** alpha-Terpineol**EPA 8260D:** NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.**EPA 8270E:** NPW: Dimethylnaphthalene, 1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene, 1,4-Diphenylhydrazine.**SM4500:** NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.**Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****SM 2540D:** TSS.**EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

MADEP-APH.**Nonpotable Water:** EPA RSK-175 Dissolved Gases**Biological Tissue Matrix:** EPA 3050B**Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048****EPA TO-15:** Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.

Nonpotable Water: EPA RSK-175 Dissolved Gases

The following test method is not included in our New Jersey Secondary NELAP Scope of Accreditation:

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048**Determination of Selected Perfluorinated Alkyl Substances by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry Isotope Dilution (via Alpha SOP 23528)**

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility – 8 Walkup Dr. Westborough, MA 01581**Drinking Water****EPA 300.0:** Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B****EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.**Microbiology:** **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.****Non-Potable Water****SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH:** Ammonia-N and Kjeldahl-N, **EPA 350.1:** Ammonia-N, **LCHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, SM4500CL-G, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300:** Chloride, Sulfate, Nitrate.**EPA 624.1:** Volatile Halocarbons & Aromatics,**EPA 608.3:** Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs**EPA 625.1:** SVOC (Acid/Base/Neutral Extractables).**Microbiology:** **SM9223B-Colilert-QT; Enterolert-QT.****Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048****Drinking Water****EPA 200.7:** Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1 Hg. EPA 522, EPA 537.1.****Non-Potable Water****EPA 200.7:** Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.**EPA 200.8:** Al, Sb, As, Be, Cd, Ca, Cr, Cu, Fe, Pb, Mg, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1:** Hg. **EPA 245.7:** Hg.**SM2340B**

Pace Analytical Services LLCFacility: **Northeast**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

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Certification IDs:**Westborough Facility – 8 Walkup Dr. Westborough, MA 01581**

CT PH-0826, IL 200077, IN C-MA-03, KY KY98045, ME MA00086, MD 348, MA M-MA086, NH 2064, NJ MA935, NY 11148, NC (DW) 25700, NC (NPW/SCM) 666, OR MA-1316, PA 68-03671, RI LAO00065, TX T104704476, VT VT-0935, VA 460195

Mansfield Facility – 320 Forbes Blvd. Mansfield, MA 02048

MA M-MA00030, CT PH-0825, ANAB/DoD L2474, IL 200081, IN C-MA-04, KY KY98046, LA 85084, ME MA00030, MI 9110, MN 025-999-495, NH 2062, NJ MA015, NY 11627, NC (NPW/SCM) 685, OR MA-0262, PA 68-02089, RI LAO00299, TX T-104704419, VT VT-0015, VA 460194, WA C954

Mansfield Facility – 120 Forbes Blvd. Mansfield, MA 02048

ANAB/DoD L2474, LA 245052, ME MA01156, MN 025-999-498, NH 2249, NJ MA025, NY 12191, OR 4203, TX T104704583, VA 460311, WA C1104.

For a complete listing of analytes and methods, please contact your Project Manager.

CCP #	Can ID #	Initial Leak Check Pressure, in. Hg	Date/Time of Reading
1	3207	-29.998	10/30/25 8:00 PM
2	3453	-29.998	10/30/25 8:00 PM
3	3023	-29.998	10/30/25 8:00 PM
4	515	-29.998	10/30/25 8:00 PM
5	2024	-29.998	10/30/25 8:00 PM
6	260	-29.998	10/30/25 8:00 PM
7	2434	-29.998	10/30/25 8:00 PM
8	4385	-29.998	10/30/25 8:00 PM
9		-29.998	10/30/25 8:00 PM
10		-29.998	10/30/25 8:00 PM
11		-29.998	10/30/25 8:00 PM
12		-29.998	10/30/25 8:00 PM
13		-29.998	10/30/25 8:00 PM
14		-29.998	10/30/25 8:00 PM
15		-29.998	10/30/25 8:00 PM
16		-29.998	10/30/25 8:00 PM
17		-29.998	10/30/25 8:00 PM
18		-29.998	10/30/25 8:00 PM

Can Cleaner #	<u>1</u>	Final Pressure., mTorr	<u>60</u>
		Initials:	<u>ML</u>
Can size, L	<u>2.7</u>	Can QC ID #	<u>I-CERT</u>
		METHANE	
Cleaning Batch ID #	<u>L2569035-01</u>		

Cleaning Cycle Start Date/Time
10/30/25 12:00 PM

Cleaning Cycle End Date/Time
10/30/25 8:00 PM

Submitted for analysis by: Matthew LadouceurDate: 11/7/2025



Sample Delivery Group Form

Laboratory Job number: L2569035

Project Number: CANISTER QC INDIV

Project Name: INDIV. CANISTER CERTIFICATION

Received: 10/30/2025 20:00

Client Account: Alpha Analytical

Received by: Call Tracker #

Samples Delivered by:

Bill Of Laden N/A

Trackingnum

Coc Present Present
Container Status Intact

Sample IDs

All Containers Accounted For? Yes

Were Extra Samples Received? No

Do Sample Labels and COC agree? Yes

Are Samples in Appropriate Containers? Yes

Are Samples Received within Holding time? Yes

pH of Samples upon Receipt

Are samples Properly Preserved? Yes

Initial pH preserved in house with

Final pH

Other Issues

Chlorine Check N/A

Are VOA/VPH Vials Present? No

Aqueous: Do Vials Contain Head Space? N/A

Soils: Is MeOH Covering the Soil? N/A

Reagent H2O Preserved vials Frozen on N/A

Frozen by Client N/A

Cooler	Seal	Ice Present	Blue Ice Present	Temp. (Celsius)	Frozen upon Receipt	Delivered Direct from Site
NA		No	No	-	No	No



Sample Delivery Group Summary

Pace Job Number : L2570735

Received : 07-NOV-2025

Account Name : S&ME, Inc.

Reviewer : Christopher J Anderson

Project Number :

Project Name : CLIFFDALE LF

Delivery Information

Samples Delivered By : Express Ship
FedEx (885794801870)

Chain of Custody : Present

Cooler Information

Cooler	Seal/Seal#	Preservation	Temperature(°C)	Additional Information
NA	Absent/			

Condition Information

- | | |
|--|------------|
| 1) All samples on COC received? | YES |
| 2) Extra samples received? | NO |
| 3) Are there any sample container discrepancies? | NO |
| 4) Are there any discrepancies between COC & sample labels? | NO |
| 5) Are samples in appropriate containers for requested analysis? | YES |
| 6) Are samples properly preserved for requested analysis? | YES |
| 7) Are samples within holding time for requested analysis? | YES |
| 8) All sampling equipment returned? | YES |

Volatile Organics/VPH

- | | |
|--|-----------|
| 1) Reagent Water Vials Frozen by Client? | NA |
|--|-----------|

Environment Testing

11/7/25 L2570735

Ver: 05/06/2024

ORIGIN ID: FAYA (919) 872-2660
GAIL KLUEVER
S & ME, INC
3201 SPRING FOREST RD

RALEIGH, NC 27616
UNITED STATES US

SHIP DATE: 06NOV25
ACTWGT: 27.45 LB
CAD: 6570911/ROSA2670
DIMS: 22x17x15 IN

BILL THIRD PARTY

Part # 156297-436 RPOB EXP 10/26

TO **PACE ANALYTICAL LABS**

**120 FORBES BOULEVARD
STE 170
MANSFIELD MA 02048**

(000) 000-0000

REF:

DEPT:



FedEx
Express



TRK#
0201 8857 9480 1870

**FRI - 07 NOV 5:00P
STANDARD OVERNIGHT**

XG PYMA

**AHS
02048
MA-US BOS**

