



**ENVIRONMENTAL
MONITORING
REPORT – 2024
SECOND QUARTER**

Mechanic Street
Landfill
Leominster, MA

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0210024.24
Leominster, MA
June 2024

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1. ENVIRONMENTAL MONITORING PROGRAM

On behalf of the City of Leominster, Massachusetts (City), Woodard & Curran, Inc. (Woodard & Curran) is submitting this Second Quarter 2024 Environmental Monitoring Report. This report summarizes the Environmental Monitoring event at the Mechanic Street Landfill in Leominster, MA (Site). This site consists of an inactive landfill with ongoing post-closure monitoring occurring quarterly. The environmental monitoring event was conducted on June 3, 2024, by Geological Field Services, Inc. (GFS) of Salem, MA, a subcontractor utilized by Woodard & Curran. Field data sheets and a field visit summary from GFS are provided in Appendix A: Geological Field Services, Inc. Field Summary Report. A description of the environmental monitoring program scope and frequency is included in Table 1-1: Environmental Monitoring Program. This monitoring event included the following activities:

- Ambient air monitoring;
- Landfill gas monitoring;
- Methane Gas Monitoring; and
- Condensate sampling.

1.1 Site History

Operations at the Site began in the late 1800's, operating as an open burn dump until 1970. From 1970 to 1985, municipal solid waste was accepted at the landfill. Additionally, the City deposited wastewater treatment plant sludge at the Site from 1970 to 1989. An Initial Site Assessment was completed for the landfill in 1996 and the landfill was officially closed in 1998, initiating the 30-year Post Closure Monitoring Program.

Historical landfill gas monitoring data had regularly indicated elevated concentration of landfill gas along the southern, western, and northern perimeter of the landfill at levels exceeding 25% of the Lower Explosive Limit (LEL) relative to methane. The permanent perimeter landfill gas monitoring wells located along the perimeter of the landfill (LGW-1 through LGW-29) were installed near the limit of solid water (the landfill cap and property line) making it very difficult to assess landfill gas migration across Mechanic Street.

An expanded monitoring effort was implemented in 2000 and 2001 which included the installation and collection of landfill gas data from twenty-six (26) residential landfill gas monitoring wells located outside the perimeter of the landfill, identified as LGW-30 through LGW-55. A Consent Order and Notice of Non-Compliance (ACO) (ACO-CE-00-4001) was issued on October 2, 2000, by the Massachusetts Department of Environmental Protection (MassDEP) which required the City to install a landfill gas collection and treatment system. In January of 2002, the City constructed and began operation of a landfill gas collection system and flare to collect and destroy landfill gas as required. The flare is located across the street from the landfill at the Leominster Wastewater Treatment Facility on Commercial Road, as shown in Figure 1-1: Environmental Monitoring Site Plan. An annual report (Permits #W018599 – BWP SW 11 & #X624851 – BWP AQ 02) summarizing solid waste and air quality compliance activities of the landfill gas system is submitted to MassDEP in February of each year.

Based on landfill gas screening results following the installation of the flare, Woodard & Curran recommended modifications to the environmental monitoring program in March 2003. The modified environmental monitoring program removed the twenty-six (26) residential landfill gas monitoring wells

(LGW-30 through LGW-55) from the environmental monitoring program. The recommended modifications to the environmental monitoring program were approved per a letter from Mr. John Regan of MassDEP dated April 18, 2003.

1.2 Ambient Air Monitoring

Per the requirements of Permit #W018797, two ambient air samples were collected, one on the landfill mound and one off the landfill (upwind) on June 3, 2024. The samples were collected in calibrated summa canisters provided by Alpha Analytical Laboratories of Westborough, Massachusetts. The canisters were calibrated to sample the ambient air over a four-hour period. Ambient Air Sample 1 was collected upwind of the landfill and Sample 2 was collected at the center of the landfill. The ambient air monitoring activities and methods are described in Table 1-1 and Appendix A.

1.3 Landfill Gas Monitoring

The Site has 29 perimeter landfill gas monitoring wells identified as LGW-1 through LGW-29. On June 3, 2024, GFS screened all 29-perimeter landfill gas monitoring wells. The gases measured at these locations include methane, hydrogen sulfide, oxygen, and carbon dioxide. The perimeter landfill gas monitoring activities are described in Appendix A. The locations of the perimeter landfill gas monitoring wells can be seen in Figure 1-1: Environmental Monitoring Site Plan. The landfill gas monitoring activities and methods are described in Table 1-1.

1.4 Methane Monitor Calibrations

GFS attempted to calibrate all 15 methane detectors located in the homes across or near the landfill during this monitoring event, and was able to calibrate 11 methane detectors located at the following addresses:

- 492 Mechanic Street
- 510 Mechanic Street
- 521 Mechanic Street
- 549 Mechanic Street
- 561 Mechanic Street
- 577 Mechanic Street
- 589 Mechanic Street
- 627 Mechanic Street
- 639 Mechanic Street
- 645 Mechanic Street
- 7A St Cecelia Street

The detectors at 502 Mechanic Street, 567 Mechanic Street and 8 St. Cecilia Street could not be accessed and calibrated. A letter was sent to 633 Mechanic Street via certified mailing requesting the homeowner leave the detector outside for calibration due to disputes with the property owner during previous attempts to calibrate the detector. The certified mailing could not be delivered to the property owner, therefore when the detector was not left outside for calibration, it was decided the staff was not to make further attempts to approach the property owner. Beginning in Quarter 4 2017, methane monitor calibration at 539 Mechanic Street was stopped following a request by the homeowner. Figure 1-1 depicts the homes equipped with methane detectors. The residential methane detector calibration report can be seen in Appendix A and the results can be seen in Table 1-2.

1.5 Condensate Sampling

Per the requirements of Permit #W018599, GFS personnel collected condensate samples from Condensate Drains CD-1 and CD-2 on June 3, 2024. The condensate samples were analyzed by Alpha Analytical of Westborough, MA.

2. ENVIRONMENTAL MONITORING RESULTS

2.1 Ambient Air Monitoring Results

Per the requirements of the final permit, the flare shall be operated such that the ambient air methane concentrations shall be less than 500 parts per million by volume (ppmv) above background. Both sampling locations were reported below 500 ppmv; Sample 1 (Upwind) had a concentration of 3.28 ppmv and Sample 2 (Center of Landfill) had a concentration of 2.60 ppmv.

The results of the ambient air monitoring comply with the final permit and are consistent with historical monitoring data at this Site. Table 2-1 summarizes the results of the methane analysis, and the Alpha Analytical Laboratory Report can be found in Appendix B.

2.2 Landfill Gas Monitoring Results

Gas in the form of methane was not detected in any of the perimeter landfill gas monitoring wells. Volatile organic compounds (VOCs) and hydrogen sulfide were also not detected in any of the screened perimeter landfill gas monitoring wells. Oxygen concentrations ranged from 19.9 percent-by-volume at LGW-29 during duplicate screening to 21.0 percent-by-volume at LGW-1. Carbon dioxide concentrations ranged from 0.0 percent-by-volume at LGW-7 to 2.5 percent-by-volume at LGW-22. Table 2-2 summarizes the landfill gas monitoring results.

2.3 Condensate Sampling Results

Condensate Drains CD-1 and CD-2 were analyzed by Alpha Analytical for VOCs. The results of this analysis can be found in Table 2-3 Condensate Analytical Data Summary. Per the requirements of Permit #W018599, there are no comparisons of the condensate analyses to regulatory standards. Please note that the condensate is being treated at the Leominster Wastewater Treatment Plant. The Alpha Analytical Laboratory Report can be found in Appendix B.

3. SUMMARY

Per the requirements of Permit #W018797, two ambient air landfill samples were taken from the Site at the time of the monitoring event. Neither of the two samples (upwind and landfill center) exceeded the permit limit of 500 ppmv.

Landfill gas, in the form of methane, was not detected in the perimeter landfill gas wells during this environmental monitoring event. These detections are consistent with historical monitoring data at these locations. Likewise, hydrogen sulfide and VOCs were not detected at the Site during the monitoring event.

Residential methane monitor calibrations were completed at 11 of the 15 locations. Three monitors could not be accessed; therefore, those methane monitors were not calibrated during this monitoring event.

Woodard & Curran does not recommend any changes be made to the environmental monitoring program at this time. The next monitoring event is expected to occur in September 2024.

TABLES

Table 1-1
Environmental Monitoring Program Summary

Landfill Gas (Quarter 1, Quarter 2, Quarter 3, Quarter 4)	
Screen landfill gas wells LGW-1 through LGW-29.	
<i>In-Situ Measurements</i>	Percent Oxygen Hydrogen Sulfide (ppm) Carbon Dioxide (ppm) Methane (% LEL and % by volume) Total Ionizable Volatile Organic Compounds
Groundwater and Surface Water (Quarter 1, Quarter 3)	
Collect samples at locations MW-3, MW-4, MW-5S, MW-5D and SW-1; include one trip blank.	
<i>In-Situ Measurements</i>	Dissolved Oxygen (DO) (mg/L) pH (standard units) Temperature (°C) Specific Conductance (µmhos/cm)
<i>Depth to Water</i>	At MW-1, MW-2S, MW-2D, MW-3, MW-4, MW-5S, MW-5D, MW-6, MW-7S and MW-7D.
<i>Indicator Parameters</i>	Alkalinity by EPA Method 310.1 Chemical Oxygen Demand by EPA Method 410.4 Chloride by EPA Method 325.2 Nitrate by EPA Method 353.2 Sulfate by EPA Method 375.4 Total Cyanide by EPA Method 9010 Total Dissolved Solids by EPA Method 160.1
VOCs	Volatile Organic Compounds by EPA Method 8260B.
Condensate (Quarter 2, Quarter 4)	
Condensate Drain CD-1 and CD-2.	
VOCs	Volatile Organic Compounds by EPA Method 8260B.
Ambient Air (Quarter 1, Quarter 2, Quarter 3, Quarter 4)	
One center of the landfill location and one upwind location.	
<i>Ambient Conditions</i>	Methane by ASTM Method D-1946 (4-hour sample)

Note: This monitoring program reflects modifications made during Fiscal Year (FY) 2004 and FY 2005.

Table 1-2
Residential Methane Detector Calibration Results
Environmental Monitoring Report
Mechanic Street Landfill - Leominster, MA

Address	Time	Lamp Color	Time to Red	Time to Green	Proper Calibration	Comments
492 Mechanic Street	14:28	Green	20	19	Yes	
502 Mechanic Street	No access to rental unit					
510 Mechanic Street	14:18	Green	40	12	Yes	
521 Mechanic Street	14:25	Green	13	10	Yes	
549 Mechanic Street	18:13	Green	21	6	Yes	
561 Mechanic Street	17:00	Green	6	22	Yes	
567 Mechanic Street	No resident home to provide access					
577 Mechanic Street	14:05	Green	26	10	Yes	
589 Mechanic Street	14:00	Green	12	12	Yes	
7 St. Cecelia Street	18:00	Green	18	16	Yes	
8A St. Cecelia Street	No resident home to provide access					
627 Mechanic Street	16:55	Green	38	10	Yes	
633 Mechanic Street	Resident did not pick up certified mail, cannot enter property without permission.					
639 Mechanic Street	16:50	Green	16	18	Yes	
645 Mechanic Street	14:12	Green	19	6	Yes	

Notes:

The data in this Table was collected by GFS during the monitoring event.

Calibration gas concentration 5000 ppm.

All times in seconds.

Table 2-1
Ambient Air Analytical Data Summary
Environmental Monitoring Report
Mechanic Street Landfill - Leominster, MA

Location	Sample ID	Sample Date	Methane Content (% by volume)	Methane Content (ppmv)
Upwind	L2430980-01	6/3/2024	0.000328	3.28
Center of Landfill	L2430980-02	6/3/2024	0.00026	2.60

Notes:

The data in this Table was collected by GFS during the monitoring event.

Table 2-2
Landfill Gas Monitoring Results
Environmental Monitoring Report
Mechanic Street Landfill - Leominster, MA

Well ID	Methane (vol%)	PID (ppm)	% LEL	Hydrogen Sulfide (H ₂ S) (ppm)	Oxygen (O ₂)(vol%)	Carbon Dioxide (CO ₂) (vol%)
LGW-1	0.0	0.0	0.0	0.0	21.0	0.1
LGW-2	0.0	0.0	0.0	0.0	20.0	0.4
LGW-3	0.0	0.0	0.0	0.0	20.2	0.2
LGW-4	0.0	0.0	0.0	0.0	20.9	0.1
LGW-5	0.0	0.0	0.0	0.0	20.0	0.2
LGW-5 Dup	0.0	0.0	0.0	0.0	19.9	0.3
LGW-6	0.0	0.0	0.0	0.0	19.8	0.1
LGW-6 Dup	0.0	0.0	0.0	0.0	19.8	0.3
LGW-7	0.0	0.0	0.0	0.0	20.8	0.0
LGW-8	0.0	0.0	0.0	0.0	20.0	0.1
LGW-9	0.0	0.0	0.0	0.0	20.6	0.1
LGW-10	0.0	0.0	0.0	0.0	20.0	0.2
LGW-11	0.0	0.0	0.0	0.0	19.9	0.8
LGW-12	0.0	0.0	0.0	0.0	20.0	0.3
LGW-13	0.0	0.0	0.0	0.0	19.9	0.4
LGW-14	0.0	0.0	0.0	0.0	19.9	0.5
LGW-15	0.0	0.0	0.0	0.0	18.1	1.9
LGW-16	0.0	0.0	0.0	0.0	18.6	1.6
LGW-17	0.0	0.0	0.0	0.0	18.6	1.2
LGW-18	0.0	0.0	0.0	0.0	18.6	1.2
LGW-19	0.0	0.0	0.0	0.0	19.8	2.1
LGW-20	0.0	0.0	0.0	0.0	19.0	2.1
LGW-21	0.0	0.0	0.0	0.0	19.1	1.6
LGW-22	0.0	0.0	0.0	0.0	18.2	2.5
LGW-23	0.0	0.0	0.0	0.0	18.4	2.0
LGW-24	0.0	0.0	0.0	0.0	19.1	1.4
LGW-25	0.0	0.0	0.0	0.0	19.2	0.4
LGW-26	0.0	0.0	0.0	0.0	20.0	0.2
LGW-27	0.0	0.0	0.0	0.0	20.0	0.3
LGW-28	0.0	0.0	0.0	0.0	20.0	0.6
LGW-29	0.0	0.0	0.0	0.0	18.5	1.2
LGW-29 Dup	0.0	0.0	0.0	0.0	17.9	1.2
Ambient	0.0	0.0	0.0	0.0	20.9	0.0

Notes:

The data in this Table was collected by GFS during the monitoring event.

vol% - Percent by Volume

LEL - Lower Explosive Limit

ppm - parts per million

H₂S - Hydrogen Sulfide

O₂ - Oxygen

CO₂ - Carbon Dioxide

Table 2-3
Condensate Monitoring Results
Environmental Monitoring Report
Mechanic Street Landfill - Leominster, MA

LOCATION		CD-1		CD-2	
SAMPLING DATE		6/3/2024		6/3/2024	
LAB SAMPLE ID		L2430849-01		L2430849-02	
	Units	Results	Qual	Results	Qual
MCP Volatile Organics					
Methylene chloride	ug/l	2	U	2	U
1,1-Dichloroethane	ug/l	1	U	1	U
Chloroform	ug/l	1	U	1	U
Carbon tetrachloride	ug/l	1	U	1	U
1,2-Dichloropropane	ug/l	1	U	1	U
Dibromochloromethane	ug/l	1	U	1	U
1,1,2-Trichloroethane	ug/l	1	U	1	U
Tetrachloroethene	ug/l	1	U	1	U
Chlorobenzene	ug/l	1	U	1	U
Trichlorofluoromethane	ug/l	2	U	2	U
1,2-Dichloroethane	ug/l	1	U	1	U
1,1,1-Trichloroethane	ug/l	1	U	1	U
Bromodichloromethane	ug/l	1	U	1	U
trans-1,3-Dichloropropene	ug/l	0.4	U	0.4	U
cis-1,3-Dichloropropene	ug/l	0.4	U	0.4	U
1,3-Dichloropropene, Total	ug/l	0.4	U	0.4	U
1,1-Dichloropropene	ug/l	2	U	2	U
Bromoform	ug/l	2	U	2	U
1,1,2,2-Tetrachloroethane	ug/l	1	U	1	U
Benzene	ug/l	0.5	U	0.5	U
Toluene	ug/l	1	U	1	U
Ethylbenzene	ug/l	27		5.9	
Chloromethane	ug/l	2	U	2	U
Bromomethane	ug/l	2	U	2	U
Vinyl chloride	ug/l	1	U	1	U
Chloroethane	ug/l	2	U	2	U
1,1-Dichloroethene	ug/l	1	U	1	U
trans-1,2-Dichloroethene	ug/l	1	U	1	U
Trichloroethene	ug/l	1	U	1	U
1,2-Dichlorobenzene	ug/l	1	U	1	U

Table 2-3
Condensate Monitoring Results
Environmental Monitoring Report
Mechanic Street Landfill - Leominster, MA

LOCATION		CD-1		CD-2	
SAMPLING DATE		6/3/2024		6/3/2024	
LAB SAMPLE ID		L2430849-01		L2430849-02	
	Units	Results	Qual	Results	Qual
MCP Volatile Organics					
1,3-Dichlorobenzene	ug/l	1	U	1	U
1,4-Dichlorobenzene	ug/l	2.5		1	U
Methyl tert butyl ether	ug/l	3.3		2.3	
p/m-Xylene	ug/l	9.8		2	
o-Xylene	ug/l	1	U	1	U
Xylenes, Total	ug/l	9.8		2	
cis-1,2-Dichloroethene	ug/l	1	U	1	U
1,2-Dichloroethene, Total	ug/l	1	U	1	U
Dibromomethane	ug/l	2	U	2	U
1,2,3-Trichloropropane	ug/l	2	U	2	U
Styrene	ug/l	1	U	1	U
Dichlorodifluoromethane	ug/l	2	U	2	U
Acetone	ug/l	300	E	90	
Carbon disulfide	ug/l	2	U	2	U
Methyl ethyl ketone	ug/l	13		5	U
Methyl isobutyl ketone	ug/l	5	U	5	U
2-Hexanone	ug/l	5	U	5	U
Bromochloromethane	ug/l	2	U	2	U
Tetrahydrofuran	ug/l	5.5		7.9	
2,2-Dichloropropane	ug/l	2	U	2	U
1,2-Dibromoethane	ug/l	2	U	2	U
1,3-Dichloropropane	ug/l	2	U	2	U
1,1,1,2-Tetrachloroethane	ug/l	1	U	1	U
Bromobenzene	ug/l	2	U	2	U
n-Butylbenzene	ug/l	2	U	2	U
sec-Butylbenzene	ug/l	2	U	2	U
tert-Butylbenzene	ug/l	2	U	2	U
o-Chlorotoluene	ug/l	2	U	2	U
p-Chlorotoluene	ug/l	2	U	2	U
1,2-Dibromo-3-chloropropane	ug/l	2	U	2	U
Hexachlorobutadiene	ug/l	0.6	U	0.6	U

Table 2-3
Condensate Monitoring Results
Environmental Monitoring Report
Mechanic Street Landfill - Leominster, MA

LOCATION		CD-1		CD-2	
SAMPLING DATE		6/3/2024		6/3/2024	
LAB SAMPLE ID		L2430849-01		L2430849-02	
	Units	Results	Qual	Results	Qual
MCP Volatile Organics					
Isopropylbenzene	ug/l	2	U	2	U
p-Isopropyltoluene	ug/l	2	U	2	U
Naphthalene	ug/l	2	U	2	U
n-Propylbenzene	ug/l	2	U	2	U
1,2,3-Trichlorobenzene	ug/l	2	U	2	U
1,2,4-Trichlorobenzene	ug/l	2	U	2	U
1,3,5-Trimethylbenzene	ug/l	2	U	2	U
1,2,4-Trimethylbenzene	ug/l	2	U	2	U
Diethyl ether	ug/l	11		8.2	
Diisopropyl Ether	ug/l	2	U	2	U
Ethyl-Tert-Butyl-Ether	ug/l	2	U	2	U
Tertiary-Amyl Methyl Ether	ug/l	2	U	2	U
1,4-Dioxane	ug/l	250	U	250	U

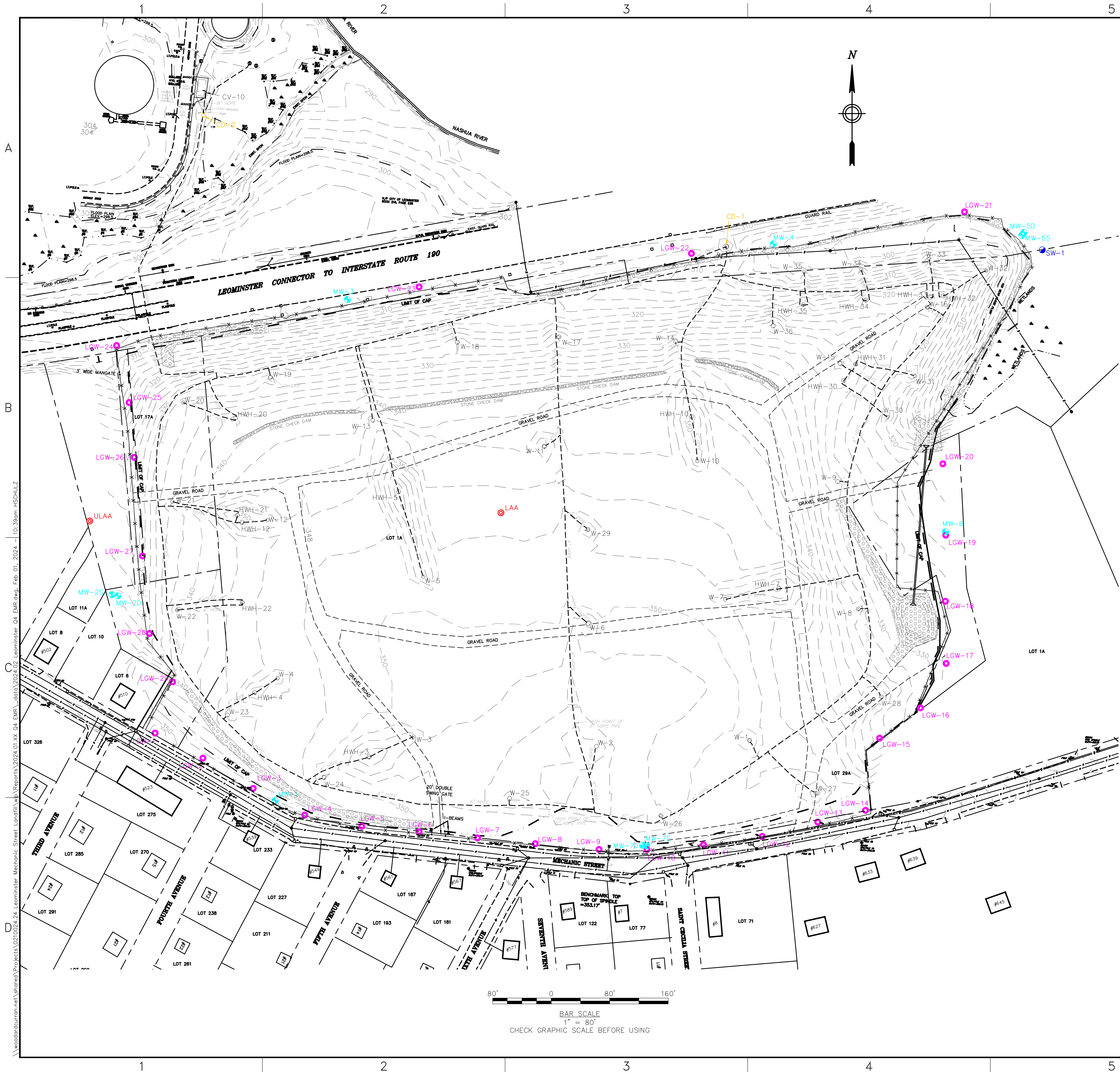
Notes:

U indicates the sample was not detected above the reporting limits

E indicates concentration of analyte exceeds the range of the calibration curve and/or li

*All data in the table was generated by Alpha Analytical, Inc.

FIGURES



LEGEND

- 10' CONTOUR LINE
- PROPERTY LINE
- EDGE OF PAVEMENT
- EDGE OF GRAVEL ROAD
- EDGE OF HDPE CAP
- CHAIN LINK FENCE
- LANDFILL GAS COLLECTION PIPING
- EDGE OF WETLANDS
- EDGE OF RIVER
- SANITARY SEWER PIPING
- WATER MAIN PIPING
- STORM DRAIN PIPING
- NATURAL GAS PIPING

- HYDRANT
- UTILITY POLE
- SEWER MANHOLE
- DRAIN MANHOLE
- EXTRACTION WELLHEAD VAULT
- GROUNDWATER MONITORING WELL
- SURFACE WATER SAMPLING LOCATION
- LANDFILL GAS MONITORING WELL
- CONDENSATE DRAIN VAULT
- HOUSES WITH METHANE MONITORS INSTALLED
- AMBIENT AIR SAMPLE LOCATION (APPROXIMATE)

GENERAL NOTES

- THIS PLAN SHOWS THE ELEVATIONS OF THE FINAL GRADING OVER THE LANDFILL, THE HORIZONTAL LIMITS OF HDPE CAP, EXISTING RIPRAP INCLUDING INVERTS OF RIPRAP SALES, AND THE LOCATION OF EXISTING MONITORING WELLS.
- TOPOGRAPHY SHOWN HEREON IS THE RESULT OF AN ON THE GROUND DATA ACCUMULATION SURVEY PERFORMED BY WHITMAN & BINGHAM, ASSOC. INC. ON OR BEFORE FEBRUARY 3, 1997. ANY ALTERATIONS TO THE SUBJECT SITE AFTER THE DATE MAY NOT BE REFLECTED ON THIS PLAN.
- ALL ELEVATIONS SHOWN HEREON ARE BASED ON THE 1929 N.G.V.D. BENCH MARK: ESCUTCHEON PIN SET IN A LEAD PLUG LOCATED IN THE NORTH WESTERN PORTION OF THE CONC. BRIDGE RAIL ALONG MECHANIC STREET OVER THE NASHUA RIVER: ELEVATION = 300.87'.
- THE LOCATION OF THE RESIDENTIAL PROPERTIES DEPICTED ON PLAN ARE APPROXIMATE. THE LOCATIONS WERE TAKEN FROM CITY OF LEOMINSTER TAX ASSESSOR'S RECORDS/MAPS.
- UTILITIES DEPICTED ON THIS PLAN WERE LOCATED BASED ON AVAILABLE DATA PROVIDED BY THE CITY OF LEOMINSTER AND BOSTON GAS COMPANY. LOCATIONS OF UNDERGROUND UTILITIES, INSOFAR AS SHOWN, HAVE BEEN DEDUCED FROM AVAILABLE PLANS AND OBSERVATIONS OF VISIBLE STRUCTURES. LOCATIONS AND ELEVATIONS OF UNDERGROUND UTILITIES MUST BE VERIFIED IN THE FIELD PRIOR TO EXCAVATION. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF WHITMAN & BINGHAM ASSOCIATES, INC.
- IN ACCORDANCE WITH M.G.L. CHAPTER 82, SECTION 40, INCLUDING AMENDMENTS, ALL CONTRACTORS SHALL NOTIFY UTILITY COMPANIES AND GOVERNMENT AGENCIES, IN WRITING, OF THE INTENT TO EXCAVATE, NO LESS THAN 72 HOURS PRIOR TO SUCH EXCAVATION (EXCLUSIVE OF SATURDAYS & HOLIDAYS) OR CALL "DIG SAFE" AT 1-800-322-4844. UNDERGROUND GAS MAIN IS LOCATED WITHIN MECHANIC STREET. CONTRACTOR SHALL CONTACT BOSTON GAS COMPANY FOR LOCATION.
- ALL WETLANDS SHOWN ON THIS PLAN WERE IDENTIFIED AND DELINEATED BY NEIL ANDERSON, PH.D.
- THE LOCATION OF THE 100 YEAR FLOOD ZONE A WAS DETERMINED BY ELEVATION. ACCORDING TO CITY OF LEOMINSTER FEMA MAP COMMUNITY PANEL NO. 250314 0007 B, DATED SEPTEMBER 16, 1982.
- THIS PLAN SHOWS THE LOCATION OF THE GAS COLLECTION SYSTEM, ABOVE GROUND FEATURES, AND EXISTING TOPOGRAPHY. TOPOGRAPHY SHOWN HEREON, WITHIN THE FENCED AREA OF THE LANDFILL, BETWEEN MECHANIC STREET AND THE LEOMINSTER CONNECTOR, AND ALONG THE GAS COLLECTION PIPE CROSSING THE LEOMINSTER CONNECTOR TO THE FLARE STATION IS THE RESULT OF AN ON GROUND DATA ACCUMULATION SURVEY BEFORE OR DURING JANUARY 2002. ANY ALTERATIONS TO THESE SUBJECT AREAS AFTER THIS DATE MAY NOT BE REFLECTED ON THIS PLAN. LOCATIONS AND TOPOGRAPHY SHOWN OUTSIDE THIS AREA IS TAKEN FROM PREVIOUS SURVEYS USED FOR THE PROJECT CONSTRUCTION PLANS.
- LOCATIONS OF THE GAS COLLECTION PIPING AS SHOWN HEREON WERE TAKEN DURING AUGUST 2001 THROUGH NOVEMBER 2001. FINAL ADJUSTMENTS OF COLLECTION PIPING MAY HAVE BEEN DONE AFTER FIELD LOCATIONS AND PRIOR TO FINAL BURIAL OF PIPING. THEREFORE, PIPE LOCATIONS SHOWN MAY BE APPROXIMATE.

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COMMITMENT & INTEGRITY DRIVE RESULTS

REV	DESCRIPTION	DATE
1	DESIGNED BY: CMC	2024.02.01
2	DRAWN BY: FHS	2024.02.01
3	CHECKED BY: KLD	2024.02.01
4	APPROVED BY: JLD	2024.02.01

LEOMINSTER HEALTH DEPARTMENT
25 WEST STREET
LEOMINSTER, MA 01453

ENVIRONMENTAL MONITORING
REPORT
MECHANIC STREET LANDFILL

JOB NO.: 0210024.24
DATE: FEBRUARY 2024
SCALE: 1"=80'
SHEET: 1 OF 1

FIG 1-1

**APPENDIX A: GEOLOGICAL FIELD SERVICES, INC. FIELD SUMMARY
REPORT**

GFS GEOLOGICAL FIELD SERVICES, INC.

June 14, 2024

Ms. Kendra Robinson
Woodard and Curran
40 Shattuck Road, Suite 110
Andover, MA 01810

RE: Mechanic Street Leominster Land Fill
Environmental Sampling

Dear Ms. Robinson:

On June 3, 2024, Geological Field Services, Inc. (GFS) conducted the second quarter environmental sampling at the above referenced site. Field activities included the screening of twenty-nine perimeter landfill gas wells and two ambient air samples. The concrete pad of gas well LGW-25 is damaged from the salting and plowing and needs to be replaced. The protective casing for gas well LGW-24 is loose and not attached to the ground and the lock is rusted and in need of replacement. The perimeter fence surrounding the landfill needs to be repaired in two locations. One location is by LGW-15 where the fence is separating and by LGW-8 where the fence is damaged from a recent car crash. The following is a description of the related field activities.

Residential Methane Detector Calibration

On June 3, 2024, GFS performed the fourth quarter field calibration of eleven methane detectors located in the residential buildings along Mechanic Street in Leominster. No residents were available at 502 Mechanic Street, 567 Mechanic Street or 8A St. Cecelia to provide access to the units, so they were not calibrated at this time. The homeowner at 633 Mechanic St did not pick up his certified letter prior to the sampling day, therefore GFS will not access his property. All of units that were accessed were adjusted and calibrated using the standard calibration delivery gas system set at 0.5 CC/min and according to the manufacturer's calibration procedures. All the units responded to the standard gas within the one-minute time limit and returned to normal operation within five to twenty-eight seconds of the removal of the standard. All calibration records are presented on the attached field form.

Condensate Sampling

On June 3, 2024, GFS collected two condensate samples from the flare system. Leachate samples were identified as CD-1 and CD-2. Condensate samples were collected using a Geotech peristaltic pump and dedicated Poly tubing. Condensate samples were pumped directly into the lab provided sample containers; no field parameters were taken during the sampling. The samples were delivered to Alpha Analytical the day after sample collection for VOC analysis. No duplicate sample was taken.

Ambient Air Sampling

On June 3, 2024, GFS collected two ambient air samples from the surface of the landfill. One sample was collected from the center of the landfill (Center) and the second was collected from an upwind location, the upwind sample was placed on the west side of the landfill. The samples were collected with a 2.7-liter summa canister and a 4-hour flow regulator. The summa canister was readied with a regulator and deployed in the field. The valve was opened, and the initial vacuum of the canister was recorded on the chain-of-custody. After four hours had elapsed the valve was closed, and the final vacuum of the canister was recorded on the chain-of-custody. The summa canisters were packed and delivered to Alpha Analytical via a courier on June 4, 2024.

Landfill Gas Monitoring

On June 3, 2024, GFS conducted the second quarter landfill gas well screening on twenty-nine perimeter landfill gas wells. A RAE 2000 organic vapor meter (OVM) equipped with a 10.6 eV lamp, calibrated with 100 parts per million (ppm) Isobutylene, was used to screen for VOCs. Percent oxygen, carbon dioxide, methane, and ppm of hydrogen sulfide were screened using a Landtec GEM-5000 infrared gas analyzer. The Landtec was calibrated at the start of the sampling day with 15% methane and 15% carbon dioxide standard gas mix along with 100 ppm of hydrogen sulfide standard gas.

The perimeter landfill gas wells were field screened in accordance with the following procedure. The steel protective casing was opened, and the PVC valve was opened or a sampling valve was inserted and the overall condition of the well was observed. The standing air in the well was then purged using the Landtec with a flow rate of 550 cubic centimeters per minute (cc/min). The soil gas was continuously monitored for VOCs, oxygen, carbon dioxide, methane and hydrogen sulfide. The meter readings were recorded after 30 seconds of purging and again at one, two, and five minutes. Field screening results were recorded on landfill gas survey sheets, copies of which are attached.

Gas Monitoring QA/QC

The following quality assurance/quality control measures were implemented during the landfill gas survey. Barometric pressure was observed prior to and during sampling. During the screening event barometric pressure decreased from 29.91 to 29.58-inches of mercury. Barometric pressure was measured using the Landtec. Weather during the screening event was sunny and humid with temperatures steady at 78 degrees Fahrenheit. The four days prior to the screening event was a mix of sun, clouds, with temperatures in the low 50s to the low 80s. The last recorded precipitation was more than four days prior to screening. In accordance with DEP guidance, 10 percent of the stations were occupied for duplicate measurements during perimeter gas surveying. Perimeter gas monitoring wells LGW-5, LGW-6 and LGW-29 were occupied twice during the. Duplicate screening results were similar to initial screening results.

Gas Sampling Results

Methane, hydrogen sulfide and VOCs were detected in any of the landfill gas wells. Carbon dioxide concentrations measured at the perimeter gas wells ranged from 0.0 percent-by-volume (LGW-7) to 2.5 percent-by-volume (LGW-22). Oxygen concentrations ranged from 17.9 percent-by-volume (LGW-29 Dup) to 21.0 percent-by-volume (LGW-1). Field readings are presented on the attached Landfill Gas Survey forms.

Should you have any questions, please feel free to contact me.

Sincerely,
GEOLOGICAL FIELD SERVICES, INC.

A handwritten signature in blue ink, appearing to read 'Ryan J. MacKay', with a stylized flourish at the end.

Ryan J. MacKay
Senior Geologist

97117_0624_GasSums_rpt

Leominster Landfill
March 13, 2024
Calibration For 2001-10 Sensor

Address	Time	Lamp Color	Time to RED	Time to Green	CAL Gas ppm	Sensor MFG Date	Proper Calibration	Comments
492 Mechanic Street	14:28	Green	20	19	1000	5/15/18	Yes	
502 Mechanic Street								No access to rental unit
510 Mechanic Street	14:18	Green	40	12	5000	1/16/21	Yes	
521 Mechanic Street	14:25	Green	13	10	1000	5/5/22	Yes	
549 Mechanic Street	18:13	Green	21	6	1000	7/26/23	Yes	
561 Mechanic Street	17:00	Green	6	22	1000	5/5/18	Yes	
567 Mechanic Street								Resident not home no access to calibrate.
577 Mechanic Street	14:05	Green	26	10	5000	6/4/15	Yes	
589 Mechanic Street	14:00	Green	12	12	5000	4/17/14	Yes	
7 St.Cecelia Street	18:00	Green	18	16	1000	7/13/23	yes	
8A St.Cecelia Street								Resident not home no access to calibrate.
627 Mechanic Street	16:55	Green	38	10	5000	9/29/00	Yes	
633 Mechanic Street								Did not pick up certified mail , will not enter property.
639 Mechanic Street	16:50	Green	16	18	1000	6/5/18	Yes	
645 Mechanic Street	14:12	Green	19	6	1000	7/13/23	Yes	

Calibration Gas concentration 5000 ppm

All times in seconds

Apply calibration gas if alarm sounds and light turns red within 1 minute system OK

Shut off calibration gas if alarm stops and light turns green within 1 minute system OK.

If sensor does not respond as above adjust response pot until proper calibration achieved.

LANDFILL GAS SURVEY

SITE Leominster Landfill
 ADDRESS Mechanic Street, Leominster
 CLIENT Woodard and Curran
 PERSONNEL Nick Federico

PROJECT ID 97117
 DATE 6/3/24
 TIME ONSITE 9:20
 TIME OFFSITE 18:30
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WEATHER Sun 78F
 WEATHER PAST 4 DAYS Sun and clouds
Temps in high 50s to low 80s.
 LAST RAIN/AMOUNT More than four days prior
 GROUND COVER Grass and brush

TIME	<u>9:54</u>	<u>12:12</u>		
BAR. PRESSURE	<u>29.91 " Hg</u>	<u>29.58"hg</u>		
TEMPERATURE	<u>78F</u>	<u>78F</u>		
REL. WIND SPEED	<u>7 MPH</u>	<u>7 MPH</u>		
WIND DIRECTION	<u>NNE</u>	<u>NNE</u>		

FIELD EQUIPMENT	CALIBRATION STANDARD	TIME
<u>RAE mini 2000 10.6 eV</u>	<u>100 ppm ISO RF=1</u>	<u>9:20</u>
<u>Landtec GEM-5000</u>	<u>15% CH4, 15% CO2</u>	<u>9:20</u>
<u>Landtec GEM-5000</u>	<u>100 ppm H2S</u>	<u>9:20</u>

SAMPLING DATA

Location Seconds	Start Time	Methane %	PID ppm	LeL %	H2S ppm	O2 %	CO2 %
<u>LGW-1</u>	<u>15:12</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>21.0</u>	<u>0.1</u>
<u>60</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>21.0</u>	<u>0.1</u>
<u>120</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>21.0</u>	<u>0.1</u>
<u>300</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>21.0</u>	<u>0.1</u>
<u>LGW-2</u>	<u>15:06</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.4</u>
<u>60</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.4</u>
<u>120</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.4</u>
<u>300</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.4</u>
<u>LGW-3</u>	<u>15:00</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.2</u>	<u>0.2</u>
<u>60</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.2</u>	<u>0.2</u>
<u>120</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.2</u>	<u>0.2</u>
<u>300</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.2</u>	<u>0.2</u>
<u>LGW-4</u>	<u>14:52</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.9</u>	<u>0.1</u>
<u>60</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.9</u>	<u>0.1</u>
<u>120</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.9</u>	<u>0.1</u>
<u>300</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.9</u>	<u>0.1</u>
<u>LGW-5</u>	<u>14:46</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.2</u>
<u>60</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.2</u>
<u>120</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.2</u>
<u>300</u>		<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>0.0</u>	<u>20.0</u>	<u>0.2</u>

SAMPLING DATA

Location Seconds	Start Time	Methane %	PID ppm	LeL %	H2S ppm	O2 %	CO2 %
LGW-5 Dup	15:46	0.0	0.0	0.0	0.0	20.0	0.1
60		0.0	0.0	0.0	0.0	19.9	0.2
120		0.0	0.0	0.0	0.0	19.9	0.3
300		0.0	0.0	0.0	0.0	19.9	0.3
LGW-6	14:36	0.0	0.0	0.0	0.0	19.8	0.1
60		0.0	0.0	0.0	0.0	19.8	0.1
120		0.0	0.0	0.0	0.0	19.8	0.1
300		0.0	0.0	0.0	0.0	19.8	0.1
LGW-6 Dup	15:56	0.0	0.0	0.0	0.0	19.8	0.1
60		0.0	0.0	0.0	0.0	19.9	0.1
120		0.0	0.0	0.0	0.0	20.0	0.2
300		0.0	0.0	0.0	0.0	19.8	0.3
LGW-7	14:30	0.0	0.0	0.0	0.0	20.0	0.0
60		0.0	0.0	0.0	0.0	20.8	0.0
120		0.0	0.0	0.0	0.0	20.8	0.0
300		0.0	0.0	0.0	0.0	20.8	0.0
LGW-8	12:30	0.0	0.0	0.0	0.0	20.0	0.1
60		0.0	0.0	0.0	0.0	20.0	0.1
120		0.0	0.0	0.0	0.0	20.0	0.1
300		0.0	0.0	0.0	0.0	20.0	0.1
LGW-9	12:38	0.0	0.0	0.0	0.0	20.6	0.1
60		0.0	0.0	0.0	0.0	20.6	0.1
120		0.0	0.0	0.0	0.0	20.6	0.1
300		0.0	0.0	0.0	0.0	20.6	0.1
LGW-10	12:45	0.0	0.0	0.0	0.0	20.0	0.4
60		0.0	0.0	0.0	0.0	20.0	0.3
120		0.0	0.0	0.0	0.0	20.0	0.2
300		0.0	0.0	0.0	0.0	20.0	0.2
LGW-11	12:52	0.0	0.0	0.0	0.0	19.9	0.6
60		0.0	0.0	0.0	0.0	19.9	0.7
120		0.0	0.0	0.0	0.0	19.9	0.8
300		0.0	0.0	0.0	0.0	19.9	0.8
LGW-12	13:00	0.0	0.0	0.0	0.0	20.0	0.3
60		0.0	0.0	0.0	0.0	20.0	0.3
120		0.0	0.0	0.0	0.0	20.0	0.3
300		0.0	0.0	0.0	0.0	20.0	0.3
LGW-13	13:06	0.0	0.0	0.0	0.0	19.8	0.3
60		0.0	0.0	0.0	0.0	19.9	0.4
120		0.0	0.0	0.0	0.0	19.9	0.4
300		0.0	0.0	0.0	0.0	19.9	0.4

SAMPLING DATA

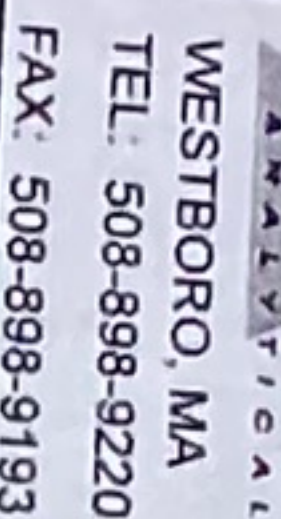
Location Seconds		Methane %	PID ppm	LeL %	H2S ppm	O2 %	CO2 %
LGW-14	13:20	0.0	0.0	0.0	0.0	19.6	0.5
60		0.0	0.0	0.0	0.0	19.8	0.6
120		0.0	0.0	0.0	0.0	19.8	0.6
300		0.0	0.0	0.0	0.0	19.9	0.5
LGW-15	13:12	0.0	0.0	0.0	0.0	18.1	1.6
60		0.0	0.0	0.0	0.0	18.2	1.7
120		0.0	0.0	0.0	0.0	18.1	1.9
300		0.0	0.0	0.0	0.0	18.1	1.9
LGW-16	11:30	0.0	0.0	0.0	0.0	19.8	1.3
60		0.0	0.0	0.0	0.0	19.2	1.2
120		0.0	0.0	0.0	0.0	18.1	1.4
300		0.0	0.0	0.0	0.0	18.6	1.6
LGW-17	11:38	0.0	0.0	0.0	0.0	18.6	0.8
60		0.0	0.0	0.0	0.0	18.5	0.9
120		0.0	0.0	0.0	0.0	18.4	1.1
300		0.0	0.0	0.0	0.0	18.6	1.2
LGW-18	11:46	0.0	0.0	0.0	0.0	19.2	0.8
60		0.0	0.0	0.0	0.0	18.5	0.9
120		0.0	0.0	0.0	0.0	18.4	1.1
300		0.0	0.0	0.0	0.0	18.6	1.2
LGW-19	11:54	0.0	0.0	0.0	0.0	19.0	1.6
60		0.0	0.0	0.0	0.0	19.1	2.3
120		0.0	0.0	0.0	0.0	19.1	2.1
300		0.0	0.0	0.0	0.0	18.9	2.1
LGW-20	12:05	0.0	0.0	0.0	0.0	18.6	1.5
60		0.0	0.0	0.0	0.0	19.1	1.3
120		0.0	0.0	0.0	0.0	19.0	1.9
300		0.0	0.0	0.0	0.0	19.0	2.1
LGW-21	10:20	0.0	0.0	0.0	0.0	19.8	1.3
60		0.0	0.0	0.0	0.0	19.2	1.4
120		0.0	0.0	0.0	0.0	19.1	1.6
300		0.0	0.0	0.0	0.0	19.1	1.6
LGW-22	10:16	0.0	0.0	0.0	0.0	19.6	1.8
60		0.0	0.0	0.0	0.0	19.0	1.9
120		0.0	0.0	0.0	0.0	18.4	2.1
300		0.0	0.0	0.0	0.0	18.2	2.5
LGW-23	10:10	0.0	0.0	0.0	0.0	18.5	2.1
60		0.0	0.0	0.0	0.0	18.3	2.0
120		0.0	0.0	0.0	0.0	18.1	2.1
300		0.0	0.0	0.0	0.0	18.4	2.0

SAMPLING DATA

Location Seconds	Start Time	Methane %	PID ppm	LeL %	H2S ppm	O2 %	CO2 %
LGW-24	9:55	0.0	0.0	0.0	0.0	19.5	1.2
60		0.0	0.0	0.0	0.0	19.2	1.3
120		0.0	0.0	0.0	0.0	19.1	1.3
300		0.0	0.0	0.0	0.0	19.1	1.4
LGW-25	16:18	0.0	0.0	0.0	0.0	19.2	0.5
60		0.0	0.0	0.0	0.0	19.1	0.6
120		0.0	0.0	0.0	0.0	19.1	0.4
300		0.0	0.0	0.0	0.0	19.2	0.4
LGW-26	16:12	0.0	0.0	0.0	0.0	19.9	0.3
60		0.0	0.0	0.0	0.0	20.0	0.2
120		0.0	0.0	0.0	0.0	20.0	0.2
300		0.0	0.0	0.0	0.0	20.0	0.2
LGW-27	16:06	0.0	0.0	0.0	0.0	20.0	0.3
60		0.0	0.0	0.0	0.0	20.0	0.3
120		0.0	0.0	0.0	0.0	20.0	0.3
300		0.0	0.0	0.0	0.0	20.0	0.3
LGW-28	15:28	0.0	0.0	0.0	0.0	20.0	0.6
60		0.0	0.0	0.0	0.0	20.0	0.6
120		0.0	0.0	0.0	0.0	20.0	0.6
300		0.0	0.0	0.0	0.0	20.0	0.6
LGW-29	15:20	0.0	0.0	0.0	0.0	20.0	0.4
60		0.0	0.0	0.0	0.0	19.8	0.6
120		0.0	0.0	0.0	0.0	19.2	0.9
300		0.0	0.0	0.0	0.0	18.5	1.2
LGW-29Dup	15:36	0.0	0.0	0.0	0.0	18.1	1.2
60		0.0	0.0	0.0	0.0	18.0	1.3
120		0.0	0.0	0.0	0.0	18.0	1.3
300		0.0	0.0	0.0	0.0	17.9	1.2
Ambient	9:54	0.0	0.0	0.0	0.0	21.0	0.0
Ambient	12:29	0.0	0.0	0.0	0.0	21.1	0.0
Ambient	14:29	0.0	0.0	0.0	0.0	20.9	0.0
Ambient	16:25	0.0	0.0	0.0	0.0	20.9	0.0

CHAIN OF CUSTODY

PAGE 1 OF 1



WESTBORO, MA
TEL: 508-898-9220
FAX: 508-898-9193

MANFIELD, MA
TEL: 508-822-9300
FAX: 508-822-3288

Client Information

Client: Woodward Clyde

Address: 40 State & Rte 110

Phone: 508-898-9193

Fax:

Email: K. Woodward@woodclay.com

These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments/Detection Limits:

Project Information

Project Name: Mechanic St Landfill

Project Location: Leominster

Project #:

Project Manager: Kevin Robinson

ALPHA Quote #:

Turn-Around Time

Standard

RUSH (only confirmed if pre-approved)

Date Due:

Time:

Date Rec'd in Lab:

Report Information - Data Deliverables

FAX

EMAIL

ADEX

Add'l Deliverables

Regulatory Requirements/Report Limits

State/Fed Program

Criteria

ALPHA Job #:

Billing Information

Same as Client Info

PO #:

ANALYSIS

SAMPLE HANDLING

Filtration

Done

Not needed

Lab to do

Preservation

Lab to do

Sample Specific Comments

(Please specify below)

ALPHA Lab ID
(Lab Use Only)

Sample ID

Collection
Date Time

Sample
Matrix

Sampler's
Initials

CD-1 6/24/03 W DM
CD-2 6/24/03 W DM
Til BAME

Container Type

Preservative

Relinquished By:

Date/Time

Received By:

Date/Time

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

320 Forbes Blvd, Mansfield, MA 02048
TEL: 508-822-9300 FAX: 508-822-3288

Client Information

Client: Walden Center
Address: 40 Shattuck St Suite 110
Walden MA 01575
Phone: _____
Fax: _____

Email: KRobinson@WaldenCenter.com
☒ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:
Project-Specific Target Compound List: ☐ EMERG Methane Gases

Project Information

Project Name: Meenani St Landfill
Project Location: Leominster
Project #: _____
Project Manager: Kendy Robinson
ALPHA Quote #: _____
Turn-Around Time _____

☒ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: _____ Time: _____

Report Information - Data Deliverables

☐ FAX
☒ ADEX
Criteria Checker: _____
(Default based on Regulatory Criteria Indicated)
Other Formats: _____
☒ EMAIL (standard pdf report)
☐ Additional Deliverables: _____
Report to: (if different than Project Manager) _____

Billing Information

☒ Same as Client info PO #: _____
Regulatory Requirements/Report Limits
State/Fed: MA Program: CAHHS Res / Comm: _____

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION				Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	ANALYSIS				Sample Comments (i.e. PID)
		End Date	Start Time	End Time	Initial Vacuum	Final Vacuum					TO-15	TO-15 SIM	APH Subtract Non-petroleum HCs ☐	Fixed Gases	Sulfides & Mercaptans by TO-15

	<u>UP Wind</u>	<u>6/3/24</u>	<u>9:35</u>	<u>9:40:33</u>	<u>30.08</u>	<u>-5.89</u>	<u>AA</u>	<u>Am</u>	<u>2.7</u>	<u>3444</u>	<u>1657</u>					
	<u>Centre</u>	<u>6/3/24</u>	<u>9:40</u>	<u>9:40:13</u>	<u>29.35</u>	<u>-6.28</u>	<u>AA</u>	<u>RM</u>	<u>2.7L</u>	<u>3212</u>	<u>334</u>					

*SAMPLE MATRIX CODES

AA = Ambient Air (Indoor/Outdoor)
SV = Soil Vapor/Landfill Gas/SVE
Other = Please Specify

Container Type

Relinquished By: _____

Date/Time

Received By: _____

Date/Time: _____

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

APPENDIX B: LABORATORY ANALYTICAL DATA PACKAGE



ANALYTICAL REPORT

Lab Number:	L2430849
Client:	Woodard & Curran 40 Shattuck Road Suite 110 Andover, MA 01810
ATTN:	Kendra Robinson
Phone:	(866) 702-6371
Project Name:	MECHANIC STREET LANDFILL
Project Number:	Not Specified
Report Date:	06/11/24

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

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0826), IL (200077), IN (C-MA-03), KY (KY98045), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), OR (MA-1316), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #525-23-122-91930A1).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com



Project Name: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2430849-01	CD-1	WATER	LEOMINSTER, MA	06/03/24 10:30	06/04/24
L2430849-02	CD-2	WATER	LEOMINSTER, MA	06/03/24 10:45	06/04/24
L2430849-03	TRIP BLANK	WATER	LEOMINSTER, MA	06/03/24 00:00	06/04/24

Project Name: MECHANIC STREET LANDFILL

Lab Number: L2430849

Project Number: Not Specified

Report Date: 06/11/24

MADEP MCP Response Action Analytical Report Certification

This form provides certifications for all samples performed by MCP methods. Please refer to the Sample Results and Container Information sections of this report for specification of MCP methods used for each analysis. The following questions pertain only to MCP Analytical Methods.

An affirmative response to questions A through F is required for "Presumptive Certainty" status		
A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	YES
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	YES
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	YES
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data?"	YES
E a.	VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications).	N/A
E b.	APH and TO-15 Methods only: Was the complete analyte list reported for each method?	N/A
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	YES
A response to questions G, H and I is required for "Presumptive Certainty" status		
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	YES
H	Were all QC performance standards specified in the CAM protocol(s) achieved?	NO
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	YES
For any questions answered "No", please refer to the case narrative section on the following page(s).		

Please note that sample matrix information is located in the Sample Results section of this report.



Project Name: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

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 Alpha 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, solids and tissues are reported on a dry 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, Alpha'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 Alpha Project Manager and made arrangements for Alpha 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: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

Case Narrative (continued)

MCP Related Narratives

Volatile Organics

In reference to question H:

L2430849-01, -02 and -03: Initial Calibration did not meet:

Lowest Calibration Standard Minimum Response Factor: 1,4-dioxane (0.0015)

Average Response Factor: 1,4-dioxane

Verification: carbon disulfide (65%)

L2430849-01, -02 and -03: The associated continuing calibration standard is outside the acceptance criteria for several compounds; however, it is within overall method allowances. Associated results are considered to be biased high if the %D is negative and biased low if the %D is positive. A copy of the continuing calibration standard is included as an addendum to this report.

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:



Cristin Walker

Title: Technical Director/Representative

Date: 06/11/24

QC OUTLIER SUMMARY REPORT

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
MCP Volatile Organics - Westborough Lab								
8260D	Batch QC	WG1931877-3	Chloroethane	LCS	69	70-130	01-03	potential low bias
8260D	Batch QC	WG1931877-4	Chloroethane	LCSD	65	70-130	01-03	potential low bias
8260D	Batch QC	WG1932460-4	Carbon disulfide	LCSD	23	20	01	non-directional bias
8260D	Batch QC	WG1932460-4	Hexachlorobutadiene	LCSD	23	20	01	non-directional bias

ORGANICS

VOLATILES

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-01
 Client ID: CD-1
 Sample Location: LEOMINSTER, MA

Date Collected: 06/03/24 10:30
 Date Received: 06/04/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 06/07/24 07:38
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	27		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-01
 Client ID: CD-1
 Sample Location: LEOMINSTER, MA

Date Collected: 06/03/24 10:30
 Date Received: 06/04/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	2.5		ug/l	1.0	--	1
Methyl tert butyl ether	3.3		ug/l	2.0	--	1
p/m-Xylene	9.8		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	9.8		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	300	E	ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	13		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	5.5		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS****Lab ID:** L2430849-01**Date Collected:** 06/03/24 10:30**Client ID:** CD-1**Date Received:** 06/04/24**Sample Location:** LEOMINSTER, MA**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	11		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	99		70-130
Dibromofluoromethane	114		70-130

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-01 D

Date Collected: 06/03/24 10:30

Client ID: CD-1

Date Received: 06/04/24

Sample Location: LEOMINSTER, MA

Field Prep: Not Specified

Sample Depth:

Matrix: Water

Analytical Method: 141,8260D

Analytical Date: 06/10/24 08:46

Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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MCP Volatile Organics - Westborough Lab

Acetone	240		ug/l	25	--	5
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Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	113		70-130
Toluene-d8	94		70-130
4-Bromofluorobenzene	93		70-130
Dibromofluoromethane	115		70-130

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-02
 Client ID: CD-2
 Sample Location: LEOMINSTER, MA

Date Collected: 06/03/24 10:45
 Date Received: 06/04/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 06/07/24 07:11
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	5.9		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-02
 Client ID: CD-2
 Sample Location: LEOMINSTER, MA

Date Collected: 06/03/24 10:45
 Date Received: 06/04/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	2.3		ug/l	2.0	--	1
p/m-Xylene	2.0		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	2.0		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	90		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	7.9		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS****Lab ID:** L2430849-02**Date Collected:** 06/03/24 10:45**Client ID:** CD-2**Date Received:** 06/04/24**Sample Location:** LEOMINSTER, MA**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	8.2		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	106		70-130
Toluene-d8	92		70-130
4-Bromofluorobenzene	96		70-130
Dibromofluoromethane	117		70-130

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-03
 Client ID: TRIP BLANK
 Sample Location: LEOMINSTER, MA

Date Collected: 06/03/24 00:00
 Date Received: 06/04/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Water
 Analytical Method: 141,8260D
 Analytical Date: 06/07/24 05:20
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Methylene chloride	ND		ug/l	2.0	--	1
1,1-Dichloroethane	ND		ug/l	1.0	--	1
Chloroform	ND		ug/l	1.0	--	1
Carbon tetrachloride	ND		ug/l	1.0	--	1
1,2-Dichloropropane	ND		ug/l	1.0	--	1
Dibromochloromethane	ND		ug/l	1.0	--	1
1,1,2-Trichloroethane	ND		ug/l	1.0	--	1
Tetrachloroethene	ND		ug/l	1.0	--	1
Chlorobenzene	ND		ug/l	1.0	--	1
Trichlorofluoromethane	ND		ug/l	2.0	--	1
1,2-Dichloroethane	ND		ug/l	1.0	--	1
1,1,1-Trichloroethane	ND		ug/l	1.0	--	1
Bromodichloromethane	ND		ug/l	1.0	--	1
trans-1,3-Dichloropropene	ND		ug/l	0.40	--	1
cis-1,3-Dichloropropene	ND		ug/l	0.40	--	1
1,3-Dichloropropene, Total	ND		ug/l	0.40	--	1
1,1-Dichloropropene	ND		ug/l	2.0	--	1
Bromoform	ND		ug/l	2.0	--	1
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Benzene	ND		ug/l	0.50	--	1
Toluene	ND		ug/l	1.0	--	1
Ethylbenzene	ND		ug/l	1.0	--	1
Chloromethane	ND		ug/l	2.0	--	1
Bromomethane	ND		ug/l	2.0	--	1
Vinyl chloride	ND		ug/l	1.0	--	1
Chloroethane	ND		ug/l	2.0	--	1
1,1-Dichloroethene	ND		ug/l	1.0	--	1
trans-1,2-Dichloroethene	ND		ug/l	1.0	--	1

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS**

Lab ID: L2430849-03
 Client ID: TRIP BLANK
 Sample Location: LEOMINSTER, MA

Date Collected: 06/03/24 00:00
 Date Received: 06/04/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
Trichloroethene	ND		ug/l	1.0	--	1
1,2-Dichlorobenzene	ND		ug/l	1.0	--	1
1,3-Dichlorobenzene	ND		ug/l	1.0	--	1
1,4-Dichlorobenzene	ND		ug/l	1.0	--	1
Methyl tert butyl ether	ND		ug/l	2.0	--	1
p/m-Xylene	ND		ug/l	2.0	--	1
o-Xylene	ND		ug/l	1.0	--	1
Xylenes, Total	ND		ug/l	1.0	--	1
cis-1,2-Dichloroethene	ND		ug/l	1.0	--	1
1,2-Dichloroethene, Total	ND		ug/l	1.0	--	1
Dibromomethane	ND		ug/l	2.0	--	1
1,2,3-Trichloropropane	ND		ug/l	2.0	--	1
Styrene	ND		ug/l	1.0	--	1
Dichlorodifluoromethane	ND		ug/l	2.0	--	1
Acetone	ND		ug/l	5.0	--	1
Carbon disulfide	ND		ug/l	2.0	--	1
Methyl ethyl ketone	ND		ug/l	5.0	--	1
Methyl isobutyl ketone	ND		ug/l	5.0	--	1
2-Hexanone	ND		ug/l	5.0	--	1
Bromochloromethane	ND		ug/l	2.0	--	1
Tetrahydrofuran	ND		ug/l	2.0	--	1
2,2-Dichloropropane	ND		ug/l	2.0	--	1
1,2-Dibromoethane	ND		ug/l	2.0	--	1
1,3-Dichloropropane	ND		ug/l	2.0	--	1
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--	1
Bromobenzene	ND		ug/l	2.0	--	1
n-Butylbenzene	ND		ug/l	2.0	--	1
sec-Butylbenzene	ND		ug/l	2.0	--	1
tert-Butylbenzene	ND		ug/l	2.0	--	1
o-Chlorotoluene	ND		ug/l	2.0	--	1
p-Chlorotoluene	ND		ug/l	2.0	--	1
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--	1
Hexachlorobutadiene	ND		ug/l	0.60	--	1
Isopropylbenzene	ND		ug/l	2.0	--	1
p-Isopropyltoluene	ND		ug/l	2.0	--	1
Naphthalene	ND		ug/l	2.0	--	1
n-Propylbenzene	ND		ug/l	2.0	--	1

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**SAMPLE RESULTS****Lab ID:** L2430849-03**Date Collected:** 06/03/24 00:00**Client ID:** TRIP BLANK**Date Received:** 06/04/24**Sample Location:** LEOMINSTER, MA**Field Prep:** Not Specified**Sample Depth:**

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
MCP Volatile Organics - Westborough Lab						
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--	1
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--	1
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--	1
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--	1
Diethyl ether	ND		ug/l	2.0	--	1
Diisopropyl Ether	ND		ug/l	2.0	--	1
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--	1
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--	1
1,4-Dioxane	ND		ug/l	250	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	93		70-130
4-Bromofluorobenzene	100		70-130
Dibromofluoromethane	115		70-130

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 06/07/24 04:53
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1931877-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 06/07/24 04:53
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1931877-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 06/07/24 04:53
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01-03 Batch: WG1931877-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	105		70-130
Toluene-d8	90		70-130
4-Bromofluorobenzene	98		70-130
Dibromofluoromethane	116		70-130

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 06/10/24 05:20
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1932460-5					
Methylene chloride	ND		ug/l	2.0	--
1,1-Dichloroethane	ND		ug/l	1.0	--
Chloroform	ND		ug/l	1.0	--
Carbon tetrachloride	ND		ug/l	1.0	--
1,2-Dichloropropane	ND		ug/l	1.0	--
Dibromochloromethane	ND		ug/l	1.0	--
1,1,2-Trichloroethane	ND		ug/l	1.0	--
Tetrachloroethene	ND		ug/l	1.0	--
Chlorobenzene	ND		ug/l	1.0	--
Trichlorofluoromethane	ND		ug/l	2.0	--
1,2-Dichloroethane	ND		ug/l	1.0	--
1,1,1-Trichloroethane	ND		ug/l	1.0	--
Bromodichloromethane	ND		ug/l	1.0	--
trans-1,3-Dichloropropene	ND		ug/l	0.40	--
cis-1,3-Dichloropropene	ND		ug/l	0.40	--
1,3-Dichloropropene, Total	ND		ug/l	0.40	--
1,1-Dichloropropene	ND		ug/l	2.0	--
Bromoform	ND		ug/l	2.0	--
1,1,2,2-Tetrachloroethane	ND		ug/l	1.0	--
Benzene	ND		ug/l	0.50	--
Toluene	ND		ug/l	1.0	--
Ethylbenzene	ND		ug/l	1.0	--
Chloromethane	ND		ug/l	2.0	--
Bromomethane	ND		ug/l	2.0	--
Vinyl chloride	ND		ug/l	1.0	--
Chloroethane	ND		ug/l	2.0	--
1,1-Dichloroethene	ND		ug/l	1.0	--
trans-1,2-Dichloroethene	ND		ug/l	1.0	--
Trichloroethene	ND		ug/l	1.0	--

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
 Analytical Date: 06/10/24 05:20
 Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1932460-5					
1,2-Dichlorobenzene	ND		ug/l	1.0	--
1,3-Dichlorobenzene	ND		ug/l	1.0	--
1,4-Dichlorobenzene	ND		ug/l	1.0	--
Methyl tert butyl ether	ND		ug/l	2.0	--
p/m-Xylene	ND		ug/l	2.0	--
o-Xylene	ND		ug/l	1.0	--
Xylenes, Total	ND		ug/l	1.0	--
cis-1,2-Dichloroethene	ND		ug/l	1.0	--
1,2-Dichloroethene, Total	ND		ug/l	1.0	--
Dibromomethane	ND		ug/l	2.0	--
1,2,3-Trichloropropane	ND		ug/l	2.0	--
Styrene	ND		ug/l	1.0	--
Dichlorodifluoromethane	ND		ug/l	2.0	--
Acetone	ND		ug/l	5.0	--
Carbon disulfide	ND		ug/l	2.0	--
Methyl ethyl ketone	ND		ug/l	5.0	--
Methyl isobutyl ketone	ND		ug/l	5.0	--
2-Hexanone	ND		ug/l	5.0	--
Bromochloromethane	ND		ug/l	2.0	--
Tetrahydrofuran	ND		ug/l	2.0	--
2,2-Dichloropropane	ND		ug/l	2.0	--
1,2-Dibromoethane	ND		ug/l	2.0	--
1,3-Dichloropropane	ND		ug/l	2.0	--
1,1,1,2-Tetrachloroethane	ND		ug/l	1.0	--
Bromobenzene	ND		ug/l	2.0	--
n-Butylbenzene	ND		ug/l	2.0	--
sec-Butylbenzene	ND		ug/l	2.0	--
tert-Butylbenzene	ND		ug/l	2.0	--
o-Chlorotoluene	ND		ug/l	2.0	--

Project Name: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

Method Blank Analysis Batch Quality Control

Analytical Method: 141,8260D
Analytical Date: 06/10/24 05:20
Analyst: MCM

Parameter	Result	Qualifier	Units	RL	MDL
MCP Volatile Organics - Westborough Lab for sample(s): 01 Batch: WG1932460-5					
p-Chlorotoluene	ND		ug/l	2.0	--
1,2-Dibromo-3-chloropropane	ND		ug/l	2.0	--
Hexachlorobutadiene	ND		ug/l	0.60	--
Isopropylbenzene	ND		ug/l	2.0	--
p-Isopropyltoluene	ND		ug/l	2.0	--
Naphthalene	ND		ug/l	2.0	--
n-Propylbenzene	ND		ug/l	2.0	--
1,2,3-Trichlorobenzene	ND		ug/l	2.0	--
1,2,4-Trichlorobenzene	ND		ug/l	2.0	--
1,3,5-Trimethylbenzene	ND		ug/l	2.0	--
1,2,4-Trimethylbenzene	ND		ug/l	2.0	--
Diethyl ether	ND		ug/l	2.0	--
Diisopropyl Ether	ND		ug/l	2.0	--
Ethyl-Tert-Butyl-Ether	ND		ug/l	2.0	--
Tertiary-Amyl Methyl Ether	ND		ug/l	2.0	--
1,4-Dioxane	ND		ug/l	250	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	108		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	95		70-130
Dibromofluoromethane	107		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MECHANIC STREET LANDFILL

Project Number: Not Specified

Lab Number: L2430849

Report Date: 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1931877-3 WG1931877-4								
Methylene chloride	110		100		70-130	10		20
1,1-Dichloroethane	110		110		70-130	0		20
Chloroform	100		98		70-130	2		20
Carbon tetrachloride	98		97		70-130	1		20
1,2-Dichloropropane	110		110		70-130	0		20
Dibromochloromethane	97		97		70-130	0		20
1,1,2-Trichloroethane	93		91		70-130	2		20
Tetrachloroethene	100		98		70-130	2		20
Chlorobenzene	98		96		70-130	2		20
Trichlorofluoromethane	100		110		70-130	10		20
1,2-Dichloroethane	100		100		70-130	0		20
1,1,1-Trichloroethane	100		100		70-130	0		20
Bromodichloromethane	100		98		70-130	2		20
trans-1,3-Dichloropropene	86		85		70-130	1		20
cis-1,3-Dichloropropene	95		91		70-130	4		20
1,1-Dichloropropene	95		96		70-130	1		20
Bromoform	87		87		70-130	0		20
1,1,1,2-Tetrachloroethane	87		85		70-130	2		20
Benzene	100		99		70-130	1		20
Toluene	97		94		70-130	3		20
Ethylbenzene	96		94		70-130	2		20
Chloromethane	120		120		70-130	0		20
Bromomethane	74		70		70-130	6		20

Lab Control Sample Analysis Batch Quality Control

Project Name: MECHANIC STREET LANDFILL

Project Number: Not Specified

Lab Number: L2430849

Report Date: 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1931877-3 WG1931877-4								
Vinyl chloride	82		77		70-130	6		20
Chloroethane	69	Q	65	Q	70-130	6		20
1,1-Dichloroethene	100		100		70-130	0		20
trans-1,2-Dichloroethene	100		100		70-130	0		20
Trichloroethene	96		95		70-130	1		20
1,2-Dichlorobenzene	97		94		70-130	3		20
1,3-Dichlorobenzene	99		94		70-130	5		20
1,4-Dichlorobenzene	98		94		70-130	4		20
Methyl tert butyl ether	87		85		70-130	2		20
p/m-Xylene	100		95		70-130	5		20
o-Xylene	95		90		70-130	5		20
cis-1,2-Dichloroethene	100		96		70-130	4		20
Dibromomethane	100		97		70-130	3		20
1,2,3-Trichloropropane	87		86		70-130	1		20
Styrene	95		90		70-130	5		20
Dichlorodifluoromethane	95		93		70-130	2		20
Acetone	120		110		70-130	9		20
Carbon disulfide	100		99		70-130	1		20
Methyl ethyl ketone	110		110		70-130	0		20
Methyl isobutyl ketone	100		98		70-130	2		20
2-Hexanone	100		100		70-130	0		20
Bromochloromethane	110		100		70-130	10		20
Tetrahydrofuran	120		120		70-130	0		20

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MECHANIC STREET LANDFILL

Project Number: Not Specified

Lab Number: L2430849

Report Date: 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1931877-3 WG1931877-4								
2,2-Dichloropropane	100		97		70-130	3		20
1,2-Dibromoethane	95		96		70-130	1		20
1,3-Dichloropropane	92		90		70-130	2		20
1,1,1,2-Tetrachloroethane	95		92		70-130	3		20
Bromobenzene	97		93		70-130	4		20
n-Butylbenzene	97		93		70-130	4		20
sec-Butylbenzene	98		96		70-130	2		20
tert-Butylbenzene	98		96		70-130	2		20
o-Chlorotoluene	94		92		70-130	2		20
p-Chlorotoluene	96		93		70-130	3		20
1,2-Dibromo-3-chloropropane	92		90		70-130	2		20
Hexachlorobutadiene	100		100		70-130	0		20
Isopropylbenzene	96		96		70-130	0		20
p-Isopropyltoluene	97		94		70-130	3		20
Naphthalene	100		93		70-130	7		20
n-Propylbenzene	95		93		70-130	2		20
1,2,3-Trichlorobenzene	100		96		70-130	4		20
1,2,4-Trichlorobenzene	96		93		70-130	3		20
1,3,5-Trimethylbenzene	99		95		70-130	4		20
1,2,4-Trimethylbenzene	99		96		70-130	3		20
Diethyl ether	97		94		70-130	3		20
Diisopropyl Ether	120		120		70-130	0		20
Ethyl-Tert-Butyl-Ether	100		100		70-130	0		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01-03 Batch: WG1931877-3 WG1931877-4								
Tertiary-Amyl Methyl Ether	82		81		70-130	1		20
1,4-Dioxane	88		92		70-130	4		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	92		94		70-130
Toluene-d8	94		93		70-130
4-Bromofluorobenzene	100		98		70-130
Dibromofluoromethane	99		100		70-130

Lab Control Sample Analysis **Batch Quality Control**

Project Name: MECHANIC STREET LANDFILL

Project Number: Not Specified

Lab Number: L2430849

Report Date: 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1932460-3 WG1932460-4								
Methylene chloride	100		93		70-130	7		20
1,1-Dichloroethane	100		94		70-130	6		20
Chloroform	100		96		70-130	4		20
Carbon tetrachloride	110		100		70-130	10		20
1,2-Dichloropropane	96		89		70-130	8		20
Dibromochloromethane	100		94		70-130	6		20
1,1,2-Trichloroethane	97		89		70-130	9		20
Tetrachloroethene	110		100		70-130	10		20
Chlorobenzene	100		96		70-130	4		20
Trichlorofluoromethane	120		110		70-130	9		20
1,2-Dichloroethane	100		96		70-130	4		20
1,1,1-Trichloroethane	110		99		70-130	11		20
Bromodichloromethane	100		94		70-130	6		20
trans-1,3-Dichloropropene	97		89		70-130	9		20
cis-1,3-Dichloropropene	97		90		70-130	7		20
1,1-Dichloropropene	100		90		70-130	11		20
Bromoform	99		91		70-130	8		20
1,1,2,2-Tetrachloroethane	92		86		70-130	7		20
Benzene	100		93		70-130	7		20
Toluene	100		90		70-130	11		20
Ethylbenzene	100		92		70-130	8		20
Chloromethane	98		85		70-130	14		20
Bromomethane	82		76		70-130	8		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MECHANIC STREET LANDFILL

Project Number: Not Specified

Lab Number: L2430849

Report Date: 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1932460-3 WG1932460-4								
Vinyl chloride	100		90		70-130	11		20
Chloroethane	110		95		70-130	15		20
1,1-Dichloroethene	120		100		70-130	18		20
trans-1,2-Dichloroethene	110		100		70-130	10		20
Trichloroethene	100		91		70-130	9		20
1,2-Dichlorobenzene	110		94		70-130	16		20
1,3-Dichlorobenzene	110		97		70-130	13		20
1,4-Dichlorobenzene	110		94		70-130	16		20
Methyl tert butyl ether	100		96		70-130	4		20
p/m-Xylene	110		95		70-130	15		20
o-Xylene	110		95		70-130	15		20
cis-1,2-Dichloroethene	100		96		70-130	4		20
Dibromomethane	100		94		70-130	6		20
1,2,3-Trichloropropane	94		85		70-130	10		20
Styrene	105		90		70-130	15		20
Dichlorodifluoromethane	95		86		70-130	10		20
Acetone	90		93		70-130	3		20
Carbon disulfide	120		95		70-130	23	Q	20
Methyl ethyl ketone	84		75		70-130	11		20
Methyl isobutyl ketone	84		79		70-130	6		20
2-Hexanone	82		80		70-130	2		20
Bromochloromethane	110		99		70-130	11		20
Tetrahydrofuran	86		81		70-130	6		20

Lab Control Sample Analysis

Batch Quality Control

Project Name: MECHANIC STREET LANDFILL

Project Number: Not Specified

Lab Number: L2430849

Report Date: 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1932460-3 WG1932460-4								
2,2-Dichloropropane	110		100		70-130	10		20
1,2-Dibromoethane	98		93		70-130	5		20
1,3-Dichloropropane	97		89		70-130	9		20
1,1,1,2-Tetrachloroethane	110		98		70-130	12		20
Bromobenzene	100		94		70-130	6		20
n-Butylbenzene	100		86		70-130	15		20
sec-Butylbenzene	110		93		70-130	17		20
tert-Butylbenzene	100		92		70-130	8		20
o-Chlorotoluene	110		92		70-130	18		20
p-Chlorotoluene	100		91		70-130	9		20
1,2-Dibromo-3-chloropropane	86		85		70-130	1		20
Hexachlorobutadiene	120		95		70-130	23	Q	20
Isopropylbenzene	100		88		70-130	13		20
p-Isopropyltoluene	97		85		70-130	13		20
Naphthalene	87		81		70-130	7		20
n-Propylbenzene	100		90		70-130	11		20
1,2,3-Trichlorobenzene	100		93		70-130	7		20
1,2,4-Trichlorobenzene	95		84		70-130	12		20
1,3,5-Trimethylbenzene	110		93		70-130	17		20
1,2,4-Trimethylbenzene	100		88		70-130	13		20
Diethyl ether	94		94		70-130	0		20
Diisopropyl Ether	94		86		70-130	9		20
Ethyl-Tert-Butyl-Ether	93		86		70-130	8		20

Lab Control Sample Analysis**Batch Quality Control****Project Name:** MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
MCP Volatile Organics - Westborough Lab Associated sample(s): 01 Batch: WG1932460-3 WG1932460-4								
Tertiary-Amyl Methyl Ether	91		88		70-130	3		20
1,4-Dioxane	94		88		70-130	7		20

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	99		103		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	93		94		70-130
Dibromofluoromethane	105		106		70-130

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24**Sample Receipt and Container Information**

Were project specific reporting limits specified?

YES

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

A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2430849-01A	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-01B	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-01C	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-02A	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-02B	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-02C	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-03A	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)
L2430849-03B	Vial HCl preserved	A	NA		5.1	Y	Absent		MCP-8260-21(14)

Project Name: MECHANIC STREET LANDFILL**Lab Number:** L2430849**Project Number:** Not Specified**Report Date:** 06/11/24

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: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

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: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

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: MECHANIC STREET LANDFILL
Project Number: Not Specified

Lab Number: L2430849
Report Date: 06/11/24

REFERENCES

- 141 EPA Test Methods (SW-846) with QC Requirements & Performance Standards for the Analysis of EPA SW-846 Methods under the Massachusetts Contingency Plan, WSC-CAM-IIA and IIB, November 2021.

LIMITATION OF LIABILITIES

Alpha Analytical 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 Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Alpha Analytical.

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.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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Certification Information

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

Westborough Facility**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****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.

Nonpotable Water: **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**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, **LACHAT 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, 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, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****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, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

Method Blank Summary Form 4 Volatiles

Client	: Woodard & Curran	Lab Number	: L2430849
Project Name	: MECHANIC STREET LANDFILL	Project Number	:
Lab Sample ID	: WG1931877-5	Lab File ID	: J240607A04
Instrument ID	: JACK2		
Matrix	: WATER	Analysis Date	: 06/07/24 04:53

Client Sample No.	Lab Sample ID	Analysis Date
WG1931877-3LCS	WG1931877-3	06/07/24 03:30
WG1931877-4LCSD	WG1931877-4	06/07/24 03:58
TRIP BLANK	L2430849-03	06/07/24 05:20
CD-2	L2430849-02	06/07/24 07:11
CD-1	L2430849-01	06/07/24 07:38

Method Blank Summary Form 4 Volatiles

Client	: Woodard & Curran	Lab Number	: L2430849
Project Name	: MECHANIC STREET LANDFILL	Project Number	:
Lab Sample ID	: WG1932460-5	Lab File ID	: VQ240610A05
Instrument ID	: QUIMBY		
Matrix	: WATER	Analysis Date	: 06/10/24 05:20

Client Sample No.	Lab Sample ID	Analysis Date
WG1932460-3LCS	WG1932460-3	06/10/24 03:48
WG1932460-4LCSD	WG1932460-4	06/10/24 04:11
CD-1	L2430849-01D	06/10/24 08:46

Calibration Verification Summary

Form 7

Volatiles

Client : Woodard & Curran
 Project Name : MECHANIC STREET LANDFILL
 Instrument ID : JACK2
 Lab File ID : J240607A01
 Sample No : WG1931877-2
 Channel :

Lab Number : L2430849
 Project Number :
 Calibration Date : 06/07/24 03:30
 Init. Calib. Date(s) : 04/02/24 04/02/24
 Init. Calib. Times : 05:39 08:52

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	95	0
Dichlorodifluoromethane	0.428	0.405	-	5.4	20	85	0
Chloromethane	0.456	0.529	-	-16	20	103	0
Vinyl chloride	0.575	0.472	-	17.9	20	76	0
Bromomethane	0.3	0.223	-	25.7*	20	81	0
Chloroethane	0.371	0.254	-	31.5*	20	62	0
Trichlorofluoromethane	0.51	0.54	-	-5.9	20	97	0
Ethyl ether	0.143	0.138	-	3.5	20	96	0
1,1-Dichloroethene	0.318	0.326	-	-2.5	20	97	0
Carbon disulfide	0.993	1.015	-	-2.2	20	97	0
Freon-113	0.334	0.363	-	-8.7	20	106	0
Methylene chloride	0.338	0.371	-	-9.8	20	107	0
Acetone	10	12.143	-	-21.4*	20	118	0
trans-1,2-Dichloroethene	0.341	0.352	-	-3.2	20	98	0
Methyl acetate	0.197	0.224	-	-13.7	20	119	0
Methyl tert-butyl ether	0.786	0.688	-	12.5	20	88	0
tert-Butyl alcohol	0.026	0.024	-	7.7	20	102	0
Diisopropyl ether	1.082	1.36	-	-25.7*	20	128	0
1,1-Dichloroethane	0.7	0.791	-	-13	20	109	0
Halothane	0.26	0.273	-	-5	20	98	0
Acrylonitrile	0.094	0.117	-	-24.5*	20	123	0
Ethyl tert-butyl ether	0.98	1.026	-	-4.7	20	115	0
Vinyl acetate	10	11.284	-	-12.8	20	132	0
cis-1,2-Dichloroethene	0.387	0.386	-	0.3	20	97	0
2,2-Dichloropropane	0.546	0.547	-	-0.2	20	96	0
Bromochloromethane	0.164	0.18	-	-9.8	20	106	0
Cyclohexane	0.652	0.856	-	-31.3*	20	123	0
Chloroform	0.628	0.646	-	-2.9	20	100	0
Ethyl acetate	0.256	0.295	-	-15.2	20	117	0
Carbon tetrachloride	10	9.82	-	1.8	20	101	0
Tetrahydrofuran	0.096	0.115	-	-19.8	20	118	0
Dibromofluoromethane	0.278	0.274	-	1.4	20	93	0
1,1,1-Trichloroethane	0.545	0.558	-	-2.4	20	98	0
2-Butanone	0.115	0.126	-	-9.6	20	119	0
1,1-Dichloropropene	0.461	0.44	-	4.6	20	90	0
Benzene	1.326	1.33	-	-0.3	20	96	0
tert-Amyl methyl ether	0.814	0.667	-	18.1	20	88	0
1,2-Dichloroethane-d4	0.341	0.312	-	8.5	20	89	0
1,2-Dichloroethane	0.453	0.472	-	-4.2	20	100	0
Methyl cyclohexane	0.63	0.574	-	8.9	20	96	0
Trichloroethene	10	9.579	-	4.2	20	93	0
Dibromomethane	0.193	0.196	-	-1.6	20	99	0
1,2-Dichloropropane	0.349	0.393	-	-12.6	20	111	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Woodard & Curran
 Project Name : MECHANIC STREET LANDFILL
 Instrument ID : JACK2
 Lab File ID : J240607A01
 Sample No : WG1931877-2
 Channel :

Lab Number : L2430849
 Project Number :
 Calibration Date : 06/07/24 03:30
 Init. Calib. Date(s) : 04/02/24 04/02/24
 Init. Calib. Times : 05:39 08:52

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.453	0.458	-	-1.1	20	96	0
1,4-Dioxane	0.00179	0.00156*	-	12.8	20	84	0
cis-1,3-Dichloropropene	10	9.512	-	4.9	20	98	0
Chlorobenzene-d5	1	1	-	0	20	97	0
Toluene-d8	1.272	1.199	-	5.7	20	90	0
Toluene	1.108	1.077	-	2.8	20	99	0
4-Methyl-2-pentanone	0.119	0.123	-	-3.4	20	117	0
Tetrachloroethene	0.468	0.468	-	0	20	100	0
trans-1,3-Dichloropropene	10	8.649	-	13.5	20	96	0
Ethyl methacrylate	0.37	0.325	-	12.2	20	91	0
1,1,2-Trichloroethane	0.297	0.276	-	7.1	20	94	0
Chlorodibromomethane	0.385	0.372	-	3.4	20	102	0
1,3-Dichloropropane	0.554	0.511	-	7.8	20	93	0
1,2-Dibromoethane	0.317	0.301	-	5	20	99	0
2-Hexanone	0.232	0.235	-	-1.3	20	110	0
Chlorobenzene	1.192	1.165	-	2.3	20	101	0
Ethylbenzene	2.152	2.07	-	3.8	20	97	0
1,1,1,2-Tetrachloroethane	0.412	0.39	-	5.3	20	102	0
p/m Xylene	0.846	0.835	-	1.3	20	101	0
o Xylene	0.811	0.783	-	3.5	20	100	0
Styrene	1.378	1.32	-	4.2	20	101	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	95	0
Bromoform	10	8.702	-	13	20	97	0
Isopropylbenzene	3.628	3.491	-	3.8	20	99	0
4-Bromofluorobenzene	0.806	0.804	-	0.2	20	96	0
Bromobenzene	0.863	0.841	-	2.5	20	102	0
n-Propylbenzene	4.565	4.328	-	5.2	20	97	0
1,4-Dichlorobutane	1.044	1.14	-	-9.2	20	121	0
1,1,2,2-Tetrachloroethane	0.752	0.652	-	13.3	20	97	0
4-Ethyltoluene	3.717	3.488	-	6.2	20	96	0
2-Chlorotoluene	3.037	2.84	-	6.5	20	97	0
1,3,5-Trimethylbenzene	3.122	3.09	-	1	20	101	0
1,2,3-Trichloropropane	0.594	0.516	-	13.1	20	95	0
trans-1,4-Dichloro-2-buten	0.253	0.242	-	4.3	20	107	0
4-Chlorotoluene	2.68	2.582	-	3.7	20	101	0
tert-Butylbenzene	2.655	2.589	-	2.5	20	99	0
1,2,4-Trimethylbenzene	3.064	3.024	-	1.3	20	103	0
sec-Butylbenzene	4.045	3.968	-	1.9	20	100	0
p-Isopropyltoluene	3.5	3.383	-	3.3	20	99	0
1,3-Dichlorobenzene	1.781	1.758	-	1.3	20	103	0
1,4-Dichlorobenzene	1.778	1.746	-	1.8	20	102	0
p-Diethylbenzene	2.099	1.965	-	6.4	20	98	0
n-Butylbenzene	3.225	3.123	-	3.2	20	99	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Woodard & Curran
 Project Name : MECHANIC STREET LANDFILL
 Instrument ID : JACK2
 Lab File ID : J240607A01
 Sample No : WG1931877-2
 Channel :

Lab Number : L2430849
 Project Number :
 Calibration Date : 06/07/24 03:30
 Init. Calib. Date(s) : 04/02/24 04/02/24
 Init. Calib. Times : 05:39 08:52

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichlorobenzene	1.639	1.595	-	2.7	20	104	0
1,2,4,5-Tetramethylbenzene	3.095	2.685	-	13.2	20	99	0
1,2-Dibromo-3-chloropropan	0.129	0.119	-	7.8	20	103	0
1,3,5-Trichlorobenzene	1.274	1.267	-	0.5	20	104	0
Hexachlorobutadiene	0.547	0.572	-	-4.6	20	111	0
1,2,4-Trichlorobenzene	1.144	1.096	-	4.2	20	108	0
Naphthalene	2.591	2.62	-	-1.1	20	109	0
1,2,3-Trichlorobenzene	0.993	0.999	-	-0.6	20	109	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Woodard & Curran
 Project Name : MECHANIC STREET LANDFILL
 Instrument ID : QUIMBY
 Lab File ID : VQ240610A01
 Sample No : WG1932460-2
 Channel :

Lab Number : L2430849
 Project Number :
 Calibration Date : 06/10/24 03:48
 Init. Calib. Date(s) : 05/31/24 06/01/24
 Init. Calib. Times : 23:48 03:14

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Fluorobenzene	1	1	-	0	20	80	0
Dichlorodifluoromethane	0.17	0.161	-	5.3	20	72	0
Chloromethane	0.209	0.206	-	1.4	20	75	0
Vinyl chloride	0.164	0.167	-	-1.8	20	78	0
Bromomethane	0.066	0.054	-	18.2	20	76	0
Chloroethane	0.099	0.109	-	-10.1	20	85	0
Trichlorofluoromethane	0.224	0.263	-	-17.4	20	85	0
Ethyl ether	0.063	0.06	-	4.8	20	77	0
1,1-Dichloroethene	0.118	0.138	-	-16.9	20	89	0
Carbon disulfide	0.308	0.36	-	-16.9	20	93	0
Freon-113	0.125	0.142	-	-13.6	20	88	-0.01
Methylene chloride	0.135	0.143	-	-5.9	20	84	-0.01
Acetone	10	8.972	-	10.3	20	71	-0.02
trans-1,2-Dichloroethene	0.127	0.143	-	-12.6	20	91	-0.01
Methyl acetate	0.097	0.089	-	8.2	20	73	-0.01
Methyl tert-butyl ether	0.349	0.352	-	-0.9	20	81	-0.01
tert-Butyl alcohol	0.011	0.011	-	0	20	77	-0.01
Diisopropyl ether	0.622	0.583	-	6.3	20	76	0
1,1-Dichloroethane	0.321	0.338	-	-5.3	20	81	-0.01
Halothane	0.115	0.126	-	-9.6	20	86	0
Acrylonitrile	0.047	0.042	-	10.6	20	73	0
Ethyl tert-butyl ether	0.479	0.444	-	7.3	20	77	0
Vinyl acetate	0.353	0.337	-	4.5	20	82	0
cis-1,2-Dichloroethene	0.157	0.166*	-	-5.7	20	85	0
2,2-Dichloropropane	0.223	0.253	-	-13.5	20	94	0
Bromochloromethane	0.077	0.083*	-	-7.8	20	84	0
Cyclohexane	0.298	0.276	-	7.4	20	72	0
Chloroform	0.28	0.294	-	-5	20	83	0
Ethyl acetate	0.141	0.118	-	16.3	20	71	-0.01
Carbon tetrachloride	0.217	0.242	-	-11.5	20	85	0
Tetrahydrofuran	0.048	0.041	-	14.6	20	69	-0.01
Dibromofluoromethane	0.254	0.268	-	-5.5	20	83	-0.01
1,1,1-Trichloroethane	0.246	0.264	-	-7.3	20	84	0
2-Butanone	0.063	0.053	-	15.9	20	72	0
1,1-Dichloropropene	0.198	0.198	-	0	20	79	0
Benzene	0.6	0.619	-	-3.2	20	79	0
tert-Amyl methyl ether	0.347	0.318	-	8.4	20	76	0
1,2-Dichloroethane-d4	0.33	0.328	-	0.6	20	75	-0.01
1,2-Dichloroethane	0.222	0.233	-	-5	20	81	0
Methyl cyclohexane	0.225	0.22	-	2.2	20	79	0
Trichloroethene	0.163	0.163*	-	0	20	80	0
Dibromomethane	0.081	0.081	-	0	20	78	0
1,2-Dichloropropane	0.167	0.16	-	4.2	20	77	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Woodard & Curran
 Project Name : MECHANIC STREET LANDFILL
 Instrument ID : QUIMBY
 Lab File ID : VQ240610A01
 Sample No : WG1932460-2
 Channel :

Lab Number : L2430849
 Project Number :
 Calibration Date : 06/10/24 03:48
 Init. Calib. Date(s) : 05/31/24 06/01/24
 Init. Calib. Times : 23:48 03:14

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
Bromodichloromethane	0.208	0.21*	-	-1	20	80	-.01
1,4-Dioxane	0.00078	0.00073*	-	6.4	20	81	0
cis-1,3-Dichloropropene	0.217	0.211*	-	2.8	20	79	0
Chlorobenzene-d5	1	1	-	0	20	79	0
Toluene-d8	1.311	1.304	-	0.5	20	78	0
Toluene	0.503	0.518	-	-3	20	80	0
4-Methyl-2-pentanone	0.051	0.043	-	15.7	20	69	-.01
Tetrachloroethene	0.21	0.237	-	-12.9	20	87	0
trans-1,3-Dichloropropene	0.258	0.25*	-	3.1	20	79	0
Ethyl methacrylate	0.176	0.139	-	21*	20	71	0
1,1,2-Trichloroethane	0.133	0.13*	-	2.3	20	75	0
Chlorodibromomethane	0.192	0.2	-	-4.2	20	82	0
1,3-Dichloropropane	0.27	0.263	-	2.6	20	75	0
1,2-Dibromoethane	0.143	0.14*	-	2.1	20	76	0
2-Hexanone	0.097	0.08	-	17.5	20	69	0
Chlorobenzene	0.535	0.566	-	-5.8	20	81	0
Ethylbenzene	0.909	0.943	-	-3.7	20	81	0
1,1,1,2-Tetrachloroethane	0.209	0.228	-	-9.1	20	85	-.01
p/m Xylene	0.348	0.384	-	-10.3	20	82	0
o Xylene	0.328	0.353	-	-7.6	20	80	0
Styrene	20	20.823	-	-4.1	20	81	0
1,4-Dichlorobenzene-d4	1	1	-	0	20	79	0
Bromoform	0.19	0.188	-	1.1	20	80	0
Isopropylbenzene	1.489	1.522	-	-2.2	20	81	0
4-Bromofluorobenzene	0.792	0.735	-	7.2	20	75	0
Bromobenzene	0.396	0.417	-	-5.3	20	85	0
n-Propylbenzene	1.742	1.825	-	-4.8	20	81	0
1,4-Dichlorobutane	0.502	0.456	-	9.2	20	71	0
1,1,2,2-Tetrachloroethane	0.295	0.273	-	7.5	20	72	0
4-Ethyltoluene	1.443	1.527	-	-5.8	20	83	0
2-Chlorotoluene	1.248	1.324	-	-6.1	20	82	0
1,3,5-Trimethylbenzene	1.297	1.379	-	-6.3	20	84	0
1,2,3-Trichloropropane	0.259	0.243	-	6.2	20	72	0
trans-1,4-Dichloro-2-buten	0.094	0.085	-	9.6	20	69	0
4-Chlorotoluene	1.117	1.164	-	-4.2	20	81	0
tert-Butylbenzene	1.059	1.102	-	-4.1	20	82	0
1,2,4-Trimethylbenzene	1.328	1.352	-	-1.8	20	84	0
sec-Butylbenzene	1.516	1.646	-	-8.6	20	83	0
p-Isopropyltoluene	10	9.728	-	2.7	20	83	0
1,3-Dichlorobenzene	0.77	0.86	-	-11.7	20	86	0
1,4-Dichlorobenzene	0.796	0.867	-	-8.9	20	86	0
p-Diethylbenzene	0.797	0.769	-	3.5	20	83	0
n-Butylbenzene	10	10.009	-	-0.1	20	84	0

* Value outside of QC limits.



Calibration Verification Summary

Form 7

Volatiles

Client : Woodard & Curran
 Project Name : MECHANIC STREET LANDFILL
 Instrument ID : QUIMBY
 Lab File ID : VQ240610A01
 Sample No : WG1932460-2
 Channel :

Lab Number : L2430849
 Project Number :
 Calibration Date : 06/10/24 03:48
 Init. Calib. Date(s) : 05/31/24 06/01/24
 Init. Calib. Times : 23:48 03:14

Compound	Ave. RRF	RRF	Min RRF	%D	Max %D	Area%	Dev(min)
1,2-Dichlorobenzene	0.725	0.779	-	-7.4	20	83	0
1,2,4,5-Tetramethylbenzene	1.229	1.083	-	11.9	20	79	0
1,2-Dibromo-3-chloropropan	0.046	0.039	-	15.2	20	70	0
1,3,5-Trichlorobenzene	0.53	0.585	-	-10.4	20	89	0
Hexachlorobutadiene	0.166	0.195	-	-17.5	20	96	0
1,2,4-Trichlorobenzene	0.489	0.464	-	5.1	20	84	0
Naphthalene	10	8.741	-	12.6	20	74	0
1,2,3-Trichlorobenzene	0.431	0.435	-	-0.9	20	81	0

* Value outside of QC limits.





ANALYTICAL REPORT

Lab Number:	L2430980
Client:	Woodard & Curran 40 Shattuck Road Suite 110 Andover, MA 01810
ATTN:	Kendra Robinson
Phone:	(866) 702-6371
Project Name:	MECHANIC ST LANDFILL
Project Number:	Not Specified
Report Date:	06/18/24

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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: MECHANIC ST LANDFILL
Project Number: Not Specified

Lab Number: L2430980
Report Date: 06/18/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2430980-01	UPWIND	AIR	LEOMINSTER	06/03/24 13:38	06/04/24
L2430980-02	CENTER	AIR	LEOMINSTER	06/03/24 13:40	06/04/24

Project Name: MECHANIC ST LANDFILL
Project Number: Not Specified

Lab Number: L2430980
Report Date: 06/18/24

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 Alpha 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, solids and tissues are reported on a dry 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, Alpha'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 Alpha Project Manager and made arrangements for Alpha 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: MECHANIC ST LANDFILL
Project Number: Not Specified

Lab Number: L2430980
Report Date: 06/18/24

Case Narrative (continued)

Methane in Air

Canisters were released from the laboratory on May 8, 2024.

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: 06/18/24

QC OUTLIER SUMMARY REPORT

Project Name: MECHANIC ST LANDFILL

Lab Number: L2430980

Project Number: Not Specified

Report Date: 06/18/24

Method	Client ID (Native ID)	Lab ID	Parameter	QC Type	Recovery/RPD (%)	QC Limits (%)	Associated Samples	Data Quality Assessment
--------	-----------------------	--------	-----------	---------	------------------	---------------	--------------------	-------------------------

There are no QC Outliers associated with this report.

AIR

Project Name: MECHANIC ST LANDFILL**Project Number:** Not Specified**Lab Number:** L2430980**Report Date:** 06/18/24**SAMPLE RESULTS**

Lab ID: L2430980-01 D

Client ID: UPWIND

Sample Location: LEOMINSTER

Date Collected: 06/03/24 13:38

Date Received: 06/04/24

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Analytical Method: 51,3C(M)

Analytical Date: 06/18/24 12:18

Analyst: SRO

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Dissolved Gases in Air - Mansfield Lab						
Methane	3.28		ppmV	1.78	--	1.786

Project Name: MECHANIC ST LANDFILL**Project Number:** Not Specified**Lab Number:** L2430980**Report Date:** 06/18/24**SAMPLE RESULTS**

Lab ID: L2430980-02 D

Client ID: CENTER

Sample Location: LEOMINSTER

Date Collected: 06/03/24 13:40

Date Received: 06/04/24

Field Prep: Not Specified

Sample Depth:

Matrix: Air

Analytical Method: 51,3C(M)

Analytical Date: 06/18/24 13:08

Analyst: SRO

Extraction Method:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Dissolved Gases in Air - Mansfield Lab						
Methane	2.60		ppmV	1.82	--	1.818

Project Name: MECHANIC ST LANDFILL**Lab Number:** L2430980**Project Number:** Not Specified**Report Date:** 06/18/24**Method Blank Analysis**
Batch Quality Control

Analytical Method: 51,3C(M)
Analytical Date: 06/18/24 09:10
Analyst: SRO

Parameter	Result	Qualifier	Units	RL	MDL
Dissolved Gases in Air - Mansfield Lab for sample(s): 01-02 Batch: WG1935224-3					
Methane	ND		ppmV	1.00	--

Lab Control Sample Analysis

Batch Quality Control

Project Name: MECHANIC ST LANDFILL

Project Number: Not Specified

Lab Number: L2430980

Report Date: 06/18/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Dissolved Gases in Air - Mansfield Lab Associated sample(s): 01-02 Batch: WG1935224-2								
Methane	104		-		80-120	-		
Ethene	88		-		80-120	-		
Ethane	106		-		80-120	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: MECHANIC ST LANDFILL

Project Number: Not Specified

Lab Number: L2430980

Report Date: 06/18/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Dissolved Gases in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1935224-7 QC Sample: L2430980-01 Client ID: UPWIND						
Methane	3.28	3.26	ppmV	1		5
Dissolved Gases in Air - Mansfield Lab Associated sample(s): 01-02 QC Batch ID: WG1935224-8 QC Sample: L2430980-02 Client ID: CENTER						
Methane	2.60	2.52	ppmV	3		5

Project Name: MECHANIC ST LANDFILL

Serial_No:06182415:32
Lab Number: L2430980

Project Number:

Report Date: 06/18/24

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 (in. Hg)	Flow Controller Leak Chk	Flow Out mL/min	Flow In mL/min	% RPD
L2430980-01	UPWIND	01657	Flow 5	05/08/24	467616		-	-	-	Pass	9.0	8.9	1
L2430980-01	UPWIND	3444	2.7L Can	05/08/24	467616	L2424704-04	Pass	-28.9	-6.9	-	-	-	-
L2430980-02	CENTER	0334	Flow 5	05/08/24	467616		-	-	-	Pass	9.0	8.9	1
L2430980-02	CENTER	3212	2.7L Can	05/08/24	467616	L2424704-04	Pass	-29.0	-7.6	-	-	-	-

Project Name: MECHANIC ST LANDFILL**Lab Number:** L2430980**Project Number:** Not Specified**Report Date:** 06/18/24**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(*)
L2430980-01A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)
L2430980-02A	Canister - 2.7L (Batch Certified)	NA	NA			Y	Absent		DISSGAS-AIR(30)

Project Name: MECHANIC ST LANDFILL
Project Number: Not Specified

Lab Number: L2430980
Report Date: 06/18/24

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: MECHANIC ST LANDFILL
Project Number: Not Specified

Lab Number: L2430980
Report Date: 06/18/24

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: MECHANIC ST LANDFILL**Lab Number:** L2430980**Project Number:** Not Specified**Report Date:** 06/18/24**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: MECHANIC ST LANDFILL
Project Number: Not Specified

Lab Number: L2430980
Report Date: 06/18/24

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

Alpha Analytical 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 Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical 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 Alpha Analytical.

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.



Alpha Analytical, Inc.Facility: **Company-wide**Department: **Quality Assurance**Title: **Certificate/Approval Program Summary**ID No.: **17873**

Revision 21

Published Date: 04/17/2024

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Certification Information

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

Westborough Facility**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****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.

Nonpotable Water: **EPA RSK-175 Dissolved Gases****Biological Tissue Matrix:** EPA 3050B

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

Westborough Facility:**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, **LACHAT 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, 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, EPA 1600, EPA 1603, SM9222D.****Mansfield Facility:****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, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.**EPA 245.1 Hg.****SM2340B**

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

ALPHA ANALYTICAL
CHAIN OF CUSTODY
 320 Forbes Blvd, Mansfield, MA 02048
 TEL: 508-822-9300 FAX: 508-822-3288

AIR ANALYSIS

PAGE 1 OF 1

Date Rec'd in Lab: 6/4/24

ALPHA Job #: L2430980

Client Information

 Client: Woodman & Curran
 Address: 40 Shattuck Rd Suite 110
 Andover MA 01810
 Phone:
 Fax:
 Email: KRobinson@WoodmanCurran.com

Project Information

 Project Name: Mechanic St Landfill
 Project Location: Leominster
 Project #:
 Project Manager: Kendra Robinson
 ALPHA Quote #:
 Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Time:

Report Information - Data Deliverables

☐ FAX
☒ ADEx
 Criteria Checker:
 (Default based on Regulatory Criteria Indicated)
 Other Formats:
☒ EMAIL (standard pdf report)
☐ Additional Deliverables:
 Report to: (if different than Project Manager)

Billing Information

☒ Same as Client info PO #:

Regulatory Requirements/Report Limits

State/Fed	Program	Res / Comm
MA	Landfill	

ANALYSIS

☒ These samples have been previously analyzed by Alpha

Other Project Specific Requirements/Comments:

 Project-Specific Target Compound List: ☐ EPA RC Methane Fixed Gases

All Columns Below Must Be Filled Out

ALPHA Lab ID (Lab Use Only)	Sample ID	COLLECTION						Sample Matrix*	Sampler's Initials	Can Size	I D Can	I D - Flow Controller	TO-15 TO-15	APH Fixed	Sulfides		Sample Comments (i.e. PID)
		End Date	Start Time	End Time	Initial Vacuum	Final Vacuum											
30980-01	up wind	6/3/24	9:38	9:40	30.08	-5.89	AA	RM	27	3444	1657						
-02	Center	6/3/24	9:40	9:40 ^{13:40}	29.35	-6.28	AA	RM	27	3212	334						

*SAMPLE MATRIX CODES

 AA = Ambient Air (Indoor/Outdoor)
 SV = Soil Vapor/Landfill Gas/SVE
 Other = Please Specify

Container Type

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

Relinquished By: <i>[Signature]</i>	Date/Time: 6/4/24 05:45	Received By: <i>[Signature]</i>	Date/Time: 6/4/24 14:15
<i>[Signature]</i>	6/4/24 19:07	<i>[Signature]</i>	6/4/24 19:07



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