

LIMITED PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

**10424 Wilson Boulevard
Richland County, South Carolina 29016
Project Number: PJ22040**

**Revision 1
September 18, 2023**

Prepared for:

Pedcor Investments, A Limited Liability Company
770 Third Avenue, S.W.
Carmel, IN 46032

And

South Carolina State Housing Finance & Development Authority (SC Housing)
300-C Outlet Pointe Boulevard
Columbia, South Carolina 29210



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1.0 INTRODUCTION AND BACKGROUND

Hanley Environmental, PLLC was contracted by Pedcor Investments, A Limited Liability Company to perform a limited Phase II Environmental Site Assessment (ESA) at property located at 10424 Wilson Boulevard comprised of one parcel in Blythewood, Richland County, South Carolina 29016 (**Figure 1**). This report presents the assessment background, procedures, results and discussion, and conclusions.

1.1 Background

Hanley Environmental understands that the Client is considering redevelopment of the site for residential use with nine apartment buildings, one clubhouse building and associated improvements. A *Phase I Environmental Site Assessment* (ESA) report dated November 4, 2022, was prepared by Arkose Environmental, Inc for the site. The *Phase I ESA* identified one recognized environmental condition related to an up-gradient facility (Mini Mart Leaking Underground Storage Tank (LUST) site located 528 feet north-northwest of the site). Several groundwater monitoring wells currently or formerly located just off-site along the northern site boundary had detections of petroleum-related constituents in groundwater. The most recent data from adjacent to the site have had no detections in groundwater since prior to 2017. Several nearby wells have been destroyed, and recent data from those wells is not available.

1.2 Assessment Objectives

Collection of groundwater data from the site near the northern property boundary was performed to assess whether groundwater impacts are currently present at the site. Additionally, soil gas samples were collected in close proximity to proposed footprints of the three northernmost site buildings to better understand the risk of vapor intrusion at future site buildings.

2.0 ASSESSMENT PROCEDURES

The following sections provide information on investigation procedures, sampling locations, and general rationale. A map depicting sample locations is included as **Figure 2**. Procedures for sample collection are described below and generally follow the US EPA Region IV Field Branches Quality System and Technical Procedures, and US EPA OSWER Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air dated June 2015, and supplemental EPA guidance (“Vapor Intrusion Technical Guide”). Limited Phase II ESA field activities occurred on January 5 and 6, 2023.

2.1 Groundwater Assessment

Groundwater sampling was conducted at three temporary monitoring wells (TMWs) near the northern property boundary as shown on **Figure 2**. TMW-1s and TMW-1i were collected from a location just south of former off-site well MW-39i, which is part of the Mini Mart LUST incident well network. TMW-1s was a shallow well screened across the water table, and TMW-1i was an intermediate-depth well screened from 25-30 feet below ground surface (ft bgs), which was the same screened interval as MW-39i. TMW-2i was an intermediate-depth well screened from 23.5-28.5 ft bgs, located near the northeastern corner of the site in an effort to identify whether the Mini Mart LUST groundwater plume may extend farther east than MW-39i. TMW-2i was planned to be installed to a depth of 30 ft bgs but drilling refusal was encountered at 28.5 ft bgs. Temporary monitoring well construction information is summarized in **Table 1**.

In accordance with the South Carolina state requirements, Hanley Environmental prepared and submitted a Monitoring Well Application prior to Phase II ESA activities. The Monitoring Well Permit was approved (Approval # MW-13521) in a letter from SCDHEC dated January 3, 2023. The approval letter is provided as **Appendix A**.

Temporary monitoring wells were installed using direct-push technology (DPT) drilling methods by Versatile Environmental Resource Company (VERCO), a South Carolina-licensed

drilling contractor. Continuous soil samples were collected from each soil boring during temporary monitoring well installation and field screened for the presence of staining or odors. Lithological descriptions were recorded and are provided in boring logs included as **Appendix B**. Hanley Environmental did not observe obvious indications or staining or odors indication of a release to soil in the soil borings. Temporary monitoring wells were installed by placing 1-inch diameter PVC piping with 5 ft or 10 ft screened sections and solid riser piping extending to the ground surface. Sand filter pack was installed in the well annulus from the base of the borehole to approximately 2 feet above the screened zone. At least 2 feet of hydrated bentonite was placed above the sand pack of each well.

The temporary groundwater monitoring wells were developed by pumping and surging within the screened zone until water was visibly clear and a minimum of three well volumes had been removed. Following temporary well installation, the groundwater level was allowed to equilibrate, and an oil-water interface probe was used to measure the depth to water and gauge for the presence of free product. Depth to groundwater ranged from approximately 18.11 to 18.42 ft bgs. Free product was not observed in temporary monitoring wells installed at the site.

Low-flow sampling methods were employed using a peristaltic pump. The tubing inlet was placed within the screened interval of each well and groundwater was purged at approximately 200 milliliters/minute (mL/min). Field parameters were measured and recorded at approximately 3-minute intervals to assess stabilization. Samples were collected when field measurements of temperature, pH, specific conductivity, and oxidation reduction potential (ORP) stabilized. Groundwater sampling records are provided in **Appendix C**. Samples were placed in laboratory-provided containers, stored in an iced cooler, and transported under chain-of-custody protocol to Waypoint Analytical, LLC, a South Carolina-certified laboratory. Groundwater samples were analyzed for VOCs by EPA Method 8260.

Soil cuttings and purged groundwater was discharged to the ground surface in the vicinity of each sample location. Temporary monitoring wells were abandoned on January 6, 2023, by backfilling with soil cuttings, bentonite chips, or grout to the ground surface. Sample locations were marked with a handheld GPS device.

2.2 Soil Gas Assessment

Soil gas sampling was conducted at three locations (SG-1, SG-2, and SG-3) near the planned locations of the three northernmost site buildings (**Figure 2**). Temporary soil gas sampling points were installed by DPT drilling methods with total boring depths extending to 15 ft bgs, approximately 3 ft above the measured water table. Soil boring logs are provided in **Appendix B**.

Soil gas probes consisted of a 6-inch length screened soil gas sampling implant connected to ¼-inch diameter Teflon® tubing which extended to the ground surface for sample collection. A sand filter-pack was placed around the sampling implants to a height of approximately six inches above the screen. Hydrated bentonite was placed above the sand to near ground surface.

One-liter Summa® canisters batch certified by the laboratory were used to collect soil gas samples. Canisters were inspected prior to sampling to verify that vacuum levels were within 10% of the level recorded by the laboratory prior to shipment. Dedicated tubing and flow controllers were used at each sample collection point. Sampling points were purged of stagnant air at a rate of no more than 200 mL/min to remove at least three sample train volumes of air using a three-way valve. Following purging, a leak check was conducted at each soil gas location by constructing a shroud around the sampling point and filling the shroud with helium gas. Helium concentrations were measured using a Dielectric MGD 2002 helium detector. Purged vapors from the soil gas sample were collected in Tedlar® bags using a syringe and the helium concentration of the vapor in the Tedlar® bags was measured to verify that helium concentrations in the Tedlar® bags were less than 10% of the helium

concentrations in the shroud. Successful leak check and sampling information is provided on the soil gas sampling records included as **Appendix D**.

Following purging and successful leak testing at each sample location, a soil gas sample was collected into the sample canister at an approximate flow rate of 200 mL/min (5-minute sample time for 1-liter canisters). After sampling, the canisters were transported under chain-of-custody protocols via courier to Waypoint Analytical, LLC for analysis of VOCs by EPA Method TO-15. Following sample collection, tubing and screens were pulled from the ground. Sample locations were marked with a handheld GPS device.

3.0 ASSESSMENT RESULTS AND DISCUSSION

The groundwater and soil gas results are summarized in **Tables 2 and 3**, respectively. Laboratory analytical reports and chain-of-custody records are included in **Appendix E**. Groundwater results were compared to the EPA Maximum Contaminant Levels (MCLs) and Target Groundwater Concentration Vapor Intrusion Screening Levels (VISLs). Soil gas results were compared to the EPA Target Sub-Slab and Near-Source Soil Gas Concentration VISLs. Target VISLs are based on a target cancer risk (TCR) of 1×10^{-6} and target hazard quotient (THQ) of 0.1.

3.1 Groundwater Assessment

Analytical results indicate the presence of tetrachloroethylene (TMW-1i and TMW-2i), toluene (TMW-1s), methyl tert-butyl ether (TMW-2i), and acetone (TMW-1s and TMW-1i) at concentrations above laboratory method detection limits in groundwater samples collected at the site. Concentrations detected in groundwater did not exceed EPA MCLs or Target Groundwater VISLs.

Prior to former off-site monitoring well MW-39i being destroyed after the April 2016 sampling event, benzene, xylenes (total), naphthalene, and methyl tert-butyl ether were consistently detected in groundwater samples from that well; however, concentrations exhibited a steady concentration decline from the first sampling event in April 2014. The concentration of

methyl tert-butyl ether detected in TMW-2i was similar to the April 2016 concentration detected in MW-39i. Additional monitoring wells located on the northern adjacent property along the site boundary have been destroyed or have not had detections in groundwater prior to 2016. It should be noted that groundwater samples collected on the adjacent property to the north were collected as part of the Mini Mart LUST assessment and were analyzed by EPA Method 8260B for specific petroleum-related compounds. Therefore, concentrations of chlorinated solvents such as tetrachloroethene were not reported in the groundwater data.

3.2 Soil Gas Assessment

Laboratory analytical results indicate the presence of several VOCs in each soil gas sample at concentrations above the laboratory method detection limit. VOCs detected above the EPA Target Sub-Slab Near-Source Soil Gas VISLs include benzene (SG-2 and SG-3), 1,3-butadiene¹ (SG-1 through SG-3), ethylbenzene (SG-2 and SG-3), heptane (SG-2), naphthalene (SG-2 and SG-3), 1,2,4-trimethylbenzene (SG-2 and SG-3), 1,3,5-trimethylbenzene (SG-2), o-xylene (SG-2), m,p-xylene (SG-2), and xylenes (total; SG-2 and SG-3). Several other compounds were detected in each soil gas sample at concentrations below Target VISLs.

EPA Target Sub-Slab and Near-Source Soil Gas VISLs are conservative and based on a TCR of 1×10^{-6} and THQ of 0.1. EPA's acceptable risk range for potential carcinogenic risks is 1×10^{-6} to 1×10^{-4} and the acceptable level for noncarcinogenic risk is a hazard index (HI) equal to less than 1. To further evaluate potential cumulative risks for structural vapor intrusion into future site buildings, Hanley Environmental calculated cumulative risks using EPA's VISL Calculator assuming a residential land use scenario. The maximum concentration of each compound detected was used as input for the VISL Calculator

¹ 1,3-Butadiene is likely an artifact of the sampling process rather than a result of a release at the site. When identified in soil gas, it is typically an artifact of DPT sampling as a result of emission from the drilling equipment.

The results of the calculator indicate a carcinogenic risk of 8.32×10^{-5} and a non-carcinogenic hazard index of 5.27. The hazard index exceeds the acceptable risk threshold. A copy the EPA VISL Calculator is included as **Appendix F**.

4.0 CONCLUSIONS

Hanley Environmental completed limited Phase II ESA activities at the wooded property at 10424 Wilson Blvd in Blythewood, South Carolina. The assessment activities were conducted on January 5, 2023, and included the collection and laboratory analyses of three groundwater samples and three soil gas samples. A summary of results is as follows:

- Analytical results indicate the presence of tetrachloroethylene, toluene, methyl tert-butyl ether, and acetone at concentrations above laboratory method detection limits in groundwater samples collected at the site. Concentrations detected in groundwater did not exceed EPA MCLs or Target Groundwater VISLs.
- Soil gas results indicate benzene, 1,3-butadiene, ethylbenzene, heptane, naphthalene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, o-xylene, m,p-xylene, and xylenes (total) in soil gas at concentrations above the EPA Target Sub-slab Near-Source Soil Gas VISLs. Several other compounds were detected in each soil gas sample at concentrations below Target VISLs.
- The EPA VISL Calculator indicates carcinogenic risk of 8.32×10^{-5} and a non-carcinogenic hazard index of 5.27. The hazard index exceeds the acceptable risk threshold.

Groundwater data identified methyl tert-butyl ether, which is a fuel additive that is highly mobile in groundwater can be a leading indicator of a fuel-related groundwater plume. The groundwater data suggest that concentrations associated with the Mini Mart LUST may have decreased over time, or the groundwater plume may be present at a different location or depth interval from the samples collected. The presence of petroleum-related constituents in soil gas indicate that constituents associated with the Mini Mart LUST release have likely migrated onto the site, either in groundwater or in the vapor phase. Information from the

Phase I ESA and this limited Phase II ESA did not identify likely on-site sources of the detected constituents in groundwater and soil gas. The scope of this assessment was limited, and a more thorough assessment would be needed to identify the groundwater plume extent and the origin and extent of soil gas concentrations with greater certainty.

Based on soil gas and VISL Calculator results, the data indicates the potential for soil gas to indoor air vapor intrusion to result in unacceptable risk levels for future buildings under a residential use scenario. This risk could be addressed with appropriate engineering controls such as vapor intrusion mitigation systems at planned buildings.

The environmental conditions identified may be mitigated using institutional and/or engineering controls to allow for safe site redevelopment for multi-family residential use. This may be achieved through a Voluntary Cleanup Contract (VCC) with the South Carolina Department of Health and Environmental Control (SC DHEC) as a non-responsible party pursuant to the Brownfields/Voluntary Cleanup Program, which includes agreeing to conduct certain response actions related to existing contamination at the site to provide for safe development of the site and to obtain related protections and benefits. The VCC will require additional investigation activities, and costs of environmental mitigation associated with redevelopment will be uncertain until investigation work is completed.

5.0 REFERENCES

Arkose Environmental, Inc., *Phase I Environmental Site Assessment*, dated November 4, 2022.

Midlands Environmental Consultants, Inc., *Corrective Action System Evaluation Report #16 Jalaram/Former JR Deli, SCHEC Site ID 10503*, dated July 11, 2022.

United States Environmental Protection Agency, *Office of Solid Waste and Emergency Response (OSWER) Technical Guide for Assessing and Mitigating the Vapor Intrusion Pathway from Subsurface Vapor Sources to Indoor Air*, dated June 2015.

United States Environmental Protection Agency, *Vapor Intrusion Screening Level Calculator User's Guide for Chemical Contaminants*, last updated November 18, 2022.

Limited Phase II ESA Report
10424 Wilson Blvd



United States Environmental Protection Agency Region 4, *Quality System and Technical Procedures for Laboratory Services and Applied Science Division (LSASD) Field Branches*,
last updated May 12, 2022

TABLES

Table 1 - Temporary Monitoring Well Construction and Water Level Summary
Limited Phase II ESA
10424 Wilson Blvd
Richland County, South Carolina 29016

Well ID	Location	Well Diameter (inch)	Approximate Well Depth (ft bgs)	Screen Interval (ft bgs)	Depth to Groundwater (ft bgs)
TMW-1s	Central portion of site; south of former off-site well MW-39i	1	22	12-22	18.11
TMW-1i	Central portion of site; south of former off-site well MW-39i	1	30	25-30	18.21
TMW-2i	Northeastern corner of site	1	28.5	23.5-28.5	18.42

Notes:

1. Depth to groundwater measurement collected on January 5, 2023.
2. ft bgs = feet below ground surface

Table 2 - Groundwater Analytical Results Summary
Limited Phase II ESA
10424 Wilson Blvd
Richland County, South Carolina 29016

Sample ID	TMW-1s	TMW-1i	TMW-2i	EPA MCL ¹	Target Groundwater VISL ² (TCR = 1.0E-06; THQ=0.1)
Location	North-Central Portion	North-Central Portion	Northeastern Portion		
Well Screen Depth Interval (ft bgs)	12-22	25-30	23.5-28.5		
Sample Collection Date	1/5/2023	1/5/2023	1/5/2023		
Volatile Organic Compounds (VOCs) - EPA Method 8260 (µg/L)					
Acetone	3.19 J	1.97 J	<1.80	NE	NE
Methyl Tert-Butyl Ether (MTBE)	<0.140	<0.140	0.456 J	NE	4.50E+02
Tetrachloroethene	<0.220	0.720	0.879	5	5.76E+00
Toluene	0.220 J	<0.220	<0.220	1,000	1.92E+03

Notes:

1. Environmental Protection Agency (EPA) National Primary Drinking Water Regulations Maximum Contaminant Levels (MCLs)
2. EPA Target Groundwater Concentration Vapor Intrusion Screening Level (based on target cancer risk [TCR] of 1×10^{-6} and target hazard quotient [THQ] of 0.1)
3. Detected concentrations are shown in **bold**
4. NE = not established
5. Values shown with "<MDL" were not detected above the referenced method detection limit
6. J indicates compound was detected at a concentration below the Reporting Limit (lowest calibration standard), detection is considered an estimate
7. Concentrations shown in micrograms per liter (µg/L)
8. ft bgs = feet below ground surface
9. Only compounds detected in at least one sample shown in table above
10. NE = not established

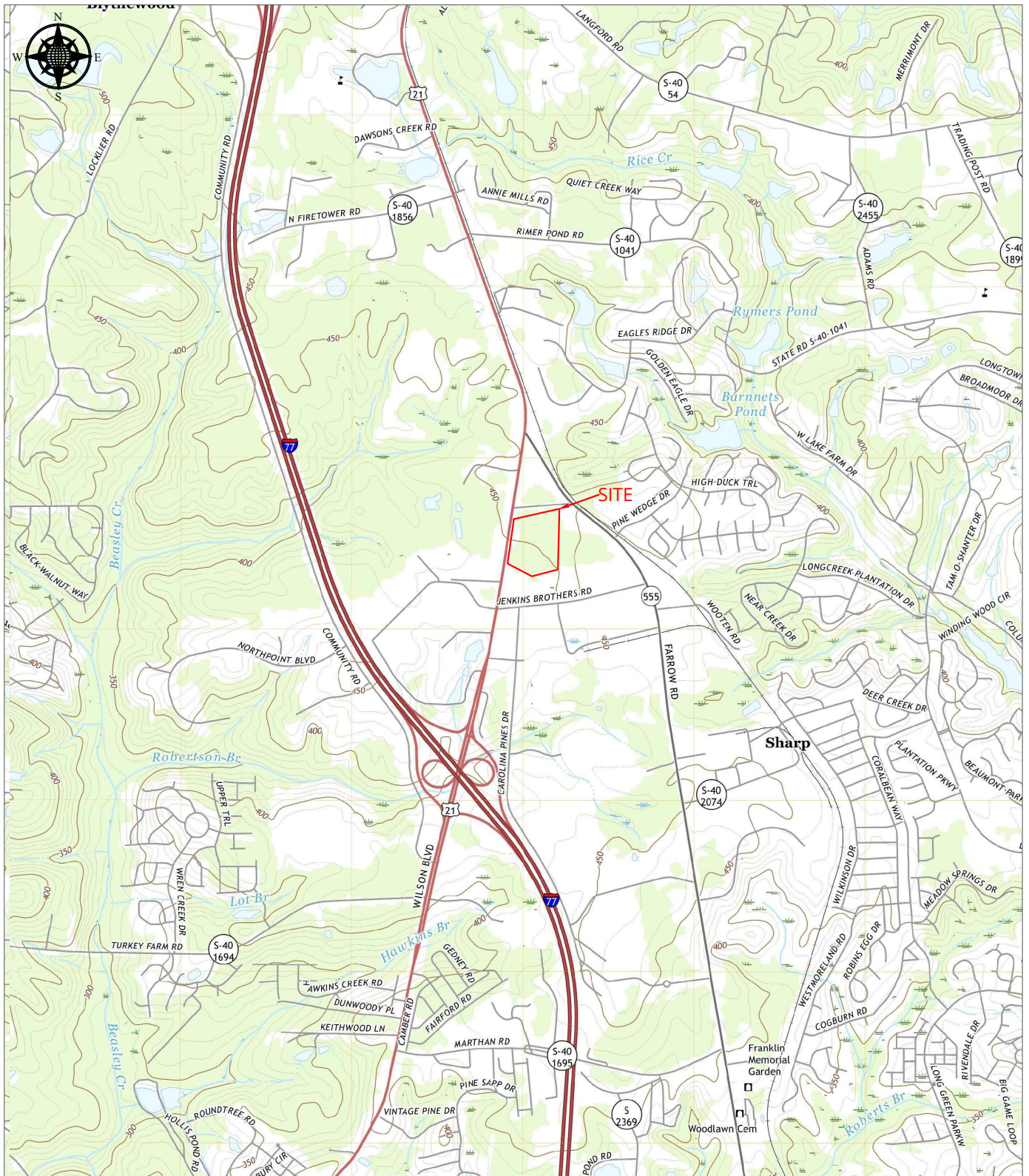
Table 3 - Soil Gas Analytical Results Summary
Limited Phase II ESA
10424 Wilson Blvd
Richland County, South Carolina

Sample ID		SG-1	SG-2	SG-3
Sample Type		Soil Gas	Soil Gas	Soil Gas
Location		Western Portion	Central Portion	Eastern Portion
Sample Interval Depth (ft bgs)		14.5-15	14.5-15	14.5-15
Sample Duration		5-minute	5-minute	5-minute
Sample Collection Date		1/5/2023	1/5/2023	1/5/2023
Shroud Helium Concentration (%)		54.4%	47.3%	52.5%
Leak Check Helium Concentration (ppm)		0.0	0.0	0.0
	Target Sub-Slab and Near-source Soil Gas Concentration ² (TCR = 1.0E-06; THQ=0.1)			
Volatile Organic Compounds (VOCs) - EPA Method TO-15 (µg/m ³)				
Acetone	NE	37.7	44.0	79.0
Benzene	1.20E+01	3.85	110	25.5
1,3-Butadiene	3.12E+00	11.6	134	92.1
Carbon Disulfide	2.43E+03	3.74 J	31.5	36.2
Chloroform	4.07E+00	2.29 J	<0.431	2.67
Chloromethane	3.13E+02	<0.067	3.21 J	<0.067
Cyclohexane	2.09E+04	<0.161	281	<0.161
Dichlorodifluoromethane	3.48E+02	2.68	2.84 J	2.75
1,1-Dichloroethane	5.85E+01	0.380 J	<0.504	<0.101
Ethylbenzene	3.74E+01	0.720 J	949	74.9
4-Ethyltoluene	NE	<0.128	584	62.5
1,1,2-Trichloro-1,2,2-trifluoroethane	1.74E+04	<0.561	<2.81	0.674 J
Heptane	1.39E+03	0.905 J	1,680	86.4
n-Hexane	2.43E+03	1.72 J	1,610	89.8
2-Hexanone	1.04E+02	1.95 J	<1.42	<0.285
Isopropyl Alcohol	6.95E+02	2.31 J B	8.06 J B	2.60 J B
Methyl Ethyl Ketone (MEK)	1.74E+04	6.28	23.3	19.7
4-Methyl-2-Pentanone	1.04E+04	2.07	<0.602	9.30
Methylene Chloride	2.09E+03	3.62	5.16 J B	8.93
Naphthalene	2.75E+00	<0.183	13.9	5.26
Propene	1.04E+04	45.0	6,550	2,030
Styrene	3.48E+03	1.61 J	12.6	5.08
Tetrachloroethene	1.39E+02	<0.181	<0.907	1.28 J
Tetrahydrofuran	6.95E+03	0.350 J	25.0	<0.107
Toluene	1.74E+04	5.29	3,730	147
Trichlorofluoromethane	NE	1.41 J	<0.647	<0.130
1,2,4-Trimethylbenzene	2.09E+02	0.860 J	2,240	216
1,3,5-Trimethylbenzene	2.09E+02	<0.236	857	90.7
o-Xylene	3.48E+02	0.842 J	1,350	130
m,p-Xylene	3.48E+02	1.75 J	3,190	271
Xylene (Total)	3.48E+02	2.59 J	4,540	401

Notes:

1. Concentrations shown in micrograms per cubic meter (µg/m³)
2. Environmental Protection Agency (EPA) Target Sub-Slab and Near-Source Soil Gas Concentration Screening Level (based on target cancer risk [TCR] of 1x10⁻⁶ and target hazard quotient [THQ] of 0.1)
3. Detected concentrations are shown in **bold**
4. Detected concentrations exceeding Target Screening Levels are shaded in yellow
5. Values shown with "<MDL" were not detected above the referenced method detection limit
6. J indicates compound was detected at a concentration below the Reporting Limit (lowest calibration standard), detection is considered an estimate
7. B indicates compound was detected in blank
8. ft bgs = feet below ground surface
9. Only compounds detected in at least one sample shown in table above
10. NE = not established

FIGURES



Legend

— Subject Property Boundary

1,000 2,000 FT

Notes: Topographic image obtained from United States Geological Services (USGS) online interface managed by the USGS National Geospatial Program (NGP) dated January 18, 2023.



HANLEY ENVIRONMENTAL, PLLC
323 MANNING DRIVE
CHARLOTTE, NORTH CAROLINA
SC Engineering COA #6674

Date
01/18/23
Project No.
PJ22040
Drawn By
NAH
Revision No.
0

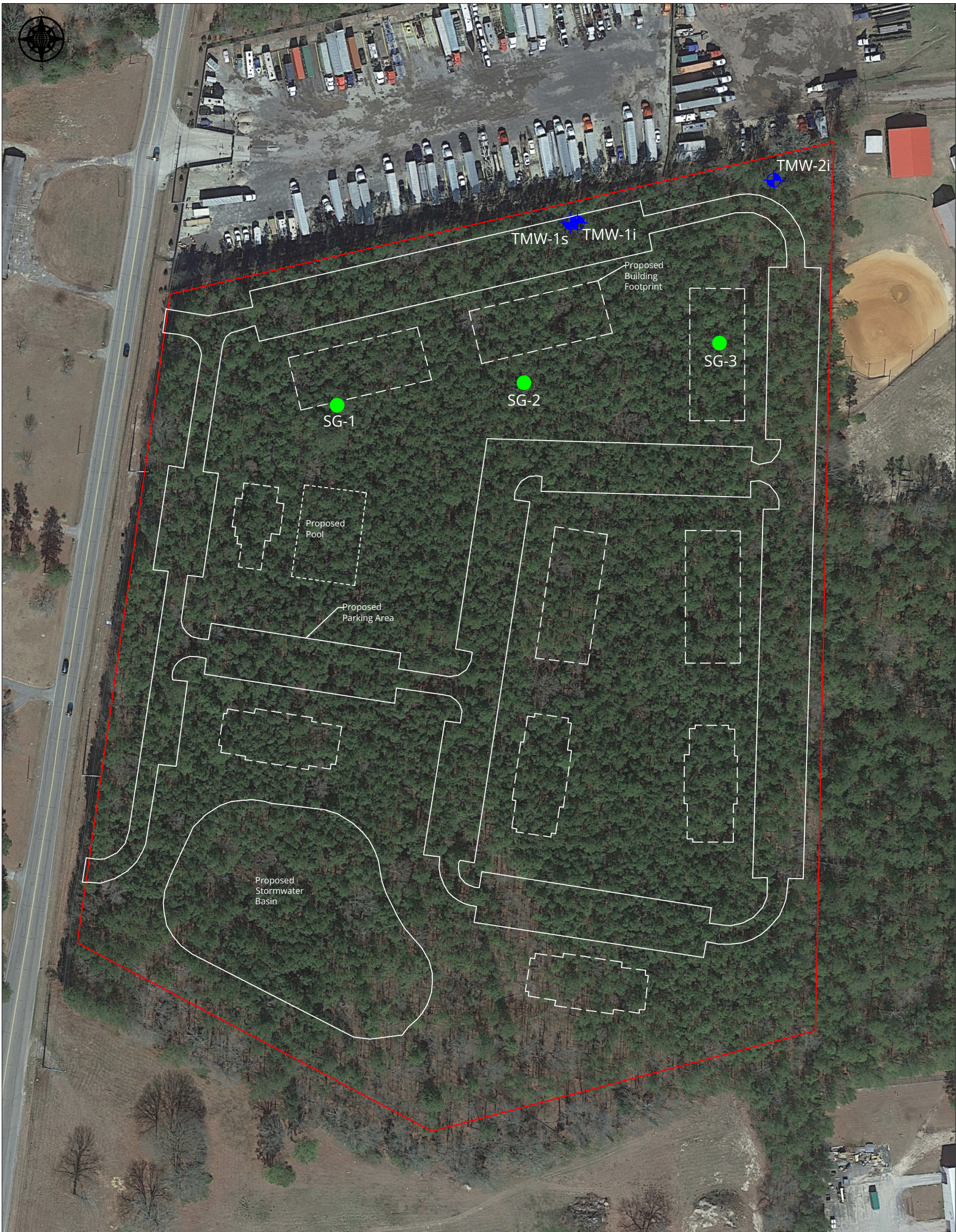
Title and Project

Site Vicinity Map

Limited Phase II ESA
10424 Wilson Boulevard
Blythewood, Richland County, South Carolina

Figure No.

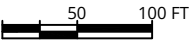
1



Legend

- Site Property Boundary
- Monitoring Well
- Soil Gas Monitoring Point

Notes:
1. Aerial image obtained from Google Earth January 18, 2023.
2. Proposed site development provided by Village Capital Corporation.



HANLEY ENVIRONMENTAL, PLLC
323 MANNING DRIVE
CHARLOTTE, NORTH CAROLINA
SC ENGINEERING COA #6674

Date	01/18/23
Project No.	PJ22040
Drawn By	NAH
Revision No.	0

Title and Project

Sample Location Map

Limited Phase II ESA
10424 Wilson Boulevard
Blythewood, Richland County, South Carolina

Figure No.

2

APPENDIX A
Temporary Monitoring Well Approval Letter



Temporary Monitoring Well Approval

Approval is hereby granted to:
on behalf of:
Facility:
Site Identification:
County:

Nick Hotzelt/Hanley Environmental
Pedcor Investments LLC
10424 Wilson Blvd
MW-13521
Richland

This approval is for the installation of 3 temporary groundwater-monitoring wells. The temporary wells are to be installed in the locations as illustrated on the submitted map and per the proposed construction details provided by your correspondence dated 12/21/22. The temporary wells are to be installed following all of the applicable requirements of R.61-71.

Please note that R.61-71 requires the following:

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless the Department has approved another schedule. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
3. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.
4. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c.
5. If any of the information provided to the Department changes, Karen Morrison (803-898-0792, morrisksc@dhec.sc.gov) shall be notified a minimum of twenty-four hours prior to well construction as required by R.61-71.H.1.a.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and R.61-71 of the South Carolina Well Standards and Regulations, dated April 26, 2002.

Date of Issuance: 1/3/23

Approval #: MW-13521

A handwritten signature in black ink, appearing to read "Robert Cole", is written over a horizontal line.

Robert Cole, Manager
Division of Site Assessment Remediation & Revitalization (SARR)
Federal & State Site Assessment Section
Bureau of Land & Waste Management



1/3/23

Barry Storey
BLS Holdings Group
3638 Walton Way, Ext Suite 201
Augusta, GA 30909

Re: Temporary Monitoring Well Approval Request received 12/21/22
Richland County Site ID: MW-13521

Dear Mr Storey :

The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed and approved the referenced temporary monitoring well approval request submitted 12/21/22. The original temporary monitoring well approval has been sent to Nick Hotzelt/Hanley Environmental, and a copy is enclosed for your records. The analytical results from the groundwater samples should be submitted to my attention on or before 2/21/23. Please note the following:

- Well construction and sampling derived waste including but not limited to drill cuttings, drilling fluids, and development/purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regards to contents, source, and date of activity.
- Monitoring wells are to yield groundwater samples representative of the zone monitored per R.61-71 H.1.c of the South Carolina Well Standards and Regulations (e.g. low flow sampling techniques are recommended for samples to be analyzed for metals to reduce induced turbidity).
- If this investigation is conducted as part of a potential real estate transaction, the potential purchaser may want to contact SCDHEC's Brownfields Program before this work is performed. The Brownfields Program offers a mechanism to avoid liability for contamination that may be found during this investigation. The investigation proposed may satisfy part or all of the required assessment if pre-approved by the Brownfields Program. The Brownfields Program may be reached at 1-866-576-3432.

If you have any questions, please contact me at (803) 898-0802.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Cole', is written over a light blue circular stamp.

Robert Cole, Manager
Division of Site Assessment Remediation & Revitalization (SARR)
Federal & State Site Assessment Section

enc: Monitor well approval
cc: SCDHEC EQC Region

APPENDIX B

Boring Logs



Client: Pedcor Investments, LLC
Project: Phase II ESA
Address: 10424 Wilson Blvd, Blythewood, SC

WELL LOG
Well No. TMW-1s
Page: 1 of 1

Drilling Start Date: 01/05/2023	Boring Depth (ft): 22	Well Depth (ft): 22
Drilling End Date: 01/05/2023	Boring Diameter (in): 2.25	Well Diameter (in): 1
Drilling Company: VERCO Drilling	Sampling Method(s): N/A	Screen Slot (in): 0.001
Drilling Method: Direct Push	DTW During Drilling (ft): 19.43	Riser Material: Sch 40 PVC
Drilling Equipment: Geoprobe 6610 DT	DTW After Drilling (ft): 18.11	Screen Material: Sch 40 PVC Slotted
Driller: Jason Chiorazzi	Ground Surface Elev. (ft): N/A	Seal Material(s): Bent. Pellets
Logged By: NAH	Location (Lat, Long): 34.18512, -80.96631	Filter Type: Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') ORGANIC SOIL with sand (OL); soft, slightly moist, dark and light brown, leaves and pinestraw			0
								(0.5') Silty SAND (SM); medium dense, slightly moist, light brown, grey			
								(1') Well-graded SAND with silt (SW-SM); medium dense, slightly moist, orange and light brown			
5								(4.5') Silty SAND (SM); medium dense, slightly moist, red orange and grey			5
								(6') Silty SAND (SM); dense, dry, reddish orange, light orange, white, grey			
10								(10') Silty SAND (SM); very dense, dry, red, orange, white			10
15											15
								(17') Silty SAND (SM); dense to very dense, slightly moist to moist, red, orange, grey, white			
20											20
								(21') Silty, Clayey SAND (SC-SM); mostly fine-medium grained sand, some silt, few clay, medium dense, moist to wet, red, orange, white, grey with some brown			
								(22') Boring terminated			
25											25
30											30

NOTES:



Client: Pedcor Investments, LLC
Project: Phase II ESA
Address: 10424 Wilson Blvd, Blythewood, SC

WELL LOG
Well No. TMW-1i
Page: 1 of 1

Drilling Start Date: 01/05/2023	Boring Depth (ft): 30	Well Depth (ft): 30
Drilling End Date: 01/05/2023	Boring Diameter (in): 2.25	Well Diameter (in): 1
Drilling Company: VERCO Drilling	Sampling Method(s): N/A	Screen Slot (in): 0.001
Drilling Method: Direct Push	DTW During Drilling (ft): 18.51	Riser Material: Sch 40 PVC
Drilling Equipment: Geoprobe 6610 DT	DTW After Drilling (ft): 18.21	Screen Material: Sch 40 PVC Slotted
Driller: Jason Chiorazzi	Ground Surface Elev. (ft): N/A	Seal Material(s): Bent. Pellets
Logged By: NAH	Location (Lat, Long): 34.18512, -80.96631	Filter Type: Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') ORGANIC SOIL with sand (OL); soft, slightly moist, dark and light brown, leaves and pinestraw			0
								(0.5') Silty SAND (SM); medium dense, slightly moist, light brown, grey			
								(1') Well-graded SAND with silt (SW-SM); medium dense, slightly moist, orange and light brown			
5								(4.5') Silty SAND (SM); medium dense, slightly moist, red orange and grey			5
								(6') Silty SAND (SM); dense, dry, reddish orange, light orange, white, grey			
10								(10') Silty SAND (SM); very dense, dry, red, orange, white			10
15											15
								(17') Silty SAND (SM); dense to very dense, slightly moist to moist, red, orange, grey, white			
20											20
								(21') Silty, Clayey SAND (SC-SM); mostly fine-medium grained sand, some silt, few clay, medium dense, moist to wet, red, orange, white, grey with some brown			
25											25
30								(30') Boring terminated			30
35											35

NOTES: Water sample TMW-1i collected at 25.0-30.0 ft bgs.



Client: Pedcor Investments, LLC
Project: Phase II ESA
Address: 10424 Wilson Blvd, Blythewood, SC

WELL LOG
Well No. TMW-2i
Page: 1 of 1

Drilling Start Date: 01/05/2023	Boring Depth (ft): 28.5	Well Depth (ft): 28.5
Drilling End Date: 01/05/2023	Boring Diameter (in): 2.25	Well Diameter (in): 1
Drilling Company: VERCO Drilling	Sampling Method(s): N/A	Screen Slot (in): 0.001
Drilling Method: Direct Push	DTW During Drilling (ft): 18.70	Riser Material: Sch 40 PVC
Drilling Equipment: Geoprobe 6610 DT	DTW After Drilling (ft): 18.42	Screen Material: Sch 40 PVC Slotted
Driller: Jason Chiorazzi	Ground Surface Elev. (ft): N/A	Seal Material(s): Bent. Pellets
Logged By: NAH	Location (Lat, Long): 34.18525, -80.96553	Filter Type: Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') ORGANIC SOIL with sand (OL); soft, slightly moist, dark brown, leaves and pinestraw			0
								(0.5') Well-graded SAND (SW); medium dense, slightly moist, light and dark brown			
								(3.5') Silty SAND (SM); medium dense, dry, light and dark brown, orange, some white			5
5								(7') Silty SAND (SM); very dense, dry, orange, white, brown			10
10								(11') Silty SAND (SM); very dense, dry to slightly moist, grey, white, red orange			15
15								(18') Silty SAND (SM); dense to very dense, moist to wet, red, orange, grey, white			20
20								(25') SILT with sand (ML); some fine-medium sand, few clay, hard, wet, white, grey			25
25								(28.5') Boring terminated			30
30											35

NOTES: Water sample TMW-2i collected at 23.5-28.5 ft bgs.



Client: Pedcor Investments, LLC
Project: Phase II ESA
Address: 10424 Wilson Blvd, Blythewood, SC

WELL LOG
Well No. SG-1
Page: 1 of 1

Drilling Start Date: 01/05/2023
Drilling End Date: 01/05/2023
Drilling Company: VERC0 Drilling
Drilling Method: Direct Push
Drilling Equipment: Geoprobe 6610 DT
Driller: Jason Chiorazzi
Logged By: NAH

Boring Depth (ft): 15
Boring Diameter (in): 2.25
Sampling Method(s): N/A
DTW During Drilling (ft): N/A
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft): N/A
Location (Lat, Long): N/A

Well Depth (ft):
Well Diameter (in):
Screen Slot (in):
Riser Material: Teflon Tubing
Screen Material: SS Vapor Implant
Seal Material(s): Bent. Pellets
Filter Type: Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') ORGANIC SOIL (OL); soft, slightly moist, dark brown, leaves and pinestraw (0.5') Silty SAND (SM); medium dense, slightly moist, light brown			0
								(3') Silty SAND (SM); medium dense, dry, red orange, grey, brown			
5								(7') Silty SAND (SM); dense, dry, red orange, tan, white			5
								(12') Sandy SILT (ML); hard, dry, light brown, tan, white, some orange			10
15								(15') Boring terminated			15
20											20

NOTES:



Client: Pedcor Investments, LLC
Project: Phase II ESA
Address: 10424 Wilson Blvd, Blythewood, SC

WELL LOG
Well No. SG-2
Page: 1 of 1

Drilling Start Date: 01/05/2023
Drilling End Date: 01/05/2023
Drilling Company: VERCO Drilling
Drilling Method: Direct Push
Drilling Equipment: Geoprobe 6610 DT
Driller: Jason Chiorazzi
Logged By: NAH

Boring Depth (ft): 15
Boring Diameter (in): 2.25
Sampling Method(s): N/A
DTW During Drilling (ft): N/A
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft): N/A
Location (Lat, Long): N/A

Well Depth (ft):
Well Diameter (in):
Screen Slot (in):
Riser Material: Teflon Tubing
Screen Material: SS Vapor Implant
Seal Material(s): Bent. Pellets
Filter Type: Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') ORGANIC SOIL (OL); soft, slightly moist, dark brown, leaves and pine straw (0.5') Silty SAND (SM); medium dense, slightly moist, light and dark brown			0
5								(4') Silty SAND (SM); medium dense, slightly moist to dry, red, orange, tan, white			5
10								(10') Sandy SILT (ML); hard, dry, white, tan, some orange and light brown			10
15								(15') Boring terminated			15
20											20

NOTES:



Client: Pedcor Investments, LLC
Project: Phase II ESA
Address: 10424 Wilson Blvd, Blythewood, SC

WELL LOG
Well No. SG-3
Page: 1 of 1

Drilling Start Date: 01/05/2023
Drilling End Date: 01/05/2023
Drilling Company: VERC0 Drilling
Drilling Method: Direct Push
Drilling Equipment: Geoprobe 6610 DT
Driller: Jason Chiorazzi
Logged By: NAH

Boring Depth (ft): 15
Boring Diameter (in): 2.25
Sampling Method(s): N/A
DTW During Drilling (ft): N/A
DTW After Drilling (ft): N/A
Ground Surface Elev. (ft): N/A
Location (Lat, Long): N/A

Well Depth (ft):
Well Diameter (in):
Screen Slot (in):
Riser Material: Teflon Tubing
Screen Material: SS Vapor Implant
Seal Material(s): Bent. Pellets
Filter Type: Sand

DEPTH (ft)	LITHOLOGY	WATER LEVEL	WELL COMPLETION	COLLECT				SOIL/ROCK VISUAL DESCRIPTION	MEASURE		DEPTH (ft)
				Sample Type	Time	Blow Counts	Recovery (ft)		PID (ppm)	Lab Sample	
0								(0') ORGANIC SOIL (OL); soft, slightly moist, dark brown, leaves and pine straw (0.5') Silty SAND (SM); medium dense, slightly moist, light brown, orange			0
								(3') Silty SAND (SM); dense, dry, red orange, brown, grey, white			5
5								(9') Silty SAND (SM); dense, dry, red orange, grey, white			10
10								(15') Boring terminated			15
15											20

NOTES:

APPENDIX C
Groundwater Sampling Records

Personnel: NAH
Date: 1/5/2023



Job Name: Phase II ESA Blythewood
Job No: PJ22040
Job Location: Blythewood, SC

Well ID: TMW-1S
Total Well Depth (ft): 22

Well Casing Material: PVC
Depth to Water (ft bgs): 18.11

Well Diameter (inch): 1
One Well Volume (gal): 0.16

Type of Pump: Peristaltic

Tubing Material: Poly/silicon

Tubing Set (ft): 21

Weather: Sunny 60s

Notes: start purge at 15:48

Time	Depth to Water (ft bgs)	Volume Purged (mL)	Pumping Rate (mL/min)	DO (mg/L)	Temp (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
15:50	18.55	400	200	1.57	17.3	86.2	5.60	10.7	
15:53	18.61	700	200	1.15	17.3	85.2	5.57	5.8	
15:56	18.62	1000	200	1.17	17.3	77.7	5.58	5.4	
15:59	18.62	1300	200	1.20	17.3	76.7	5.60	5.8	
16:02	18.62	1600	200	1.24	17.2	72.1	5.55	7.6	
Stabilization Criteria (3 consecutive readings)				0.2	--	5%	0.1	20	10% or <10

Sample Time: 16:05

Sample Parameters: VOCs by 8260

Notes: Temporary monitoring well for Phase II ESA. Removed approximately 2.3 gallons during development.
Turbidity not collected. Water is visibly clear

Personnel: NAH
Date: 1/5/2023



Job Name: Phase II ESA Blythewood
Job No: PJ22040
Job Location: Blythewood, SC

Well ID: TMW-1i
Total Well Depth (ft): 30

Well Casing Material: PVC
Depth to Water (ft bgs): 18.21

Well Diameter (inch): 1
One Well Volume (gal): 0.48

Type of Pump: Peristaltic

Tubing Material: Poly/silicon

Tubing Set (ft): 28

Weather: Sunny 60s

Notes: start purge at 16:06

Time	Depth to Water (ft bgs)	Volume Purged (mL)	Pumping Rate (mL/min)	DO (mg/L)	Temp (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
16:11	18.25	1000	200	1.76	17.1	106.9	5.62	14.6	
16:14	18.26	1300	200	1.07	17.3	110.8	5.68	6.1	
16:17	18.26	1600	200	0.96	17.3	108.8	5.61	5.4	
16:20	18.27	1900	200	1.09	17.4	107.4	5.57	11.4	
16:23	18.27	2200	200	1.11	17.4	108.4	5.59	18.6	
16:26	18.27	2500	200	1.18	17.4	109.4	5.60	21.2	
16:29	18.28	2800	200	1.22	17.4	110.3	5.60	24.9	
Stabilization Criteria (3 consecutive readings)				0.2	--	5%	0.1	20	10% or <10

Sample Time: 16:30

Sample Parameters: VOCs by 8260

Comments: Temporary monitoring well for Phase II ESA. Removed approximately 3.1 gallons during development.
Turbidity not collected. Water is visibly clear

Personnel: NAH
Date: 1/5/2023



Job Name: Phase II ESA Blythewood
Job No: PJ22040
Job Location: Blythewood, SC

Well ID: TMW-2i
Total Well Depth (ft): 28.5

Well Casing Material: PVC
Depth to Water (ft TOC): 18.42

Well Diameter (inch): 1
Volume of Water Per Well Volume: 0.41

Type of Pump: Peristaltic

Tubing Material: Poly/silicon

Tubing Set (ft): 27

Weather: Sunny 60s

Notes: start purge at 15:13

Time	Depth to Water (ft BTOC)	Volume Purged (mL)	Pumping Rate (mL/min)	DO (mg/L)	Temp (°C)	S. Cond. (µS/cm)	pH (SU)	ORP (mV)	Turbidity (NTU)
15:18	18.93	1000	200	0.66	17.5	125.6	6.40	-0.5	
15:21	19.00	1300	200	0.54	17.4	102.2	5.68	5.5	
15:24	19.00	1600	200	0.59	17.4	97.1	5.53	5.6	
15:27	19.01	1900	200	0.49	17.4	91.4	5.52	6.7	
15:30	19.01	2200	200	0.48	17.5	90.4	5.55	4.2	
15:33	19.02	2500	200	0.44	17.5	90.8	5.56	6.9	
Stabilization Criteria (3 consecutive readings)				0.2	--	5%	0.1	20	10% or <10

Sample Time: 15:35

Sample Parameters: VOCs by 8260

Notes: Temporary monitoring well for Phase II ESA. Removed approximately 2.9 gallons during development.

Turbidity not collected. Water is visibly clear

APPENDIX D
Soil Gas Sampling Records

Soil Gas Sampling Record

Sample Location ID: SG-1

Project Number: PJ22040

Project Name: Blythewood Phase II

Date: 1/5/2023

Field Personnel: NAH

Weather: Sunny 60s

Sample Point Construction: Temporary soil gas sampling point at 15 ft bgs. 6-inch stainless steel screen with
Teflon tubing to ground surface. Sand filter and bentonite in annulus space

Summa Canister ID: 11363

Shut-In Test Duration: 10 min

Shroud Helium Concentration: 54.40%

Sample Helium Concentration: 0.0

Flow Controller ID: 14317

Shut-In Test Result: Pass

Volume Purged: 0.5 liters

Sample Start Time: 1448

Sample Start Vacuum: -30

Sample End Time: 1455

Sample End Vacuum: -5

Comments: Sample train purged of three sample train volumes prior to sampling

Leak check and shut-in tests passed prior to sampling

Soil Gas Sampling Record

Sample Location ID: SG-2

Project Number: PJ22040

Project Name: Blythewood Phase II

Date: 1/5/2023

Field Personnel: NAH

Weather: Sunny 60s

Sample Point Construction: Temporary soil gas sampling point at 15 ft bgs. 6-inch stainless steel screen with
Teflon tubing to ground surface. Sand filter and bentonite in annulus space

Summa Canister ID: 5918

Shut-In Test Duration: 10-min

Shroud Helium Concentration: 47.3%

Sample Helium Concentration: 0.0

Flow Controller ID: 6555

Shut-In Test Result: Pass

Volume Purged: 0.5 liters

Sample Start Time: 1438

Sample Start Vacuum: -28.5

Sample End Time: 1443

Sample End Vacuum: -5

Comments: Sample train purged of three sample train volumes prior to sampling

Leak check and shut-in tests passed prior to sampling

Soil Gas Sampling Record

Sample Location ID: SG-3

Project Number: PJ22040

Project Name: Blythewood Phase II

Date: 1/5/2023

Field Personnel: NAH

Weather: Sunny 60s

Sample Point Construction: Temporary soil gas sampling point at 15 ft bgs. 6-inch stainless steel screen with
Teflon tubing to ground surface. Sand filter and bentonite in annulus space

Summa Canister ID: 5769

Shut-In Test Duration: 10-min

Shroud Helium Concentration: 52.5%

Sample Helium Concentration: 0.0

Flow Controller ID: 13135

Shut-In Test Result: Pass

Volume Purged: 0.5 liters

Sample Start Time: 1413

Sample Start Vacuum: -27

Sample End Time: 1418

Sample End Vacuum: -5

Comments: Sample train purged of three sample train volumes prior to sampling

Leak check and shut-in tests passed prior to sampling

APPENDIX E
Laboratory Analytical Reports

1/12/2023

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC, 28209

Ref: Analytical Testing
Lab Report Number: 23-006-0004
Client Project Description: Phase II Blythewood
Project #PJ22040

Dear Nick Hotzelt:

Waypoint Analytical, LLC (Charlotte) received sample(s) on 1/6/2023 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2021) unless otherwise indicated.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,



Danyale Love
Project Manager

Certification Summary

Laboratory ID: WP CNC: Waypoint Analytical Carolina, Inc. (C), Charlotte, NC

State	Program	Lab ID	Expiration Date
North Carolina	State Program	37735	07/31/2023
North Carolina	State Program	402	12/31/2023
South Carolina	State Program	99012	07/31/2023
South Carolina	State Program	99012	12/31/2022



Sample Summary Table

Report Number: 23-006-0004
Client Project Description: Phase II Blythewood
Project #PJ22040

Lab No	Client Sample ID	Matrix	Date Collected	Date Received
96855	SG-1	Air	01/05/2023 14:48	01/06/2023 11:10
96856	SG-2	Air	01/05/2023 14:38	01/06/2023 11:10
96857	SG-3	Air	01/05/2023 14:13	01/06/2023 11:10

Summary of Detected Analytes

Project: Phase II Blythewood

Report Number: 23-006-0004

Client Sample ID	Lab Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
SG-1	V 96855					
TO-15	Acetone	37.7	µg/m3	0.202	01/11/2023 21:03	
TO-15	Benzene	3.85	µg/m3	0.073	01/11/2023 21:03	
TO-15	1,3-Butadiene	11.6	µg/m3	0.328	01/11/2023 21:03	
TO-15	Carbon Disulfide	3.74	µg/m3	0.060	01/11/2023 21:03	J
TO-15	Chloroform	2.29	µg/m3	0.086	01/11/2023 21:03	J
TO-15	Dichlorodifluoromethane	2.68	µg/m3	0.134	01/11/2023 21:03	
TO-15	1,1-Dichloroethane	0.380	µg/m3	0.101	01/11/2023 21:03	J
TO-15	Ethylbenzene	0.720	µg/m3	0.106	01/11/2023 21:03	J
TO-15	Heptane	0.905	µg/m3	0.143	01/11/2023 21:03	J
TO-15	n-Hexane	1.72	µg/m3	0.047	01/11/2023 21:03	J
TO-15	2-Hexanone	1.95	µg/m3	0.285	01/11/2023 21:03	J
TO-15	Isopropyl Alcohol	2.31	µg/m3	0.139	01/11/2023 21:03	JB
TO-15	Methyl Ethyl Ketone (MEK)	6.28	µg/m3	0.224	01/11/2023 21:03	
TO-15	4-Methyl-2-Pentanone	2.07	µg/m3	0.121	01/11/2023 21:03	
TO-15	Methylene Chloride	3.62	µg/m3	0.488	01/11/2023 21:03	
TO-15	Propene	45.0	µg/m3	0.242	01/11/2023 21:03	
TO-15	Styrene	1.61	µg/m3	0.124	01/11/2023 21:03	J
TO-15	Tetrahydrofuran	0.350	µg/m3	0.107	01/11/2023 21:03	J
TO-15	Toluene	5.29	µg/m3	0.090	01/11/2023 21:03	
TO-15	Trichlorofluoromethane	1.41	µg/m3	0.130	01/11/2023 21:03	J
TO-15	1,2,4-Trimethylbenzene	0.860	µg/m3	0.110	01/11/2023 21:03	J
TO-15	o-Xylene	0.842	µg/m3	0.157	01/11/2023 21:03	J
TO-15	m,p-Xylene	1.75	µg/m3	0.217	01/11/2023 21:03	J
TO-15	Xylene (Total)	2.59	µg/m3	0.157	01/11/2023 21:03	J
SG-2	V 96856					
TO-15	Acetone	44.0	µg/m3	1.01	01/11/2023 09:09	
TO-15	Benzene	110	µg/m3	0.366	01/11/2023 09:09	
TO-15	1,3-Butadiene	134	µg/m3	1.63	01/11/2023 09:09	
TO-15	Carbon Disulfide	31.5	µg/m3	0.303	01/11/2023 09:09	
TO-15	Chloromethane	3.21	µg/m3	0.336	01/11/2023 09:09	J
TO-15	Cyclohexane	281	µg/m3	0.804	01/11/2023 09:09	
TO-15	Dichlorodifluoromethane	2.84	µg/m3	0.672	01/11/2023 09:09	J
TO-15	Ethylbenzene	949	µg/m3	10.6	01/11/2023 21:40	
TO-15	4-Ethyltoluene	584	µg/m3	0.640	01/11/2023 09:09	
TO-15	Heptane	1680	µg/m3	14.3	01/11/2023 21:40	
TO-15	n-Hexane	1610	µg/m3	4.71	01/11/2023 21:40	

Summary of Detected Analytes

Project: Phase II Blythewood

Report Number: 23-006-0004

Client Sample ID	Lab Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
SG-2	V 96856					
TO-15	Isopropyl Alcohol	8.06	µg/m3	0.695	01/11/2023 09:09	JB
TO-15	Methyl Ethyl Ketone (MEK)	23.3	µg/m3	1.12	01/11/2023 09:09	
TO-15	Methylene Chloride	5.16	µg/m3	2.44	01/11/2023 09:09	JB
TO-15	Naphthalene	13.9	µg/m3	0.914	01/11/2023 09:09	
TO-15	Propene	6550	µg/m3	24.2	01/11/2023 21:40	
TO-15	Styrene	12.6	µg/m3	0.617	01/11/2023 09:09	
TO-15	Tetrahydrofuran	25.0	µg/m3	0.534	01/11/2023 09:09	
TO-15	Toluene	3730	µg/m3	8.99	01/11/2023 21:40	
TO-15	1,2,4-Trimethylbenzene	2240	µg/m3	11.0	01/11/2023 21:40	
TO-15	1,3,5-Trimethylbenzene	857	µg/m3	1.18	01/11/2023 09:09	
TO-15	o-Xylene	1350	µg/m3	15.7	01/11/2023 21:40	
TO-15	m,p-Xylene	3190	µg/m3	21.7	01/11/2023 21:40	
TO-15	Xylene (Total)	4540	µg/m3	15.7	01/11/2023 21:40	
SG-3	V 96857					
TO-15	Acetone	79.0	µg/m3	0.202	01/11/2023 22:33	
TO-15	Benzene	25.5	µg/m3	0.073	01/11/2023 22:33	
TO-15	1,3-Butadiene	92.1	µg/m3	16.3	01/11/2023 08:04	
TO-15	Carbon Disulfide	36.2	µg/m3	0.060	01/11/2023 22:33	
TO-15	Chloroform	2.67	µg/m3	0.086	01/11/2023 22:33	
TO-15	Dichlorodifluoromethane	2.75	µg/m3	0.134	01/11/2023 22:33	
TO-15	Ethylbenzene	74.9	µg/m3	0.106	01/11/2023 22:33	
TO-15	4-Ethyltoluene	62.5	µg/m3	0.128	01/11/2023 22:33	
TO-15	1,1,2-Trichloro-1,2,2-trifluoroethane	0.674	µg/m3	0.561	01/11/2023 22:33	J
TO-15	Heptane	86.4	µg/m3	0.143	01/11/2023 22:33	
TO-15	n-Hexane	89.8	µg/m3	0.047	01/11/2023 22:33	
TO-15	Isopropyl Alcohol	2.60	µg/m3	0.139	01/11/2023 22:33	JB
TO-15	Methyl Ethyl Ketone (MEK)	19.7	µg/m3	0.224	01/11/2023 22:33	
TO-15	4-Methyl-2-Pentanone	9.30	µg/m3	0.121	01/11/2023 22:33	
TO-15	Methylene Chloride	8.93	µg/m3	0.488	01/11/2023 22:33	
TO-15	Naphthalene	5.26	µg/m3	0.183	01/11/2023 22:33	
TO-15	Propene	2030	µg/m3	12.1	01/11/2023 08:04	
TO-15	Styrene	5.08	µg/m3	0.124	01/11/2023 22:33	
TO-15	Tetrachloroethene	1.28	µg/m3	0.181	01/11/2023 22:33	J
TO-15	Toluene	147	µg/m3	4.50	01/11/2023 08:04	
TO-15	1,2,4-Trimethylbenzene	216	µg/m3	5.50	01/11/2023 08:04	
TO-15	1,3,5-Trimethylbenzene	90.7	µg/m3	0.236	01/11/2023 22:33	

Summary of Detected Analytes

Project: Phase II Blythewood

Report Number: 23-006-0004

Client Sample ID	Lab Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
SG-3	V 96857					
TO-15	o-Xylene	130	µg/m3	0.157	01/11/2023 22:33	
TO-15	m,p-Xylene	271	µg/m3	0.217	01/11/2023 22:33	
TO-15	Xylene (Total)	401	µg/m3	0.157	01/11/2023 22:33	



Client: Hanley Environmental, PLLC
Project: Phase II Blythewood
Lab Report Number: 23-006-0004
Date: 1/12/2023

CASE NARRATIVE

Volatile Organic Compounds in Air- GC/MS Method TO-15

Sample 96856 (SG-2)

QC Batch No: V28775/V28773

The sample was diluted due to the nature of the sample matrix. Reporting limits have been adjusted accordingly.

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96855**

Matrix: **Air**

Sample ID : **SG-1**

Sampled: **1/5/2023 14:48**

Analytical Method: TO-15 **Prep Batch(es):** **V28821** 01/11/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	37.7	µg/m3	0.202	4.75	1	01/11/23 21:03	ENM	V28824
Benzene	3.85	µg/m3	0.073	1.60	1	01/11/23 21:03	ENM	V28824
Benzyl Chloride	<0.147	µg/m3	0.147	10.4	1	01/11/23 21:03	ENM	V28824
Bromodichloromethane	<0.150	µg/m3	0.150	3.35	1	01/11/23 21:03	ENM	V28824
Bromoform	<0.153	µg/m3	0.153	5.17	1	01/11/23 21:03	ENM	V28824
Bromomethane	<0.115	µg/m3	0.115	1.94	1	01/11/23 21:03	ENM	V28824
1,3-Butadiene	11.6	µg/m3	0.328	1.11	1	01/11/23 21:03	ENM	V28824
Carbon Disulfide	3.74 J	µg/m3	0.060	6.23	1	01/11/23 21:03	ENM	V28824
Carbon Tetrachloride	<0.155	µg/m3	0.155	3.15	1	01/11/23 21:03	ENM	V28824
Chlorobenzene	<0.107	µg/m3	0.107	2.30	1	01/11/23 21:03	ENM	V28824
Chlorodibromomethane	<0.208	µg/m3	0.208	4.26	1	01/11/23 21:03	ENM	V28824
Chloroethane	<0.164	µg/m3	0.164	1.32	1	01/11/23 21:03	ENM	V28824
Chloroform	2.29 J	µg/m3	0.086	2.44	1	01/11/23 21:03	ENM	V28824
Chloromethane	<0.067	µg/m3	0.067	1.03	1	01/11/23 21:03	ENM	V28824
Cyclohexane	<0.161	µg/m3	0.161	3.44	1	01/11/23 21:03	ENM	V28824
1,2-Dibromoethane	<0.151	µg/m3	0.151	3.84	1	01/11/23 21:03	ENM	V28824
1,2-Dichlorobenzene	<0.096	µg/m3	0.096	3.01	1	01/11/23 21:03	ENM	V28824
1,3-Dichlorobenzene	<0.174	µg/m3	0.174	12.0	1	01/11/23 21:03	ENM	V28824
1,4-Dichlorobenzene	<0.186	µg/m3	0.186	3.01	1	01/11/23 21:03	ENM	V28824
Dichlorodifluoromethane	2.68	µg/m3	0.134	2.47	1	01/11/23 21:03	ENM	V28824
1,1-Dichloroethane	0.380 J	µg/m3	0.101	2.02	1	01/11/23 21:03	ENM	V28824
1,2-Dichloroethane	<0.129	µg/m3	0.129	2.02	1	01/11/23 21:03	ENM	V28824
1,1-Dichloroethene	<0.107	µg/m3	0.107	1.98	1	01/11/23 21:03	ENM	V28824

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96855**

Matrix: **Air**

Sample ID : **SG-1**

Sampled: **1/5/2023 14:48**

Analytical Method: TO-15 **Prep Batch(es):** **V28821** 01/11/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
cis-1,2-Dichloroethene	<0.095	µg/m3	0.095	1.98	1	01/11/23 21:03	ENM	V28824
trans-1,2-Dichloroethene	<0.108	µg/m3	0.108	1.98	1	01/11/23 21:03	ENM	V28824
1,2-Dichloropropane	<0.205	µg/m3	0.205	2.31	1	01/11/23 21:03	ENM	V28824
1,2-Dichlorotetrafluoroethane	<0.622	µg/m3	0.622	3.50	1	01/11/23 21:03	ENM	V28824
cis-1,3-Dichloropropene	<0.178	µg/m3	0.178	2.27	1	01/11/23 21:03	ENM	V28824
trans-1,3-Dichloropropene	<0.178	µg/m3	0.178	2.27	1	01/11/23 21:03	ENM	V28824
1,4-Dioxane	<0.435	µg/m3	0.435	1.80	1	01/11/23 21:03	ENM	V28824
Ethyl Acetate	<0.136	µg/m3	0.136	1.80	1	01/11/23 21:03	ENM	V28824
Ethylbenzene	0.720 J	µg/m3	0.106	2.17	1	01/11/23 21:03	ENM	V28824
4-Ethyltoluene	<0.128	µg/m3	0.128	2.46	1	01/11/23 21:03	ENM	V28824
1,1,2-Trichloro-1,2,2-trifluoroethane	<0.561	µg/m3	0.561	3.83	1	01/11/23 21:03	ENM	V28824
Heptane	0.905 J	µg/m3	0.143	2.05	1	01/11/23 21:03	ENM	V28824
Hexachlorobutadiene	<0.330	µg/m3	0.330	5.33	1	01/11/23 21:03	ENM	V28824
n-Hexane	1.72 J	µg/m3	0.047	1.76	1	01/11/23 21:03	ENM	V28824
2-Hexanone	1.95 J	µg/m3	0.285	2.05	1	01/11/23 21:03	ENM	V28824
Isopropyl Alcohol	2.31 JB	µg/m3	0.139	4.92	1	01/11/23 21:03	ENM	V28824
Methyl Ethyl Ketone (MEK)	6.28	µg/m3	0.224	1.47	1	01/11/23 21:03	ENM	V28824
Methyl tert-butyl ether (MTBE)	<0.033	µg/m3	0.033	1.80	1	01/11/23 21:03	ENM	V28824
4-Methyl-2-Pentanone	2.07	µg/m3	0.121	2.05	1	01/11/23 21:03	ENM	V28824
Methylene Chloride	3.62	µg/m3	0.488	1.74	1	01/11/23 21:03	ENM	V28824
Naphthalene	<0.183	µg/m3	0.183	2.62	1	01/11/23 21:03	ENM	V28824
Propene	45.0	µg/m3	0.242	0.860	1	01/11/23 21:03	ENM	V28824
Styrene	1.61 J	µg/m3	0.124	2.13	1	01/11/23 21:03	ENM	V28824

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96855**

Matrix: **Air**

Sample ID : **SG-1**

Sampled: **1/5/2023 14:48**

Analytical Method: TO-15 **Prep Batch(es):** **V28821** 01/11/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,1,2,2-Tetrachloroethane	<0.104	µg/m3	0.104	3.43	1	01/11/23 21:03	ENM	V28824
Tetrachloroethene	<0.181	µg/m3	0.181	3.39	1	01/11/23 21:03	ENM	V28824
Tetrahydrofuran	0.350 J	µg/m3	0.107	1.47	1	01/11/23 21:03	ENM	V28824
Toluene	5.29	µg/m3	0.090	1.88	1	01/11/23 21:03	ENM	V28824
1,2,4-Trichlorobenzene	<0.209	µg/m3	0.209	3.71	1	01/11/23 21:03	ENM	V28824
1,1,1-Trichloroethane	<0.144	µg/m3	0.144	2.73	1	01/11/23 21:03	ENM	V28824
1,1,2-Trichloroethane	<0.087	µg/m3	0.087	2.73	1	01/11/23 21:03	ENM	V28824
Trichloroethene	<0.199	µg/m3	0.199	2.15	1	01/11/23 21:03	ENM	V28824
Trichlorofluoromethane	1.41 J	µg/m3	0.130	2.81	1	01/11/23 21:03	ENM	V28824
1,2,4-Trimethylbenzene	0.860 J	µg/m3	0.110	2.46	1	01/11/23 21:03	ENM	V28824
1,3,5-Trimethylbenzene	<0.236	µg/m3	0.236	2.46	1	01/11/23 21:03	ENM	V28824
Vinyl Acetate	<0.224	µg/m3	0.224	1.76	1	01/11/23 21:03	ENM	V28824
Vinyl Chloride	<0.127	µg/m3	0.127	1.28	1	01/11/23 21:03	ENM	V28824
o-Xylene	0.842 J	µg/m3	0.157	2.17	1	01/11/23 21:03	ENM	V28824
m,p-Xylene	1.75 J	µg/m3	0.217	5.65	1	01/11/23 21:03	ENM	V28824
Xylene (Total)	2.59 J	µg/m3	0.157	2.17	1	01/11/23 21:03		V28824
Surrogate: 4-Bromofluorobenzene	101		Limits: 70-130%		1	01/11/23 21:03	ENM	V28824

Qualifiers/Definitions	B	Analyte detected in blank	DF	Dilution Factor
	J	Estimated value	MQL	Method Quantitation Limit

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96856**

Matrix: **Air**

Sample ID : **SG-2**

Sampled: **1/5/2023 14:38**

Analytical Method: TO-15 **Prep Batch(es):** **V28773** 01/10/23 09:00 **V28821** 01/11/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	44.0	µg/m3	1.01	23.8	5	01/11/23 09:09	ENM	V28775
Benzene	110	µg/m3	0.366	7.99	5	01/11/23 09:09	ENM	V28775
Benzyl Chloride	<0.735	µg/m3	0.735	51.8	5	01/11/23 09:09	ENM	V28775
Bromodichloromethane	<0.752	µg/m3	0.752	16.8	5	01/11/23 09:09	ENM	V28775
Bromoform	<0.763	µg/m3	0.763	25.8	5	01/11/23 09:09	ENM	V28775
Bromomethane	<0.575	µg/m3	0.575	9.71	5	01/11/23 09:09	ENM	V28775
1,3-Butadiene	134	µg/m3	1.63	5.53	5	01/11/23 09:09	ENM	V28775
Carbon Disulfide	31.5	µg/m3	0.303	31.1	5	01/11/23 09:09	ENM	V28775
Carbon Tetrachloride	<0.773	µg/m3	0.773	15.7	5	01/11/23 09:09	ENM	V28775
Chlorobenzene	<0.534	µg/m3	0.534	11.5	5	01/11/23 09:09	ENM	V28775
Chlorodibromomethane	<1.04	µg/m3	1.04	21.3	5	01/11/23 09:09	ENM	V28775
Chloroethane	<0.820	µg/m3	0.820	6.60	5	01/11/23 09:09	ENM	V28775
Chloroform	<0.431	µg/m3	0.431	12.2	5	01/11/23 09:09	ENM	V28775
Chloromethane	3.21 J	µg/m3	0.336	5.16	5	01/11/23 09:09	ENM	V28775
Cyclohexane	281	µg/m3	0.804	17.2	5	01/11/23 09:09	ENM	V28775
1,2-Dibromoethane	<0.754	µg/m3	0.754	19.2	5	01/11/23 09:09	ENM	V28775
1,2-Dichlorobenzene	<0.480	µg/m3	0.480	15.0	5	01/11/23 09:09	ENM	V28775
1,3-Dichlorobenzene	<0.870	µg/m3	0.870	60.2	5	01/11/23 09:09	ENM	V28775
1,4-Dichlorobenzene	<0.928	µg/m3	0.928	15.0	5	01/11/23 09:09	ENM	V28775
Dichlorodifluoromethane	2.84 J	µg/m3	0.672	12.4	5	01/11/23 09:09	ENM	V28775
1,1-Dichloroethane	<0.504	µg/m3	0.504	10.1	5	01/11/23 09:09	ENM	V28775
1,2-Dichloroethane	<0.643	µg/m3	0.643	10.1	5	01/11/23 09:09	ENM	V28775
1,1-Dichloroethene	<0.534	µg/m3	0.534	9.91	5	01/11/23 09:09	ENM	V28775

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96856**

Matrix: **Air**

Sample ID : **SG-2**

Sampled: **1/5/2023 14:38**

Analytical Method: TO-15 **Prep Batch(es):** **V28773** 01/10/23 09:00 **V28821** 01/11/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
cis-1,2-Dichloroethene	<0.477	µg/m3	0.477	9.91	5	01/11/23 09:09	ENM	V28775
trans-1,2-Dichloroethene	<0.539	µg/m3	0.539	9.91	5	01/11/23 09:09	ENM	V28775
1,2-Dichloropropane	<1.03	µg/m3	1.03	11.6	5	01/11/23 09:09	ENM	V28775
1,2-Dichlorotetrafluoroethane	<3.11	µg/m3	3.11	17.5	5	01/11/23 09:09	ENM	V28775
cis-1,3-Dichloropropene	<0.886	µg/m3	0.886	11.3	5	01/11/23 09:09	ENM	V28775
trans-1,3-Dichloropropene	<0.886	µg/m3	0.886	11.3	5	01/11/23 09:09	ENM	V28775
1,4-Dioxane	<2.18	µg/m3	2.18	9.01	5	01/11/23 09:09	ENM	V28775
Ethyl Acetate	<0.680	µg/m3	0.680	9.01	5	01/11/23 09:09	ENM	V28775
Ethylbenzene	949	µg/m3	10.6	217	100	01/11/23 21:40	ENM	V28824
4-Ethyltoluene	584	µg/m3	0.640	12.3	5	01/11/23 09:09	ENM	V28775
1,1,2-Trichloro-1,2,2-trifluoroethane	<2.81	µg/m3	2.81	19.2	5	01/11/23 09:09	ENM	V28775
Heptane	1680	µg/m3	14.3	205	100	01/11/23 21:40	ENM	V28824
Hexachlorobutadiene	<1.65	µg/m3	1.65	26.7	5	01/11/23 09:09	ENM	V28775
n-Hexane	1610	µg/m3	4.71	176	100	01/11/23 21:40	ENM	V28824
2-Hexanone	<1.42	µg/m3	1.42	10.2	5	01/11/23 09:09	ENM	V28775
Isopropyl Alcohol	8.06 JB	µg/m3	0.695	24.6	5	01/11/23 09:09	ENM	V28775
Methyl Ethyl Ketone (MEK)	23.3	µg/m3	1.12	7.37	5	01/11/23 09:09	ENM	V28775
Methyl tert-butyl ether (MTBE)	<0.167	µg/m3	0.167	9.01	5	01/11/23 09:09	ENM	V28775
4-Methyl-2-Pentanone	<0.602	µg/m3	0.602	10.2	5	01/11/23 09:09	ENM	V28775
Methylene Chloride	5.16 JB	µg/m3	2.44	8.68	5	01/11/23 09:09	ENM	V28775
Naphthalene	13.9	µg/m3	0.914	13.1	5	01/11/23 09:09	ENM	V28775
Propene	6550	µg/m3	24.2	86.1	100	01/11/23 21:40	ENM	V28824
Styrene	12.6	µg/m3	0.617	10.6	5	01/11/23 09:09	ENM	V28775

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96856**

Matrix: **Air**

Sample ID : **SG-2**

Sampled: **1/5/2023 14:38**

Analytical Method: TO-15 **Prep Batch(es):** **V28773** 01/10/23 09:00 **V28821** 01/11/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,1,2,2-Tetrachloroethane	<0.521	µg/m3	0.521	17.2	5	01/11/23 09:09	ENM	V28775
Tetrachloroethene	<0.907	µg/m3	0.907	17.0	5	01/11/23 09:09	ENM	V28775
Tetrahydrofuran	25.0	µg/m3	0.534	7.37	5	01/11/23 09:09	ENM	V28775
Toluene	3730	µg/m3	8.99	188	100	01/11/23 21:40	ENM	V28824
1,2,4-Trichlorobenzene	<1.05	µg/m3	1.05	18.6	5	01/11/23 09:09	ENM	V28775
1,1,1-Trichloroethane	<0.717	µg/m3	0.717	13.6	5	01/11/23 09:09	ENM	V28775
1,1,2-Trichloroethane	<0.436	µg/m3	0.436	13.6	5	01/11/23 09:09	ENM	V28775
Trichloroethene	<0.990	µg/m3	0.990	10.7	5	01/11/23 09:09	ENM	V28775
Trichlorofluoromethane	<0.647	µg/m3	0.647	14.0	5	01/11/23 09:09	ENM	V28775
1,2,4-Trimethylbenzene	2240	µg/m3	11.0	246	100	01/11/23 21:40	ENM	V28824
1,3,5-Trimethylbenzene	857	µg/m3	1.18	12.3	5	01/11/23 09:09	ENM	V28775
Vinyl Acetate	<1.12	µg/m3	1.12	8.80	5	01/11/23 09:09	ENM	V28775
Vinyl Chloride	<0.635	µg/m3	0.635	6.39	5	01/11/23 09:09	ENM	V28775
o-Xylene	1350	µg/m3	15.7	217	100	01/11/23 21:40	ENM	V28824
m,p-Xylene	3190	µg/m3	21.7	565	100	01/11/23 21:40	ENM	V28824
Xylene (Total)	4540	µg/m3	15.7	217	100	01/11/23 21:40		V28824
Surrogate: 4-Bromofluorobenzene	97.8		Limits: 70-130%		100	01/11/23 21:40	ENM	V28824
Surroqate: 4-Bromofluorobenzene	86.3		Limits: 70-130%		5	01/11/23 09:09	ENM	V28775

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information : Project #PJ22040

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0004**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96857**

Matrix: **Air**

Sample ID : **SG-3**

Sampled: **1/5/2023 14:13**

Analytical Method: TO-15 **Prep Batch(es):** **V28821** 01/11/23 09:00 **V28828** 01/10/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	79.0	µg/m3	0.202	4.75	1	01/11/23 22:33	ENM	V28824
Benzene	25.5	µg/m3	0.073	1.60	1	01/11/23 22:33	ENM	V28824
Benzyl Chloride	<0.147	µg/m3	0.147	10.4	1	01/11/23 22:33	ENM	V28824
Bromodichloromethane	<0.150	µg/m3	0.150	3.35	1	01/11/23 22:33	ENM	V28824
Bromoform	<0.153	µg/m3	0.153	5.17	1	01/11/23 22:33	ENM	V28824
Bromomethane	<0.115	µg/m3	0.115	1.94	1	01/11/23 22:33	ENM	V28824
1,3-Butadiene	92.1	µg/m3	16.3	55.3	50	01/11/23 08:04	ENM	V28833
Carbon Disulfide	36.2	µg/m3	0.060	6.23	1	01/11/23 22:33	ENM	V28824
Carbon Tetrachloride	<0.155	µg/m3	0.155	3.15	1	01/11/23 22:33	ENM	V28824
Chlorobenzene	<0.107	µg/m3	0.107	2.30	1	01/11/23 22:33	ENM	V28824
Chlorodibromomethane	<0.208	µg/m3	0.208	4.26	1	01/11/23 22:33	ENM	V28824
Chloroethane	<0.164	µg/m3	0.164	1.32	1	01/11/23 22:33	ENM	V28824
Chloroform	2.67	µg/m3	0.086	2.44	1	01/11/23 22:33	ENM	V28824
Chloromethane	<0.067	µg/m3	0.067	1.03	1	01/11/23 22:33	ENM	V28824
Cyclohexane	<0.161	µg/m3	0.161	3.44	1	01/11/23 22:33	ENM	V28824
1,2-Dibromoethane	<0.151	µg/m3	0.151	3.84	1	01/11/23 22:33	ENM	V28824
1,2-Dichlorobenzene	<0.096	µg/m3	0.096	3.01	1	01/11/23 22:33	ENM	V28824
1,3-Dichlorobenzene	<0.174	µg/m3	0.174	12.0	1	01/11/23 22:33	ENM	V28824
1,4-Dichlorobenzene	<0.186	µg/m3	0.186	3.01	1	01/11/23 22:33	ENM	V28824
Dichlorodifluoromethane	2.75	µg/m3	0.134	2.47	1	01/11/23 22:33	ENM	V28824
1,1-Dichloroethane	<0.101	µg/m3	0.101	2.02	1	01/11/23 22:33	ENM	V28824
1,2-Dichloroethane	<0.129	µg/m3	0.129	2.02	1	01/11/23 22:33	ENM	V28824
1,1-Dichloroethene	<0.107	µg/m3	0.107	1.98	1	01/11/23 22:33	ENM	V28824

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

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Project Manager

Lab No : **96857**

Matrix: **Air**

Sample ID : **SG-3**

Sampled: **1/5/2023 14:13**

Analytical Method: TO-15 **Prep Batch(es):** **V28821** 01/11/23 09:00 **V28828** 01/10/23 09:00
Prep Method: TO-15 Prep

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
cis-1,2-Dichloroethene	<0.095	µg/m3	0.095	1.98	1	01/11/23 22:33	ENM	V28824
trans-1,2-Dichloroethene	<0.108	µg/m3	0.108	1.98	1	01/11/23 22:33	ENM	V28824
1,2-Dichloropropane	<0.205	µg/m3	0.205	2.31	1	01/11/23 22:33	ENM	V28824
1,2-Dichlorotetrafluoroethane	<0.622	µg/m3	0.622	3.50	1	01/11/23 22:33	ENM	V28824
cis-1,3-Dichloropropene	<0.178	µg/m3	0.178	2.27	1	01/11/23 22:33	ENM	V28824
trans-1,3-Dichloropropene	<0.178	µg/m3	0.178	2.27	1	01/11/23 22:33	ENM	V28824
1,4-Dioxane	<0.435	µg/m3	0.435	1.80	1	01/11/23 22:33	ENM	V28824
Ethyl Acetate	<0.136	µg/m3	0.136	1.80	1	01/11/23 22:33	ENM	V28824
Ethylbenzene	74.9	µg/m3	0.106	2.17	1	01/11/23 22:33	ENM	V28824
4-Ethyltoluene	62.5	µg/m3	0.128	2.46	1	01/11/23 22:33	ENM	V28824
1,1,2-Trichloro-1,2,2-trifluoroethane	0.674 J	µg/m3	0.561	3.83	1	01/11/23 22:33	ENM	V28824
Heptane	86.4	µg/m3	0.143	2.05	1	01/11/23 22:33	ENM	V28824
Hexachlorobutadiene	<0.330	µg/m3	0.330	5.33	1	01/11/23 22:33	ENM	V28824
n-Hexane	89.8	µg/m3	0.047	1.76	1	01/11/23 22:33	ENM	V28824
2-Hexanone	<0.285	µg/m3	0.285	2.05	1	01/11/23 22:33	ENM	V28824
Isopropyl Alcohol	2.60 JB	µg/m3	0.139	4.92	1	01/11/23 22:33	ENM	V28824
Methyl Ethyl Ketone (MEK)	19.7	µg/m3	0.224	1.47	1	01/11/23 22:33	ENM	V28824
Methyl tert-butyl ether (MTBE)	<0.033	µg/m3	0.033	1.80	1	01/11/23 22:33	ENM	V28824
4-Methyl-2-Pentanone	9.30	µg/m3	0.121	2.05	1	01/11/23 22:33	ENM	V28824
Methylene Chloride	8.93	µg/m3	0.488	1.74	1	01/11/23 22:33	ENM	V28824
Naphthalene	5.26	µg/m3	0.183	2.62	1	01/11/23 22:33	ENM	V28824
Propene	2030	µg/m3	12.1	43.0	50	01/11/23 08:04	ENM	V28833
Styrene	5.08	µg/m3	0.124	2.13	1	01/11/23 22:33	ENM	V28824

Qualifiers/	B	Analyte detected in blank	DF	Dilution Factor
Definitions	J	Estimated value	MQL	Method Quantitation Limit

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REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96857**

Matrix: **Air**

Sample ID : **SG-3**

Sampled: **1/5/2023 14:13**

Analytical Method:	TO-15	Prep Batch(es):	V28821	01/11/23 09:00		V28828	01/10/23 09:00		
Prep Method:	TO-15 Prep								
Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch	
1,1,2,2-Tetrachloroethane	<0.104	µg/m3	0.104	3.43	1	01/11/23 22:33	ENM	V28824	
Tetrachloroethene	1.28 J	µg/m3	0.181	3.39	1	01/11/23 22:33	ENM	V28824	
Tetrahydrofuran	<0.107	µg/m3	0.107	1.47	1	01/11/23 22:33	ENM	V28824	
Toluene	147	µg/m3	4.50	94.2	50	01/11/23 08:04	ENM	V28833	
1,2,4-Trichlorobenzene	<0.209	µg/m3	0.209	3.71	1	01/11/23 22:33	ENM	V28824	
1,1,1-Trichloroethane	<0.144	µg/m3	0.144	2.73	1	01/11/23 22:33	ENM	V28824	
1,1,2-Trichloroethane	<0.087	µg/m3	0.087	2.73	1	01/11/23 22:33	ENM	V28824	
Trichloroethene	<0.199	µg/m3	0.199	2.15	1	01/11/23 22:33	ENM	V28824	
Trichlorofluoromethane	<0.130	µg/m3	0.130	2.81	1	01/11/23 22:33	ENM	V28824	
1,2,4-Trimethylbenzene	216	µg/m3	5.50	123	50	01/11/23 08:04	ENM	V28833	
1,3,5-Trimethylbenzene	90.7	µg/m3	0.236	2.46	1	01/11/23 22:33	ENM	V28824	
Vinyl Acetate	<0.224	µg/m3	0.224	1.76	1	01/11/23 22:33	ENM	V28824	
Vinyl Chloride	<0.127	µg/m3	0.127	1.28	1	01/11/23 22:33	ENM	V28824	
o-Xylene	130	µg/m3	0.157	2.17	1	01/11/23 22:33	ENM	V28824	
m,p-Xylene	271	µg/m3	0.217	5.65	1	01/11/23 22:33	ENM	V28824	
Xylene (Total)	401	µg/m3	0.157	2.17	1	01/11/23 22:33		V28824	
Surrogate: 4-Bromofluorobenzene	81.8		Limits: 70-130%		1	01/11/23 22:33	ENM	V28824	
Surrogate: 4-Bromofluorobenzene	91.6		Limits: 70-130%		50	01/11/23 08:04	ENM	V28833	

Qualifiers/ Definitions	B	Analyte detected in blank	DF	Dilution Factor
	J	Estimated value	MQL	Method Quantitation Limit

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28773
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28775
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28773 Matrix: AIR
Associated Lab Samples: 96856

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
Acetone	µg/m3	0.346	0.202	4.75	01/11/23 01:53		
Benzene	µg/m3	<0.073	0.073	1.60	01/11/23 01:53		
Benzyl Chloride	µg/m3	<0.147	0.147	10.4	01/11/23 01:53		
Bromodichloromethane	µg/m3	<0.150	0.150	3.35	01/11/23 01:53		
Bromoform	µg/m3	<0.153	0.153	5.17	01/11/23 01:53		
Bromomethane	µg/m3	<0.115	0.115	1.94	01/11/23 01:53		
1,3-Butadiene	µg/m3	<0.328	0.328	1.11	01/11/23 01:53		
Carbon Disulfide	µg/m3	<0.060	0.060	6.23	01/11/23 01:53		
Carbon Tetrachloride	µg/m3	<0.155	0.155	3.15	01/11/23 01:53		
Chlorobenzene	µg/m3	<0.107	0.107	2.30	01/11/23 01:53		
Chlorodibromomethane	µg/m3	<0.208	0.208	4.26	01/11/23 01:53		
Chloroethane	µg/m3	<0.164	0.164	1.32	01/11/23 01:53		
Chloroform	µg/m3	<0.086	0.086	2.44	01/11/23 01:53		
Chloromethane	µg/m3	<0.067	0.067	1.03	01/11/23 01:53		
Cyclohexane	µg/m3	<0.161	0.161	3.44	01/11/23 01:53		
1,2-Dibromoethane	µg/m3	<0.151	0.151	3.84	01/11/23 01:53		
1,2-Dichlorobenzene	µg/m3	<0.096	0.096	3.01	01/11/23 01:53		
1,3-Dichlorobenzene	µg/m3	<0.174	0.174	12.0	01/11/23 01:53		
1,4-Dichlorobenzene	µg/m3	<0.186	0.186	3.01	01/11/23 01:53		
Dichlorodifluoromethane	µg/m3	<0.134	0.134	2.47	01/11/23 01:53		
1,1-Dichloroethane	µg/m3	<0.101	0.101	2.02	01/11/23 01:53		
1,2-Dichloroethane	µg/m3	<0.129	0.129	2.02	01/11/23 01:53		
1,1-Dichloroethene	µg/m3	<0.107	0.107	1.98	01/11/23 01:53		
cis-1,2-Dichloroethene	µg/m3	<0.095	0.095	1.98	01/11/23 01:53		
trans-1,2-Dichloroethene	µg/m3	<0.108	0.108	1.98	01/11/23 01:53		
1,2-Dichloropropane	µg/m3	<0.205	0.205	2.31	01/11/23 01:53		
1,2-Dichlorotetrafluoroethane	µg/m3	<0.622	0.622	3.50	01/11/23 01:53		

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28773
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28775
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28773 Matrix: AIR
Associated Lab Samples: 96856

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
cis-1,3-Dichloropropene	µg/m3	<0.178	0.178	2.27	01/11/23 01:53		
trans-1,3-Dichloropropene	µg/m3	<0.178	0.178	2.27	01/11/23 01:53		
1,4-Dioxane	µg/m3	<0.435	0.435	1.80	01/11/23 01:53		
Ethyl Acetate	µg/m3	<0.136	0.136	1.80	01/11/23 01:53		
4-Ethyltoluene	µg/m3	<0.128	0.128	2.46	01/11/23 01:53		
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/m3	<0.561	0.561	3.83	01/11/23 01:53		
Hexachlorobutadiene	µg/m3	<0.330	0.330	5.33	01/11/23 01:53		
2-Hexanone	µg/m3	<0.285	0.285	2.05	01/11/23 01:53		
Isopropyl Alcohol	µg/m3	1.28	0.139	4.92	01/11/23 01:53		
Methyl Ethyl Ketone (MEK)	µg/m3	<0.224	0.224	1.47	01/11/23 01:53		
Methyl tert-butyl ether (MTBE)	µg/m3	<0.033	0.033	1.80	01/11/23 01:53		
4-Methyl-2-Pentanone	µg/m3	<0.121	0.121	2.05	01/11/23 01:53		
Methylene Chloride	µg/m3	0.791	0.488	1.74	01/11/23 01:53		
Naphthalene	µg/m3	<0.183	0.183	2.62	01/11/23 01:53		
Styrene	µg/m3	<0.124	0.124	2.13	01/11/23 01:53		
1,1,2,2-Tetrachloroethane	µg/m3	<0.104	0.104	3.43	01/11/23 01:53		
Tetrachloroethene	µg/m3	<0.181	0.181	3.39	01/11/23 01:53		
Tetrahydrofuran	µg/m3	<0.107	0.107	1.47	01/11/23 01:53		
1,2,4-Trichlorobenzene	µg/m3	<0.209	0.209	3.71	01/11/23 01:53		
1,1,1-Trichloroethane	µg/m3	<0.144	0.144	2.73	01/11/23 01:53		
1,1,2-Trichloroethane	µg/m3	<0.087	0.087	2.73	01/11/23 01:53		
Trichloroethene	µg/m3	<0.199	0.199	2.15	01/11/23 01:53		
Trichlorofluoromethane	µg/m3	<0.130	0.130	2.81	01/11/23 01:53		
1,3,5-Trimethylbenzene	µg/m3	<0.236	0.236	2.46	01/11/23 01:53		
Vinyl Acetate	µg/m3	<0.224	0.224	1.76	01/11/23 01:53		
Vinyl Chloride	µg/m3	<0.127	0.127	1.28	01/11/23 01:53		

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28773
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28775
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28773 Matrix: AIR
Associated Lab Samples: 96856

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
4-Bromofluorobenzene (S)					01/11/23 01:53	97.7	70-130

Laboratory Control Sample LCS-V28773

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Acetone	µg/m3	11.9	10.5	88.2	70-130
Benzene	µg/m3	16.0	14.3	89.3	70-130
Benzyl Chloride	µg/m3	25.9	25.7	99.2	70-130
Bromodichloromethane	µg/m3	33.5	29.9	89.2	70-130
Bromoform	µg/m3	51.7	48.5	93.8	70-130
Bromomethane	µg/m3	19.4	18.8	96.9	70-130
1,3-Butadiene	µg/m3	11.1	10.5	94.5	70-130
Carbon Disulfide	µg/m3	15.6	15.8	101	70-130
Carbon Tetrachloride	µg/m3	31.5	28.6	90.7	70-130
Chlorobenzene	µg/m3	23.0	21.8	94.7	70-130
Chlorodibromomethane	µg/m3	42.6	40.8	95.7	70-130
Chloroethane	µg/m3	13.2	12.3	93.1	70-130
Chloroform	µg/m3	24.4	22.2	90.9	70-130
Chloromethane	µg/m3	10.3	10.3	100	70-130
Cyclohexane	µg/m3	17.2	15.4	89.5	70-130
1,2-Dibromoethane	µg/m3	38.4	36.6	95.3	70-130
1,2-Dichlorobenzene	µg/m3	30.1	30.1	100	70-130
1,3-Dichlorobenzene	µg/m3	30.1	28.5	94.6	70-130
1,4-Dichlorobenzene	µg/m3	30.1	28.6	95.0	70-130
Dichlorodifluoromethane	µg/m3	24.7	23.3	94.3	70-130
1,1-Dichloroethane	µg/m3	20.2	19.7	97.5	70-130
1,2-Dichloroethane	µg/m3	20.2	18.3	90.5	70-130

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28773
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28775
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Laboratory Control Sample LCS-V28773

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
1,1-Dichloroethene	µg/m3	19.8	19.1	96.4	70-130
cis-1,2-Dichloroethene	µg/m3	19.8	19.2	96.9	70-130
trans-1,2-Dichloroethene	µg/m3	19.8	19.2	96.9	70-130
1,2-Dichloropropane	µg/m3	23.1	20.4	88.3	70-130
1,2-Dichlorotetrafluoroethane	µg/m3	35.0	33.5	95.7	70-130
cis-1,3-Dichloropropene	µg/m3	22.7	20.6	90.7	70-130
trans-1,3-Dichloropropene	µg/m3	22.7	20.6	90.7	70-130
1,4-Dioxane	µg/m3	18.0	15.6	86.6	70-130
Ethyl Acetate	µg/m3	18.0	17.1	95.0	70-130
4-Ethyltoluene	µg/m3	24.6	23.4	95.1	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/m3	38.3	37.9	98.9	70-130
Hexachlorobutadiene	µg/m3	53.3	52.1	97.7	70-130
2-Hexanone	µg/m3	20.5	18.7	91.2	70-130
Isopropyl Alcohol	µg/m3	12.3	11.7	95.1	70-130
Methyl Ethyl Ketone (MEK)	µg/m3	14.8	13.5	91.2	70-130
Methyl tert-butyl ether (MTBE)	µg/m3	18.0	17.1	95.0	70-130
4-Methyl-2-Pentanone	µg/m3	20.5	18.4	89.7	70-130
Methylene Chloride	µg/m3	17.4	15.9	91.3	70-130
Naphthalene	µg/m3	26.2	26.7	102	70-130
Styrene	µg/m3	21.3	19.8	92.9	70-130
1,1,2,2-Tetrachloroethane	µg/m3	34.3	32.8	95.6	70-130
Tetrachloroethene	µg/m3	33.9	30.4	89.6	70-130
Tetrahydrofuran	µg/m3	14.7	13.2	89.7	70-130
1,2,4-Trichlorobenzene	µg/m3	37.1	35.5	95.6	70-130
1,1,1-Trichloroethane	µg/m3	27.3	24.4	89.3	70-130
1,1,2-Trichloroethane	µg/m3	27.3	25.7	94.1	70-130
Trichloroethene	µg/m3	26.9	24.2	89.9	70-130

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep:	V28773	QC Analytical Batch(es):	V28775
QC Prep Batch Method:	TO-15 Prep	Analysis Method:	TO-15
		Analysis Description:	Volatile Organic Compounds in Air- GC/MS

Laboratory Control Sample LCS-V28773

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Trichlorofluoromethane	µg/m3	28.1	27.0	96.0	70-130
1,3,5-Trimethylbenzene	µg/m3	24.6	23.7	96.3	70-130
Vinyl Acetate	µg/m3	17.6	17.6	100	70-130
Vinyl Chloride	µg/m3	12.8	12.1	94.5	70-130
4-Bromofluorobenzene (S)				101	70-130

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28821
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28824
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28821 Matrix: AIR
Associated Lab Samples: 96855, 96856, 96857

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
Acetone	µg/m3	<0.202	0.202	4.75	01/11/23 13:35		
Benzene	µg/m3	<0.073	0.073	1.60	01/11/23 13:35		
Benzyl Chloride	µg/m3	<0.147	0.147	10.4	01/11/23 13:35		
Bromodichloromethane	µg/m3	<0.150	0.150	3.35	01/11/23 13:35		
Bromoform	µg/m3	<0.153	0.153	5.17	01/11/23 13:35		
Bromomethane	µg/m3	<0.115	0.115	1.94	01/11/23 13:35		
1,3-Butadiene	µg/m3	<0.328	0.328	1.11	01/11/23 13:35		
Carbon Disulfide	µg/m3	0.333	0.060	6.23	01/11/23 13:35		
Carbon Tetrachloride	µg/m3	<0.155	0.155	3.15	01/11/23 13:35		
Chlorobenzene	µg/m3	<0.107	0.107	2.30	01/11/23 13:35		
Chlorodibromomethane	µg/m3	<0.208	0.208	4.26	01/11/23 13:35		
Chloroethane	µg/m3	<0.164	0.164	1.32	01/11/23 13:35		
Chloroform	µg/m3	<0.086	0.086	2.44	01/11/23 13:35		
Chloromethane	µg/m3	<0.067	0.067	1.03	01/11/23 13:35		
Cyclohexane	µg/m3	<0.161	0.161	3.44	01/11/23 13:35		
1,2-Dibromoethane	µg/m3	<0.151	0.151	3.84	01/11/23 13:35		
1,2-Dichlorobenzene	µg/m3	<0.096	0.096	3.01	01/11/23 13:35		
1,3-Dichlorobenzene	µg/m3	<0.174	0.174	12.0	01/11/23 13:35		
1,4-Dichlorobenzene	µg/m3	<0.186	0.186	3.01	01/11/23 13:35		
Dichlorodifluoromethane	µg/m3	<0.134	0.134	2.47	01/11/23 13:35		
1,1-Dichloroethane	µg/m3	<0.101	0.101	2.02	01/11/23 13:35		
1,2-Dichloroethane	µg/m3	<0.129	0.129	2.02	01/11/23 13:35		
1,1-Dichloroethene	µg/m3	<0.107	0.107	1.98	01/11/23 13:35		
cis-1,2-Dichloroethene	µg/m3	<0.095	0.095	1.98	01/11/23 13:35		
trans-1,2-Dichloroethene	µg/m3	<0.108	0.108	1.98	01/11/23 13:35		
1,2-Dichloropropane	µg/m3	<0.205	0.205	2.31	01/11/23 13:35		
1,2-Dichlorotetrafluoroethane	µg/m3	<0.622	0.622	3.50	01/11/23 13:35		

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28821
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28824
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28821 Matrix: AIR
Associated Lab Samples: 96855, 96856, 96857

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
cis-1,3-Dichloropropene	µg/m3	<0.178	0.178	2.27	01/11/23 13:35		
trans-1,3-Dichloropropene	µg/m3	<0.178	0.178	2.27	01/11/23 13:35		
1,4-Dioxane	µg/m3	<0.435	0.435	1.80	01/11/23 13:35		
Ethyl Acetate	µg/m3	<0.136	0.136	1.80	01/11/23 13:35		
Ethylbenzene	µg/m3	<0.106	0.106	2.17	01/11/23 13:35		
4-Ethyltoluene	µg/m3	<0.128	0.128	2.46	01/11/23 13:35		
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/m3	<0.561	0.561	3.83	01/11/23 13:35		
Heptane	µg/m3	<0.143	0.143	2.05	01/11/23 13:35		
Hexachlorobutadiene	µg/m3	<0.330	0.330	5.33	01/11/23 13:35		
n-Hexane	µg/m3	<0.047	0.047	1.76	01/11/23 13:35		
2-Hexanone	µg/m3	<0.285	0.285	2.05	01/11/23 13:35		
Isopropyl Alcohol	µg/m3	1.18	0.139	4.92	01/11/23 13:35		
Methyl Ethyl Ketone (MEK)	µg/m3	<0.224	0.224	1.47	01/11/23 13:35		
Methyl tert-butyl ether (MTBE)	µg/m3	<0.033	0.033	1.80	01/11/23 13:35		
4-Methyl-2-Pentanone	µg/m3	<0.121	0.121	2.05	01/11/23 13:35		
Methylene Chloride	µg/m3	<0.488	0.488	1.74	01/11/23 13:35		
Naphthalene	µg/m3	<0.183	0.183	2.62	01/11/23 13:35		
Propene	µg/m3	<0.242	0.242	0.860	01/11/23 13:35		
Styrene	µg/m3	<0.124	0.124	2.13	01/11/23 13:35		
1,1,2,2-Tetrachloroethane	µg/m3	<0.104	0.104	3.43	01/11/23 13:35		
Tetrachloroethene	µg/m3	<0.181	0.181	3.39	01/11/23 13:35		
Tetrahydrofuran	µg/m3	<0.107	0.107	1.47	01/11/23 13:35		
Toluene	µg/m3	<0.090	0.090	1.88	01/11/23 13:35		
1,2,4-Trichlorobenzene	µg/m3	<0.209	0.209	3.71	01/11/23 13:35		
1,1,1-Trichloroethane	µg/m3	<0.144	0.144	2.73	01/11/23 13:35		
1,1,2-Trichloroethane	µg/m3	<0.087	0.087	2.73	01/11/23 13:35		
Trichloroethene	µg/m3	<0.199	0.199	2.15	01/11/23 13:35		

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28821
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28824
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28821 Matrix: AIR
Associated Lab Samples: 96855, 96856, 96857

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
Trichlorofluoromethane	µg/m3	<0.130	0.130	2.81	01/11/23 13:35		
1,2,4-Trimethylbenzene	µg/m3	<0.110	0.110	2.46	01/11/23 13:35		
1,3,5-Trimethylbenzene	µg/m3	<0.236	0.236	2.46	01/11/23 13:35		
Vinyl Acetate	µg/m3	<0.224	0.224	1.76	01/11/23 13:35		
Vinyl Chloride	µg/m3	<0.127	0.127	1.28	01/11/23 13:35		
o-Xylene	µg/m3	<0.157	0.157	2.17	01/11/23 13:35		
m,p-Xylene	µg/m3	<0.217	0.217	5.65	01/11/23 13:35		
4-Bromofluorobenzene (S)					01/11/23 13:35	95.2	70-130

Laboratory Control Sample LCS-V28821

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Acetone	µg/m3	11.9	10.9	91.5	70-130
Benzene	µg/m3	16.0	14.6	91.2	70-130
Benzyl Chloride	µg/m3	25.9	25.9	100	70-130
Bromodichloromethane	µg/m3	33.5	30.8	91.9	70-130
Bromoform	µg/m3	51.7	48.9	94.5	70-130
Bromomethane	µg/m3	19.4	19.5	101	70-130
1,3-Butadiene	µg/m3	11.1	10.7	96.3	70-130
Carbon Disulfide	µg/m3	15.6	16.3	104	70-130
Carbon Tetrachloride	µg/m3	31.5	29.2	92.6	70-130
Chlorobenzene	µg/m3	23.0	21.7	94.3	70-130
Chlorodibromomethane	µg/m3	42.6	40.2	94.3	70-130
Chloroethane	µg/m3	13.2	12.7	96.2	70-130
Chloroform	µg/m3	24.4	23.1	94.6	70-130
Chloromethane	µg/m3	10.3	10.8	105	70-130
Cyclohexane	µg/m3	17.2	15.6	90.6	70-130

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep:	V28821	QC Analytical Batch(es):	V28824
QC Prep Batch Method:	TO-15 Prep	Analysis Method:	TO-15
		Analysis Description:	Volatile Organic Compounds in Air- GC/MS

Laboratory Control Sample LCS-V28821

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
1,2-Dibromoethane	µg/m3	38.4	36.8	95.8	70-130
1,2-Dichlorobenzene	µg/m3	30.1	31.2	104	70-130
1,3-Dichlorobenzene	µg/m3	30.1	29.3	97.3	70-130
1,4-Dichlorobenzene	µg/m3	30.1	29.3	97.3	70-130
Dichlorodifluoromethane	µg/m3	24.7	23.8	96.3	70-130
1,1-Dichloroethane	µg/m3	20.2	20.2	100	70-130
1,2-Dichloroethane	µg/m3	20.2	18.9	93.5	70-130
1,1-Dichloroethene	µg/m3	19.8	19.7	99.4	70-130
cis-1,2-Dichloroethene	µg/m3	19.8	19.7	99.4	70-130
trans-1,2-Dichloroethene	µg/m3	19.8	19.7	99.4	70-130
1,2-Dichloropropane	µg/m3	23.1	20.9	90.4	70-130
1,2-Dichlorotetrafluoroethane	µg/m3	35.0	34.1	97.4	70-130
cis-1,3-Dichloropropene	µg/m3	22.7	20.7	91.1	70-130
trans-1,3-Dichloropropene	µg/m3	22.7	20.7	91.1	70-130
1,4-Dioxane	µg/m3	18.0	16.4	91.1	70-130
Ethyl Acetate	µg/m3	18.0	17.5	97.2	70-130
Ethylbenzene	µg/m3	21.7	20.7	95.3	70-130
4-Ethyltoluene	µg/m3	24.6	23.4	95.1	70-130
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/m3	38.3	38.7	101	70-130
Heptane	µg/m3	20.5	18.9	92.1	70-130
Hexachlorobutadiene	µg/m3	53.3	52.4	98.3	70-130
n-Hexane	µg/m3	17.6	16.8	95.4	70-130
2-Hexanone	µg/m3	20.5	18.9	92.1	70-130
Isopropyl Alcohol	µg/m3	12.3	11.9	96.7	70-130
Methyl Ethyl Ketone (MEK)	µg/m3	14.8	13.9	93.9	70-130
Methyl tert-butyl ether (MTBE)	µg/m3	18.0	17.5	97.2	70-130
4-Methyl-2-Pentanone	µg/m3	20.5	18.9	92.1	70-130

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28821
QC Prep Batch Method: TO-15 Prep
QC Analytical Batch(es): V28824
Analysis Method: TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Laboratory Control Sample LCS-V28821

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
Methylene Chloride	µg/m3	17.4	18.9	109	70-130
Naphthalene	µg/m3	26.2	26.2	100	70-130
Propene	µg/m3	8.61	8.00	92.9	70-130
Styrene	µg/m3	21.3	20.0	93.8	70-130
1,1,2,2-Tetrachloroethane	µg/m3	34.3	32.8	95.6	70-130
Tetrachloroethene	µg/m3	33.9	31.2	92.0	70-130
Tetrahydrofuran	µg/m3	14.7	13.7	93.1	70-130
Toluene	µg/m3	18.8	17.2	91.4	70-130
1,2,4-Trichlorobenzene	µg/m3	37.1	35.4	95.4	70-130
1,1,1-Trichloroethane	µg/m3	27.3	25.3	92.6	70-130
1,1,2-Trichloroethane	µg/m3	27.3	25.6	93.7	70-130
Trichloroethene	µg/m3	26.9	24.8	92.1	70-130
Trichlorofluoromethane	µg/m3	28.1	27.4	97.5	70-130
1,2,4-Trimethylbenzene	µg/m3	24.6	24.1	97.9	70-130
1,3,5-Trimethylbenzene	µg/m3	24.6	24.2	98.3	70-130
Vinyl Acetate	µg/m3	17.6	17.6	100	70-130
Vinyl Chloride	µg/m3	12.8	12.4	96.8	70-130
o-Xylene	µg/m3	21.7	20.7	95.3	70-130
m,p-Xylene	µg/m3	43.4	37.7	86.8	70-130
4-Bromofluorobenzene (S)				100	70-130

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0004

QC Prep: V28828 **QC Analytical Batch(es):** V28833
QC Prep Batch Method: TO-15 Prep **Analysis Method:** TO-15
Analysis Description: Volatile Organic Compounds in Air- GC/MS

Lab Reagent Blank LRB-V28828 Matrix: AIR
Associated Lab Samples: 96857

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
1,3-Butadiene	µg/m3	<0.328	0.328	1.11	01/11/23 01:53		
Propene	µg/m3	<0.242	0.242	0.860	01/11/23 01:53		
Toluene	µg/m3	<0.090	0.090	1.88	01/11/23 01:53		
1,2,4-Trimethylbenzene	µg/m3	<0.110	0.110	2.46	01/11/23 01:53		
4-Bromofluorobenzene (S)					01/11/23 01:53	97.7	70-130

Laboratory Control Sample LCS-V28828

Parameter	Units	Spike Conc.	LCS Result	LCS %Rec	% Rec Limits
1,3-Butadiene	µg/m3	11.1	10.5	94.5	70-130
Propene	µg/m3	8.61	7.90	91.7	70-130
Toluene	µg/m3	18.8	16.9	89.8	70-130
1,2,4-Trimethylbenzene	µg/m3	24.6	23.8	96.7	70-130
4-Bromofluorobenzene (S)				101	70-130

Shipment Receipt Form

Customer Number: **00293**

Customer Name: **Hanley Environmental, PLLC**

Report Number: **23-006-0004**

Shipping Method

<input type="radio"/> Fed Ex	<input type="radio"/> US Postal	<input checked="" type="radio"/> Lab	<input type="radio"/> Other :	<div></div>
<input type="radio"/> UPS	<input type="radio"/> Client	<input type="radio"/> Courier	Thermometer ID:	N/A

Shipping container/cooler uncompromised?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Number of coolers/boxes received	<div>1</div>	
Custody seals intact on shipping container/cooler?	<input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> Not Present
Custody seals intact on sample bottles?	<input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> Not Present
Chain of Custody (COC) present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
COC agrees with sample label(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
COC properly completed	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Samples in proper containers?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Sample containers intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Sufficient sample volume for indicated test(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
All samples received within holding time?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Cooler temperature in compliance?	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	<input checked="" type="radio"/> Yes	<input type="radio"/> No
Water - Sample containers properly preserved	<input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> N/A
Water - VOA vials free of headspace	<input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> N/A
Trip Blanks received with VOAs	<input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> N/A
Soil VOA method 5035 – compliance criteria met	<input type="radio"/> Yes	<input type="radio"/> No <input checked="" type="radio"/> N/A
<input type="checkbox"/> High concentration container (48 hr)	<input type="checkbox"/> Low concentration EnCore samplers (48 hr)	
<input type="checkbox"/> High concentration pre-weighed (methanol -14 d)	<input type="checkbox"/> Low conc pre-weighed vials (Sod Bis -14 d)	
Special precautions or instructions included?	<input type="radio"/> Yes	<input checked="" type="radio"/> No

Comments:

Signature:

Asia Blakeborough

Date & Time:

01/06/2023 11:30:31

Company Name: <u>Hanley Environmental</u>		Invoice to: <u>Hanley Environmental</u>		Project Name: <u>Phase II Blytheville</u>	
Contact Name: <u>Nick Hotzelt</u>		Invoice Contact: <u>David Hanley</u>		Site Name: <u>Blytheville</u>	
Address: <u>323 Manning Drive</u> <u>Charlotte NC</u>		Invoice Address:		Site Location: <u>Columbia, SC</u>	
Phone #: <u>704 317 6086</u>		Invoice Phone #:		Project Number: <u>9522040</u>	
Email: <u>nick.hotel@hanleyenvironmental.com</u>		Invoice Email:		Purchase Order #:	
Sampler's Name (Print): <u>Nick Hotzelt</u>		Sampler's Signature: <u>[Signature]</u>		Turn Around Time: <u>Standard</u> Day(s)	
				Page: <u>1</u> of <u>1</u>	

Lab Use Only				Client Sampling Information				Sample Type Code	Comments (Any additional information about the site)	WPA ID#				
Canister Certification Batch:	Flow Controller ID:	Cal Flow (cc/min)	Canister ID:	Size (L)	Lab Outgoing Canister Pressure	Lab Receiving Canister Pressure	Start Date				Start Time (24hr clock)	Initial Canister Pressure (in Hg)	Stop Date	Stop Time (24hr clock)
12/28/22	14317	212	11303	1.4	-30	-5	1/5/23	1448	-30	1/5/23	1455	-5	SC	
	SG-2	6555	217	1.4	-30	-5	1/5/23	1438	-28.5	1/5/23	1443	-5	SC	
	SG-3	13135	215	1.4	-29	-5	1/5/23	1413	-27	1/5/23	1418	-5	SC	
				6										

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

Relinquished: <u>[Signature]</u>	Date / Time: <u>1/6/23 110</u>	Received:	Date / Time:
Relinquished: <u>[Signature]</u>	Date / Time: <u>1/6/23 110</u>	Received:	Date / Time:
Relinquished:	Date / Time:	Received:	Date / Time:

Work Order: 2202

23-006-0004
00293
01-06-2023
11:29:34
Hanley Environmental, PLLC

1/12/2023

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC, 28209

Ref: Analytical Testing
Lab Report Number: 23-006-0005
Client Project Description: Phase II Blythewood

Dear Nick Hotzelt:

Waypoint Analytical, LLC (Charlotte) received sample(s) on 1/6/2023 for the analyses presented in the following report.

The above referenced project has been analyzed per your instructions. The analyses were performed in accordance with the applicable analytical method.

The analytical data has been validated using standard quality control measures performed as required by the analytical method. Quality Assurance, method validations, instrumentation maintenance and calibration for all parameters were performed in accordance with guidelines established by the USEPA (including 40 CFR 136 Method Update Rule May 2021) unless otherwise indicated.

Certain parameters (chlorine, pH, dissolved oxygen, sulfite...) are required to be analyzed within 15 minutes of sampling. Usually, but not always, any field parameter analyzed at the laboratory is outside of this holding time. Refer to sample analysis time for confirmation of holding time compliance.

The results are shown on the attached Report of Analysis(s). Results for solid matrices are reported on an as-received basis unless otherwise indicated. This report shall not be reproduced except in full and relates only to the samples included in this report.

Please do not hesitate to contact me or client services if you have any questions or need additional information.

Sincerely,



Danyale Love
Project Manager

Certification Summary

Laboratory ID: WP CNC: Waypoint Analytical Carolina, Inc. (C), Charlotte, NC

State	Program	Lab ID	Expiration Date
North Carolina	State Program	37735	07/31/2023
North Carolina	State Program	402	12/31/2023
South Carolina	State Program	99012	07/31/2023
South Carolina	State Program	99012	12/31/2022



Sample Summary Table

Report Number: 23-006-0005

Client Project Description: Phase II Blythewood

Lab No	Client Sample ID	Matrix	Date Collected	Date Received
96852	TMW-1s	Aqueous	01/05/2023 16:05	01/06/2023 11:10
96853	TMW-1i	Aqueous	01/05/2023 16:30	01/06/2023 11:10
96854	TMW-2i	Aqueous	01/05/2023 15:35	01/06/2023 11:10

Summary of Detected Analytes

Project: Phase II Blythewood

Report Number: 23-006-0005

Client Sample ID	Lab Sample ID					
Method	Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
TMW-1s	V 96852					
8260D	Acetone	3.19	µg/L	1.80	01/07/2023 08:07	J
8260D	Toluene	0.220	µg/L	0.220	01/07/2023 08:07	J
TMW-1i	V 96853					
8260D	Acetone	1.97	µg/L	1.80	01/07/2023 08:30	J
8260D	Tetrachloroethene	0.720	µg/L	0.220	01/07/2023 08:30	
TMW-2i	V 96854					
8260D	Methyl tert-butyl ether (MTBE)	0.456	µg/L	0.140	01/07/2023 08:54	J
8260D	Tetrachloroethene	0.879	µg/L	0.220	01/07/2023 08:54	

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96852**

Matrix: **Aqueous**

Sample ID : **TMW-1s**

Sampled: **1/5/2023 16:05**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	3.19 J	µg/L	1.80	5.00	1	01/07/23 08:07	MSA	V28697
Acrolein	<2.00	µg/L	2.00	5.00	1	01/07/23 08:07	MSA	V28697
Acrylonitrile	<0.230	µg/L	0.230	5.00	1	01/07/23 08:07	MSA	V28697
Benzene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:07	MSA	V28697
Bromobenzene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:07	MSA	V28697
Bromochloromethane	<0.420	µg/L	0.420	1.00	1	01/07/23 08:07	MSA	V28697
Bromodichloromethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:07	MSA	V28697
Bromoform	<1.50	µg/L	1.50	5.00	1	01/07/23 08:07	MSA	V28697
Bromomethane	<0.280	µg/L	0.280	1.00	1	01/07/23 08:07	MSA	V28697
n-Butylbenzene	<0.185	µg/L	0.185	1.00	1	01/07/23 08:07	MSA	V28697
sec-Butyl benzene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:07	MSA	V28697
tert-Butyl benzene	<0.920	µg/L	0.920	2.00	1	01/07/23 08:07	MSA	V28697
Carbon Disulfide	<0.150	µg/L	0.150	5.00	1	01/07/23 08:07	MSA	V28697
Carbon Tetrachloride	<0.180	µg/L	0.180	0.500	1	01/07/23 08:07	MSA	V28697
Chlorobenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:07	MSA	V28697
Chlorodibromomethane	<0.190	µg/L	0.190	0.500	1	01/07/23 08:07	MSA	V28697
Chloroethane	<0.430	µg/L	0.430	1.00	1	01/07/23 08:07	MSA	V28697
Chloroform	<0.220	µg/L	0.220	0.500	1	01/07/23 08:07	MSA	V28697
Chloromethane	<0.220	µg/L	0.220	0.500	1	01/07/23 08:07	MSA	V28697
2-Chlorotoluene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:07	MSA	V28697
4-Chlorotoluene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:07	MSA	V28697
Di-Isopropyl Ether (DIPE)	<0.960	µg/L	0.960	5.00	1	01/07/23 08:07	MSA	V28697
1,2-Dibromo-3-Chloropropane	<1.10	µg/L	1.10	2.00	1	01/07/23 08:07	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96852**

Matrix: **Aqueous**

Sample ID : **TMW-1s**

Sampled: **1/5/2023 16:05**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2-Dibromoethane	<0.200	µg/L	0.200	0.500	1	01/07/23 08:07	MSA	V28697
Dibromomethane	<0.230	µg/L	0.230	0.500	1	01/07/23 08:07	MSA	V28697
1,2-Dichlorobenzene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:07	MSA	V28697
1,3-Dichlorobenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:07	MSA	V28697
1,4-Dichlorobenzene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:07	MSA	V28697
Dichlorodifluoromethane	<1.20	µg/L	1.20	5.00	1	01/07/23 08:07	MSA	V28697
1,1-Dichloroethane	<0.240	µg/L	0.240	0.500	1	01/07/23 08:07	MSA	V28697
1,2-Dichloroethane	<0.150	µg/L	0.150	0.500	1	01/07/23 08:07	MSA	V28697
1,1-Dichloroethene	<0.150	µg/L	0.150	0.500	1	01/07/23 08:07	MSA	V28697
cis-1,2-Dichloroethene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:07	MSA	V28697
trans-1,2-Dichloroethene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:07	MSA	V28697
1,2-Dichloropropane	<0.190	µg/L	0.190	0.500	1	01/07/23 08:07	MSA	V28697
1,3-Dichloropropane	<0.130	µg/L	0.130	0.500	1	01/07/23 08:07	MSA	V28697
2,2-Dichloropropane	<0.210	µg/L	0.210	2.00	1	01/07/23 08:07	MSA	V28697
1,1-Dichloropropene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:07	MSA	V28697
cis-1,3-Dichloropropene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:07	MSA	V28697
trans-1,3-Dichloropropene	<0.150	µg/L	0.150	0.500	1	01/07/23 08:07	MSA	V28697
Ethylbenzene	<0.170	µg/L	0.170	0.500	1	01/07/23 08:07	MSA	V28697
Ethyl Tertiary Butyl Ether (ETBE)	<1.80	µg/L	1.80	10.0	1	01/07/23 08:07	MSA	V28697
Hexachlorobutadiene	<0.350	µg/L	0.350	2.00	1	01/07/23 08:07	MSA	V28697
n-Hexane	<1.30	µg/L	1.30	10.0	1	01/07/23 08:07	MSA	V28697
2-Hexanone	<0.380	µg/L	0.380	5.00	1	01/07/23 08:07	MSA	V28697
Isopropylbenzene	<0.180	µg/L	0.180	5.00	1	01/07/23 08:07	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96852**

Matrix: **Aqueous**

Sample ID : **TMW-1s**

Sampled: **1/5/2023 16:05**

Analytical Method: 8260D **Prep Batch(es):** **V28696** 01/06/23 14:00
Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4-Isopropyl toluene	<0.089	µg/L	0.089	0.500	1	01/07/23 08:07	MSA	V28697
Methyl Ethyl Ketone (MEK)	<0.710	µg/L	0.710	5.00	1	01/07/23 08:07	MSA	V28697
Methyl tert-butyl ether (MTBE)	<0.140	µg/L	0.140	0.500	1	01/07/23 08:07	MSA	V28697
4-Methyl-2-Pentanone	<1.00	µg/L	1.00	5.00	1	01/07/23 08:07	MSA	V28697
Methylene Chloride	<0.330	µg/L	0.330	1.00	1	01/07/23 08:07	MSA	V28697
Naphthalene	<0.470	µg/L	0.470	1.00	1	01/07/23 08:07	MSA	V28697
n-Propylbenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:07	MSA	V28697
Styrene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:07	MSA	V28697
1,1,1,2-Tetrachloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:07	MSA	V28697
1,1,2,2-Tetrachloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:07	MSA	V28697
Tetrachloroethene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:07	MSA	V28697
Toluene	0.220 J	µg/L	0.220	0.500	1	01/07/23 08:07	MSA	V28697
1,2,3-Trichlorobenzene	<0.380	µg/L	0.380	2.00	1	01/07/23 08:07	MSA	V28697
1,2,4-Trichlorobenzene	<0.310	µg/L	0.310	1.00	1	01/07/23 08:07	MSA	V28697
1,1,1-Trichloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:07	MSA	V28697
1,1,2-Trichloroethane	<0.096	µg/L	0.096	0.500	1	01/07/23 08:07	MSA	V28697
Trichloroethene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:07	MSA	V28697
Trichlorofluoromethane	<0.180	µg/L	0.180	0.500	1	01/07/23 08:07	MSA	V28697
1,2,3-Trichloropropane	<0.270	µg/L	0.270	1.00	1	01/07/23 08:07	MSA	V28697
1,3,5-Trimethylbenzene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:07	MSA	V28697
Vinyl Acetate	<1.00	µg/L	1.00	2.00	1	01/07/23 08:07	MSA	V28697
Vinyl Chloride	<0.170	µg/L	0.170	0.500	1	01/07/23 08:07	MSA	V28697
o-Xylene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:07	MSA	V28697

Qualifiers/	DF	Dilution Factor	J	Estimated value
Definitions	MQL	Method Quantitation Limit		

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023

Danyale Love

Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96852**

Matrix: **Aqueous**

Sample ID : **TMW-1s**

Sampled: **1/5/2023 16:05**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
m,p-Xylene	<0.420	µg/L	0.420	1.00	1	01/07/23 08:07	MSA	V28697
Xylene (Total)	<0.21	µg/L	0.210	0.500	1	01/07/23 08:07		V28697
Surrogate: 4-Bromofluorobenzene	98.8		Limits: 80-124%		1	01/07/23 08:07	MSA	V28697
Surrogate: Dibromofluoromethane	94.0		Limits: 75-129%		1	01/07/23 08:07	MSA	V28697
Surrogate: 1,2-Dichloroethane - d4	96.4		Limits: 63-136%		1	01/07/23 08:07	MSA	V28697
Surrogate: Toluene-d8	92.4		Limits: 77-123%		1	01/07/23 08:07	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96853**

Matrix: **Aqueous**

Sample ID : **TMW-1i**

Sampled: **1/5/2023 16:30**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	1.97 J	µg/L	1.80	5.00	1	01/07/23 08:30	MSA	V28697
Acrolein	<2.00	µg/L	2.00	5.00	1	01/07/23 08:30	MSA	V28697
Acrylonitrile	<0.230	µg/L	0.230	5.00	1	01/07/23 08:30	MSA	V28697
Benzene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:30	MSA	V28697
Bromobenzene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:30	MSA	V28697
Bromochloromethane	<0.420	µg/L	0.420	1.00	1	01/07/23 08:30	MSA	V28697
Bromodichloromethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:30	MSA	V28697
Bromoform	<1.50	µg/L	1.50	5.00	1	01/07/23 08:30	MSA	V28697
Bromomethane	<0.280	µg/L	0.280	1.00	1	01/07/23 08:30	MSA	V28697
n-Butylbenzene	<0.185	µg/L	0.185	1.00	1	01/07/23 08:30	MSA	V28697
sec-Butyl benzene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:30	MSA	V28697
tert-Butyl benzene	<0.920	µg/L	0.920	2.00	1	01/07/23 08:30	MSA	V28697
Carbon Disulfide	<0.150	µg/L	0.150	5.00	1	01/07/23 08:30	MSA	V28697
Carbon Tetrachloride	<0.180	µg/L	0.180	0.500	1	01/07/23 08:30	MSA	V28697
Chlorobenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:30	MSA	V28697
Chlorodibromomethane	<0.190	µg/L	0.190	0.500	1	01/07/23 08:30	MSA	V28697
Chloroethane	<0.430	µg/L	0.430	1.00	1	01/07/23 08:30	MSA	V28697
Chloroform	<0.220	µg/L	0.220	0.500	1	01/07/23 08:30	MSA	V28697
Chloromethane	<0.220	µg/L	0.220	0.500	1	01/07/23 08:30	MSA	V28697
2-Chlorotoluene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:30	MSA	V28697
4-Chlorotoluene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:30	MSA	V28697
Di-Isopropyl Ether (DIPE)	<0.960	µg/L	0.960	5.00	1	01/07/23 08:30	MSA	V28697
1,2-Dibromo-3-Chloropropane	<1.10	µg/L	1.10	2.00	1	01/07/23 08:30	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96853**

Matrix: **Aqueous**

Sample ID : **TMW-1i**

Sampled: **1/5/2023 16:30**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2-Dibromoethane	<0.200	µg/L	0.200	0.500	1	01/07/23 08:30	MSA	V28697
Dibromomethane	<0.230	µg/L	0.230	0.500	1	01/07/23 08:30	MSA	V28697
1,2-Dichlorobenzene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:30	MSA	V28697
1,3-Dichlorobenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:30	MSA	V28697
1,4-Dichlorobenzene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:30	MSA	V28697
Dichlorodifluoromethane	<1.20	µg/L	1.20	5.00	1	01/07/23 08:30	MSA	V28697
1,1-Dichloroethane	<0.240	µg/L	0.240	0.500	1	01/07/23 08:30	MSA	V28697
1,2-Dichloroethane	<0.150	µg/L	0.150	0.500	1	01/07/23 08:30	MSA	V28697
1,1-Dichloroethene	<0.150	µg/L	0.150	0.500	1	01/07/23 08:30	MSA	V28697
cis-1,2-Dichloroethene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:30	MSA	V28697
trans-1,2-Dichloroethene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:30	MSA	V28697
1,2-Dichloropropane	<0.190	µg/L	0.190	0.500	1	01/07/23 08:30	MSA	V28697
1,3-Dichloropropane	<0.130	µg/L	0.130	0.500	1	01/07/23 08:30	MSA	V28697
2,2-Dichloropropane	<0.210	µg/L	0.210	2.00	1	01/07/23 08:30	MSA	V28697
1,1-Dichloropropene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:30	MSA	V28697
cis-1,3-Dichloropropene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:30	MSA	V28697
trans-1,3-Dichloropropene	<0.150	µg/L	0.150	0.500	1	01/07/23 08:30	MSA	V28697
Ethylbenzene	<0.170	µg/L	0.170	0.500	1	01/07/23 08:30	MSA	V28697
Ethyl Tertiary Butyl Ether (ETBE)	<1.80	µg/L	1.80	10.0	1	01/07/23 08:30	MSA	V28697
Hexachlorobutadiene	<0.350	µg/L	0.350	2.00	1	01/07/23 08:30	MSA	V28697
n-Hexane	<1.30	µg/L	1.30	10.0	1	01/07/23 08:30	MSA	V28697
2-Hexanone	<0.380	µg/L	0.380	5.00	1	01/07/23 08:30	MSA	V28697
Isopropylbenzene	<0.180	µg/L	0.180	5.00	1	01/07/23 08:30	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96853**

Matrix: **Aqueous**

Sample ID : **TMW-1i**

Sampled: **1/5/2023 16:30**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4-Isopropyl toluene	<0.089	µg/L	0.089	0.500	1	01/07/23 08:30	MSA	V28697
Methyl Ethyl Ketone (MEK)	<0.710	µg/L	0.710	5.00	1	01/07/23 08:30	MSA	V28697
Methyl tert-butyl ether (MTBE)	<0.140	µg/L	0.140	0.500	1	01/07/23 08:30	MSA	V28697
4-Methyl-2-Pentanone	<1.00	µg/L	1.00	5.00	1	01/07/23 08:30	MSA	V28697
Methylene Chloride	<0.330	µg/L	0.330	1.00	1	01/07/23 08:30	MSA	V28697
Naphthalene	<0.470	µg/L	0.470	1.00	1	01/07/23 08:30	MSA	V28697
n-Propylbenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:30	MSA	V28697
Styrene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:30	MSA	V28697
1,1,1,2-Tetrachloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:30	MSA	V28697
1,1,2,2-Tetrachloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:30	MSA	V28697
Tetrachloroethene	0.720	µg/L	0.220	0.500	1	01/07/23 08:30	MSA	V28697
Toluene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:30	MSA	V28697
1,2,3-Trichlorobenzene	<0.380	µg/L	0.380	2.00	1	01/07/23 08:30	MSA	V28697
1,2,4-Trichlorobenzene	<0.310	µg/L	0.310	1.00	1	01/07/23 08:30	MSA	V28697
1,1,1-Trichloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:30	MSA	V28697
1,1,2-Trichloroethane	<0.096	µg/L	0.096	0.500	1	01/07/23 08:30	MSA	V28697
Trichloroethene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:30	MSA	V28697
Trichlorofluoromethane	<0.180	µg/L	0.180	0.500	1	01/07/23 08:30	MSA	V28697
1,2,3-Trichloropropane	<0.270	µg/L	0.270	1.00	1	01/07/23 08:30	MSA	V28697
1,3,5-Trimethylbenzene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:30	MSA	V28697
Vinyl Acetate	<1.00	µg/L	1.00	2.00	1	01/07/23 08:30	MSA	V28697
Vinyl Chloride	<0.170	µg/L	0.170	0.500	1	01/07/23 08:30	MSA	V28697
o-Xylene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:30	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023

Danyale Love

Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96853**

Matrix: **Aqueous**

Sample ID : **TMW-1i**

Sampled: **1/5/2023 16:30**

Analytical Method: 8260D

Prep Batch(es): **V28696** 01/06/23 14:00

Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
m,p-Xylene	<0.420	µg/L	0.420	1.00	1	01/07/23 08:30	MSA	V28697
Xylene (Total)	<0.21	µg/L	0.210	0.500	1	01/07/23 08:30		V28697
Surrogate: 4-Bromofluorobenzene	98.0		Limits: 80-124%		1	01/07/23 08:30	MSA	V28697
Surrogate: Dibromofluoromethane	92.6		Limits: 75-129%		1	01/07/23 08:30	MSA	V28697
Surrogate: 1,2-Dichloroethane - d4	99.0		Limits: 63-136%		1	01/07/23 08:30	MSA	V28697
Surrogate: Toluene-d8	93.8		Limits: 77-123%		1	01/07/23 08:30	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96854**

Matrix: **Aqueous**

Sample ID : **TMW-2i**

Sampled: **1/5/2023 15:35**

Analytical Method: 8260D **Prep Batch(es):** **V28696** 01/06/23 14:00
Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
Acetone	<1.80	µg/L	1.80	5.00	1	01/07/23 08:54	MSA	V28697
Acrolein	<2.00	µg/L	2.00	5.00	1	01/07/23 08:54	MSA	V28697
Acrylonitrile	<0.230	µg/L	0.230	5.00	1	01/07/23 08:54	MSA	V28697
Benzene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:54	MSA	V28697
Bromobenzene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:54	MSA	V28697
Bromochloromethane	<0.420	µg/L	0.420	1.00	1	01/07/23 08:54	MSA	V28697
Bromodichloromethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:54	MSA	V28697
Bromoform	<1.50	µg/L	1.50	5.00	1	01/07/23 08:54	MSA	V28697
Bromomethane	<0.280	µg/L	0.280	1.00	1	01/07/23 08:54	MSA	V28697
n-Butylbenzene	<0.185	µg/L	0.185	1.00	1	01/07/23 08:54	MSA	V28697
sec-Butyl benzene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:54	MSA	V28697
tert-Butyl benzene	<0.920	µg/L	0.920	2.00	1	01/07/23 08:54	MSA	V28697
Carbon Disulfide	<0.150	µg/L	0.150	5.00	1	01/07/23 08:54	MSA	V28697
Carbon Tetrachloride	<0.180	µg/L	0.180	0.500	1	01/07/23 08:54	MSA	V28697
Chlorobenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:54	MSA	V28697
Chlorodibromomethane	<0.190	µg/L	0.190	0.500	1	01/07/23 08:54	MSA	V28697
Chloroethane	<0.430	µg/L	0.430	1.00	1	01/07/23 08:54	MSA	V28697
Chloroform	<0.220	µg/L	0.220	0.500	1	01/07/23 08:54	MSA	V28697
Chloromethane	<0.220	µg/L	0.220	0.500	1	01/07/23 08:54	MSA	V28697
2-Chlorotoluene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:54	MSA	V28697
4-Chlorotoluene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:54	MSA	V28697
Di-Isopropyl Ether (DIPE)	<0.960	µg/L	0.960	5.00	1	01/07/23 08:54	MSA	V28697
1,2-Dibromo-3-Chloropropane	<1.10	µg/L	1.10	2.00	1	01/07/23 08:54	MSA	V28697

Qualifiers/	DF	Dilution Factor	J	Estimated value
Definitions	MQL	Method Quantitation Limit		

00293

Hanley Environmental, PLLC
Nick Hotzelt
323 Manning Drive
Charlotte, NC 28209

Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023



Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96854**

Matrix: **Aqueous**

Sample ID : **TMW-2i**

Sampled: **1/5/2023 15:35**

Analytical Method: 8260D **Prep Batch(es):** **V28696** 01/06/23 14:00
Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
1,2-Dibromoethane	<0.200	µg/L	0.200	0.500	1	01/07/23 08:54	MSA	V28697
Dibromomethane	<0.230	µg/L	0.230	0.500	1	01/07/23 08:54	MSA	V28697
1,2-Dichlorobenzene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:54	MSA	V28697
1,3-Dichlorobenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:54	MSA	V28697
1,4-Dichlorobenzene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:54	MSA	V28697
Dichlorodifluoromethane	<1.20	µg/L	1.20	5.00	1	01/07/23 08:54	MSA	V28697
1,1-Dichloroethane	<0.240	µg/L	0.240	0.500	1	01/07/23 08:54	MSA	V28697
1,2-Dichloroethane	<0.150	µg/L	0.150	0.500	1	01/07/23 08:54	MSA	V28697
1,1-Dichloroethene	<0.150	µg/L	0.150	0.500	1	01/07/23 08:54	MSA	V28697
cis-1,2-Dichloroethene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:54	MSA	V28697
trans-1,2-Dichloroethene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:54	MSA	V28697
1,2-Dichloropropane	<0.190	µg/L	0.190	0.500	1	01/07/23 08:54	MSA	V28697
1,3-Dichloropropane	<0.130	µg/L	0.130	0.500	1	01/07/23 08:54	MSA	V28697
2,2-Dichloropropane	<0.210	µg/L	0.210	2.00	1	01/07/23 08:54	MSA	V28697
1,1-Dichloropropene	<0.200	µg/L	0.200	0.500	1	01/07/23 08:54	MSA	V28697
cis-1,3-Dichloropropene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:54	MSA	V28697
trans-1,3-Dichloropropene	<0.150	µg/L	0.150	0.500	1	01/07/23 08:54	MSA	V28697
Ethylbenzene	<0.170	µg/L	0.170	0.500	1	01/07/23 08:54	MSA	V28697
Ethyl Tertiary Butyl Ether (ETBE)	<1.80	µg/L	1.80	10.0	1	01/07/23 08:54	MSA	V28697
Hexachlorobutadiene	<0.350	µg/L	0.350	2.00	1	01/07/23 08:54	MSA	V28697
n-Hexane	<1.30	µg/L	1.30	10.0	1	01/07/23 08:54	MSA	V28697
2-Hexanone	<0.380	µg/L	0.380	5.00	1	01/07/23 08:54	MSA	V28697
Isopropylbenzene	<0.180	µg/L	0.180	5.00	1	01/07/23 08:54	MSA	V28697

Qualifiers/	DF	Dilution Factor	J	Estimated value
Definitions	MQL	Method Quantitation Limit		

00293

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Project Phase II Blythewood
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Report Date : 01/12/2023
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Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96854**

Matrix: **Aqueous**

Sample ID : **TMW-2i**

Sampled: **1/5/2023 15:35**

Analytical Method: 8260D **Prep Batch(es):** **V28696** 01/06/23 14:00
Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
4-Isopropyl toluene	<0.089	µg/L	0.089	0.500	1	01/07/23 08:54	MSA	V28697
Methyl Ethyl Ketone (MEK)	<0.710	µg/L	0.710	5.00	1	01/07/23 08:54	MSA	V28697
Methyl tert-butyl ether (MTBE)	0.456 J	µg/L	0.140	0.500	1	01/07/23 08:54	MSA	V28697
4-Methyl-2-Pentanone	<1.00	µg/L	1.00	5.00	1	01/07/23 08:54	MSA	V28697
Methylene Chloride	<0.330	µg/L	0.330	1.00	1	01/07/23 08:54	MSA	V28697
Naphthalene	<0.470	µg/L	0.470	1.00	1	01/07/23 08:54	MSA	V28697
n-Propylbenzene	<0.190	µg/L	0.190	0.500	1	01/07/23 08:54	MSA	V28697
Styrene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:54	MSA	V28697
1,1,1,2-Tetrachloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:54	MSA	V28697
1,1,2,2-Tetrachloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:54	MSA	V28697
Tetrachloroethene	0.879	µg/L	0.220	0.500	1	01/07/23 08:54	MSA	V28697
Toluene	<0.220	µg/L	0.220	0.500	1	01/07/23 08:54	MSA	V28697
1,2,3-Trichlorobenzene	<0.380	µg/L	0.380	2.00	1	01/07/23 08:54	MSA	V28697
1,2,4-Trichlorobenzene	<0.310	µg/L	0.310	1.00	1	01/07/23 08:54	MSA	V28697
1,1,1-Trichloroethane	<0.160	µg/L	0.160	0.500	1	01/07/23 08:54	MSA	V28697
1,1,2-Trichloroethane	<0.096	µg/L	0.096	0.500	1	01/07/23 08:54	MSA	V28697
Trichloroethene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:54	MSA	V28697
Trichlorofluoromethane	<0.180	µg/L	0.180	0.500	1	01/07/23 08:54	MSA	V28697
1,2,3-Trichloropropane	<0.270	µg/L	0.270	1.00	1	01/07/23 08:54	MSA	V28697
1,3,5-Trimethylbenzene	<0.180	µg/L	0.180	0.500	1	01/07/23 08:54	MSA	V28697
Vinyl Acetate	<1.00	µg/L	1.00	2.00	1	01/07/23 08:54	MSA	V28697
Vinyl Chloride	<0.170	µg/L	0.170	0.500	1	01/07/23 08:54	MSA	V28697
o-Xylene	<0.210	µg/L	0.210	0.500	1	01/07/23 08:54	MSA	V28697

Qualifiers/	DF	Dilution Factor	J	Estimated value
Definitions	MQL	Method Quantitation Limit		

00293

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Nick Hotzelt
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Project Phase II Blythewood
Information :

Report Date : 01/12/2023
Received : 01/06/2023

Danyale Love

Report Number : **23-006-0005**

REPORT OF ANALYSIS

Danyale Love
Project Manager

Lab No : **96854**
Sample ID : **TMW-2i**

Matrix: **Aqueous**
Sampled: **1/5/2023 15:35**

Analytical Method: 8260D **Prep Batch(es):** **V28696** 01/06/23 14:00
Prep Method: 5030B

Test	Results	Units	MDL	MQL	DF	Date / Time Analyzed	By	Analytical Batch
m,p-Xylene	<0.420	µg/L	0.420	1.00	1	01/07/23 08:54	MSA	V28697
Xylene (Total)	<0.21	µg/L	0.210	0.500	1	01/07/23 08:54		V28697
Surrogate: 4-Bromofluorobenzene	99.2		Limits: 80-124%		1	01/07/23 08:54	MSA	V28697
Surrogate: Dibromofluoromethane	93.2		Limits: 75-129%		1	01/07/23 08:54	MSA	V28697
Surrogate: 1,2-Dichloroethane - d4	96.8		Limits: 63-136%		1	01/07/23 08:54	MSA	V28697
Surrogate: Toluene-d8	93.8		Limits: 77-123%		1	01/07/23 08:54	MSA	V28697

Qualifiers/ Definitions

DF Dilution Factor
MQL Method Quantitation Limit

J Estimated value

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0005

QC Prep: V28696 **QC Analytical Batch(es):** V28697
QC Prep Batch Method: 5030B **Analysis Method:** 8260D
Analysis Description: Volatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-V28696 Matrix: AQU
Associated Lab Samples: 96852, 96853, 96854

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
Acetone	µg/L	<1.80	1.80	5.00	01/07/23 03:25		
Acrolein	µg/L	<2.00	2.00	5.00	01/07/23 03:25		
Acrylonitrile	µg/L	<0.230	0.230	5.00	01/07/23 03:25		
Benzene	µg/L	<0.180	0.180	0.500	01/07/23 03:25		
Bromobenzene	µg/L	<0.210	0.210	0.500	01/07/23 03:25		
Bromochloromethane	µg/L	<0.420	0.420	1.00	01/07/23 03:25		
Bromodichloromethane	µg/L	<0.160	0.160	0.500	01/07/23 03:25		
Bromoform	µg/L	<1.50	1.50	5.00	01/07/23 03:25		
Bromomethane	µg/L	<0.280	0.280	1.00	01/07/23 03:25		
n-Butylbenzene	µg/L	<0.185	0.185	1.00	01/07/23 03:25		
sec-Butyl benzene	µg/L	<0.200	0.200	0.500	01/07/23 03:25		
tert-Butyl benzene	µg/L	<0.920	0.920	2.00	01/07/23 03:25		
Carbon Disulfide	µg/L	<0.150	0.150	5.00	01/07/23 03:25		
Carbon Tetrachloride	µg/L	<0.180	0.180	0.500	01/07/23 03:25		
Chlorobenzene	µg/L	<0.190	0.190	0.500	01/07/23 03:25		
Chlorodibromomethane	µg/L	<0.190	0.190	0.500	01/07/23 03:25		
Chloroethane	µg/L	<0.430	0.430	1.00	01/07/23 03:25		
Chloroform	µg/L	<0.220	0.220	0.500	01/07/23 03:25		
Chloromethane	µg/L	<0.220	0.220	0.500	01/07/23 03:25		
2-Chlorotoluene	µg/L	<0.200	0.200	0.500	01/07/23 03:25		
4-Chlorotoluene	µg/L	<0.200	0.200	0.500	01/07/23 03:25		
Di-Isopropyl Ether (DIPE)	µg/L	<0.960	0.960	5.00	01/07/23 03:25		
1,2-Dibromo-3-Chloropropane	µg/L	<1.10	1.10	2.00	01/07/23 03:25		
1,2-Dibromoethane	µg/L	<0.200	0.200	0.500	01/07/23 03:25		
Dibromomethane	µg/L	<0.230	0.230	0.500	01/07/23 03:25		
1,2-Dichlorobenzene	µg/L	<0.220	0.220	0.500	01/07/23 03:25		
1,3-Dichlorobenzene	µg/L	<0.190	0.190	0.500	01/07/23 03:25		

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0005

QC Prep: V28696
QC Prep Batch Method: 5030B
QC Analytical Batch(es): V28697
Analysis Method: 8260D
Analysis Description: Volatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-V28696 Matrix: AQU
Associated Lab Samples: 96852, 96853, 96854

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
1,4-Dichlorobenzene	µg/L	<0.210	0.210	0.500	01/07/23 03:25		
Dichlorodifluoromethane	µg/L	<1.20	1.20	5.00	01/07/23 03:25		
1,1-Dichloroethane	µg/L	<0.240	0.240	0.500	01/07/23 03:25		
1,2-Dichloroethane	µg/L	<0.150	0.150	0.500	01/07/23 03:25		
1,1-Dichloroethene	µg/L	<0.150	0.150	0.500	01/07/23 03:25		
cis-1,2-Dichloroethene	µg/L	<0.200	0.200	0.500	01/07/23 03:25		
trans-1,2-Dichloroethene	µg/L	<0.180	0.180	0.500	01/07/23 03:25		
1,2-Dichloropropane	µg/L	<0.190	0.190	0.500	01/07/23 03:25		
1,3-Dichloropropane	µg/L	<0.130	0.130	0.500	01/07/23 03:25		
2,2-Dichloropropane	µg/L	<0.210	0.210	2.00	01/07/23 03:25		
1,1-Dichloropropene	µg/L	<0.200	0.200	0.500	01/07/23 03:25		
cis-1,3-Dichloropropene	µg/L	<0.210	0.210	0.500	01/07/23 03:25		
trans-1,3-Dichloropropene	µg/L	<0.150	0.150	0.500	01/07/23 03:25		
Ethylbenzene	µg/L	<0.170	0.170	0.500	01/07/23 03:25		
Ethyl Tertiary Butyl Ether (ETBE)	µg/L	<1.80	1.80	10.0	01/07/23 03:25		
Hexachlorobutadiene	µg/L	<0.350	0.350	2.00	01/07/23 03:25		
n-Hexane	µg/L	<1.30	1.30	10.0	01/07/23 03:25		
2-Hexanone	µg/L	<0.380	0.380	5.00	01/07/23 03:25		
Isopropylbenzene	µg/L	<0.180	0.180	5.00	01/07/23 03:25		
4-Isopropyl toluene	µg/L	<0.089	0.089	0.500	01/07/23 03:25		
Methyl Ethyl Ketone (MEK)	µg/L	<0.710	0.710	5.00	01/07/23 03:25		
Methyl tert-butyl ether (MTBE)	µg/L	<0.140	0.140	0.500	01/07/23 03:25		
4-Methyl-2-Pentanone	µg/L	<1.00	1.00	5.00	01/07/23 03:25		
Methylene Chloride	µg/L	<0.330	0.330	1.00	01/07/23 03:25		
Naphthalene	µg/L	<0.470	0.470	1.00	01/07/23 03:25		
n-Propylbenzene	µg/L	<0.190	0.190	0.500	01/07/23 03:25		
Styrene	µg/L	<0.220	0.220	0.500	01/07/23 03:25		

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0005

QC Prep: V28696 **QC Analytical Batch(es):** V28697
QC Prep Batch Method: 5030B **Analysis Method:** 8260D
Analysis Description: Volatile Organic Compounds - GC/MS

Lab Reagent Blank LRB-V28696 Matrix: AQU
Associated Lab Samples: 96852, 96853, 96854

Parameter	Units	Blank Result	MDL	MQL	Analyzed	% Recovery	% Rec Limits
1,1,1,2-Tetrachloroethane	µg/L	<0.160	0.160	0.500	01/07/23 03:25		
1,1,2,2-Tetrachloroethane	µg/L	<0.160	0.160	0.500	01/07/23 03:25		
Tetrachloroethene	µg/L	<0.220	0.220	0.500	01/07/23 03:25		
Toluene	µg/L	<0.220	0.220	0.500	01/07/23 03:25		
1,2,3-Trichlorobenzene	µg/L	<0.380	0.380	2.00	01/07/23 03:25		
1,2,4-Trichlorobenzene	µg/L	<0.310	0.310	1.00	01/07/23 03:25		
1,1,1-Trichloroethane	µg/L	<0.160	0.160	0.500	01/07/23 03:25		
1,1,2-Trichloroethane	µg/L	<0.096	0.096	0.500	01/07/23 03:25		
Trichloroethene	µg/L	<0.180	0.180	0.500	01/07/23 03:25		
Trichlorofluoromethane	µg/L	<0.180	0.180	0.500	01/07/23 03:25		
1,2,3-Trichloropropane	µg/L	<0.270	0.270	1.00	01/07/23 03:25		
1,3,5-Trimethylbenzene	µg/L	<0.180	0.180	0.500	01/07/23 03:25		
Vinyl Acetate	µg/L	<1.00	1.00	2.00	01/07/23 03:25		
Vinyl Chloride	µg/L	<0.170	0.170	0.500	01/07/23 03:25		
o-Xylene	µg/L	<0.210	0.210	0.500	01/07/23 03:25		
m,p-Xylene	µg/L	<0.420	0.420	1.00	01/07/23 03:25		
4-Bromofluorobenzene (S)					01/07/23 03:25	102	80-124
Dibromofluoromethane (S)					01/07/23 03:25	97.2	75-129
1,2-Dichloroethane - d4 (S)					01/07/23 03:25	97.4	63-136
Toluene-d8 (S)					01/07/23 03:25	93.2	77-123

Laboratory Control Sample & LCSD LCS-V28696 LCSD-V28696

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
Acetone	µg/L	40.0	44.7	46.1	112	115	40-166	3.0	20.0
Acrolein	µg/L	40.0	40.7	38.9	102	97.2	70-130	4.5	20.0

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0005

QC Prep: V28696 **QC Analytical Batch(es):** V28697
QC Prep Batch Method: 5030B **Analysis Method:** 8260D
Analysis Description: Volatile Organic Compounds - GC/MS

Laboratory Control Sample & LCSD LCS-V28696 LCSD-V28696

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
Acrylonitrile	µg/L	40.0	39.7	41.1	99.2	103	81-127	3.4	20.0
Benzene	µg/L	20.0	21.0	20.6	105	103	77-128	1.9	20.0
Bromobenzene	µg/L	20.0	18.8	18.7	94.0	93.5	78-129	0.5	20.0
Bromochloromethane	µg/L	20.0	19.5	19.1	97.5	95.5	78-135	2.0	20.0
Bromodichloromethane	µg/L	20.0	20.8	21.3	104	107	76-138	2.3	20.0
Bromoform	µg/L	20.0	20.7	19.4	104	97.0	71-135	6.4	20.0
Bromomethane	µg/L	20.0	20.9	21.1	105	106	41-168	0.9	20.0
n-Butylbenzene	µg/L	20.0	18.4	18.2	92.0	91.0	68-134	1.0	20.0
sec-Butyl benzene	µg/L	20.0	18.5	18.5	92.5	92.5	71-131	0.0	20.0
tert-Butyl benzene	µg/L	20.0	18.3	18.5	91.5	92.5	70-132	1.0	20.0
Carbon Disulfide	µg/L	20.0	18.8	19.4	94.0	97.0	59-135	3.1	20.0
Carbon Tetrachloride	µg/L	20.0	21.9	21.0	110	105	72-142	4.1	20.0
Chlorobenzene	µg/L	20.0	19.4	19.4	97.0	97.0	78-119	0.0	20.0
Chlorodibromomethane	µg/L	20.0	17.5	18.3	87.5	91.5	75-134	4.4	20.0
Chloroethane	µg/L	20.0	21.8	22.0	109	110	57-142	0.9	20.0
Chloroform	µg/L	20.0	20.2	21.1	101	106	77-130	4.3	20.0
Chloromethane	µg/L	20.0	22.9	23.3	115	117	47-145	1.7	20.0
2-Chlorotoluene	µg/L	20.0	18.9	18.5	94.5	92.5	74-126	2.1	20.0
4-Chlorotoluene	µg/L	20.0	18.7	18.5	93.5	92.5	78-129	1.0	20.0
Di-Isopropyl Ether (DIPE)	µg/L	20.0	23.7	23.6	119	118	60-154	0.4	20.0
1,2-Dibromo-3-Chloropropane	µg/L	20.0	16.8	18.4	84.0	92.0	63-134	9.0	20.0
1,2-Dibromoethane	µg/L	20.0	17.8	19.0	89.0	95.0	77-135	6.5	20.0
Dibromomethane	µg/L	20.0	21.1	20.6	106	103	76-138	2.3	20.0
1,2-Dichlorobenzene	µg/L	20.0	19.2	19.2	96.0	96.0	78-128	0.0	20.0
1,3-Dichlorobenzene	µg/L	20.0	18.1	18.4	90.5	92.0	77-125	1.6	20.0
1,4-Dichlorobenzene	µg/L	20.0	18.1	18.3	90.5	91.5	75-126	1.0	20.0

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0005

QC Prep: V28696 **QC Analytical Batch(es):** V28697
QC Prep Batch Method: 5030B **Analysis Method:** 8260D
Analysis Description: Volatile Organic Compounds - GC/MS

Laboratory Control Sample & LCSD LCS-V28696 LCSD-V28696

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
Dichlorodifluoromethane	µg/L	20.0	23.9	23.1	120	116	28-163	3.4	20.0
1,1-Dichloroethane	µg/L	20.0	22.1	20.3	111	102	70-130	8.4	20.0
1,2-Dichloroethane	µg/L	20.0	21.7	21.8	109	109	68-131	0.4	20.0
1,1-Dichloroethene	µg/L	20.0	23.2	22.4	116	112	70-154	3.5	20.0
cis-1,2-Dichloroethene	µg/L	20.0	21.5	21.0	108	105	76-141	2.3	20.0
trans-1,2-Dichloroethene	µg/L	20.0	22.2	22.9	111	115	76-135	3.1	20.0
1,2-Dichloropropane	µg/L	20.0	21.2	21.1	106	106	77-130	0.4	20.0
1,3-Dichloropropane	µg/L	20.0	18.6	19.2	93.0	96.0	76-132	3.1	20.0
2,2-Dichloropropane	µg/L	20.0	19.5	18.8	97.5	94.0	29-149	3.6	20.0
1,1-Dichloropropene	µg/L	20.0	23.2	22.0	116	110	71-136	5.3	20.0
cis-1,3-Dichloropropene	µg/L	20.0	19.8	22.0	99.0	110	65-140	10.5	20.0
trans-1,3-Dichloropropene	µg/L	20.0	20.0	21.5	100	108	67-140	7.2	20.0
Ethylbenzene	µg/L	20.0	19.6	19.1	98.0	95.5	80-127	2.5	20.0
Ethyl Tertiary Butyl Ether (ETBE)	µg/L	40.0	45.2	45.3	113	113	70-130	0.2	20.0
Hexachlorobutadiene	µg/L	20.0	17.5	17.6	87.5	88.0	61-134	0.5	20.0
n-Hexane	µg/L	20.0	21.8	17.9	109	89.5	70-130	19.6	20.0
2-Hexanone	µg/L	20.0	18.8	19.1	94.0	95.5	64-137	1.5	20.0
Isopropylbenzene	µg/L	20.0	19.4	19.0	97.0	95.0	70-130	2.0	20.0
4-Isopropyl toluene	µg/L	20.0	18.8	19.0	94.0	95.0	69-132	1.0	20.0
Methyl Ethyl Ketone (MEK)	µg/L	20.0	17.5	17.8	87.5	89.0	71-134	1.6	20.0
Methyl tert-butyl ether (MTBE)	µg/L	20.0	21.7	21.9	109	110	68-135	0.9	20.0
4-Methyl-2-Pentanone	µg/L	20.0	20.5	21.9	103	110	69-134	6.6	20.0
Methylene Chloride	µg/L	20.0	21.5	20.6	108	103	73-131	4.2	20.0
Naphthalene	µg/L	20.0	18.0	19.0	90.0	95.0	64-136	5.4	20.0
n-Propylbenzene	µg/L	20.0	18.9	18.8	94.5	94.0	72-132	0.5	20.0
Styrene	µg/L	20.0	19.1	18.6	95.5	93.0	78-129	2.6	20.0

Quality Control Data

Client ID: Hanley Environmental, PLLC
Project Description: Phase II Blythewood
Report No: 23-006-0005

QC Prep: V28696 **QC Analytical Batch(es):** V28697
QC Prep Batch Method: 5030B **Analysis Method:** 8260D
Analysis Description: Volatile Organic Compounds - GC/MS

Laboratory Control Sample & LCSD LCS-V28696 LCSD-V28696

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS %Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD
1,1,1,2-Tetrachloroethane	µg/L	20.0	20.2	19.2	101	96.0	79-134	5.0	20.0
1,1,2,2-Tetrachloroethane	µg/L	20.0	18.1	18.7	90.5	93.5	62-127	3.2	20.0
Tetrachloroethene	µg/L	20.0	19.0	19.4	95.0	97.0	80-129	2.0	20.0
Toluene	µg/L	20.0	20.3	21.9	102	110	76-131	7.5	20.0
1,2,3-Trichlorobenzene	µg/L	20.0	17.8	19.9	89.0	99.5	58-144	11.1	20.0
1,2,4-Trichlorobenzene	µg/L	20.0	18.2	18.4	91.0	92.0	66-139	1.0	20.0
1,1,1-Trichloroethane	µg/L	20.0	21.7	21.8	109	109	75-135	0.4	20.0
1,1,2-Trichloroethane	µg/L	20.0	19.5	22.1	97.5	111	70-140	12.5	20.0
Trichloroethene	µg/L	20.0	21.4	20.7	107	104	77-133	3.3	20.0
Trichlorofluoromethane	µg/L	20.0	21.7	20.9	109	105	62-148	3.7	20.0
1,2,3-Trichloropropane	µg/L	20.0	17.7	19.2	88.5	96.0	71-127	8.1	20.0
1,3,5-Trimethylbenzene	µg/L	20.0	19.0	19.0	95.0	95.0	75-131	0.0	20.0
Vinyl Acetate	µg/L	20.0	16.2	15.4	81.0	77.0	34-167	5.0	20.0
Vinyl Chloride	µg/L	20.0	22.9	22.5	115	113	57-141	1.7	20.0
o-Xylene	µg/L	20.0	19.1	18.9	95.5	94.5	78-128	1.0	20.0
m,p-Xylene	µg/L	40.0	40.5	39.8	101	99.5	77-133	1.7	20.0
4-Bromofluorobenzene (S)					100	100	80-124		
Dibromofluoromethane (S)					97.4	100	75-129		
1,2-Dichloroethane - d4 (S)					99.6	103	63-136		
Toluene-d8 (S)					89.4	93.2	77-123		

Shipment Receipt Form

Customer Number: **00293**

Customer Name: **Hanley Environmental, PLLC**

Report Number: **23-006-0005**

Shipping Method

<input type="radio"/> Fed Ex	<input type="radio"/> US Postal	<input type="radio"/> Lab	<input type="radio"/> Other :	<div></div>
<input type="radio"/> UPS	<input checked="" type="radio"/> Client	<input type="radio"/> Courier	Thermometer ID:	<div>IRT-15 2.3C</div>

Shipping container/cooler uncompromised?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Number of coolers/boxes received	<div>1</div>		
Custody seals intact on shipping container/cooler?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Present
Custody seals intact on sample bottles?	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> Not Present
Chain of Custody (COC) present?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC agrees with sample label(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
COC properly completed	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Samples in proper containers?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sample containers intact?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Sufficient sample volume for indicated test(s)?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
All samples received within holding time?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler temperature in compliance?	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Cooler/Samples arrived at the laboratory on ice. Samples were considered acceptable as cooling process had begun.	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Water - Sample containers properly preserved	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Water - VOA vials free of headspace	<input checked="" type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> N/A
Trip Blanks received with VOAs	<input type="radio"/> Yes	<input checked="" type="radio"/> No	<input type="radio"/> N/A
Soil VOA method 5035 – compliance criteria met	<input type="radio"/> Yes	<input type="radio"/> No	<input checked="" type="radio"/> N/A
<input type="checkbox"/> High concentration container (48 hr)	<input type="checkbox"/> Low concentration EnCore samplers (48 hr)		
<input type="checkbox"/> High concentration pre-weighed (methanol -14 d)	<input type="checkbox"/> Low conc pre-weighed vials (Sod Bis -14 d)		
Special precautions or instructions included?	<input type="radio"/> Yes	<input checked="" type="radio"/> No	

Comments:

Signature:

Asia Blakeborough

Date & Time:

01/06/2023 11:40:10

APPENDIX F
EPA VISL Calculator Results

/HTML"Output to Spreadsheet

Variable	Resident Air Default Value	Site-Specific Value
AF _{gw} (Attenuation Factor Groundwater) unitless	0.001	0.001
AF _{ss} (Attenuation Factor Sub-Slab) unitless	0.03	0.03
ED _{res} (exposure duration) years	26	26
ED ₀₋₂ (mutagenic exposure duration first phase) years	2	2
ED ₂₋₆ (mutagenic exposure duration second phase) years	4	4
ED ₆₋₁₆ (mutagenic exposure duration third phase) years	10	10
ED ₁₆₋₂₆ (mutagenic exposure duration fourth phase) years	10	10
EF _{res} (exposure frequency) days/year	350	350
EF ₀₋₂ (mutagenic exposure frequency first phase) days/year	350	350
EF ₂₋₆ (mutagenic exposure frequency second phase) days/year	350	350
EF ₆₋₁₆ (mutagenic exposure frequency third phase) days/year	350	350
EF ₁₆₋₂₆ (mutagenic exposure frequency fourth phase) days/year	350	350
ET _{res} (exposure time) hours/day	24	24
ET ₀₋₂ (mutagenic exposure time first phase) hours/day	24	24
ET ₂₋₆ (mutagenic exposure time second phase) hours/day	24	24
ET ₆₋₁₆ (mutagenic exposure time third phase) hours/day	24	24
ET ₁₆₋₂₆ (mutagenic exposure time fourth phase) hours/day	24	24
THQ (target hazard quotient) unitless	0.1	0.1
LT (lifetime) years	70	70
TR (target risk) unitless	0.000001	0.000001

Output generated 19JAN2023:13:51:53

Resident Vapor Intrusion Screening Levels (VISL)

/HTML"User's Guide Variable References

/HTML"Corresponding Equations

Key: I = IRIS; P = PPRTV; O = OPP; A = ATSDR; C = Cal EPA; X = PPRTV Screening Level; H = HEAST; D = DWSHA; W = TEF applied; E = RPF applied; U = user provided; G = see RSL User's Guide Section 5; CA = cancer; NC = noncancer.

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Soil Source? (C _{vp} > C _{ia} , Target?)	Is Chemical Sufficiently Volatile and Toxic to Pose Inhalation Risk Via Vapor Intrusion from Groundwater Source? (C _{hc} > C _{ia} , Target?)	Target Indoor Air Concentration (TCR=1E-06 or THQ=0.1) MIN(C _{ia,c} ,C _{ia,nc}) (µg/m ³)	Toxicity Basis	Target Sub-Slab and Near-source Soil Gas Concentration (TCR=1E-06 or THQ=0.1) C _{sg} , Target (µg/m ³)	Target Groundwater Concentration (TCR=1E-06 or THQ=0.1) C _{gw} , Target (µg/L)	Is Target Groundwater Concentration < MCL? (C _{gw} < MCL?)	Pure Phase Vapor Concentration C _{vp} (25 °C) (µg/m ³)	Maximum Groundwater Vapor Concentration C _{hc} (µg/m ³)	Temperature for Maximum Groundwater Vapor Concentration (°C)	Lower Explosive Limit LEL (% by volume)	LEL Ref	IUR (ug/m ³) ⁻¹	IUR Ref	RfC (mg/m ³)	RfC Ref	Mutagenic Indicator	Carcinogenic VISL TCR=1E-06 C _{ia,c} (µg/m ³)	Noncarcinogenic VISL THQ=0.1 C _{ia,nc} (µg/m ³)
Acetone	67-64-1	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-		7.23E+08	1.43E+09	2.50E+01	2.50E+00	CRC	-		-		No	-	-
Benzene	71-43-2	Yes	Yes	Yes	Yes	3.60E-01	CA	1.20E+01	1.59E+00	Yes (5)	3.98E+08	4.06E+08	2.50E+01	1.20E+00	CRC	7.80E-06	I	3.00E-02	I	No	3.60E-01	3.13E+00
Butadiene, 1,3-	106-99-0	Yes	Yes	Yes	Yes	9.36E-02	CA	3.12E+00	3.11E-02	--	6.13E+09	2.21E+09	2.50E+01	2.00E+00	CRC	3.00E-05	I	2.00E-03	I	No	9.36E-02	2.09E-01
Carbon Disulfide	75-15-0	Yes	Yes	Yes	Yes	7.30E+01	NC	2.43E+03	1.24E+02	--	1.47E+09	1.27E+09	2.50E+01	1.30E+00	CRC	-		7.00E-01	I	No	-	7.30E+01
Chloroform	67-66-3	Yes	Yes	Yes	Yes	1.22E-01	CA	4.07E+00	8.14E-01	Yes (80)	1.26E+09	1.19E+09	2.50E+01	-		2.30E-05	I	9.77E-02	A	No	1.22E-01	1.02E+01
Chloromethane	74-87-3	Yes	Yes	Yes	Yes	9.39E+00	NC	3.13E+02	2.60E+01	--	1.17E+10	1.92E+09	2.50E+01	8.10E+00	CRC	-		9.00E-02	I	No	-	9.39E+00
Cyclohexane	110-82-7	Yes	Yes	Yes	Yes	6.26E+02	NC	2.09E+04	1.02E+02	--	4.38E+08	3.37E+08	2.50E+01	1.30E+00	CRC	-		6.00E+00	I	No	-	6.26E+02
Dichlorodifluoromethane	75-71-8	Yes	Yes	Yes	Yes	1.04E+01	NC	3.48E+02	7.44E-01	--	3.15E+10	3.93E+09	2.50E+01	-		-		1.00E-01	X	No	-	1.04E+01
Dichloroethane, 1,1-	75-34-3	Yes	Yes	Yes	Yes	1.75E+00	CA	5.85E+01	7.64E+00	--	1.21E+09	1.16E+09	2.50E+01	5.40E+00	CRC	1.60E-06	C	-		No	1.75E+00	-
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	1.12E+00	CA	3.74E+01	3.49E+00	Yes (700)	5.48E+07	5.44E+07	2.50E+01	8.00E-01	CRC	2.50E-06	C	1.00E+00	I	No	1.12E+00	1.04E+02
Heptane, N-	142-82-5	Yes	Yes	Yes	Yes	4.17E+01	NC	1.39E+03	5.10E-01	--	2.48E+08	2.78E+08	2.50E+01	1.05E+00	CRC	-		4.00E-01	P	No	-	4.17E+01
Hexane, N-	110-54-3	Yes	Yes	Yes	Yes	7.30E+01	NC	2.43E+03	9.92E-01	--	7.01E+08	6.99E+08	2.50E+01	1.10E+00	CRC	-		7.00E-01	I	No	-	7.30E+01
Hexanone, 2-	591-78-6	Yes	Yes	Yes	Yes	3.13E+00	NC	1.04E+02	8.21E+02	--	6.25E+07	6.55E+07	2.50E+01	1.00E+00	CRC	-		3.00E-02	I	No	-	3.13E+00
Isopropanol	67-63-0	Yes	Yes	Yes	Yes	2.09E+01	NC	6.95E+02	6.30E+04	--	1.47E+08	3.31E+08	2.50E+01	2.00E+00	CRC	-		2.00E-01	P	No	-	2.09E+01
Methyl Ethyl Ketone (2-Butanone)	78-93-3	Yes	Yes	Yes	Yes	5.21E+02	NC	1.74E+04	2.24E+05	--	3.51E+08	5.19E+08	2.50E+01	1.40E+00	CRC	-		5.00E+00	I	No	-	5.21E+02
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	Yes	Yes	Yes	Yes	3.13E+02	NC	1.04E+04	5.55E+04	--	1.07E+08	1.07E+08	2.50E+01	1.20E+00	CRC	-		3.00E+00	I	No	-	3.13E+02
Methylene Chloride	75-09-2	Yes	Yes	Yes	Yes	6.26E+01	NC	2.09E+03	4.71E+02	No (5)	1.99E+09	1.73E+09	2.50E+01	1.30E+01	CRC	1.00E-08	I	6.00E-01	I	Mut	1.01E+02	6.26E+01
Naphthalene	91-20-3	Yes	Yes	Yes	Yes	8.26E-02	CA	2.75E+00	4.59E+00	--	5.86E+05	5.58E+05	2.50E+01	9.00E-01	CRC	3.40E-05	C	3.00E-03	I	No	8.26E-02	3.13E-01
Propylene	115-07-1	Yes	Yes	Yes	Yes	3.13E+02	NC	1.04E+04	3.90E+01	--	1.97E+10	1.60E+09	2.50E+01	2.00E+00	CRC	-		3.00E+00	C	No	-	3.13E+02
Styrene	100-42-5	Yes	Yes	Yes	Yes	1.04E+02	NC	3.48E+03	9.28E+02	No (100)	3.58E+07	3.49E+07	2.50E+01	9.00E-01	CRC	-		1.00E+00	I	No	-	1.04E+02
Tetrachloroethylene	127-18-4	Yes	Yes	Yes	Yes	4.17E+00	NC	1.39E+02	5.76E+00	No (5)	1.65E+08	1.49E+08	2.50E+01	-		2.60E-07	I	4.00E-02	I	No	1.08E+01	4.17E+00
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	2.09E+02	NC	6.95E+03	7.24E+04	--	6.29E+08	2.88E+09	2.50E+01	2.00E+00	CRC	-		2.00E+00	I	No	-	2.09E+02
Toluene	108-88-3	Yes	Yes	Yes	Yes	5.21E+02	NC	1.74E+04	1.92E+03	No (1000)	1.41E+08	1.43E+08	2.50E+01	1.10E+00	CRC	-		5.00E+00	I	No	-	5.21E+02
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	Yes	Yes	Yes	Yes	5.21E+02	NC	1.74E+04	2.42E+01	--	3.65E+09	3.66E+09	2.50E+01	-		-		5.00E+00	P	No	-	5.21E+02
Trichlorofluoromethane	75-69-4	Yes	No	No Inhal. Tox. Info	No Inhal. Tox. Info	-		-	-		5.93E+09	4.36E+09	2.50E+01	-		-		-		No	-	-
Trimethylbenzene, 1,2,4-	95-63-6	Yes	Yes	Yes	Yes	6.26E+00	NC	2.09E+02	2.48E+01	--	1.36E+07	1.44E+07	2.50E+01	9.00E-01	CRC	-		6.00E-02	I	No	-	6.26E+00
Trimethylbenzene, 1,3,5-	108-67-8	Yes	Yes	Yes	Yes	6.26E+00	NC	2.09E+02	1.75E+01	--	1.60E+07	1.73E+07	2.50E+01	1.00E+00	CRC	-		6.00E-02	I	No	-	6.26E+00
Xylenes	1330-20-7	Yes	Yes	Yes	Yes	1.04E+01	NC	3.48E+02	3.85E+01	Yes (10000)	4.56E+07	2.87E+07	2.50E+01	-		-		1.00E-01	I	No	-	1.04E+01

Resident Vapor Intrusion Risk

Chemical	CAS Number	Site Sub-Slab and Exterior Soil Gas Concentration C _{sg} (µg/m ³)	Site Indoor Air Concentration C _{i,a} (µg/m ³)	VI Carcinogenic Risk CDI (µg/m ³)	VI Carcinogenic Risk CR	VI Hazard CDI (mg/m ³)	VI Hazard HQ	IUR (ug/m ³) ⁻¹	IUR Ref	Chronic RfC (mg/m ³)	RfC Ref	Temperature (°C) for Groundwater Vapor Concentration	Mutagen?
Acetone	67-64-1	7.90E+01	-	-	-	-	-	-		-		2.50E+01	No
Benzene	71-43-2	1.10E+02	3.30E+00	1.18E+00	9.17E-06	3.16E-03	1.05E-01	7.80E-06	I	3.00E-02	IRIS	2.50E+01	No
Butadiene, 1,3-	106-99-0	1.34E+02	4.02E+00	1.43E+00	4.30E-05	3.85E-03	1.93E+00	3.00E-05	I	2.00E-03	IRIS	2.50E+01	No
Carbon Disulfide	75-15-0	3.62E+01	1.09E+00	3.87E-01	-	1.04E-03	1.49E-03	-		7.00E-01	IRIS	2.50E+01	No
Chloroform	67-66-3	2.67E+00	8.01E-02	2.85E-02	6.56E-07	7.68E-05	7.87E-04	2.30E-05	I	9.77E-02	ATSDR	2.50E+01	No
Chloromethane	74-87-3	3.21E+00	9.63E-02	3.43E-02	-	9.23E-05	1.03E-03	-		9.00E-02	IRIS	2.50E+01	No
Cyclohexane	110-82-7	2.81E+02	8.43E+00	3.00E+00	-	8.08E-03	1.35E-03	-		6.00E+00	IRIS	2.50E+01	No
Dichlorodifluoromethane	75-71-8	2.84E+00	8.52E-02	3.03E-02	-	8.17E-05	8.17E-04	-		1.00E-01	SCREEN	2.50E+01	No
Dichloroethane, 1,1-	75-34-3	3.80E-01	1.14E-02	4.06E-03	6.50E-09	1.09E-05	-	1.60E-06	C	-		2.50E+01	No
Ethylbenzene	100-41-4	9.49E+02	2.85E+01	1.01E+01	2.54E-05	2.73E-02	2.73E-02	2.50E-06	C	1.00E+00	IRIS	2.50E+01	No
Heptane, N-	142-82-5	1.68E+03	5.04E+01	1.80E+01	-	4.83E-02	1.21E-01	-		4.00E-01	PPRTV	2.50E+01	No
Hexane, N-	110-54-3	1.61E+03	4.83E+01	1.72E+01	-	4.63E-02	6.62E-02	-		7.00E-01	IRIS	2.50E+01	No
Hexanone, 2-	591-78-6	1.95E+00	5.85E-02	2.08E-02	-	5.61E-05	1.87E-03	-		3.00E-02	IRIS	2.50E+01	No
Isopropanol	67-63-0	8.06E+00	2.42E-01	8.61E-02	-	2.32E-04	1.16E-03	-		2.00E-01	PPRTV	2.50E+01	No
Methyl Ethyl Ketone (2-Butanone)	78-93-3	2.33E+01	6.99E-01	2.49E-01	-	6.70E-04	1.34E-04	-		5.00E+00	IRIS	2.50E+01	No
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	9.30E+00	2.79E-01	9.94E-02	-	2.68E-04	8.92E-05	-		3.00E+00	IRIS	2.50E+01	No
Methylene Chloride	75-09-2	8.93E+00	2.68E-01	2.64E-01	2.64E-09	2.57E-04	4.28E-04	1.00E-08	I	6.00E-01	IRIS	2.50E+01	Mut
Naphthalene	91-20-3	1.39E+01	4.17E-01	1.49E-01	5.05E-06	4.00E-04	1.33E-01	3.40E-05	C	3.00E-03	IRIS	2.50E+01	No
Propylene	115-07-1	6.55E+03	1.97E+02	7.00E+01	-	1.88E-01	6.28E-02	-		3.00E+00	CALEPA	2.50E+01	No
Styrene	100-42-5	1.26E+01	3.78E-01	1.35E-01	-	3.62E-04	3.62E-04	-		1.00E+00	IRIS	2.50E+01	No
Tetrachloroethylene	127-18-4	1.28E+00	3.84E-02	1.37E-02	3.56E-09	3.68E-05	9.21E-04	2.60E-07	I	4.00E-02	IRIS	2.50E+01	No
Tetrahydrofuran	109-99-9	2.50E+01	7.50E-01	2.67E-01	-	7.19E-04	3.60E-04	-		2.00E+00	IRIS	2.50E+01	No
Toluene	108-88-3	3.73E+03	1.12E+02	3.99E+01	-	1.07E-01	2.15E-02	-		5.00E+00	IRIS	2.50E+01	No
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	6.74E-01	2.02E-02	7.20E-03	-	1.94E-05	3.88E-06	-		5.00E+00	PPRTV	2.50E+01	No
Trichlorofluoromethane	75-69-4	1.41E+00	-	-	-	-	-	-		-		2.50E+01	No
Trimethylbenzene, 1,2,4-	95-63-6	2.24E+03	6.72E+01	2.39E+01	-	6.44E-02	1.07E+00	-		6.00E-02	IRIS	2.50E+01	No
Trimethylbenzene, 1,3,5-	108-67-8	8.57E+02	2.57E+01	9.16E+00	-	2.47E-02	4.11E-01	-		6.00E-02	IRIS	2.50E+01	No
Xylenes	1330-20-7	4.54E+03	1.36E+02	4.85E+01	-	1.31E-01	1.31E+00	-		1.00E-01	IRIS	2.50E+01	No
*Sum		-	-	-	8.32E-05	-	5.27E+00	-		-		-	

Chemical Properties

Chemical	CAS Number	Does the chemical meet the definition for volatility? (HLC>1E-5 or VP>1)	Does the chemical have inhalation toxicity data? (IUR and/or RfC)	MW	MW Ref	Vapor Pressure VP (mm Hg)	VP Ref	S (mg/L)	S Ref	MCL (ug/L)	HLC (atm·m³/mole)	Henry's Law Constant (unitless)	H` and HLC Ref	Henry's Law Constant Used in Calcs (unitless)	Normal Boiling Point BP (K)	BP Ref	Critical Temperature T _c (K)	T _c Ref	Enthalpy of vaporization at the normal boiling point ΔH _{v,b} (cal/mol)	ΔH _{v,b} Ref	Lower Explosive Limit LEL (% by volume)	LEL Ref
Acetone	67-64-1	Yes	No	5.81E+01	PHYSPROP	2.32E+02	PHYSPROP	1.00E+06	PHYSPROP	-	3.50E-05	1.43E-03	PHYSPROP	1.43E-03	3.29E+02	PHYSPROP	5.08E+02	CRC	6.96E+03	CRC	2.50E+00	CRC
Benzene	71-43-2	Yes	Yes	7.81E+01	PHYSPROP	9.48E+01	PHYSPROP	1.79E+03	PHYSPROP	5.00E+00	5.55E-03	2.27E-01	PHYSPROP	2.27E-01	3.53E+02	PHYSPROP	5.62E+02	CRC	7.34E+03	CRC	1.20E+00	CRC
Butadiene, 1,3-	106-99-0	Yes	Yes	5.41E+01	PHYSPROP	2.11E+03	PHYSPROP	7.35E+02	PHYSPROP	-	7.36E-02	3.01E+00	EPI	3.01E+00	2.69E+02	PHYSPROP	4.25E+02	CRC	5.37E+03	CRC	2.00E+00	CRC
Carbon Disulfide	75-15-0	Yes	Yes	7.61E+01	PHYSPROP	3.59E+02	PHYSPROP	2.16E+03	PHYSPROP	-	1.44E-02	5.89E-01	PHYSPROP	5.89E-01	3.19E+02	PHYSPROP	5.52E+02	CRC	6.39E+03	CRC	1.30E+00	CRC
Chloroform	67-66-3	Yes	Yes	1.19E+02	PHYSPROP	1.97E+02	PHYSPROP	7.95E+03	PHYSPROP	8.00E+01	3.67E-03	1.50E-01	PHYSPROP	1.50E-01	3.34E+02	PHYSPROP	5.36E+02	CRC	6.99E+03	CRC	-	
Chloromethane	74-87-3	Yes	Yes	5.05E+01	PHYSPROP	4.30E+03	PHYSPROP	5.32E+03	PHYSPROP	-	8.82E-03	3.61E-01	PHYSPROP	3.61E-01	2.49E+02	PHYSPROP	4.16E+02	CRC	5.11E+03	CRC	8.10E+00	CRC
Cyclohexane	110-82-7	Yes	Yes	8.42E+01	PHYSPROP	9.69E+01	PHYSPROP	5.50E+01	PHYSPROP	-	1.50E-01	6.13E+00	PHYSPROP	6.13E+00	3.54E+02	PHYSPROP	5.53E+02	CRC	7.16E+03	CRC	1.30E+00	CRC
Dichlorodifluoromethane	75-71-8	Yes	Yes	1.21E+02	PHYSPROP	4.85E+03	PHYSPROP	2.80E+02	PHYSPROP	-	3.43E-01	1.40E+01	PHYSPROP	1.40E+01	2.43E+02	PHYSPROP	3.85E+02	CRC	4.80E+03	CRC	-	
Dichloroethane, 1,1-	75-34-3	Yes	Yes	9.90E+01	PHYSPROP	2.27E+02	PHYSPROP	5.04E+03	PHYSPROP	-	5.62E-03	2.30E-01	PHYSPROP	2.30E-01	3.31E+02	PHYSPROP	5.23E+02	CRC	6.90E+03	CRC	5.40E+00	CRC
Ethylbenzene	100-41-4	Yes	Yes	1.06E+02	PHYSPROP	9.60E+00	PHYSPROP	1.69E+02	PHYSPROP	7.00E+02	7.88E-03	3.22E-01	PHYSPROP	3.22E-01	4.09E+02	PHYSPROP	6.17E+02	CRC	8.50E+03	CRC	8.00E-01	CRC
Heptane, N-	142-82-5	Yes	Yes	1.00E+02	PHYSPROP	4.60E+01	PHYSPROP	3.40E+00	PHYSPROP	-	2.00E+00	8.18E+01	EPI	8.18E+01	3.72E+02	PHYSPROP	5.40E+02	CRC	7.59E+03	CRC	1.05E+00	CRC
Hexane, N-	110-54-3	Yes	Yes	8.62E+01	PHYSPROP	1.51E+02	PHYSPROP	9.50E+00	PHYSPROP	-	1.80E+00	7.36E+01	EPI	7.36E+01	3.42E+02	PHYSPROP	5.08E+02	CRC	6.90E+03	CRC	1.10E+00	CRC
Hexanone, 2-	591-78-6	Yes	Yes	1.00E+02	PHYSPROP	1.16E+01	PHYSPROP	1.72E+04	PHYSPROP	-	9.32E-05	3.81E-03	EPI	3.81E-03	4.01E+02	PHYSPROP	5.87E+02	CRC	8.69E+03	CRC	1.00E+00	CRC
Isopropanol	67-63-0	Yes	Yes	6.01E+01	PHYSPROP	4.54E+01	PHYSPROP	1.00E+06	PHYSPROP	-	8.10E-06	3.31E-04	PHYSPROP	3.31E-04	3.55E+02	PHYSPROP	5.08E+02	CRC	9.52E+03	CRC	2.00E+00	CRC
Methyl Ethyl Ketone (2-Butanone)	78-93-3	Yes	Yes	7.21E+01	PHYSPROP	9.06E+01	PHYSPROP	2.23E+05	PHYSPROP	-	5.69E-05	2.33E-03	PHYSPROP	2.33E-03	3.53E+02	PHYSPROP	5.37E+02	CRC	7.48E+03	CRC	1.40E+00	CRC
Methyl Isobutyl Ketone (4-methyl-2-pentanone)	108-10-1	Yes	Yes	1.00E+02	PHYSPROP	1.99E+01	PHYSPROP	1.90E+04	PHYSPROP	-	1.38E-04	5.64E-03	EPI	5.64E-03	3.90E+02	PHYSPROP	5.75E+02	CRC	8.24E+03	CRC	1.20E+00	CRC
Methylene Chloride	75-09-2	Yes	Yes	8.49E+01	PHYSPROP	4.35E+02	PHYSPROP	1.30E+04	PHYSPROP	5.00E+00	3.25E-03	1.33E-01	PHYSPROP	1.33E-01	3.13E+02	PHYSPROP	5.08E+02	CRC	6.71E+03	CRC	1.30E+01	CRC
Naphthalene	91-20-3	Yes	Yes	1.28E+02	PHYSPROP	8.50E-02	PHYSPROP	3.10E+01	PHYSPROP	-	4.40E-04	1.80E-02	PHYSPROP	1.80E-02	4.91E+02	PHYSPROP	7.48E+02	CRC	1.03E+04	CRC	9.00E-01	CRC
Propylene	115-07-1	Yes	Yes	4.21E+01	PHYSPROP	8.69E+03	PHYSPROP	2.00E+02	PHYSPROP	-	1.96E-01	8.01E+00	PHYSPROP	8.01E+00	2.25E+02	PHYSPROP	3.65E+02	CRC	4.40E+03	CRC	2.00E+00	CRC
Styrene	100-42-5	Yes	Yes	1.04E+02	PHYSPROP	6.40E+00	PHYSPROP	3.10E+02	PHYSPROP	1.00E+02	2.75E-03	1.12E-01	PHYSPROP	1.12E-01	4.18E+02	PHYSPROP	6.35E+02	CRC	9.25E+03	CRC	9.00E-01	CRC
Tetrachloroethylene	127-18-4	Yes	Yes	1.66E+02	PHYSPROP	1.85E+01	PHYSPROP	2.06E+02	PHYSPROP	5.00E+00	1.77E-02	7.24E-01	PHYSPROP	7.24E-01	3.94E+02	PHYSPROP	6.20E+02	YAWS	8.29E+03	CRC	-	
Tetrahydrofuran	109-99-9	Yes	Yes	7.21E+01	PHYSPROP	1.62E+02	PHYSPROP	1.00E+06	PHYSPROP	-	7.05E-05	2.88E-03	PHYSPROP	2.88E-03	3.38E+02	PHYSPROP	5.40E+02	CRC	7.12E+03	CRC	2.00E+00	CRC
Toluene	108-88-3	Yes	Yes	9.21E+01	PHYSPROP	2.84E+01	PHYSPROP	5.26E+02	PHYSPROP	1.00E+03	6.64E-03	2.71E-01	PHYSPROP	2.71E-01	3.84E+02	PHYSPROP	5.92E+02	CRC	7.93E+03	CRC	1.10E+00	CRC
Trichloro-1,2,2-trifluoroethane, 1,1,2-	76-13-1	Yes	Yes	1.87E+02	PHYSPROP	3.63E+02	PHYSPROP	1.70E+02	PHYSPROP	-	5.26E-01	2.15E+01	EPI	2.15E+01	3.21E+02	PHYSPROP	4.87E+02	CRC	6.46E+03	CRC	-	
Trichlorofluoromethane	75-69-4	Yes	No	1.37E+02	PHYSPROP	8.03E+02	PHYSPROP	1.10E+03	PHYSPROP	-	9.70E-02	3.97E+00	PHYSPROP	3.97E+00	2.97E+02	PHYSPROP	4.71E+02	CRC	6.00E+03	CRC	-	
Trimethylbenzene, 1,2,4-	95-63-6	Yes	Yes	1.20E+02	PHYSPROP	2.10E+00	PHYSPROP	5.70E+01	PHYSPROP	-	6.16E-03	2.52E-01	PHYSPROP	2.52E-01	4.42E+02	PHYSPROP	6.49E+02	CRC	9.37E+03	TOXNET	9.00E-01	CRC
Trimethylbenzene, 1,3,5-Xylenes	108-67-8	Yes	Yes	1.20E+02	PHYSPROP	2.48E+00	PHYSPROP	4.82E+01	PHYSPROP	-	8.77E-03	3.59E-01	PHYSPROP	3.59E-01	4.38E+02	PHYSPROP	6.37E+02	CRC	9.32E+03	TOXNET	1.00E+00	CRC
	1330-20-7	Yes	Yes	1.06E+02	PHYSPROP	7.99E+00	PHYSPROP	1.06E+02	PHYSPROP	1.00E+04	6.63E-03	2.71E-01	PHYSPROP	2.71E-01	4.12E+02	PHYSPROP	6.20E+02	YAWS	8.52E+03	Weast	-	