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**Limited Soil Investigation Report
Biddle Air National Guard Base
Building 327
39 Easton Road
Hatboro, Montgomery County, Pennsylvania**

June 2024
GZA File No. 14.0079993.00

PREPARED FOR:
David Mason + Associates
Philadelphia, PA

GZA GeoEnvironmental, Inc.
1515 Market Street Suite 945 | Philadelphia, PA 19102
267-464-3600

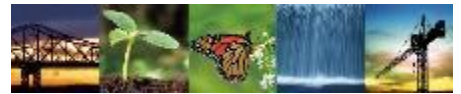
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1515 Market Street
Suite 945
Philadelphia, PA 19102
T: 215.591.3800
F: 267.319.1014
www.gza.com



June 5, 2024
File No. 14.0079993.00

Mr. James Gleaton
David Mason + Associates
123 S. Broad Street, Ste 1130
Philadelphia, PA 19109

Re: Limited Soil Investigation Report
Biddle Air National Guard Base
Building 327
39 Easton Road
Hatboro, Montgomery County, Pennsylvania

Dear Mr. Gleaton:

GZA GeoEnvironmental, Inc. (GZA) has prepared this Limited Soil Investigation Report on behalf of David Mason + Associates to summarize the soil investigation conducted at the above referenced site.

Should you have any questions, or wish to discuss this project further, please do not hesitate to contact Jessica Stearns at (267) 464-3625.

Sincerely,
GZA GEOENVIRONMENTAL, INC.

Jessica Stearns, PG
Senior Project Manager

Daniel Amate, PE
Associate Principal

John Oberer
Consultant/Reviewer



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1.0 INTRODUCTION

GZA GeoEnvironmental, Inc. (GZA) prepared this Limited Soil Investigation (SI) Report on behalf of David Mason + Associates (DMA) to summarize the investigation that was performed at Building 327 at the property located at 39 Easton Road in Hatboro, Montgomery County, Pennsylvania (Site). A Site Location Map is presented as **Figure 1**.

This report presents GZA's field observations, soil sampling methods, results of analyses on selected soil samples, opinions and recommendations. This report is subject to modification if subsequent information is developed by GZA or any other party. This report has been prepared in accordance with the limitations presented in **Appendix A**, as well as the scope of our proposal dated March 14, 2024.

This SI Report is divided into five sections, including this Introduction. Section 2.0 presents a summary of the physical setting. Section 3.0 presents a technical overview of the work conducted. Section 4.0 presents a detailed summary of the SI tasks completed and the results obtained. Section 5.0 presents the conclusions and recommendations for soils related to the planned redevelopment of the Site.

1.1 BACKGROUND

The Site is located within the Biddle Air Base and consists of one building constructed with a concrete slab-on-grade foundation (Building 327) containing work bays for automotive and mechanical repair and several offices. The building is surrounded by an asphalt-paved parking area and roadway. One battery acid neutralization tank, one 250-gallon capacity oil/water interceptor, and one hydraulic lift pump are located within the building, beneath the concrete foundation. One 550-gallon waste oil underground storage tank (UST) is located along the building's southern exterior.

Historically, Building 327 operated as a vehicle and heavy equipment maintenance facility. Currently, Building 327 is used for equipment storage and its offices are vacant.

2.0 PHYSICAL SETTING

2.1 SITE DESCRIPTION

The Site consists of an office/garage building with a surrounding asphalt parking area. Based on the Montgomery County, PA zoning map the land use for the Site is industrial surrounded by commercial and residential properties. Work related to this investigation was conducted within and along the southern exterior of Building 327. A Site plan is attached as **Figure 2** and a Site Photographic Log is presented in **Appendix B**.

2.2 PHYSICAL SETTING

This physical setting has been developed from readily available public documents and observed Site conditions as further noted below. Regional descriptions were not confirmed as part of our site investigation.

2.2.1 Regional Physiography

The Site is located within the Gettysburg-Newark Lowland Section of the Piedmont Physiographic Province identified as a region exhibiting rolling lowlands, shallow valleys and isolated hills. Fluvial erosion of rock has resulted in soils derived mainly from red shale, siltstone, and sandstone.



Based on a review of the U.S. Geologic Survey (USGS) 7.5-minute map of the Ambler Quadrangle dated 2023, the Site is approximately 300- 350 feet above mean sea level. Surface topography, in general, slopes down towards the North.

2.2.2 Geologic, Hydrogeologic, and Hydrologic Conditions

Based on the USGS Geologic Map of Pennsylvania, the Site is situated within the Triassic age Stockton Formation consisting of light-gray to buff, coarse-grained, arkosic sandstone and red to purplish-red sandstone, shale, siltstone, and mudstone.

The United States Department of Agriculture's (USDA) Web Soil Survey identified soils in the Site vicinity as urban land with zero to eight percent slopes. Based on reviewed USGS groundwater data, depth to groundwater is anticipated to be within 30 feet below ground surface (ft bgs) at the Site.

3.0 TECHNICAL OVERVIEW

This section provides a technical overview of data collected during the SI tasks conducted by GZA in May 2024. This section also presents laboratory factors or events that could affect the reliability of the subject laboratory data, seasonal events or other variations that could have affected sample quality, and a summary of the nature of contamination being evaluated.

3.1 NATURE OF CONTAMINATION

Prior to commencement of work, GZA was not aware of releases to surrounding media (e.g., soil and groundwater) at the Site. The purpose of this investigation was to evaluate the potential for release to the subsurface related to the 550-gallon waste oil UST, the hydraulic lift pump, the oil/water interceptor, and the battery acid neutralization tank.

3.2 LABORATORY ANALYTICAL DATA

The laboratory data package for the soil sampling conducted in May 2024 is included in **Appendix C**. Sample analyses were completed by Alpha Analytical (Alpha) of Westborough, Massachusetts, a Pennsylvania certified laboratory (Pennsylvania certification no. 68-03671). Samples were transported to the laboratory under chain of custody and analyses were completed within the appropriate holding times. Quality assurance/quality control (QA/QC) samples are not required, and therefore were not collected during this sampling event.

3.3 SEASONAL VARIATION AND SIGNIFICANT EVENTS

During the May 2024 sampling event, ambient air temperatures ranged between the mid-sixties and high seventies. Due to the warm conditions, care was taken to keep samples and sample containers in a cooler on ice and out of direct sunlight.

4.0 SOIL INVESTIGATION ACTIVITIES

GZA's SI was completed in accordance with the Pennsylvania Department of Environmental Protection's (PADEP) Technical Guidance Manual (TGM), dated January 19, 2019. The scope of work included collecting soil samples to evaluate the presence or absence of impacted soil in the vicinity of the following site features:

- 550- gallon Waste Oil UST;
- Oil/Water Interceptor;



- Hydraulic Lift Pump; and
- Battery Acid Neutralization Tank

Soil investigation areas are presented in **Figure 2** and soil sampling locations are presented in **Figure 3**.

4.1 SOIL INVESTIGATION

Prior to subsurface work at the Site, GZA's subcontractor, East Coast Geophysics, Inc. (ECGI), conducted a private utility markout using electromagnetic and ground penetrating radar (GPR) to identify subsurface utilities and/or anomalies. Proposed boring locations were offset to avoid damage to identified utilities.

On May 14, 2024, GZA and its drilling contractor, East Coast Drilling, Inc. (ECDI) mobilized to the Site to advance up to six soil borings via hand auger and direct push drilling technologies using a 7822DT Geoprobe drill rig. Hand augers were utilized within the building to prevent damage to any potential utilities that may not have been identified during the GPR markout. Due to subsurface utilities in the vicinity of the 550-gallon waste oil UST, borings were offset, and two borings were advanced at this location instead of the three borings initially proposed. Borings, identified as GZ-1 through GZ-5, were advanced to a maximum depth of 10 ft bgs.

Soils were collected continuously from each boring and characterized in the field using a modified Burmister soil classification system. Soils were field screened for the presence of volatile organic compounds using a 10.6 eV photoionization detector (PID). Soil boring locations are presented in **Figure 3**. Copies of boring logs are attached as **Appendix D**.

Two soil samples, identified as GZ-1@10' and GZ-2@10', were collected from the two boring locations advanced in the vicinity of the 550-gallon waste oil UST. Soils collected from within the borehole were field screened for visual/olfactory evidence of impacts and for organic vapors with a PID. Because visual/olfactory evidence of impact was not observed, nor were there elevated PID readings, samples were collected from the bottom six-inch interval (9.5 ft to 10 ft bgs) of these two borings, which is presumably below the UST invert.

One soil sample, identified as GZ-3@8', was collected in the vicinity of the oil/water interceptor within Building 327. Prior to borehole advancement, ECDI bored through approximately one foot of concrete using a hammer drill and the borehole was subsequently advanced via hand auger to 8 ft bgs. Soils collected from within the borehole were field screened for visual/olfactory evidence of impacts and for organic vapors with a PID. Refusal was encountered at approximately 8 ft bgs and therefore, the borehole was terminated. Because visual/olfactory evidence of impact was not observed, one soil sample was collected from the bottom six-inch interval of the borehole (7.5 ft to 8 ft bgs).

One soil sample, identified as GZ-4@8', was collected in the vicinity of the hydraulic lift pump within Building 327. The borehole was bored through approximately one foot of concrete via hammer driller then advanced via hand auger to encountered refusal (approximately 8 ft bgs). Field screening did not present visual/olfactory evidence of impacts or elevated PID readings; therefore, one soil sample was collected from the six-inch interval directly above the borehole terminus (7.5 ft to 8 ft bgs).

Additionally, one soil sample, identified as GZ-5@3', was collected from the borehole advanced in the vicinity of the battery acid neutralization tank. The borehole was bored through approximately eight inches of concrete via hammer drill then the boring was advanced via hand auger to refusal, which was encountered at approximately 3 ft bgs. Because no



evidence of visual/olfactory impact was observed and no elevated PID readings were recorded, one soil sample was collected from the six-inch interval directly above the boring terminus (2.5 ft to 3 ft bgs).

Samples were transferred directly into laboratory supplied containers and transported to Alpha for laboratory analysis. The analytical methodologies used by Alpha for the respective sampling areas were as follows:

550-gallon waste oil UST and Oil/Water Interceptor Soils

- Target Compound List (TCL) Volatile Organic Compounds (VOCs) via EPA method 8260C;
- TCL Semi-volatile Organic Compounds (SVOCs) via EPA method 8270D;
- Polychlorinated Biphenyls (PCBs) via EPA method 8082A; and
- RCRA 8 Metals via EPA method 6010D/7471.

Analytical methods were selected based on target compounds typically associated with waste oil that may have been historically stored in the UST.

Hydraulic Lift Pump Soils

- Polycyclic Aromatic Hydrocarbons (PAHs) via EPA method 8270E; and
- PCBs via EPA method 8082A.

Analytical methods were selected based on target compounds typically associated with hydraulic oil and based on the PADEP Short List of Petroleum Products for lubricating oils and mineral insulating oil.

Battery Acid Neutralization Tank Soils

- RCRA 8 Metals via EPA method 6010D/7471; and
- pH - Hydrogen ion concentration via EPA method 9045.

Analytical methods were selected based on target compounds typically associated with battery acid.

4.2 SUMMARY OF RESULTS

4.2.1 Field Observations

Field observations of soil samples obtained from the borings depict soil lithology that consists primarily of clayey silt, sand, and gravel. Soil color varies between light brown and reddish brown. PID readings observed in soil samples collected at the site ranged between 0.0 parts per million (ppm) and 0.8 ppm, which were consistent with background (ambient) conditions. Approximately six-inches of saturated soil was encountered at approximately 5 ft bgs in the boring adjacent to the oil/water interceptor (GZ-3); however, this was likely perched water and not indicative of the apparent groundwater table. Groundwater was not otherwise encountered in the soil borings installed at the Site.



4.2.2 Soil Analytical Results

Soil analytical results were compared to the PADEP Residential and Non-Residential Medium Specific Concentrations (MSCs) for soil and the Residential and Non-Residential Vapor Intrusion Screening Levels (VISLs). **Tables 1A** through **1D** present the analytical results for the soil samples collected as part of this investigation. Detections of analytes above the laboratory reporting limit are indicated in bold.

Several metals including arsenic, barium, chromium, and lead were detected at concentrations greater than their respective laboratory reporting limits, but below applicable PADEP standards in soil samples collected near the 550-gallon waste oil UST (GZ-1@10' and GZ-2@10'), near the oil/water interceptor (GZ-3@8'), and near the battery acid neutralization tank (GZ-05@3'). Several additional metals were also reported at estimated concentrations less than their applicable reporting limits in these four samples. Other targeted compounds in each of the four investigation areas were not detected. A pH of 7.86, which is considered neutral, was reported in the soil sample collected in the vicinity of the battery acid neutralization tank.

A copy of the laboratory data package is provided in **Appendix C**.

5.0 CONCLUSIONS AND RECOMMENDATIONS

GZA conducted a soil investigation to evaluate potential releases associated with a 550-gallon waste oil UST, a battery acid neutralization tank, a hydraulic lift pump, and an oil/water interceptor located at the Site. A total of five borings were advanced to 10 ft bgs or refusal within the vicinity of each of these structures. Soil samples collected from each boring were analyzed for the parameters selected based on compounds typically associated with materials used and/or stored in these structures.

Several metals were detected at concentrations greater than laboratory reporting limits, but less than their applicable PADEP standards in each of the sample areas except the hydraulic lift area (note: soil collected from this area was not analyzed for metals). Remaining targeted compounds including VOCs, SVOCs/PAHs, and PCBs were not detected in analyzed soil samples.

Based on these results which indicate that overburden soils in the vicinity of these structures do not contain contaminants of concern at concentrations above applicable PADEP Residential and Non-Residential standards and the neutral pH in soil collected near the battery acid neutralization tank, it is GZA's opinion that a significant release has likely not occurred, and additional investigation associated with these structures is not warranted at this time.

TABLES

Table 1A
Summary of Soil Analytical Results - 550 Gallon Waste Oil UST
Biddle Air Base
Willow Grove, PA

Sample ID Lab ID	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-1@10' L2426656-01 5/14/2024 9.5-10 Soil Conc Q	GZ-2@10' L2426656-02 5/14/2024 9.5-10 Soil Conc Q
Volatile Organic Compounds (mg/kg)						
Dichlorodifluoromethane	100	100	100	100	ND	ND
Chloromethane	0.38	0.38	0.38	0.38	ND	ND
Vinyl chloride	0.027	0.027	0.027	0.027	ND	ND
Bromomethane	0.54	0.54	0.54	0.54	ND	ND
Chloroethane	1900	450	1900	450	ND	ND
Trichlorofluoromethane	87	87	87	87	ND	ND
1,1-Dichloroethene	0.19	0.19	0.19	0.19	ND	ND
Carbon disulfide	530	130	530	130	ND	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	10000	3400	10000	3400	ND	ND
Methylene chloride	0.076	0.076	1.5	0.076	ND	ND
Acetone	980	350	4700	350	ND	ND
trans-1,2-Dichloroethene	2.3	2.3	2.3	2.3	ND	ND
Methyl Acetate	1800	650	--	--	ND	ND
Methyl tert butyl ether	0.28	0.28	1.4	0.28	ND	ND
1,1-Dichloroethane	3.9	0.75	3.9	0.75	ND	ND
cis-1,2-Dichloroethene	1.6	1.6	--	--	ND	ND
1,2-Dichloroethene, Total	--	--	--	--	ND	ND
Cyclohexane	6900	1700	6900	1700	ND	ND
Bromochloromethane	1.6	1.6	1.6	1.6	ND	ND
Chloroform	2	2	2	2	ND	ND
Carbon tetrachloride	0.26	0.26	0.26	0.26	ND	ND
1,1,1-Trichloroethane	7.2	7.2	7.4	7.2	ND	ND
2-Butanone	76	76	1100	76	ND	ND
Benzene	0.13	0.13	0.13	0.13	ND	ND
1,2-Dichloroethane	0.1	0.1	0.1	0.1	ND	ND
Methyl cyclohexane	--	--	--	--	ND	ND
Trichloroethene	0.17	0.17	0.17	0.17	ND	ND
1,2-Dichloropropane	0.11	0.11	0.11	0.11	ND	ND
Bromodichloromethane	2.7	2.7	2.7	2.7	ND	ND
1,4-Dioxane	0.35	0.085	9	0.36	ND	ND
cis-1,3-Dichloropropene	0.61	0.13	--	--	ND	ND
Toluene	44	44	44	44	ND	ND
4-Methyl-2-pentanone	120	43	210	43	ND	ND
Tetrachloroethene	0.43	0.43	0.43	0.43	ND	ND
trans-1,3-Dichloropropene	0.61	0.13	--	--	ND	ND
1,3-Dichloropropene, Total	0.48	0.12	0.48	0.12	ND	ND
1,1,2-Trichloroethane	0.15	0.15	0.15	0.15	ND	ND
Dibromochloromethane	2.5	2.5	2.5	2.5	ND	ND
1,2-Dibromoethane	0.0012	0.0012	0.0013	0.0012	ND	ND
2-Hexanone	6.4	1.6	6.4	1.6	ND	ND
Chlorobenzene	6.1	6.1	6.1	6.1	ND	ND
Ethylbenzene	46	46	46	46	ND	ND
p/m-Xylene	990	990	--	--	ND	ND
o-Xylene	990	990	--	--	ND	ND
Xylenes, Total	990	990	990	990	ND	ND
Styrene	24	24	79	24	ND	ND
Bromoform	3.5	3.5	3.5	3.5	ND	ND
Isopropylbenzene	2500	600	2500	600	ND	ND
1,1,2,2-Tetrachloroethane	0.13	0.026	0.13	0.026	ND	ND
1,3-Dichlorobenzene	61	61	--	--	ND	ND
1,4-Dichlorobenzene	10	10	10	10	ND	ND
1,2-Dichlorobenzene	59	59	59	59	ND	ND
1,2-Dibromo-3-chloropropane	0.0092	0.0092	0.0092	0.0092	ND	ND
1,2,4-Trichlorobenzene	27	27	27	27	ND	ND
1,2,3-Trichlorobenzene	--	--	--	--	ND	ND

Table 1A
Summary of Soil Analytical Results - 550 Gallon Waste Oil UST
Biddle Air Base
Willow Grove, PA

Sample ID Lab ID Sample Collection Date Sample Depth (ft bgs) Sample Matrix	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-1@10' L2426656-01 5/14/2024 9.5-10 Soil Conc Q	GZ-2@10' L2426656-02 5/14/2024 9.5-10 Soil Conc Q
Semi-Volatile Organic Compounds (mg/kg)						
Benzaldehyde	--	--	--	--	ND	ND
Phenol	33	33	7900	380	ND	ND
2-Chlorophenol	4.4	4.4	--	--	ND	ND
2-Methylphenol	81	28	--	--	ND	ND
Bis(2-chloroisopropyl)ether	8	8	8	8	ND	ND
Acetophenone	520	190	--	--	ND	ND
1,4-Dioxane	0.35	0.085	9	0.36	ND	ND
3-Methylphenol/4-Methylphenol	11	4	--	--	ND	ND
Hexachloroethane	0.56	0.56	0.56	0.56	ND	ND
Nitrobenzene	0.27	0.052	1.2	0.052	ND	ND
Isophorone	1.9	1.9	--	--	ND	ND
2-Nitrophenol	16	5.7	--	--	ND	ND
2,4-Dimethylphenol	83	30	--	--	ND	ND
Bis(2-chloroethoxy)methane	7.6	2.6	--	--	ND	ND
2,4-Dichlorophenol	1	1	--	--	ND	ND
Naphthalene	25	13	25	25	ND	ND
4-Chloroaniline	1.8	0.42	--	--	ND	ND
Hexachlorobutadiene	42	10	--	--	ND	ND
Caprolactam	--	--	--	--	ND	ND
p-Chloro-m-cresol	2000	720	--	--	ND	ND
2-Methylnaphthalene	100	25	100	25	ND	ND
Hexachlorocyclopentadiene	91	91	--	--	ND	ND
1,2,4,5-Tetrachlorobenzene	13	4.6	--	--	ND	ND
2,4,6-Trichlorophenol	28	10	--	--	ND	ND
2,4,5-Trichlorophenol	5900	2100	--	--	ND	ND
Biphenyl	1.5	0.37	--	--	ND	ND
2-Chloronaphthalene	17000	6000	--	--	ND	ND
2-Nitroaniline	0.0079	0.002	17	0.83	ND	ND
Dimethyl phthalate	--	--	--	--	ND	ND
2,6-Dinitrotoluene	0.053	0.013	--	--	ND	ND
Acenaphthylene	6600	2400	--	--	ND	ND
3-Nitroaniline	--	--	--	--	ND	ND
Acenaphthene	4700	2600	--	--	ND	ND
2,4-Dinitrophenol	2.1	0.78	--	--	ND	ND
4-Nitrophenol	4.1	4.1	--	--	ND	ND
2,4-Dinitrotoluene	0.21	0.05	--	--	ND	ND
Dibenzofuran	250	90	--	--	ND	ND
2,3,4,6-Tetrachlorophenol	4500	1600	--	--	ND	ND
Diethyl phthalate	2400	880	--	--	ND	ND
Fluorene	3800	2800	--	--	ND	ND
4-Chlorophenyl phenyl ether	--	--	--	--	ND	ND
4-Nitroaniline	2.1	0.49	--	--	ND	ND
4,6-Dinitro-o-cresol	--	--	--	--	ND	ND
NDPA/DPA	15	3	--	--	ND	ND
4-Bromophenyl phenyl ether	--	--	--	--	ND	ND
Hexachlorobenzene	0.96	0.96	--	--	ND	ND
Pentachlorophenol	5	5	--	--	ND	ND
Atrazine	0.13	0.13	--	--	ND	ND
Phenanthrene	10000	10000	--	--	ND	ND
Anthracene	350	350	--	--	ND	ND
Carbazole	89	21	--	--	ND	ND
Di-n-butylphthalate	4000	1400	--	--	ND	ND
Fluoranthene	3200	3200	--	--	ND	ND
Pyrene	2200	2200	--	--	ND	ND
Butyl benzyl phthalate	10000	2900	--	--	ND	ND
3,3'-Dichlorobenzidine	33	7.7	--	--	ND	ND
Benzo(a)anthracene	340	6.1	--	--	ND	ND
Chrysene	230	35	--	--	ND	ND
Bis(2-ethylhexyl)phthalate	130	130	--	--	ND	ND
Di-n-octylphthalate	10000	10000	--	--	ND	ND
Benzo(b)fluoranthene	170	3.5	--	--	ND	ND
Benzo(k)fluoranthene	610	3.5	--	--	ND	ND
Benzo(a)pyrene	46	4.2	--	--	ND	ND
Indeno(1,2,3-cd)pyrene	18000	3.5	--	--	ND	ND
Dibenzo(a,h)anthracene	270	1	--	--	ND	ND
Benzo(ghi)perylene	180	180	--	--	ND	ND

Table 1A
 Summary of Soil Analytical Results - 550 Gallon Waste Oil UST
 Biddle Air Base
 Willow Grove, PA

Sample ID Lab ID	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-1@10' L2426656-01 5/14/2024 9.5-10 Soil Conc Q	GZ-2@10' L2426656-02 5/14/2024 9.5-10 Soil Conc Q
Semi-Volatile Organic Compounds by SIM (mg/kg)						
Bis(2-chloroethyl)ether	0.023	0.0045	0.14	0.0056	ND	ND
n-Nitrosodi-n-propylamine	0.0018	0.00035	--	--	ND	ND
Polychlorinated Biphenyls (mg/kg)						
Aroclor 1016	190	15	--	--	ND	ND
Aroclor 1221	0.68	0.16	0.68	0.16	ND	ND
Aroclor 1232	0.54	0.13	0.54	0.14	ND	ND
Aroclor 1242	17	4	--	--	ND	ND
Aroclor 1248	67	9.3	--	--	ND	ND
Aroclor 1254	380	4.4	--	--	ND	ND
Aroclor 1260	630	9.3	--	--	ND	ND
Aroclor 1262	--	--	--	--	ND	ND
Aroclor 1268	--	--	--	--	ND	ND
PCBs, Total	--	--	--	--	ND	ND
Total Metals (mg/kg)						
Arsenic, Total	29	12	--	--	2.62	2.67
Barium, Total	8200	8200	--	--	106	138
Cadmium, Total	38	38	--	--	0.126 J	0.171 J
Chromium, Total			--	--	19	20.6
Lead, Total	450	450	--	--	8.44	10.9
Mercury, Total	10	10	--	--	ND	ND
Selenium, Total	26	26	--	--	ND	ND
Silver, Total	84	84	--	--	ND	ND
General Chemistry (%)						
Solids, Total	--	--	--	--	86.9	84.4

Notes:

--: No criteria established

Bold: Concentration is greater than laboratory reporting limit

ft bgs: feet below ground surface

MSC: Medium Specific Concentration

VISL: Vapor Intrusion Screening Level

mg/kg: milligrams per kilogram

Conc: Laboratory detected concentration

Q: Laboratory Qualifier

ND: Not detected

J: Estimated concentration less than the laboratory reporting limit

SIM: Selected Ion monitoring

Table 1B
Summary of Soil Analytical Results - Oil/Water Interceptor
Biddle Air Base
Willow Grove, PA

Sample ID Lab ID Sample Collection Date Sample Depth (ft bgs) Sample Matrix	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-3@8' L2426656-03 5/14/2024 7.5-8 Soil Conc Q
Volatile Organic Compounds (mg/kg)					
Dichlorodifluoromethane	100	100	100	100	ND
Chloromethane	0.38	0.38	0.38	0.38	ND
Vinyl chloride	0.027	0.027	0.027	0.027	ND
Bromomethane	0.54	0.54	0.54	0.54	ND
Chloroethane	1900	450	1900	450	ND
Trichlorofluoromethane	87	87	87	87	ND
1,1-Dichloroethene	0.19	0.19	0.19	0.19	ND
Carbon disulfide	530	130	530	130	ND
1,1,2-Trichloro-1,2,2-Trifluoroethane	10000	3400	10000	3400	ND
Methylene chloride	0.076	0.076	1.5	0.076	ND
Acetone	980	350	4700	350	ND
trans-1,2-Dichloroethene	2.3	2.3	2.3	2.3	ND
Methyl Acetate	1800	650	--	--	ND
Methyl tert butyl ether	0.28	0.28	1.4	0.28	ND
1,1-Dichloroethane	3.9	0.75	3.9	0.75	ND
cis-1,2-Dichloroethene	1.6	1.6	--	--	ND
1,2-Dichloroethene, Total	--	--	--	--	ND
Cyclohexane	6900	1700	6900	1700	ND
Bromochloromethane	1.6	1.6	1.6	1.6	ND
Chloroform	2	2	2	2	ND
Carbon tetrachloride	0.26	0.26	0.26	0.26	ND
1,1,1-Trichloroethane	7.2	7.2	7.4	7.2	ND
2-Butanone	76	76	1100	76	ND
Benzene	0.13	0.13	0.13	0.13	ND
1,2-Dichloroethane	0.1	0.1	0.1	0.1	ND
Methyl cyclohexane	--	--	--	--	ND
Trichloroethene	0.17	0.17	0.17	0.17	ND
1,2-Dichloropropane	0.11	0.11	0.11	0.11	ND
Bromodichloromethane	2.7	2.7	2.7	2.7	ND
1,4-Dioxane	0.35	0.085	9	0.36	ND
cis-1,3-Dichloropropene	0.61	0.13	--	--	ND
Toluene	44	44	44	44	ND
4-Methyl-2-pentanone	120	43	210	43	ND
Tetrachloroethene	0.43	0.43	0.43	0.43	ND
trans-1,3-Dichloropropene	0.61	0.13	--	--	ND
1,3-Dichloropropene, Total	0.48	0.12	0.48	0.12	ND
1,1,2-Trichloroethane	0.15	0.15	0.15	0.15	ND
Dibromochloromethane	2.5	2.5	2.5	2.5	ND
1,2-Dibromoethane	0.0012	0.0012	0.0013	0.0012	ND
2-Hexanone	6.4	1.6	6.4	1.6	ND
Chlorobenzene	6.1	6.1	6.1	6.1	ND
Ethylbenzene	46	46	46	46	ND
p/m-Xylene	990	990	--	--	ND
o-Xylene	990	990	--	--	ND
Xylenes, Total	990	990	990	990	ND
Styrene	24	24	79	24	ND
Bromoform	3.5	3.5	3.5	3.5	ND
Isopropylbenzene	2500	600	2500	600	ND
1,1,2,2-Tetrachloroethane	0.13	0.026	0.13	0.026	ND
1,3-Dichlorobenzene	61	61	--	--	ND
1,4-Dichlorobenzene	10	10	10	10	ND
1,2-Dichlorobenzene	59	59	59	59	ND
1,2-Dibromo-3-chloropropane	0.0092	0.0092	0.0092	0.0092	ND
1,2,4-Trichlorobenzene	27	27	27	27	ND
1,2,3-Trichlorobenzene	--	--	--	--	ND

Table 1B
 Summary of Soil Analytical Results - Oil/Water Interceptor
 Biddle Air Base
 Willow Grove, PA

Sample ID Lab ID Sample Collection Date Sample Depth (ft bgs) Sample Matrix	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-3@8' L2426656-03 5/14/2024 7.5-8 Soil Conc Q
Semi-Volatile Organic Compounds (mg/kg)					
Benzaldehyde	--	--	--	--	ND
Phenol	33	33	7900	380	ND
2-Chlorophenol	4.4	4.4	--	--	ND
2-Methylphenol	81	28	--	--	ND
Bis(2-chloroisopropyl)ether	8	8	8	8	ND
Acetophenone	520	190	--	--	ND
1,4-Dioxane	0.35	0.085	9	0.36	ND
3-Methylphenol/4-Methylphenol	11	4	--	--	ND
Hexachloroethane	0.56	0.56	0.56	0.56	ND
Nitrobenzene	0.27	0.052	1.2	0.052	ND
Isophorone	1.9	1.9	--	--	ND
2-Nitrophenol	16	5.7	--	--	ND
2,4-Dimethylphenol	83	30	--	--	ND
Bis(2-chloroethoxy)methane	7.6	2.6	--	--	ND
2,4-Dichlorophenol	1	1	--	--	ND
Naphthalene	25	13	25	25	ND
4-Chloroaniline	1.8	0.42	--	--	ND
Hexachlorobutadiene	42	10	--	--	ND
Caprolactam	--	--	--	--	ND
p-Chloro-m-cresol	2000	720	--	--	ND
2-Methylnaphthalene	100	25	100	25	ND
Hexachlorocyclopentadiene	91	91	--	--	ND
1,2,4,5-Tetrachlorobenzene	13	4.6	--	--	ND
2,4,6-Trichlorophenol	28	10	--	--	ND
2,4,5-Trichlorophenol	5900	2100	--	--	ND
Biphenyl	1.5	0.37	--	--	ND
2-Chloronaphthalene	17000	6000	--	--	ND
2-Nitroaniline	0.0079	0.002	17	0.83	ND
Dimethyl phthalate	--	--	--	--	ND
2,6-Dinitrotoluene	0.053	0.013	--	--	ND
Acenaphthylene	6600	2400	--	--	ND
3-Nitroaniline	--	--	--	--	ND
Acenaphthene	4700	2600	--	--	ND
2,4-Dinitrophenol	2.1	0.78	--	--	ND
4-Nitrophenol	4.1	4.1	--	--	ND
2,4-Dinitrotoluene	0.21	0.05	--	--	ND
Dibenzofuran	250	90	--	--	ND
2,3,4,6-Tetrachlorophenol	4500	1600	--	--	ND
Diethyl phthalate	2400	880	--	--	ND
Fluorene	3800	2800	--	--	ND
4-Chlorophenyl phenyl ether	--	--	--	--	ND
4-Nitroaniline	2.1	0.49	--	--	ND
4,6-Dinitro-o-cresol	--	--	--	--	ND
NDPA/DPA	15	3	--	--	ND
4-Bromophenyl phenyl ether	--	--	--	--	ND
Hexachlorobenzene	0.96	0.96	--	--	ND
Pentachlorophenol	5	5	--	--	ND
Atrazine	0.13	0.13	--	--	ND
Phenanthrene	10000	10000	--	--	ND
Anthracene	350	350	--	--	ND
Carbazole	89	21	--	--	ND
Di-n-butylphthalate	4000	1400	--	--	ND
Fluoranthene	3200	3200	--	--	ND
Pyrene	2200	2200	--	--	ND
Butyl benzyl phthalate	10000	2900	--	--	ND
3,3'-Dichlorobenzidine	33	7.7	--	--	ND
Benzo(a)anthracene	340	6.1	--	--	ND
Chrysene	230	35	--	--	ND
Bis(2-ethylhexyl)phthalate	130	130	--	--	ND
Di-n-octylphthalate	10000	10000	--	--	ND
Benzo(b)fluoranthene	170	3.5	--	--	ND
Benzo(k)fluoranthene	610	3.5	--	--	ND
Benzo(a)pyrene	46	4.2	--	--	ND
Indeno(1,2,3-cd)pyrene	18000	3.5	--	--	ND
Dibenzo(a,h)anthracene	270	1	--	--	ND
Benzo(ghi)perylene	180	180	--	--	ND

Table 1B
 Summary of Soil Analytical Results - Oil/Water Interceptor
 Biddle Air Base
 Willow Grove, PA

Sample ID Lab ID Sample Collection Date Sample Depth (ft bgs) Sample Matrix	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-3@8' L2426656-03 5/14/2024 7.5-8 Soil Conc Q
Semi-Volatile Organic Compounds by SIM (mg/kg)					
Bis(2-chloroethyl)ether	0.023	0.0045	0.14	0.0056	ND
n-Nitrosodi-n-propylamine	0.0018	0.00035	--	--	ND
Polychlorinated Biphenyls (mg/kg)					
Aroclor 1016	190	15			ND
Aroclor 1221	0.68	0.16	0.68	0.16	ND
Aroclor 1232	0.54	0.13	0.54	0.14	ND
Aroclor 1242	17	4	--	--	ND
Aroclor 1248	67	9.3	--	--	ND
Aroclor 1254	380	4.4	--	--	ND
Aroclor 1260	630	9.3	--	--	ND
Aroclor 1262	--	--	--	--	ND
Aroclor 1268	--	--	--	--	ND
PCBs, Total	--	--	--	--	ND
Total Metals (mg/kg)					
Arsenic, Total	29	12	--	--	4.53
Barium, Total	8200	8200	--	--	45
Cadmium, Total	38	38	--	--	ND
Chromium, Total			--	--	16.8
Lead, Total	450	450	--	--	8.45
Mercury, Total	10	10	--	--	ND
Selenium, Total	26	26	--	--	ND
Silver, Total	84	84	--	--	ND
General Chemistry (%)					
Solids, Total	--	--	--	--	86.8

Notes:

--: No criteria established

Bold: Concentration is greater than laboratory reporting limit

ft bgs: feet below ground surface

MSC: Medium Specific Concentration

VISL: Vapor Intrusion Screening Level

mg/kg: milligrams per kilogram

Conc: Laboratory detected concentration

Q: Laboratory Qualifier

ND: Not detected

SIM: Selected Ion monitoring

Table 1C
Summary of Soil Analytical Results - Hydraulic Lift Pump
Biddle Air Base
Willow Grove, PA

Sample ID Lab ID Sample Collection Date Sample Depth (ft bgs) Sample Matrix	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-4@8' L2426656-04 5/14/2024 7.5-8 Soil Conc Q
Polycyclic Aromatic Hydrocarbons (mg/kg)					
Naphthalene	25	13	25	25	ND
2-Methylnaphthalene	100	25	100	25	ND
2-Chloronaphthalene	17000	6000	--	--	ND
Acenaphthylene	6600	2400	--	--	ND
Acenaphthene	4700	2600	--	--	ND
Fluorene	3800	2800	--	--	ND
Phenanthrene	10000	10000	--	--	ND
Anthracene	350	350	--	--	ND
Fluoranthene	3200	3200	--	--	ND
Pyrene	2200	2200	--	--	ND
Benzo(a)anthracene	340	6.1	--	--	ND
Chrysene	230	35	--	--	ND
Benzo(b)fluoranthene	170	3.5	--	--	ND
Benzo(k)fluoranthene	610	3.5	--	--	ND
Benzo(a)pyrene	46	4.2	--	--	ND
Indeno(1,2,3-cd)pyrene	18000	3.5	--	--	ND
Dibenzo(a,h)anthracene	270	1	--	--	ND
Benzo(ghi)perylene	180	180	--	--	ND
Polychlorinated Biphenyls (mg/kg)					
Aroclor 1016	190	15	--	--	ND
Aroclor 1221	0.68	0.16	0.68	0.16	ND
Aroclor 1232	0.54	0.13	0.54	0.14	ND
Aroclor 1242	17	4	--	--	ND
Aroclor 1248	67	9.3	--	--	ND
Aroclor 1254	380	4.4	--	--	ND
Aroclor 1260	630	9.3	--	--	ND
Aroclor 1262	--	--	--	--	ND
Aroclor 1268	--	--	--	--	ND
PCBs, Total	--	--	--	--	ND
General Chemistry (%)					
Solids, Total	--	--	--	--	85.4

Notes:

- : No criteria established
- ft bgs: feet below ground surface
- MSC: Medium Specific Concentration
- VISL: Vapor Intrusion Screening Level
- mg/kg: milligrams per kilogram
- Conc: Laboratory detected concentration
- Q: Laboratory Qualifier
- ND: Not detected

Table 1D
 Summary of Soil Analytical Results - Batter Acid Neutralization Tank
 Biddle Air Base
 Willow Grove, PA

Sample ID Lab ID Sample Collection Date Sample Depth (ft bgs) Sample Matrix	PADEP Non-Residential Soil MSC	PADEP Residential Soil MSC	PADEP Non-Residential VISL	PADEP Residential VISL	GZ-5@3' L2426656-05 5/14/2024 2.5-3 Soil Conc	Q
Total Metals (mg/kg)						
Arsenic, Total	29	12	--	--	4.57	
Barium, Total	8200	8200	--	--	71.8	
Cadmium, Total	38	38	--	--	0.119	J
Chromium, Total	--	--	--	--	17.4	
Lead, Total	450	450	--	--	12.1	
Mercury, Total	10	10	--	--	ND	
Selenium, Total	26	26	--	--	0.263	J
Silver, Total	84	84	--	--	ND	
General Chemistry (%)						
Solids, Total	--	--	--	--	79	
pH (H)	--	--	--	--	7.86	

Notes:

--: No criteria established

Bold: Concentration is greater than laboratory reporting limit

ft bgs: feet below ground surface

MSC: Medium Specific Concentration

VISL: Vapor Intrusion Screening Level

mg/kg: milligrams per kilogram

Conc: Laboratory detected concentration

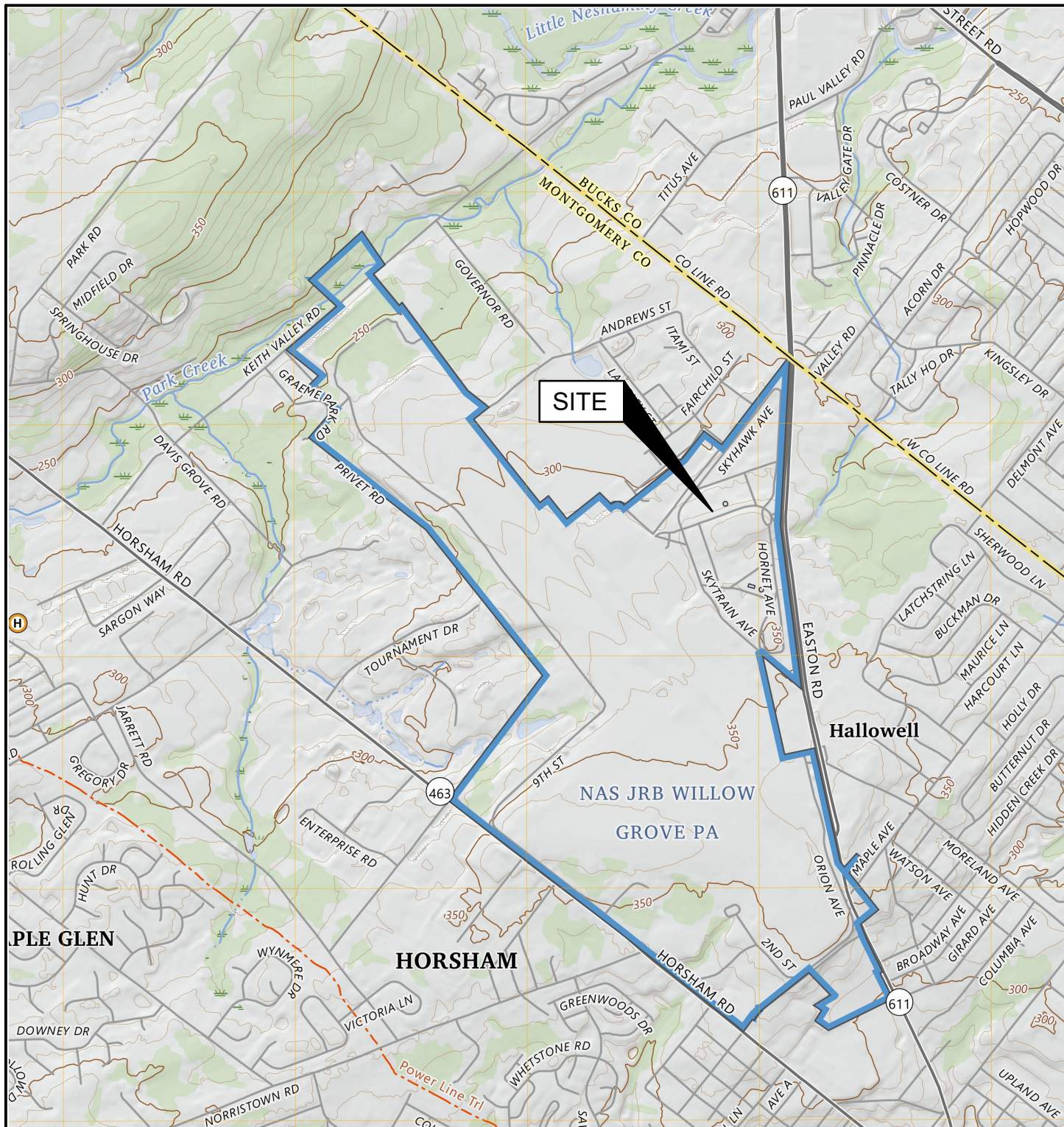
Q: Laboratory Qualifier

ND: Not detected

J: Estimated concentration less than the laboratory reporting limit

FIGURES

© 2022 - GZA GeoEnvironmental, Inc.
 GZA-J:\14.00799900\14.00799900\BIDDLE AIR BASE SOIL INVESTIGATION\REPORT\FIGURES\CAD\14.0079993.00 FIG1 SITE LOCATION MAP.DWG LOCUS FIG-1 May 28, 2024 CODY BARNETT



PENNSYLVANIA

QUADRANGLE LOCATION

PREPARED BY: **GZA GeoEnvironmental, Inc.**
www.gza.com

PREPARED FOR: **DAVID MASON + ASSOCIATES**

PROJ MGR: JS REVIEWED BY: JS
 DESIGNED BY: JS DRAWN BY: CB

SOURCE: DIGITAL TOPOGRAPHIC MAPS PROVIDED BY USGSSTORE.GOV.
 CONTOUR ELEVATIONS REFERENCE NAVD88, CONTOURS ARE SHOWN IN FEET AT 10' INTERVALS
 USGS QUADRANGLE MAP: AMBLER, PA (2023)

SCALE IN FEET

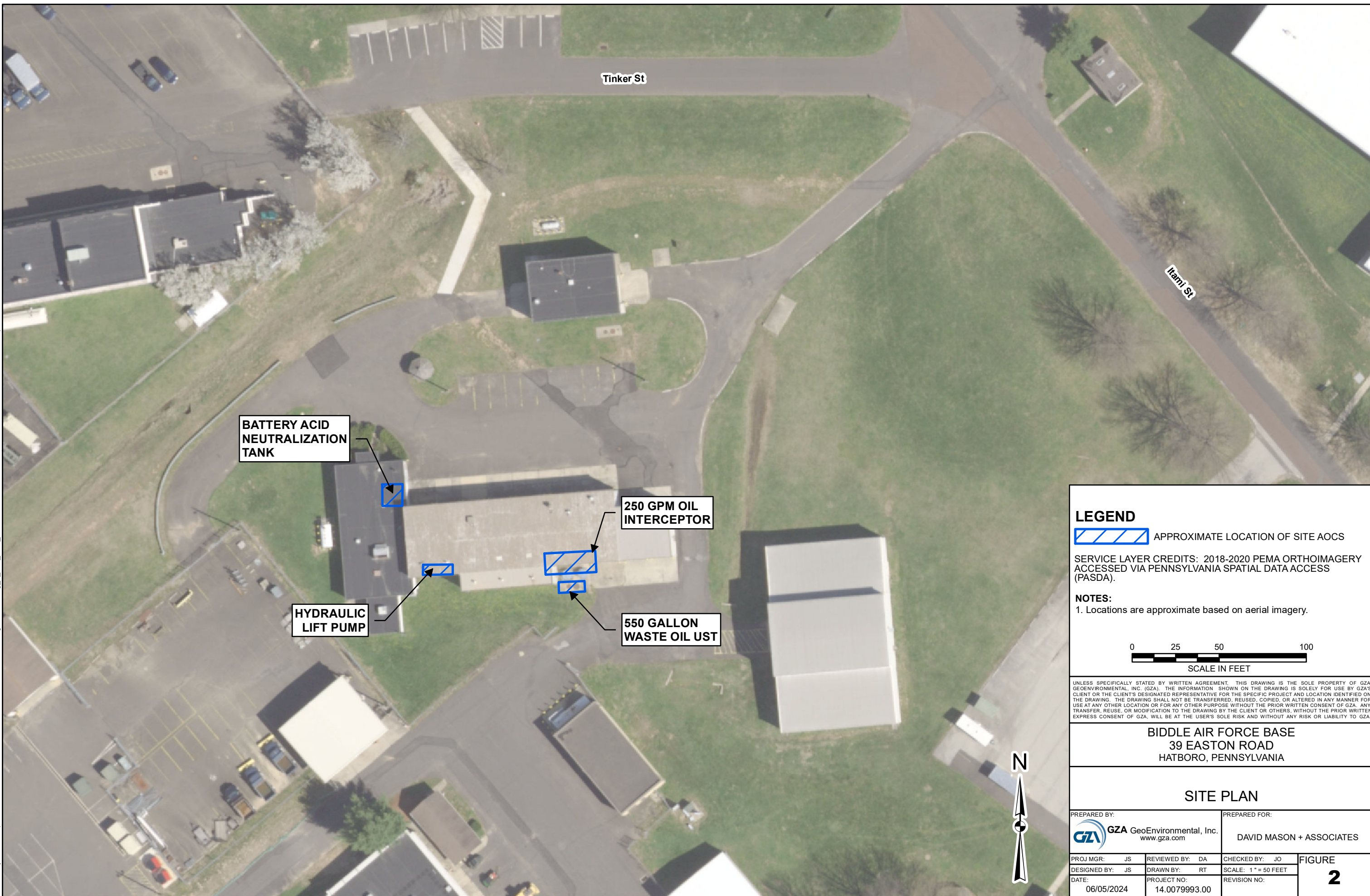
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BIDDLE AIR BASE SOIL INVESTIGATION
39 EASTON ROAD
HATBORO, PENNSYLVANIA

SITE LOCATION MAP

DATE: 05/24/24
 PROJECT NO. 14.0079993.00
 FIGURE **1**

© 2024 - GZA GeoEnvironmental, Inc. \\GZA\Philly\RFPS\Proposals\2024 FY\14.P000068.24 Bid\Air Base Soil Investigation\GIS\Fig_2_Site_Plan_14.P000068.24.mxd, June 05, 2024 - 1:06:47 PM, Rowan.Thompson



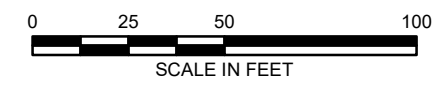
LEGEND

 APPROXIMATE LOCATION OF SITE AOCs

SERVICE LAYER CREDITS: 2018-2020 PEMA ORTHOIMAGERY ACCESSED VIA PENNSYLVANIA SPATIAL DATA ACCESS (PASDA).

NOTES:


1. Locations are approximate based on aerial imagery.



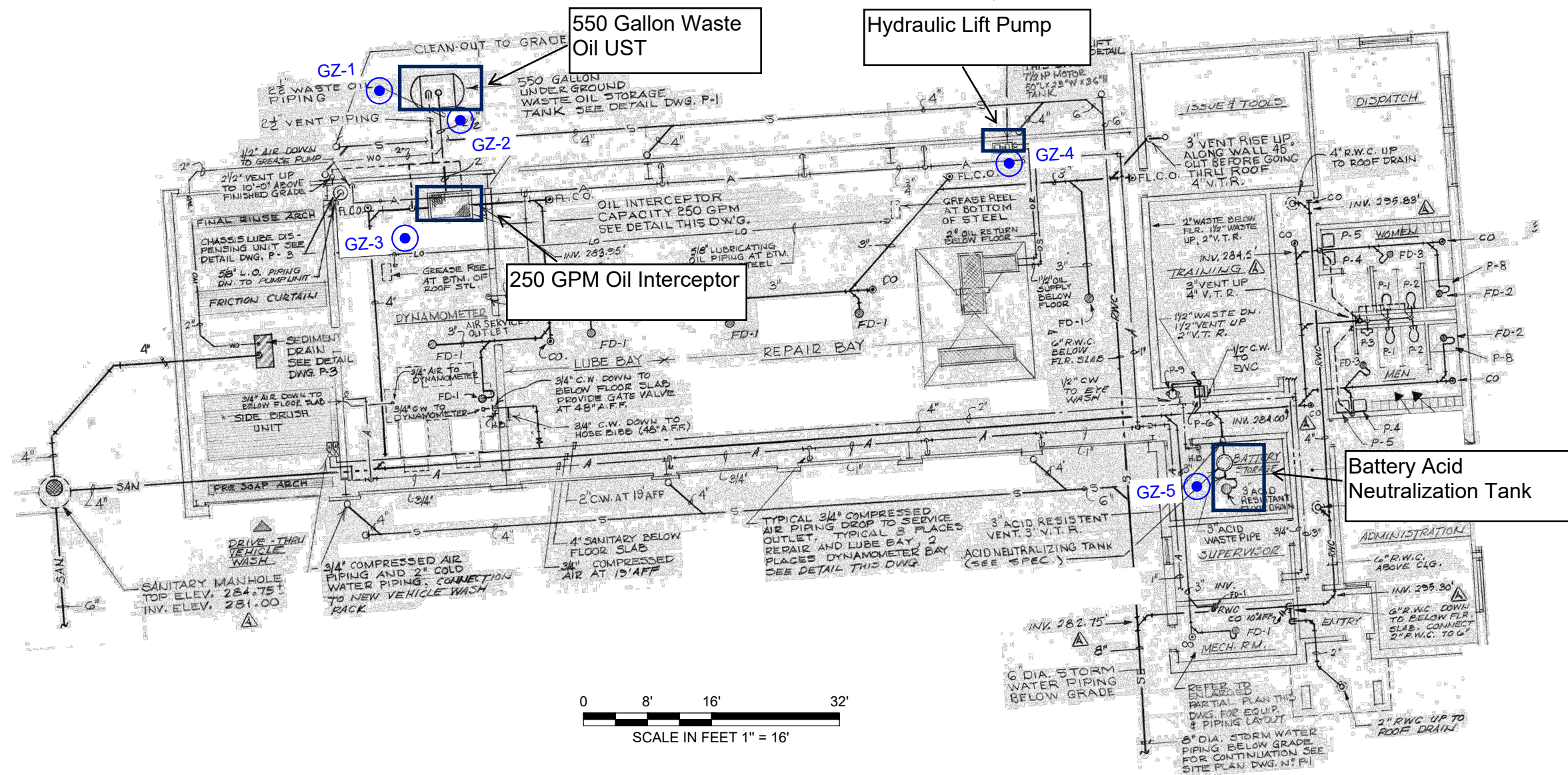
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BIDDLE AIR FORCE BASE
39 EASTON ROAD
HATBORO, PENNSYLVANIA

SITE PLAN

PREPARED BY:  GZA GeoEnvironmental, Inc. www.gza.com		PREPARED FOR: DAVID MASON + ASSOCIATES	
PROJ MGR: JS	REVIEWED BY: DA	CHECKED BY: JO	FIGURE 2
DESIGNED BY: JS	DRAWN BY: RT	SCALE: 1" = 50 FEET	
DATE: 06/05/2024	PROJECT NO: 14.0079993.00	REVISION NO:	





0 8' 16' 32'
 SCALE IN FEET 1" = 16'

LEGEND

GZ-1 SOIL BORING LOCATION

NOTES

- BORING LOCATIONS APPROXIMATE BASED ON HAND-HELD GPS UNIT
- BASE MAP DEVELOPED FROM ELECTRONIC DRAWING FILE "VEHICLE MAINTENANCE FACILITY: FLOOR PLAN AND DETAILS" PREPARED BY LS DESIGN GROUP DATED 1983

NO.	ISSUE/DESCRIPTION	BY	DATE
UNLESS SPECIFICALLY STATED BY WRITTEN AGREEMENT, THIS DRAWING IS THE SOLE PROPERTY OF GZA GEOENVIRONMENTAL, INC. (GZA). THE INFORMATION SHOWN ON THE DRAWING IS SOLELY FOR USE BY GZA'S CLIENT OR THE CLIENT'S DESIGNATED REPRESENTATIVE FOR THE SPECIFIC PROJECT AND LOCATION IDENTIFIED ON THE DRAWING. THE DRAWING SHALL NOT BE TRANSFERRED, REUSED, COPIED, OR ALTERED IN ANY MANNER FOR USE AT ANY OTHER LOCATION OR FOR ANY OTHER PURPOSE WITHOUT THE PRIOR WRITTEN CONSENT OF GZA. ANY TRANSFER, REUSE, OR MODIFICATION TO THE DRAWING BY THE CLIENT OR OTHERS WITHOUT THE PRIOR WRITTEN EXPRESS CONSENT OF GZA, WILL BE AT THE USER'S SOLE RISK AND WITHOUT ANY RISK OR LIABILITY TO GZA.			
BIDDLE AIR BASE SOIL INVESTIGATION 39 EASTON ROAD HATBORO, PENNSYLVANIA			
BORING LOCATION PLAN			
PREPARED BY: GZA GeoEnvironmental, Inc. www.gza.com		PREPARED FOR: DAVID MASON + ASSOCIATES	
PROJ MGR: JS	REVIEWED BY: JS	CHECKED BY: JS	FIGURE 3
DESIGNED BY: JS	DRAWN BY: CB	SCALE: 1" = 16'	
DATE: 05/24/24	PROJECT NO. 14.0079993.00	REVISION NO.	

APPENDIX A
GEOHYDROLOGICAL LIMITATIONS



USE OF REPORT

1. GZA GeoEnvironmental, Inc. (GZA) prepared this report on behalf of, and for the exclusive use of our Client for the stated purpose(s) and location(s) identified in the Proposal for Services and/or Report. Use of this report, in whole or in part, at other locations, or for other purposes, may lead to inappropriate conclusions; and we do not accept any responsibility for the consequences of such use(s). Further, reliance by any party not expressly identified in the agreement, for any use, without our prior written permission, shall be at that party's sole risk, and without any liability to GZA.

STANDARD OF CARE

2. GZA's findings and conclusions are based on the work conducted as part of the Scope of Services set forth in the Proposal for Services and/or Report and reflect our professional judgment. These findings and conclusions must be considered not as scientific or engineering certainties, but rather as our professional opinions concerning the limited data gathered during the course of our work. Conditions other than described in this report may be found at the subject location(s).
3. GZA's services were performed using the degree of skill and care ordinarily exercised by qualified professionals performing the same type of services, at the same time, under similar conditions, at the same or a similar property. No warranty, expressed or implied, is made. Specifically, GZA does not and cannot represent that the Site contains no hazardous material, oil, or other latent condition beyond that observed by GZA during its study. Additionally, GZA makes no warranty that any response action or recommended action will achieve all of its objectives or that the findings of this study will be upheld by a local, state or federal agency.
4. In conducting our work, GZA relied upon certain information made available by public agencies, Client and/or others. GZA did not attempt to independently verify the accuracy or completeness of that information. Inconsistencies in this information which we have noted, if any, are discussed in the Report.

SUBSURFACE CONDITIONS

5. The generalized soil profile(s) provided in our Report are based on widely-spaced subsurface explorations and are intended only to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized, and were based on our assessment of subsurface conditions. The composition of strata, and the transitions between strata, may be more variable and more complex than indicated. For more specific information on soil conditions at a specific location refer to the exploration logs. The nature and extent of variations between these explorations may not become evident until further exploration or construction. If variations or other latent conditions then become evident, it will be necessary to reevaluate the conclusions and recommendations of this report.
6. Water level readings have been made, as described in this Report, in and monitoring wells at the specified times and under the stated conditions. These data have been reviewed and interpretations have been made in this report. Fluctuations in the level of the groundwater however occur due to temporal or spatial variations in areal recharge rates, soil heterogeneities, the presence of subsurface utilities, and/or natural or artificially induced perturbations. The observed water table may be other than indicated in the Report.

COMPLIANCE WITH CODES AND REGULATIONS

7. We used reasonable care in identifying and interpreting applicable codes and regulations necessary to execute our scope of work. These codes and regulations are subject to various, and possibly contradictory, interpretations. Interpretations and compliance with codes and regulations by other parties is beyond our control.



SCREENING AND ANALYTICAL TESTING

8. GZA collected environmental samples at the locations identified in the Report. These samples were analyzed for the specific parameters identified in the report. Additional constituents, for which analyses were not conducted, may be present in soil, groundwater, surface water, sediment and/or air. Future Site activities and uses may result in a requirement for additional testing.
9. Our interpretation of field screening and laboratory data is presented in the Report. Unless otherwise noted, we relied upon the laboratory's QA/QC program to validate these data.
10. Variations in the types and concentrations of contaminants observed at a given location or time may occur due to release mechanisms, disposal practices, changes in flow paths, and/or the influence of various physical, chemical, biological or radiological processes. Subsequently observed concentrations may be other than indicated in the Report.

INTERPRETATION OF DATA

11. Our opinions are based on available information as described in the Report, and on our professional judgment. Additional observations made over time, and/or space, may not support the opinions provided in the Report.

ADDITIONAL INFORMATION

12. In the event that the Client or others authorized to use this report obtain additional information on environmental or hazardous waste issues at the Site not contained in this report, such information shall be brought to GZA's attention forthwith. GZA will evaluate such information and, on the basis of this evaluation, may modify the conclusions stated in this report.

ADDITIONAL SERVICES

13. GZA recommends that we be retained to provide services during any future investigations, design, implementation activities, construction, and/or property development/ redevelopment at the Site. This will allow us the opportunity to: i) observe conditions and compliance with our design concepts and opinions; ii) allow for changes in the event that conditions are other than anticipated; iii) provide modifications to our design; and iv) assess the consequences of changes in technologies and/or regulations.

RISK CHARACTERIZATION

14. Our risk evaluation was performed in accordance with generally accepted practices of appropriate Federal and/or state regulatory agencies, and of other consultants undertaking similar studies at the same time, for similar purposes, and under similar circumstances. The findings of the risk evaluation are dependent on the numerous assumptions and uncertainties inherent in the risk characterization process. Sources of the uncertainty may include Site conditions; Site use; the nature, extent, concentration and distribution of contaminants; and the available toxicity and/or health/risk based regulatory information. Consequently, the findings of the risk characterization are not an absolute characterization of actual risks; but rather serve to highlight potential incremental risks associated with activities indicated in the Report. Actual risks may be other than indicated in the Report.

APPENDIX B
PHOTOGRAPHIC LOG



Photographic Log

Client Name: David Mason + Associates		Site Location: 39 Easton Road Hatboro, Montgomery County, Pennsylvania		Project No. 14.0079993.00
Photo No. 1	Date: 5/14/24			
Direction Photo Taken: East				
Description: Concrete pad covering 550 gal. Waste Oil UST located along the southern wall of Building 327.				

Photo No. 2	Date: 5/14/24			
Direction Photo Taken: East				
Description: 550 gal. UST concrete pad. Red, white, and pink paint markings on ground denote utility locations, soil boring locations, and the approximate tank location.				



Photographic Log

Client Name: David Mason + Associates		Site Location: 39 Easton Road Hatboro, Montgomery County, Pennsylvania	Project No. 14.0079993.00
Photo No. 3	Date: 5/14/24		
Direction Photo Taken: South			
Description: Hydraulic lift pump in background. White paint on floor denotes utilities running along the southern wall and a boring location.			

Photo No. 4	Date: 5/14/24		
Direction Photo Taken: South			
Description: Hydraulic Lift apparatus in foreground, hydraulic lift pump in background. Garage area used as dry storage for military tents.			



Photographic Log


Client Name: David Mason + Associates		Site Location: 39 Easton Road Hatboro, Montgomery County, Pennsylvania	Project No. 14.0079993.00
Photo No. 5	Date: 5/14/24		
Direction Photo Taken: Northwest			
Description: Battery Acid Neutralization Tank area. White paint on floor denotes potential utilities, and boring location.			

Photo No. 6	Date: 5/14/24		
Direction Photo Taken: West			
Description: Main garage space in Building 327. Primarily dry storage for military issue field tents.			



Photographic Log


Client Name: David Mason + Associates		Site Location: 39 Easton Road Hatboro, Montgomery County, Pennsylvania	Project No. 14.0079993.00
Photo No. 7	Date: 5/14/24		
Direction Photo Taken: West			
Description: Waste Oil Water Separator area located in a fenced portion of garage space. White paint on floor denotes potential utilities and approximate tank location. Boring is located beneath the freshly laid concrete in foreground.			

Photo No. 8	Date: 5/14/24		
Direction Photo Taken: South			
Description: Fenced off area of garage bay within which the Waste Oil Water Separator is located.			

APPENDIX C
LABORATORY DATA PACKAGE



ANALYTICAL REPORT

Lab Number:	L2426656
Client:	GZA GeoEnvironmental, Inc. 1515 Market Street Suite 945 Philadelphia, PA 19102
ATTN:	Jessica Stearns
Phone:	(215) 591-3800
Project Name:	BIDDLE AIRBASE
Project Number:	14.0079993.00
Report Date:	05/21/24

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

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

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



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2426656-01	GZ-1@10'	SOIL	HORSHAM, PA	05/14/24 09:40	05/14/24
L2426656-02	GZ-2@10'	SOIL	HORSHAM, PA	05/14/24 10:06	05/14/24
L2426656-03	GZ-3@8'	SOIL	HORSHAM, PA	05/14/24 12:15	05/14/24
L2426656-04	GZ-4@8'	SOIL	HORSHAM, PA	05/14/24 13:03	05/14/24
L2426656-05	GZ-5@3'	SOIL	HORSHAM, PA	05/14/24 14:03	05/14/24

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Case Narrative

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

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

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

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

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

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

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Total Metals

L2426656-01, -02, -03 and -05: The sample has elevated detection limits for all elements, with the exception of mercury, due to the dilution required by the sample matrix.

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

Authorized Signature:

 Caitlin Walukevich

Title: Technical Director/Representative

Date: 05/21/24

ORGANICS

VOLATILES

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
 Client ID: GZ-1@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8260D
 Analytical Date: 05/17/24 16:53
 Analyst: JIC
 Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Dichlorodifluoromethane	ND		mg/kg	0.0092	0.00084	1
Chloromethane	ND		mg/kg	0.0037	0.00086	1
Vinyl chloride	ND		mg/kg	0.00092	0.00031	1
Bromomethane	ND		mg/kg	0.0018	0.00054	1
Chloroethane	ND		mg/kg	0.0018	0.00042	1
Trichlorofluoromethane	ND		mg/kg	0.0037	0.00064	1
1,1-Dichloroethene	ND		mg/kg	0.00092	0.00022	1
Carbon disulfide	ND		mg/kg	0.0092	0.0042	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0037	0.00064	1
Methylene chloride	ND		mg/kg	0.0046	0.0021	1
Acetone	ND		mg/kg	0.023	0.0092	1
trans-1,2-Dichloroethene	ND		mg/kg	0.0014	0.00013	1
Methyl Acetate	ND		mg/kg	0.0037	0.00088	1
Methyl tert butyl ether	ND		mg/kg	0.0018	0.00018	1
1,1-Dichloroethane	ND		mg/kg	0.00092	0.00013	1
cis-1,2-Dichloroethene	ND		mg/kg	0.00092	0.00016	1
1,2-Dichloroethene, Total	ND		mg/kg	0.00092	0.00013	1
Cyclohexane	ND		mg/kg	0.0092	0.00050	1
Bromochloromethane	ND		mg/kg	0.0018	0.00019	1
Chloroform	ND		mg/kg	0.0014	0.00013	1
Carbon tetrachloride	ND		mg/kg	0.00092	0.00021	1
1,1,1-Trichloroethane	ND		mg/kg	0.00046	0.00015	1
2-Butanone	ND		mg/kg	0.0092	0.0020	1
Benzene	ND		mg/kg	0.00046	0.00015	1
1,2-Dichloroethane	ND		mg/kg	0.00092	0.00024	1
Methyl cyclohexane	ND		mg/kg	0.0037	0.00056	1
Trichloroethene	ND		mg/kg	0.00046	0.00013	1
1,2-Dichloropropane	ND		mg/kg	0.00092	0.00012	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
Client ID: GZ-1@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatiles Organics by EPA 5035 Low - Westborough Lab						
Bromodichloromethane	ND		mg/kg	0.00046	0.00010	1
1,4-Dioxane	ND		mg/kg	0.074	0.032	1
cis-1,3-Dichloropropene	ND		mg/kg	0.00046	0.00014	1
Toluene	ND		mg/kg	0.00092	0.00050	1
4-Methyl-2-pentanone	ND		mg/kg	0.0092	0.0012	1
Tetrachloroethene	ND		mg/kg	0.00046	0.00018	1
trans-1,3-Dichloropropene	ND		mg/kg	0.00092	0.00025	1
1,3-Dichloropropene, Total	ND		mg/kg	0.00046	0.00014	1
1,1,2-Trichloroethane	ND		mg/kg	0.00092	0.00025	1
Dibromochloromethane	ND		mg/kg	0.00092	0.00013	1
1,2-Dibromoethane	ND		mg/kg	0.00046	0.00027	1
2-Hexanone	ND		mg/kg	0.0092	0.0011	1
Chlorobenzene	ND		mg/kg	0.00046	0.00012	1
Ethylbenzene	ND		mg/kg	0.00092	0.00013	1
p/m-Xylene	ND		mg/kg	0.0018	0.00052	1
o-Xylene	ND		mg/kg	0.00092	0.00027	1
Xylenes, Total	ND		mg/kg	0.00092	0.00027	1
Styrene	ND		mg/kg	0.00092	0.00018	1
Bromoform	ND		mg/kg	0.0037	0.00023	1
Isopropylbenzene	ND		mg/kg	0.00092	0.00010	1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00046	0.00015	1
1,3-Dichlorobenzene	ND		mg/kg	0.0018	0.00014	1
1,4-Dichlorobenzene	ND		mg/kg	0.0018	0.00016	1
1,2-Dichlorobenzene	ND		mg/kg	0.0018	0.00013	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0028	0.00092	1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0018	0.00025	1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0018	0.00030	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	104		70-130
Dibromofluoromethane	106		70-130

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
Client ID: GZ-2@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 05/17/24 17:32
Analyst: JIC
Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Dichlorodifluoromethane	ND		mg/kg	0.010	0.00094	1
Chloromethane	ND		mg/kg	0.0041	0.00096	1
Vinyl chloride	ND		mg/kg	0.0010	0.00034	1
Bromomethane	ND		mg/kg	0.0021	0.00060	1
Chloroethane	ND		mg/kg	0.0021	0.00047	1
Trichlorofluoromethane	ND		mg/kg	0.0041	0.00072	1
1,1-Dichloroethene	ND		mg/kg	0.0010	0.00024	1
Carbon disulfide	ND		mg/kg	0.010	0.0047	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0041	0.00072	1
Methylene chloride	ND		mg/kg	0.0052	0.0024	1
Acetone	ND		mg/kg	0.026	0.010	1
trans-1,2-Dichloroethene	ND		mg/kg	0.0015	0.00014	1
Methyl Acetate	ND		mg/kg	0.0041	0.00098	1
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
1,1-Dichloroethane	ND		mg/kg	0.0010	0.00015	1
cis-1,2-Dichloroethene	ND		mg/kg	0.0010	0.00018	1
1,2-Dichloroethene, Total	ND		mg/kg	0.0010	0.00014	1
Cyclohexane	ND		mg/kg	0.010	0.00056	1
Bromochloromethane	ND		mg/kg	0.0021	0.00021	1
Chloroform	ND		mg/kg	0.0015	0.00014	1
Carbon tetrachloride	ND		mg/kg	0.0010	0.00024	1
1,1,1-Trichloroethane	ND		mg/kg	0.00052	0.00017	1
2-Butanone	ND		mg/kg	0.010	0.0023	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026	1
Methyl cyclohexane	ND		mg/kg	0.0041	0.00062	1
Trichloroethene	ND		mg/kg	0.00052	0.00014	1
1,2-Dichloropropane	ND		mg/kg	0.0010	0.00013	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
Client ID: GZ-2@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Bromodichloromethane	ND		mg/kg	0.00052	0.00011	1
1,4-Dioxane	ND		mg/kg	0.082	0.036	1
cis-1,3-Dichloropropene	ND		mg/kg	0.00052	0.00016	1
Toluene	ND		mg/kg	0.0010	0.00056	1
4-Methyl-2-pentanone	ND		mg/kg	0.010	0.0013	1
Tetrachloroethene	ND		mg/kg	0.00052	0.00020	1
trans-1,3-Dichloropropene	ND		mg/kg	0.0010	0.00028	1
1,3-Dichloropropene, Total	ND		mg/kg	0.00052	0.00016	1
1,1,2-Trichloroethane	ND		mg/kg	0.0010	0.00028	1
Dibromochloromethane	ND		mg/kg	0.0010	0.00014	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
2-Hexanone	ND		mg/kg	0.010	0.0012	1
Chlorobenzene	ND		mg/kg	0.00052	0.00013	1
Ethylbenzene	ND		mg/kg	0.0010	0.00014	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Styrene	ND		mg/kg	0.0010	0.00020	1
Bromoform	ND		mg/kg	0.0041	0.00025	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00052	0.00017	1
1,3-Dichlorobenzene	ND		mg/kg	0.0021	0.00015	1
1,4-Dichlorobenzene	ND		mg/kg	0.0021	0.00018	1
1,2-Dichlorobenzene	ND		mg/kg	0.0021	0.00015	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0031	0.0010	1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0021	0.00028	1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0021	0.00033	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	103		70-130
Dibromofluoromethane	106		70-130

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
Client ID: GZ-3@8'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8260D
Analytical Date: 05/19/24 21:16
Analyst: AJK
Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Dichlorodifluoromethane	ND		mg/kg	0.010	0.00095	1
Chloromethane	ND		mg/kg	0.0042	0.00097	1
Vinyl chloride	ND		mg/kg	0.0010	0.00035	1
Bromomethane	ND		mg/kg	0.0021	0.00061	1
Chloroethane	ND		mg/kg	0.0021	0.00047	1
Trichlorofluoromethane	ND		mg/kg	0.0042	0.00072	1
1,1-Dichloroethene	ND		mg/kg	0.0010	0.00025	1
Carbon disulfide	ND		mg/kg	0.010	0.0047	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0042	0.00072	1
Methylene chloride	ND		mg/kg	0.0052	0.0024	1
Acetone	ND		mg/kg	0.026	0.010	1
trans-1,2-Dichloroethene	ND		mg/kg	0.0016	0.00014	1
Methyl Acetate	ND		mg/kg	0.0042	0.00099	1
Methyl tert butyl ether	ND		mg/kg	0.0021	0.00021	1
1,1-Dichloroethane	ND		mg/kg	0.0010	0.00015	1
cis-1,2-Dichloroethene	ND		mg/kg	0.0010	0.00018	1
1,2-Dichloroethene, Total	ND		mg/kg	0.0010	0.00014	1
Cyclohexane	ND		mg/kg	0.010	0.00057	1
Bromochloromethane	ND		mg/kg	0.0021	0.00021	1
Chloroform	ND		mg/kg	0.0016	0.00015	1
Carbon tetrachloride	ND		mg/kg	0.0010	0.00024	1
1,1,1-Trichloroethane	ND		mg/kg	0.00052	0.00017	1
2-Butanone	ND		mg/kg	0.010	0.0023	1
Benzene	ND		mg/kg	0.00052	0.00017	1
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00027	1
Methyl cyclohexane	ND		mg/kg	0.0042	0.00063	1
Trichloroethene	ND		mg/kg	0.00052	0.00014	1
1,2-Dichloropropane	ND		mg/kg	0.0010	0.00013	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
Client ID: GZ-3@8'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Volatile Organics by EPA 5035 Low - Westborough Lab						
Bromodichloromethane	ND		mg/kg	0.00052	0.00011	1
1,4-Dioxane	ND		mg/kg	0.083	0.037	1
cis-1,3-Dichloropropene	ND		mg/kg	0.00052	0.00016	1
Toluene	ND		mg/kg	0.0010	0.00057	1
4-Methyl-2-pentanone	ND		mg/kg	0.010	0.0013	1
Tetrachloroethene	ND		mg/kg	0.00052	0.00020	1
trans-1,3-Dichloropropene	ND		mg/kg	0.0010	0.00028	1
1,3-Dichloropropene, Total	ND		mg/kg	0.00052	0.00016	1
1,1,2-Trichloroethane	ND		mg/kg	0.0010	0.00028	1
Dibromochloromethane	ND		mg/kg	0.0010	0.00015	1
1,2-Dibromoethane	ND		mg/kg	0.00052	0.00030	1
2-Hexanone	ND		mg/kg	0.010	0.0012	1
Chlorobenzene	ND		mg/kg	0.00052	0.00013	1
Ethylbenzene	ND		mg/kg	0.0010	0.00015	1
p/m-Xylene	ND		mg/kg	0.0021	0.00058	1
o-Xylene	ND		mg/kg	0.0010	0.00030	1
Xylenes, Total	ND		mg/kg	0.0010	0.00030	1
Styrene	ND		mg/kg	0.0010	0.00020	1
Bromoform	ND		mg/kg	0.0042	0.00026	1
Isopropylbenzene	ND		mg/kg	0.0010	0.00011	1
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00052	0.00017	1
1,3-Dichlorobenzene	ND		mg/kg	0.0021	0.00015	1
1,4-Dichlorobenzene	ND		mg/kg	0.0021	0.00018	1
1,2-Dichlorobenzene	ND		mg/kg	0.0021	0.00015	1
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0031	0.0010	1
1,2,4-Trichlorobenzene	ND		mg/kg	0.0021	0.00028	1
1,2,3-Trichlorobenzene	ND		mg/kg	0.0021	0.00034	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	98		70-130
Toluene-d8	97		70-130
4-Bromofluorobenzene	92		70-130
Dibromofluoromethane	103		70-130

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 05/17/24 10:25
Analyst: TMH

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1923275-5					
Dichlorodifluoromethane	ND		mg/kg	0.010	0.00092
Chloromethane	ND		mg/kg	0.0040	0.00093
Vinyl chloride	ND		mg/kg	0.0010	0.00034
Bromomethane	ND		mg/kg	0.0020	0.00058
Chloroethane	ND		mg/kg	0.0020	0.00045
Trichlorofluoromethane	ND		mg/kg	0.0040	0.00070
1,1-Dichloroethene	ND		mg/kg	0.0010	0.00024
Carbon disulfide	ND		mg/kg	0.010	0.0046
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0040	0.00069
Methylene chloride	ND		mg/kg	0.0050	0.0023
Acetone	ND		mg/kg	0.025	0.010
trans-1,2-Dichloroethene	ND		mg/kg	0.0015	0.00014
Methyl Acetate	ND		mg/kg	0.0040	0.00095
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
1,1-Dichloroethane	ND		mg/kg	0.0010	0.00014
cis-1,2-Dichloroethene	ND		mg/kg	0.0010	0.00018
1,2-Dichloroethene, Total	ND		mg/kg	0.0010	0.00014
Cyclohexane	ND		mg/kg	0.010	0.00054
Bromochloromethane	ND		mg/kg	0.0020	0.00020
Chloroform	0.00018	J	mg/kg	0.0015	0.00014
Carbon tetrachloride	ND		mg/kg	0.0010	0.00023
1,1,1-Trichloroethane	ND		mg/kg	0.00050	0.00017
2-Butanone	ND		mg/kg	0.010	0.0022
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Methyl cyclohexane	ND		mg/kg	0.0040	0.00060
Trichloroethene	ND		mg/kg	0.00050	0.00014
1,2-Dichloropropane	ND		mg/kg	0.0010	0.00012
Bromodichloromethane	ND		mg/kg	0.00050	0.00011

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 05/17/24 10:25
Analyst: TMH

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1923275-5					
1,4-Dioxane	ND		mg/kg	0.080	0.035
cis-1,3-Dichloropropene	ND		mg/kg	0.00050	0.00016
Toluene	ND		mg/kg	0.0010	0.00054
4-Methyl-2-pentanone	ND		mg/kg	0.010	0.0013
Tetrachloroethene	ND		mg/kg	0.00050	0.00020
trans-1,3-Dichloropropene	ND		mg/kg	0.0010	0.00027
1,3-Dichloropropene, Total	ND		mg/kg	0.00050	0.00016
1,1,2-Trichloroethane	ND		mg/kg	0.0010	0.00027
Dibromochloromethane	ND		mg/kg	0.0010	0.00014
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
2-Hexanone	ND		mg/kg	0.010	0.0012
Chlorobenzene	ND		mg/kg	0.00050	0.00013
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Styrene	ND		mg/kg	0.0010	0.00020
Bromoform	ND		mg/kg	0.0040	0.00025
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00050	0.00017
1,3-Dichlorobenzene	ND		mg/kg	0.0020	0.00015
1,4-Dichlorobenzene	ND		mg/kg	0.0020	0.00017
1,2-Dichlorobenzene	ND		mg/kg	0.0020	0.00014
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0030	0.0010
1,2,4-Trichlorobenzene	ND		mg/kg	0.0020	0.00027
1,2,3-Trichlorobenzene	ND		mg/kg	0.0020	0.00032

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 05/17/24 10:25
Analyst: TMH

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 01-02 Batch: WG1923275-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	103		70-130
Toluene-d8	100		70-130
4-Bromofluorobenzene	105		70-130
Dibromofluoromethane	101		70-130

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 05/19/24 16:33
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1923796-5					
Dichlorodifluoromethane	ND		mg/kg	0.010	0.00092
Chloromethane	ND		mg/kg	0.0040	0.00093
Vinyl chloride	ND		mg/kg	0.0010	0.00034
Bromomethane	ND		mg/kg	0.0020	0.00058
Chloroethane	ND		mg/kg	0.0020	0.00045
Trichlorofluoromethane	ND		mg/kg	0.0040	0.00070
1,1-Dichloroethene	ND		mg/kg	0.0010	0.00024
Carbon disulfide	ND		mg/kg	0.010	0.0046
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		mg/kg	0.0040	0.00069
Methylene chloride	ND		mg/kg	0.0050	0.0023
Acetone	ND		mg/kg	0.025	0.010
trans-1,2-Dichloroethene	ND		mg/kg	0.0015	0.00014
Methyl Acetate	ND		mg/kg	0.0040	0.00095
Methyl tert butyl ether	ND		mg/kg	0.0020	0.00020
1,1-Dichloroethane	ND		mg/kg	0.0010	0.00014
cis-1,2-Dichloroethene	ND		mg/kg	0.0010	0.00018
1,2-Dichloroethene, Total	ND		mg/kg	0.0010	0.00014
Cyclohexane	ND		mg/kg	0.010	0.00054
Bromochloromethane	ND		mg/kg	0.0020	0.00020
Chloroform	ND		mg/kg	0.0015	0.00014
Carbon tetrachloride	ND		mg/kg	0.0010	0.00023
1,1,1-Trichloroethane	ND		mg/kg	0.00050	0.00017
2-Butanone	ND		mg/kg	0.010	0.0022
Benzene	ND		mg/kg	0.00050	0.00017
1,2-Dichloroethane	ND		mg/kg	0.0010	0.00026
Methyl cyclohexane	ND		mg/kg	0.0040	0.00060
Trichloroethene	ND		mg/kg	0.00050	0.00014
1,2-Dichloropropane	ND		mg/kg	0.0010	0.00012
Bromodichloromethane	ND		mg/kg	0.00050	0.00011

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 05/19/24 16:33
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1923796-5					
1,4-Dioxane	ND		mg/kg	0.080	0.035
cis-1,3-Dichloropropene	ND		mg/kg	0.00050	0.00016
Toluene	ND		mg/kg	0.0010	0.00054
4-Methyl-2-pentanone	ND		mg/kg	0.010	0.0013
Tetrachloroethene	ND		mg/kg	0.00050	0.00020
trans-1,3-Dichloropropene	ND		mg/kg	0.0010	0.00027
1,3-Dichloropropene, Total	ND		mg/kg	0.00050	0.00016
1,1,2-Trichloroethane	ND		mg/kg	0.0010	0.00027
Dibromochloromethane	ND		mg/kg	0.0010	0.00014
1,2-Dibromoethane	ND		mg/kg	0.00050	0.00029
2-Hexanone	ND		mg/kg	0.010	0.0012
Chlorobenzene	ND		mg/kg	0.00050	0.00013
Ethylbenzene	ND		mg/kg	0.0010	0.00014
p/m-Xylene	ND		mg/kg	0.0020	0.00056
o-Xylene	ND		mg/kg	0.0010	0.00029
Xylenes, Total	ND		mg/kg	0.0010	0.00029
Styrene	ND		mg/kg	0.0010	0.00020
Bromoform	ND		mg/kg	0.0040	0.00025
Isopropylbenzene	ND		mg/kg	0.0010	0.00011
1,1,2,2-Tetrachloroethane	ND		mg/kg	0.00050	0.00017
1,3-Dichlorobenzene	ND		mg/kg	0.0020	0.00015
1,4-Dichlorobenzene	ND		mg/kg	0.0020	0.00017
1,2-Dichlorobenzene	ND		mg/kg	0.0020	0.00014
1,2-Dibromo-3-chloropropane	ND		mg/kg	0.0030	0.0010
1,2,4-Trichlorobenzene	ND		mg/kg	0.0020	0.00027
1,2,3-Trichlorobenzene	ND		mg/kg	0.0020	0.00032

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8260D
Analytical Date: 05/19/24 16:33
Analyst: AJK

Parameter	Result	Qualifier	Units	RL	MDL
Volatile Organics by EPA 5035 Low - Westborough Lab for sample(s): 03 Batch: WG1923796-5					

Surrogate	%Recovery	Qualifier	Acceptance Criteria
1,2-Dichloroethane-d4	95		70-130
Toluene-d8	95		70-130
4-Bromofluorobenzene	91		70-130
Dibromofluoromethane	101		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1923275-3 WG1923275-4								
Dichlorodifluoromethane	101		99		30-146	2		30
Chloromethane	108		107		52-130	1		30
Vinyl chloride	111		111		67-130	0		30
Bromomethane	94		94		57-147	0		30
Chloroethane	110		110		50-151	0		30
Trichlorofluoromethane	109		107		70-139	2		30
1,1-Dichloroethene	98		98		65-135	0		30
Carbon disulfide	89		91		59-130	2		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	103		103		50-139	0		30
Methylene chloride	96		96		70-130	0		30
Acetone	116		110		54-140	5		30
trans-1,2-Dichloroethene	98		99		70-130	1		30
Methyl Acetate	113		111		51-146	2		30
Methyl tert butyl ether	98		96		66-130	2		30
1,1-Dichloroethane	102		103		70-130	1		30
cis-1,2-Dichloroethene	95		98		70-130	3		30
Cyclohexane	109		110		59-142	1		30
Bromochloromethane	98		98		70-130	0		30
Chloroform	100		101		70-130	1		30
Carbon tetrachloride	96		99		70-130	3		30
1,1,1-Trichloroethane	98		99		70-130	1		30
2-Butanone	116		113		70-130	3		30
Benzene	102		104		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1923275-3 WG1923275-4								
1,2-Dichloroethane	100		100		70-130	0		30
Methyl cyclohexane	94		96		70-130	2		30
Trichloroethene	96		99		70-130	3		30
1,2-Dichloropropane	102		104		70-130	2		30
Bromodichloromethane	100		102		70-130	2		30
1,4-Dioxane	91		87		65-136	4		30
cis-1,3-Dichloropropene	101		102		70-130	1		30
Toluene	98		100		70-130	2		30
4-Methyl-2-pentanone	107		103		70-130	4		30
Tetrachloroethene	92		93		70-130	1		30
trans-1,3-Dichloropropene	97		97		70-130	0		30
1,1,2-Trichloroethane	95		95		70-130	0		30
Dibromochloromethane	94		96		70-130	2		30
1,2-Dibromoethane	96		96		70-130	0		30
2-Hexanone	115		111		70-130	4		30
Chlorobenzene	97		98		70-130	1		30
Ethylbenzene	100		102		70-130	2		30
p/m-Xylene	100		101		70-130	1		30
o-Xylene	99		100		70-130	1		30
Styrene	103		104		70-130	1		30
Bromoform	89		91		70-130	2		30
Isopropylbenzene	101		103		70-130	2		30
1,1,2,2-Tetrachloroethane	99		99		70-130	0		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Project Number: 14.0079993.00

Lab Number: L2426656

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 01-02 Batch: WG1923275-3 WG1923275-4								
1,3-Dichlorobenzene	96		96		70-130	0		30
1,4-Dichlorobenzene	96		96		70-130	0		30
1,2-Dichlorobenzene	96		95		70-130	1		30
1,2-Dibromo-3-chloropropane	97		96		68-130	1		30
1,2,4-Trichlorobenzene	102		101		70-130	1		30
1,2,3-Trichlorobenzene	117		116		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	101		100		70-130
Toluene-d8	101		101		70-130
4-Bromofluorobenzene	106		104		70-130
Dibromofluoromethane	103		103		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1923796-3 WG1923796-4								
Dichlorodifluoromethane	96		87		30-146	10		30
Chloromethane	86		78		52-130	10		30
Vinyl chloride	108		98		67-130	10		30
Bromomethane	127		111		57-147	13		30
Chloroethane	116		102		50-151	13		30
Trichlorofluoromethane	107		98		70-139	9		30
1,1-Dichloroethene	100		92		65-135	8		30
Carbon disulfide	101		93		59-130	8		30
1,1,2-Trichloro-1,2,2-Trifluoroethane	107		97		50-139	10		30
Methylene chloride	98		92		70-130	6		30
Acetone	84		80		54-140	5		30
trans-1,2-Dichloroethene	101		94		70-130	7		30
Methyl Acetate	83		79		51-146	5		30
Methyl tert butyl ether	103		99		66-130	4		30
1,1-Dichloroethane	101		95		70-130	6		30
cis-1,2-Dichloroethene	98		93		70-130	5		30
Cyclohexane	96		93		59-142	3		30
Bromochloromethane	103		99		70-130	4		30
Chloroform	94		92		70-130	2		30
Carbon tetrachloride	90		88		70-130	2		30
1,1,1-Trichloroethane	91		90		70-130	1		30
2-Butanone	85		80		70-130	6		30
Benzene	101		100		70-130	1		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1923796-3 WG1923796-4								
1,2-Dichloroethane	93		94		70-130	1		30
Methyl cyclohexane	94		94		70-130	0		30
Trichloroethene	93		94		70-130	1		30
1,2-Dichloropropane	102		103		70-130	1		30
Bromodichloromethane	93		93		70-130	0		30
1,4-Dioxane	114		122		65-136	7		30
cis-1,3-Dichloropropene	100		102		70-130	2		30
Toluene	99		98		70-130	1		30
4-Methyl-2-pentanone	100		103		70-130	3		30
Tetrachloroethene	98		95		70-130	3		30
trans-1,3-Dichloropropene	102		101		70-130	1		30
1,1,2-Trichloroethane	96		95		70-130	1		30
Dibromochloromethane	100		101		70-130	1		30
1,2-Dibromoethane	95		97		70-130	2		30
2-Hexanone	84		86		70-130	2		30
Chlorobenzene	102		101		70-130	1		30
Ethylbenzene	98		97		70-130	1		30
p/m-Xylene	100		99		70-130	1		30
o-Xylene	98		100		70-130	2		30
Styrene	104		104		70-130	0		30
Bromoform	92		94		70-130	2		30
Isopropylbenzene	97		95		70-130	2		30
1,1,2,2-Tetrachloroethane	92		94		70-130	2		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Project Number: 14.0079993.00

Lab Number: L2426656

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Volatile Organics by EPA 5035 Low - Westborough Lab Associated sample(s): 03 Batch: WG1923796-3 WG1923796-4								
1,3-Dichlorobenzene	102		100		70-130	2		30
1,4-Dichlorobenzene	101		100		70-130	1		30
1,2-Dichlorobenzene	100		101		70-130	1		30
1,2-Dibromo-3-chloropropane	91		95		68-130	4		30
1,2,4-Trichlorobenzene	114		112		70-130	2		30
1,2,3-Trichlorobenzene	106		107		70-130	1		30

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
1,2-Dichloroethane-d4	89		89		70-130
Toluene-d8	99		98		70-130
4-Bromofluorobenzene	97		94		70-130
Dibromofluoromethane	96		95		70-130

SEMIVOLATILES

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
 Client ID: GZ-1@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 05/17/24 02:00
 Analyst: SZ
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzaldehyde	ND		mg/kg	0.24	0.050	1
Phenol	ND		mg/kg	0.18	0.028	1
2-Chlorophenol	ND		mg/kg	0.18	0.022	1
2-Methylphenol	ND		mg/kg	0.18	0.029	1
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.22	0.032	1
Acetophenone	ND		mg/kg	0.18	0.023	1
1,4-Dioxane	ND		mg/kg	0.028	0.0085	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.27	0.029	1
Hexachloroethane	ND		mg/kg	0.15	0.030	1
Nitrobenzene	ND		mg/kg	0.17	0.028	1
Isophorone	ND		mg/kg	0.17	0.024	1
2-Nitrophenol	ND		mg/kg	0.40	0.070	1
2,4-Dimethylphenol	ND		mg/kg	0.18	0.061	1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.20	0.019	1
2,4-Dichlorophenol	ND		mg/kg	0.17	0.030	1
Naphthalene	ND		mg/kg	0.037	0.023	1
4-Chloroaniline	ND		mg/kg	0.18	0.034	1
Hexachlorobutadiene	ND		mg/kg	0.18	0.027	1
Caprolactam	ND		mg/kg	0.18	0.056	1
p-Chloro-m-cresol	ND		mg/kg	0.18	0.028	1
2-Methylnaphthalene	ND		mg/kg	0.22	0.022	1
Hexachlorocyclopentadiene	ND		mg/kg	0.53	0.17	1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.18	0.019	1
2,4,6-Trichlorophenol	ND		mg/kg	0.11	0.035	1
2,4,5-Trichlorophenol	ND		mg/kg	0.18	0.036	1
Biphenyl	ND		mg/kg	0.42	0.024	1
2-Chloronaphthalene	ND		mg/kg	0.18	0.018	1
2-Nitroaniline	ND		mg/kg	0.18	0.036	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
Client ID: GZ-1@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Dimethyl phthalate	ND		mg/kg	0.18	0.039	1
2,6-Dinitrotoluene	ND		mg/kg	0.18	0.032	1
Acenaphthylene	ND		mg/kg	0.15	0.029	1
3-Nitroaniline	ND		mg/kg	0.18	0.035	1
Acenaphthene	ND		mg/kg	0.15	0.019	1
2,4-Dinitrophenol	ND		mg/kg	0.89	0.087	1
4-Nitrophenol	ND		mg/kg	0.26	0.076	1
2,4-Dinitrotoluene	ND		mg/kg	0.18	0.037	1
Dibenzofuran	ND		mg/kg	0.18	0.018	1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.18	0.038	1
Diethyl phthalate	ND		mg/kg	0.18	0.017	1
Fluorene	ND		mg/kg	0.18	0.018	1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.18	0.020	1
4-Nitroaniline	ND		mg/kg	0.18	0.077	1
4,6-Dinitro-o-cresol	ND		mg/kg	0.48	0.089	1
NDPA/DPA	ND		mg/kg	0.15	0.021	1
4-Bromophenyl phenyl ether	ND		mg/kg	0.18	0.028	1
Hexachlorobenzene	ND		mg/kg	0.11	0.021	1
Pentachlorophenol	ND		mg/kg	0.15	0.041	1
Atrazine	ND		mg/kg	0.15	0.065	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.036	1
Carbazole	ND		mg/kg	0.18	0.018	1
Di-n-butylphthalate	ND		mg/kg	0.18	0.035	1
Fluoranthene	ND		mg/kg	0.11	0.021	1
Pyrene	ND		mg/kg	0.11	0.018	1
Butyl benzyl phthalate	ND		mg/kg	0.18	0.047	1
3,3'-Dichlorobenzidine	ND		mg/kg	0.18	0.049	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.019	1
Bis(2-ethylhexyl)phthalate	ND		mg/kg	0.18	0.064	1
Di-n-octylphthalate	ND		mg/kg	0.18	0.063	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.031	1
Benzo(k)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.045	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.15	0.026	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.11	0.021	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
 Client ID: GZ-1@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	62		23-120
2-Fluorobiphenyl	79		30-120
2,4,6-Tribromophenol	104		10-136
4-Terphenyl-d14	78		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
 Client ID: GZ-1@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E-SIM
 Analytical Date: 05/18/24 20:56
 Analyst: AH
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Bis(2-chloroethyl)ether	ND		mg/kg	0.037	0.010	1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.037	0.0097	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	55		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	72		23-120
2-Fluorobiphenyl	54		30-120
2,4,6-Tribromophenol	87		10-136
4-Terphenyl-d14	61		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
 Client ID: GZ-2@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 05/17/24 02:24
 Analyst: SZ
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzaldehyde	ND		mg/kg	0.26	0.053	1
Phenol	ND		mg/kg	0.20	0.030	1
2-Chlorophenol	ND		mg/kg	0.20	0.023	1
2-Methylphenol	ND		mg/kg	0.20	0.030	1
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.23	0.033	1
Acetophenone	ND		mg/kg	0.20	0.024	1
1,4-Dioxane	ND		mg/kg	0.029	0.0089	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.28	0.031	1
Hexachloroethane	ND		mg/kg	0.16	0.032	1
Nitrobenzene	ND		mg/kg	0.18	0.029	1
Isophorone	ND		mg/kg	0.18	0.025	1
2-Nitrophenol	ND		mg/kg	0.42	0.074	1
2,4-Dimethylphenol	ND		mg/kg	0.20	0.065	1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.21	0.020	1
2,4-Dichlorophenol	ND		mg/kg	0.18	0.031	1
Naphthalene	ND		mg/kg	0.039	0.024	1
4-Chloroaniline	ND		mg/kg	0.20	0.036	1
Hexachlorobutadiene	ND		mg/kg	0.20	0.029	1
Caprolactam	ND		mg/kg	0.20	0.060	1
p-Chloro-m-cresol	ND		mg/kg	0.20	0.029	1
2-Methylnaphthalene	ND		mg/kg	0.23	0.024	1
Hexachlorocyclopentadiene	ND		mg/kg	0.56	0.18	1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.20	0.020	1
2,4,6-Trichlorophenol	ND		mg/kg	0.12	0.037	1
2,4,5-Trichlorophenol	ND		mg/kg	0.20	0.038	1
Biphenyl	ND		mg/kg	0.45	0.025	1
2-Chloronaphthalene	ND		mg/kg	0.20	0.019	1
2-Nitroaniline	ND		mg/kg	0.20	0.038	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
Client ID: GZ-2@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Dimethyl phthalate	ND		mg/kg	0.20	0.041	1
2,6-Dinitrotoluene	ND		mg/kg	0.20	0.034	1
Acenaphthylene	ND		mg/kg	0.16	0.030	1
3-Nitroaniline	ND		mg/kg	0.20	0.037	1
Acenaphthene	ND		mg/kg	0.16	0.020	1
2,4-Dinitrophenol	ND		mg/kg	0.94	0.091	1
4-Nitrophenol	ND		mg/kg	0.27	0.080	1
2,4-Dinitrotoluene	ND		mg/kg	0.20	0.039	1
Dibenzofuran	ND		mg/kg	0.20	0.018	1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.20	0.040	1
Diethyl phthalate	ND		mg/kg	0.20	0.018	1
Fluorene	ND		mg/kg	0.20	0.019	1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.20	0.021	1
4-Nitroaniline	ND		mg/kg	0.20	0.081	1
4,6-Dinitro-o-cresol	ND		mg/kg	0.51	0.094	1
NDPA/DPA	ND		mg/kg	0.16	0.022	1
4-Bromophenyl phenyl ether	ND		mg/kg	0.20	0.030	1
Hexachlorobenzene	ND		mg/kg	0.12	0.022	1
Pentachlorophenol	ND		mg/kg	0.16	0.043	1
Atrazine	ND		mg/kg	0.16	0.068	1
Phenanthrene	ND		mg/kg	0.12	0.024	1
Anthracene	ND		mg/kg	0.12	0.038	1
Carbazole	ND		mg/kg	0.20	0.019	1
Di-n-butylphthalate	ND		mg/kg	0.20	0.037	1
Fluoranthene	ND		mg/kg	0.12	0.022	1
Pyrene	ND		mg/kg	0.12	0.019	1
Butyl benzyl phthalate	ND		mg/kg	0.20	0.049	1
3,3'-Dichlorobenzidine	ND		mg/kg	0.20	0.052	1
Benzo(a)anthracene	ND		mg/kg	0.12	0.022	1
Chrysene	ND		mg/kg	0.12	0.020	1
Bis(2-ethylhexyl)phthalate	ND		mg/kg	0.20	0.068	1
Di-n-octylphthalate	ND		mg/kg	0.20	0.066	1
Benzo(b)fluoranthene	ND		mg/kg	0.12	0.033	1
Benzo(k)fluoranthene	ND		mg/kg	0.12	0.031	1
Benzo(a)pyrene	ND		mg/kg	0.16	0.048	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.16	0.027	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.12	0.023	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
 Client ID: GZ-2@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(ghi)perylene	ND		mg/kg	0.16	0.023	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	57		25-120
Phenol-d6	57		10-120
Nitrobenzene-d5	59		23-120
2-Fluorobiphenyl	72		30-120
2,4,6-Tribromophenol	97		10-136
4-Terphenyl-d14	72		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
 Client ID: GZ-2@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E-SIM
 Analytical Date: 05/18/24 21:12
 Analyst: AH
 Percent Solids: 84%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
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Semivolatile Organics by GC/MS-SIM - Westborough Lab

Bis(2-chloroethyl)ether	ND		mg/kg	0.039	0.011	1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.039	0.010	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	57		25-120
Phenol-d6	62		10-120
Nitrobenzene-d5	74		23-120
2-Fluorobiphenyl	56		30-120
2,4,6-Tribromophenol	87		10-136
4-Terphenyl-d14	61		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
Client ID: GZ-3@8'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8270E
Analytical Date: 05/17/24 02:48
Analyst: SZ
Percent Solids: 87%

Extraction Method: EPA 3546
Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzaldehyde	ND		mg/kg	0.25	0.051	1
Phenol	ND		mg/kg	0.19	0.028	1
2-Chlorophenol	ND		mg/kg	0.19	0.022	1
2-Methylphenol	ND		mg/kg	0.19	0.029	1
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.22	0.032	1
Acetophenone	ND		mg/kg	0.19	0.023	1
1,4-Dioxane	ND		mg/kg	0.028	0.0086	1
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.27	0.029	1
Hexachloroethane	ND		mg/kg	0.15	0.030	1
Nitrobenzene	ND		mg/kg	0.17	0.028	1
Isophorone	ND		mg/kg	0.17	0.024	1
2-Nitrophenol	ND		mg/kg	0.41	0.071	1
2,4-Dimethylphenol	ND		mg/kg	0.19	0.062	1
Bis(2-chloroethoxy)methane	ND		mg/kg	0.20	0.019	1
2,4-Dichlorophenol	ND		mg/kg	0.17	0.030	1
Naphthalene	ND		mg/kg	0.038	0.023	1
4-Chloroaniline	ND		mg/kg	0.19	0.034	1
Hexachlorobutadiene	ND		mg/kg	0.19	0.028	1
Caprolactam	ND		mg/kg	0.19	0.057	1
p-Chloro-m-cresol	ND		mg/kg	0.19	0.028	1
2-Methylnaphthalene	ND		mg/kg	0.22	0.023	1
Hexachlorocyclopentadiene	ND		mg/kg	0.54	0.17	1
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.19	0.020	1
2,4,6-Trichlorophenol	ND		mg/kg	0.11	0.036	1
2,4,5-Trichlorophenol	ND		mg/kg	0.19	0.036	1
Biphenyl	ND		mg/kg	0.43	0.024	1
2-Chloronaphthalene	ND		mg/kg	0.19	0.019	1
2-Nitroaniline	ND		mg/kg	0.19	0.036	1

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
 Client ID: GZ-3@8'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Dimethyl phthalate	ND		mg/kg	0.19	0.040	1
2,6-Dinitrotoluene	ND		mg/kg	0.19	0.032	1
Acenaphthylene	ND		mg/kg	0.15	0.029	1
3-Nitroaniline	ND		mg/kg	0.19	0.036	1
Acenaphthene	ND		mg/kg	0.15	0.020	1
2,4-Dinitrophenol	ND		mg/kg	0.90	0.088	1
4-Nitrophenol	ND		mg/kg	0.26	0.077	1
2,4-Dinitrotoluene	ND		mg/kg	0.19	0.038	1
Dibenzofuran	ND		mg/kg	0.19	0.018	1
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.19	0.038	1
Diethyl phthalate	ND		mg/kg	0.19	0.017	1
Fluorene	ND		mg/kg	0.19	0.018	1
4-Chlorophenyl phenyl ether	ND		mg/kg	0.19	0.020	1
4-Nitroaniline	ND		mg/kg	0.19	0.078	1
4,6-Dinitro-o-cresol	ND		mg/kg	0.49	0.090	1
NDPA/DPA	ND		mg/kg	0.15	0.021	1
4-Bromophenyl phenyl ether	ND		mg/kg	0.19	0.029	1
Hexachlorobenzene	ND		mg/kg	0.11	0.021	1
Pentachlorophenol	ND		mg/kg	0.15	0.041	1
Atrazine	ND		mg/kg	0.15	0.066	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Carbazole	ND		mg/kg	0.19	0.018	1
Di-n-butylphthalate	ND		mg/kg	0.19	0.036	1
Fluoranthene	ND		mg/kg	0.11	0.022	1
Pyrene	ND		mg/kg	0.11	0.019	1
Butyl benzyl phthalate	ND		mg/kg	0.19	0.047	1
3,3'-Dichlorobenzidine	ND		mg/kg	0.19	0.050	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Bis(2-ethylhexyl)phthalate	ND		mg/kg	0.19	0.065	1
Di-n-octylphthalate	ND		mg/kg	0.19	0.064	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(k)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.15	0.026	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.11	0.022	1

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
 Client ID: GZ-3@8'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	65		25-120
Phenol-d6	61		10-120
Nitrobenzene-d5	65		23-120
2-Fluorobiphenyl	82		30-120
2,4,6-Tribromophenol	113		10-136
4-Terphenyl-d14	83		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
 Client ID: GZ-3@8'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E-SIM
 Analytical Date: 05/18/24 21:29
 Analyst: AH
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 16:31

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS-SIM - Westborough Lab						
Bis(2-chloroethyl)ether	ND		mg/kg	0.038	0.010	1
n-Nitrosodi-n-propylamine	ND		mg/kg	0.038	0.0099	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	60		25-120
Phenol-d6	65		10-120
Nitrobenzene-d5	76		23-120
2-Fluorobiphenyl	59		30-120
2,4,6-Tribromophenol	90		10-136
4-Terphenyl-d14	66		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-04
 Client ID: GZ-4@8'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 13:03
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8270E
 Analytical Date: 05/17/24 03:36
 Analyst: SZ
 Percent Solids: 85%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 16:34

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Semivolatile Organics by GC/MS - Westborough Lab						
Naphthalene	ND		mg/kg	0.038	0.023	1
2-Methylnaphthalene	ND		mg/kg	0.23	0.023	1
2-Chloronaphthalene	ND		mg/kg	0.19	0.019	1
Acenaphthylene	ND		mg/kg	0.15	0.029	1
Acenaphthene	ND		mg/kg	0.15	0.020	1
Fluorene	ND		mg/kg	0.19	0.018	1
Phenanthrene	ND		mg/kg	0.11	0.023	1
Anthracene	ND		mg/kg	0.11	0.037	1
Fluoranthene	ND		mg/kg	0.11	0.022	1
Pyrene	ND		mg/kg	0.11	0.019	1
Benzo(a)anthracene	ND		mg/kg	0.11	0.021	1
Chrysene	ND		mg/kg	0.11	0.020	1
Benzo(b)fluoranthene	ND		mg/kg	0.11	0.032	1
Benzo(k)fluoranthene	ND		mg/kg	0.11	0.030	1
Benzo(a)pyrene	ND		mg/kg	0.15	0.046	1
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.15	0.026	1
Dibenzo(a,h)anthracene	ND		mg/kg	0.11	0.022	1
Benzo(ghi)perylene	ND		mg/kg	0.15	0.022	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Nitrobenzene-d5	69		23-120
2-Fluorobiphenyl	83		30-120
4-Terphenyl-d14	79		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 05/17/24 00:49
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1922121-1					
Benzaldehyde	ND		mg/kg	0.22	0.045
Phenol	ND		mg/kg	0.16	0.025
2-Chlorophenol	ND		mg/kg	0.16	0.020
2-Methylphenol	ND		mg/kg	0.16	0.026
Bis(2-chloroisopropyl)ether	ND		mg/kg	0.20	0.028
Acetophenone	ND		mg/kg	0.16	0.020
1,4-Dioxane	ND		mg/kg	0.025	0.0076
3-Methylphenol/4-Methylphenol	ND		mg/kg	0.24	0.026
Hexachloroethane	ND		mg/kg	0.13	0.027
Nitrobenzene	ND		mg/kg	0.15	0.024
Isophorone	ND		mg/kg	0.15	0.022
2-Nitrophenol	ND		mg/kg	0.36	0.062
2,4-Dimethylphenol	ND		mg/kg	0.16	0.055
Bis(2-chloroethoxy)methane	ND		mg/kg	0.18	0.017
2,4-Dichlorophenol	ND		mg/kg	0.15	0.027
Naphthalene	ND		mg/kg	0.033	0.020
4-Chloroaniline	ND		mg/kg	0.16	0.030
Hexachlorobutadiene	ND		mg/kg	0.16	0.024
Caprolactam	ND		mg/kg	0.16	0.050
p-Chloro-m-cresol	ND		mg/kg	0.16	0.025
2-Methylnaphthalene	ND		mg/kg	0.20	0.020
Hexachlorocyclopentadiene	ND		mg/kg	0.47	0.15
1,2,4,5-Tetrachlorobenzene	ND		mg/kg	0.16	0.017
2,4,6-Trichlorophenol	ND		mg/kg	0.10	0.031
2,4,5-Trichlorophenol	ND		mg/kg	0.16	0.032
Biphenyl	ND		mg/kg	0.38	0.022
2-Chloronaphthalene	ND		mg/kg	0.16	0.016
2-Nitroaniline	ND		mg/kg	0.16	0.032
Dimethyl phthalate	ND		mg/kg	0.16	0.035

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 05/17/24 00:49
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1922121-1					
2,6-Dinitrotoluene	ND		mg/kg	0.16	0.028
Acenaphthylene	ND		mg/kg	0.13	0.026
3-Nitroaniline	ND		mg/kg	0.16	0.031
Acenaphthene	ND		mg/kg	0.13	0.017
2,4-Dinitrophenol	ND		mg/kg	0.80	0.077
4-Nitrophenol	ND		mg/kg	0.23	0.068
2,4-Dinitrotoluene	ND		mg/kg	0.16	0.033
Dibenzofuran	ND		mg/kg	0.16	0.016
2,3,4,6-Tetrachlorophenol	ND		mg/kg	0.16	0.033
Diethyl phthalate	ND		mg/kg	0.16	0.015
Fluorene	ND		mg/kg	0.16	0.016
4-Chlorophenyl phenyl ether	ND		mg/kg	0.16	0.018
4-Nitroaniline	ND		mg/kg	0.16	0.069
4,6-Dinitro-o-cresol	ND		mg/kg	0.43	0.080
NDPA/DPA	ND		mg/kg	0.13	0.019
4-Bromophenyl phenyl ether	ND		mg/kg	0.16	0.025
Hexachlorobenzene	ND		mg/kg	0.10	0.018
Pentachlorophenol	ND		mg/kg	0.13	0.036
Atrazine	ND		mg/kg	0.13	0.058
Phenanthrene	ND		mg/kg	0.10	0.020
Anthracene	ND		mg/kg	0.10	0.032
Carbazole	ND		mg/kg	0.16	0.016
Di-n-butylphthalate	ND		mg/kg	0.16	0.031
Fluoranthene	ND		mg/kg	0.10	0.019
Pyrene	ND		mg/kg	0.10	0.016
Butyl benzyl phthalate	ND		mg/kg	0.16	0.042
3,3'-Dichlorobenzidine	ND		mg/kg	0.16	0.044
Benzo(a)anthracene	ND		mg/kg	0.10	0.019
Chrysene	ND		mg/kg	0.10	0.017

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E
Analytical Date: 05/17/24 00:49
Analyst: SZ

Extraction Method: EPA 3546
Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS - Westborough Lab for sample(s): 01-04 Batch: WG1922121-1					
Bis(2-ethylhexyl)phthalate	ND		mg/kg	0.16	0.057
Di-n-octylphthalate	ND		mg/kg	0.16	0.056
Benzo(b)fluoranthene	ND		mg/kg	0.10	0.028
Benzo(k)fluoranthene	ND		mg/kg	0.10	0.026
Benzo(a)pyrene	ND		mg/kg	0.13	0.040
Indeno(1,2,3-cd)pyrene	ND		mg/kg	0.13	0.023
Dibenzo(a,h)anthracene	ND		mg/kg	0.10	0.019
Benzo(ghi)perylene	ND		mg/kg	0.13	0.020

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	59		25-120
Phenol-d6	57		10-120
Nitrobenzene-d5	55		23-120
2-Fluorobiphenyl	70		30-120
2,4,6-Tribromophenol	96		10-136
4-Terphenyl-d14	72		18-120

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8270E-SIM
Analytical Date: 05/17/24 07:27
Analyst: AH

Extraction Method: EPA 3546
Extraction Date: 05/16/24 16:29

Parameter	Result	Qualifier	Units	RL	MDL
Semivolatile Organics by GC/MS-SIM - Westborough Lab for sample(s): 01-03 Batch: WG1922122-1					
Bis(2-chloroethyl)ether	ND		mg/kg	0.033	0.0092
n-Nitrosodi-n-propylamine	ND		mg/kg	0.033	0.0087

Surrogate	%Recovery	Qualifier	Acceptance Criteria
2-Fluorophenol	58		25-120
Phenol-d6	63		10-120
Nitrobenzene-d5	79		23-120
2-Fluorobiphenyl	53		30-120
2,4,6-Tribromophenol	78		10-136
4-Terphenyl-d14	61		18-120

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1922121-2 WG1922121-3								
Benzaldehyde	52		54		40-140	4		50
Phenol	54		54		26-90	0		50
2-Chlorophenol	63		64		25-102	2		50
2-Methylphenol	60		63		30-130	5		50
Bis(2-chloroisopropyl)ether	37	Q	38	Q	40-140	3		50
Acetophenone	53		55		14-144	4		50
1,4-Dioxane	34		33		30-130	3		50
3-Methylphenol/4-Methylphenol	64		66		30-130	3		50
Hexachloroethane	60		60		40-140	0		50
Nitrobenzene	58		58		40-140	0		50
Isophorone	57		58		40-140	2		50
2-Nitrophenol	78		81		30-130	4		50
2,4-Dimethylphenol	78		80		30-130	3		50
Bis(2-chloroethoxy)methane	56		56		40-117	0		50
2,4-Dichlorophenol	72		75		30-130	4		50
Naphthalene	62		62		40-140	0		50
4-Chloroaniline	44		45		40-140	2		50
Hexachlorobutadiene	78		78		40-140	0		50
Caprolactam	52		52		15-130	0		50
p-Chloro-m-cresol	70		74		26-103	6		50
2-Methylnaphthalene	66		68		40-140	3		50
Hexachlorocyclopentadiene	109		111		40-140	2		50
1,2,4,5-Tetrachlorobenzene	69		70		40-117	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1922121-2 WG1922121-3								
2,4,6-Trichlorophenol	81		86		30-130	6		50
2,4,5-Trichlorophenol	86		86		30-130	0		50
Biphenyl	61		64		37-127	5		50
2-Chloronaphthalene	69		72		40-140	4		50
2-Nitroaniline	86		89		47-134	3		50
Dimethyl phthalate	76		79		40-140	4		50
2,6-Dinitrotoluene	85		88		40-140	3		50
Acenaphthylene	69		71		40-140	3		50
3-Nitroaniline	64		61		26-129	5		50
Acenaphthene	65		67		31-137	3		50
2,4-Dinitrophenol	83		78		4-130	6		50
4-Nitrophenol	71		73		11-114	3		50
2,4-Dinitrotoluene	78		79		40-132	1		50
Dibenzofuran	65		67		40-140	3		50
2,3,4,6-Tetrachlorophenol	81		82		58-132	1		50
Diethyl phthalate	74		73		40-140	1		50
Fluorene	69		69		40-140	0		50
4-Chlorophenyl phenyl ether	69		71		40-140	3		50
4-Nitroaniline	67		66		41-125	2		50
4,6-Dinitro-o-cresol	94		93		10-130	1		50
NDPA/DPA	70		69		36-157	1		50
4-Bromophenyl phenyl ether	78		77		40-140	1		50
Hexachlorobenzene	84		83		40-140	1		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1922121-2 WG1922121-3								
Pentachlorophenol	94		92		17-109	2		50
Atrazine	73		69		40-140	6		50
Phenanthrene	64		66		40-140	3		50
Anthracene	68		68		40-140	0		50
Carbazole	67		66		54-128	2		50
Di-n-butylphthalate	72		74		40-140	3		50
Fluoranthene	72		71		40-140	1		50
Pyrene	71		71		35-142	0		50
Butyl benzyl phthalate	80		80		40-140	0		50
3,3'-Dichlorobenzidine	59		58		40-140	2		50
Benzo(a)anthracene	66		67		40-140	2		50
Chrysene	66		67		40-140	2		50
Bis(2-ethylhexyl)phthalate	75		79		40-140	5		50
Di-n-octylphthalate	83		78		40-140	6		50
Benzo(b)fluoranthene	73		69		40-140	6		50
Benzo(k)fluoranthene	67		74		40-140	10		50
Benzo(a)pyrene	76		74		40-140	3		50
Indeno(1,2,3-cd)pyrene	67		64		40-140	5		50
Dibenzo(a,h)anthracene	67		63		40-140	6		50
Benzo(ghi)perylene	68		66		40-140	3		50

Lab Control Sample Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Parameter	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>%Recovery</i> Limits	<i>RPD</i>	<i>Qual</i>	<i>RPD</i> Limits
Semivolatile Organics by GC/MS - Westborough Lab Associated sample(s): 01-04 Batch: WG1922121-2 WG1922121-3								

<i>Surrogate</i>	<i>LCS</i> %Recovery	<i>Qual</i>	<i>LCSD</i> %Recovery	<i>Qual</i>	<i>Acceptance</i> Criteria
2-Fluorophenol	61		60		25-120
Phenol-d6	60		58		10-120
Nitrobenzene-d5	59		59		23-120
2-Fluorobiphenyl	70		71		30-120
2,4,6-Tribromophenol	98		94		10-136
4-Terphenyl-d14	72		69		18-120

Lab Control Sample Analysis Batch Quality Control

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Semivolatile Organics by GC/MS-SIM - Westborough Lab Associated sample(s): 01-03 Batch: WG1922122-2 WG1922122-3								
Bis(2-chloroethyl)ether	73		75		40-140	3		50
n-Nitrosodi-n-propylamine	86		88		40-140	2		50

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
2-Fluorophenol	67		68		25-120
Phenol-d6	71		72		10-120
Nitrobenzene-d5	86		88		23-120
2-Fluorobiphenyl	58		58		30-120
2,4,6-Tribromophenol	89		86		10-136
4-Terphenyl-d14	66		63		18-120

PCBS

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
 Client ID: GZ-1@10'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8082A
 Analytical Date: 05/17/24 10:54
 Analyst: MEO
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 17:14
 Cleanup Method: EPA 3665A
 Cleanup Date: 05/17/24
 Cleanup Method: EPA 3660B
 Cleanup Date: 05/17/24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		mg/kg	0.0543	0.00482	1	A
Aroclor 1221	ND		mg/kg	0.0543	0.00544	1	A
Aroclor 1232	ND		mg/kg	0.0543	0.0115	1	A
Aroclor 1242	ND		mg/kg	0.0543	0.00732	1	A
Aroclor 1248	ND		mg/kg	0.0543	0.00814	1	A
Aroclor 1254	ND		mg/kg	0.0543	0.00594	1	A
Aroclor 1260	ND		mg/kg	0.0543	0.0100	1	A
Aroclor 1262	ND		mg/kg	0.0543	0.00689	1	A
Aroclor 1268	ND		mg/kg	0.0543	0.00562	1	A
PCBs, Total	ND		mg/kg	0.0543	0.00482	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	94		30-150	A
2,4,5,6-Tetrachloro-m-xylene	85		30-150	B
Decachlorobiphenyl	92		30-150	B

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02
Client ID: GZ-2@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 10:06
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 05/17/24 11:05
Analyst: MEO
Percent Solids: 84%

Extraction Method: EPA 3546
Extraction Date: 05/16/24 17:14
Cleanup Method: EPA 3665A
Cleanup Date: 05/17/24
Cleanup Method: EPA 3660B
Cleanup Date: 05/17/24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		mg/kg	0.0568	0.00505	1	A
Aroclor 1221	ND		mg/kg	0.0568	0.00570	1	A
Aroclor 1232	ND		mg/kg	0.0568	0.0120	1	A
Aroclor 1242	ND		mg/kg	0.0568	0.00766	1	A
Aroclor 1248	ND		mg/kg	0.0568	0.00853	1	A
Aroclor 1254	ND		mg/kg	0.0568	0.00622	1	A
Aroclor 1260	ND		mg/kg	0.0568	0.0105	1	A
Aroclor 1262	ND		mg/kg	0.0568	0.00722	1	A
Aroclor 1268	ND		mg/kg	0.0568	0.00589	1	A
PCBs, Total	ND		mg/kg	0.0568	0.00505	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	82		30-150	A
Decachlorobiphenyl	99		30-150	A
2,4,5,6-Tetrachloro-m-xylene	87		30-150	B
Decachlorobiphenyl	99		30-150	B

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
 Client ID: GZ-3@8'
 Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
 Date Received: 05/14/24
 Field Prep: Not Specified

Sample Depth:

Matrix: Soil
 Analytical Method: 1,8082A
 Analytical Date: 05/17/24 11:17
 Analyst: MEO
 Percent Solids: 87%

Extraction Method: EPA 3546
 Extraction Date: 05/16/24 17:14
 Cleanup Method: EPA 3665A
 Cleanup Date: 05/17/24
 Cleanup Method: EPA 3660B
 Cleanup Date: 05/17/24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		mg/kg	0.0531	0.00471	1	A
Aroclor 1221	ND		mg/kg	0.0531	0.00532	1	A
Aroclor 1232	ND		mg/kg	0.0531	0.0112	1	A
Aroclor 1242	ND		mg/kg	0.0531	0.00716	1	A
Aroclor 1248	ND		mg/kg	0.0531	0.00796	1	A
Aroclor 1254	ND		mg/kg	0.0531	0.00581	1	A
Aroclor 1260	ND		mg/kg	0.0531	0.00981	1	A
Aroclor 1262	ND		mg/kg	0.0531	0.00674	1	A
Aroclor 1268	ND		mg/kg	0.0531	0.00550	1	A
PCBs, Total	ND		mg/kg	0.0531	0.00471	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	83		30-150	A
Decachlorobiphenyl	98		30-150	A
2,4,5,6-Tetrachloro-m-xylene	86		30-150	B
Decachlorobiphenyl	98		30-150	B

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-04
Client ID: GZ-4@8'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 13:03
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:

Matrix: Soil
Analytical Method: 1,8082A
Analytical Date: 05/17/24 11:28
Analyst: MEO
Percent Solids: 85%

Extraction Method: EPA 3546
Extraction Date: 05/16/24 17:14
Cleanup Method: EPA 3665A
Cleanup Date: 05/17/24
Cleanup Method: EPA 3660B
Cleanup Date: 05/17/24

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Polychlorinated Biphenyls by GC - Westborough Lab							
Aroclor 1016	ND		mg/kg	0.0543	0.00482	1	A
Aroclor 1221	ND		mg/kg	0.0543	0.00544	1	A
Aroclor 1232	ND		mg/kg	0.0543	0.0115	1	A
Aroclor 1242	ND		mg/kg	0.0543	0.00731	1	A
Aroclor 1248	ND		mg/kg	0.0543	0.00814	1	A
Aroclor 1254	ND		mg/kg	0.0543	0.00594	1	A
Aroclor 1260	ND		mg/kg	0.0543	0.0100	1	A
Aroclor 1262	ND		mg/kg	0.0543	0.00689	1	A
Aroclor 1268	ND		mg/kg	0.0543	0.00562	1	A
PCBs, Total	ND		mg/kg	0.0543	0.00482	1	A

Surrogate	% Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	76		30-150	A
Decachlorobiphenyl	83		30-150	A
2,4,5,6-Tetrachloro-m-xylene	80		30-150	B
Decachlorobiphenyl	89		30-150	B

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis
Batch Quality Control

Analytical Method: 1,8082A
Analytical Date: 05/17/24 09:34
Analyst: MEO

Extraction Method: EPA 3546
Extraction Date: 05/16/24 17:14
Cleanup Method: EPA 3665A
Cleanup Date: 05/17/24
Cleanup Method: EPA 3660B
Cleanup Date: 05/17/24

Parameter	Result	Qualifier	Units	RL	MDL	Column
Polychlorinated Biphenyls by GC - Westborough Lab for sample(s): 01-04 Batch: WG1922133-1						
Aroclor 1016	ND		mg/kg	0.0458	0.00406	A
Aroclor 1221	ND		mg/kg	0.0458	0.00459	A
Aroclor 1232	ND		mg/kg	0.0458	0.00971	A
Aroclor 1242	ND		mg/kg	0.0458	0.00617	A
Aroclor 1248	ND		mg/kg	0.0458	0.00687	A
Aroclor 1254	ND		mg/kg	0.0458	0.00501	A
Aroclor 1260	ND		mg/kg	0.0458	0.00846	A
Aroclor 1262	ND		mg/kg	0.0458	0.00582	A
Aroclor 1268	ND		mg/kg	0.0458	0.00474	A
PCBs, Total	ND		mg/kg	0.0458	0.00406	A

Surrogate	%Recovery	Qualifier	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		30-150	A
Decachlorobiphenyl	102		30-150	A
2,4,5,6-Tetrachloro-m-xylene	93		30-150	B
Decachlorobiphenyl	104		30-150	B

Lab Control Sample Analysis Batch Quality Control

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Polychlorinated Biphenyls by GC - Westborough Lab Associated sample(s): 01-04 Batch: WG1922133-2 WG1922133-3									
Aroclor 1016	79		76		40-140	4		50	A
Aroclor 1260	71		69		40-140	3		50	A

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria	Column
2,4,5,6-Tetrachloro-m-xylene	89		85		30-150	A
Decachlorobiphenyl	97		95		30-150	A
2,4,5,6-Tetrachloro-m-xylene	91		86		30-150	B
Decachlorobiphenyl	100		93		30-150	B

METALS

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01

Date Collected: 05/14/24 09:40

Client ID: GZ-1 @ 10'

Date Received: 05/14/24

Sample Location: HORSHAM, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.62		mg/kg	0.891	0.185	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL
Barium, Total	106		mg/kg	0.891	0.155	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL
Cadmium, Total	0.126	J	mg/kg	0.891	0.087	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL
Chromium, Total	19.0		mg/kg	0.891	0.086	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL
Lead, Total	8.44		mg/kg	4.46	0.239	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL
Mercury, Total	ND		mg/kg	0.087	0.057	1	05/17/24 16:13	05/21/24 16:18	EPA 7471B	1,7471B	SMV
Selenium, Total	ND		mg/kg	1.78	0.230	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL
Silver, Total	ND		mg/kg	0.446	0.252	2	05/17/24 15:39	05/19/24 15:36	EPA 3050B	1,6010D	DHL



Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02

Date Collected: 05/14/24 10:06

Client ID: GZ-2@10'

Date Received: 05/14/24

Sample Location: HORSHAM, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 84%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	2.67		mg/kg	0.916	0.190	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL
Barium, Total	138		mg/kg	0.916	0.159	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL
Cadmium, Total	0.171	J	mg/kg	0.916	0.090	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL
Chromium, Total	20.6		mg/kg	0.916	0.088	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL
Lead, Total	10.9		mg/kg	4.58	0.246	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL
Mercury, Total	ND		mg/kg	0.090	0.059	1	05/17/24 16:13	05/21/24 16:22	EPA 7471B	1,7471B	SMV
Selenium, Total	ND		mg/kg	1.83	0.236	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL
Silver, Total	ND		mg/kg	0.458	0.259	2	05/17/24 15:39	05/19/24 15:40	EPA 3050B	1,6010D	DHL



Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03

Date Collected: 05/14/24 12:15

Client ID: GZ-3@8'

Date Received: 05/14/24

Sample Location: HORSHAM, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 87%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	4.53		mg/kg	0.905	0.188	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL
Barium, Total	45.0		mg/kg	0.905	0.157	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL
Cadmium, Total	ND		mg/kg	0.905	0.089	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL
Chromium, Total	16.8		mg/kg	0.905	0.087	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL
Lead, Total	8.45		mg/kg	4.52	0.242	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL
Mercury, Total	ND		mg/kg	0.074	0.048	1	05/17/24 16:13	05/21/24 16:25	EPA 7471B	1,7471B	SMV
Selenium, Total	ND		mg/kg	1.81	0.233	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL
Silver, Total	ND		mg/kg	0.452	0.256	2	05/17/24 15:39	05/19/24 15:43	EPA 3050B	1,6010D	DHL

Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-05

Date Collected: 05/14/24 14:03

Client ID: GZ-5@3'

Date Received: 05/14/24

Sample Location: HORSHAM, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Percent Solids: 79%

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Prep Method	Analytical Method	Analyst
Total Metals - Mansfield Lab											
Arsenic, Total	4.57		mg/kg	0.960	0.200	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL
Barium, Total	71.8		mg/kg	0.960	0.167	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL
Cadmium, Total	0.119	J	mg/kg	0.960	0.094	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL
Chromium, Total	17.4		mg/kg	0.960	0.092	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL
Lead, Total	12.1		mg/kg	4.80	0.257	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL
Mercury, Total	ND		mg/kg	0.084	0.055	1	05/17/24 16:13	05/21/24 16:28	EPA 7471B	1,7471B	SMV
Selenium, Total	0.263	J	mg/kg	1.92	0.248	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL
Silver, Total	ND		mg/kg	0.480	0.272	2	05/17/24 15:39	05/19/24 15:47	EPA 3050B	1,6010D	DHL



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Method Blank Analysis Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03,05 Batch: WG1922518-1										
Arsenic, Total	ND		mg/kg	0.400	0.083	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL
Barium, Total	ND		mg/kg	0.400	0.070	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL
Cadmium, Total	ND		mg/kg	0.400	0.039	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL
Chromium, Total	0.045	J	mg/kg	0.400	0.038	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL
Lead, Total	ND		mg/kg	2.00	0.107	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL
Selenium, Total	ND		mg/kg	0.800	0.103	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL
Silver, Total	ND		mg/kg	0.200	0.113	1	05/17/24 15:39	05/19/24 14:01	1,6010D	DHL

Prep Information

Digestion Method: EPA 3050B

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Total Metals - Mansfield Lab for sample(s): 01-03,05 Batch: WG1922522-1										
Mercury, Total	ND		mg/kg	0.083	0.054	1	05/17/24 16:13	05/21/24 15:05	1,7471B	SMV

Prep Information

Digestion Method: EPA 7471B

Lab Control Sample Analysis Batch Quality Control

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG1922518-2								
Arsenic, Total	97		-		80-120	-		
Barium, Total	98		-		80-120	-		
Cadmium, Total	96		-		80-120	-		
Chromium, Total	97		-		80-120	-		
Lead, Total	99		-		80-120	-		
Selenium, Total	95		-		80-120	-		
Silver, Total	96		-		80-120	-		
Total Metals - Mansfield Lab Associated sample(s): 01-03,05 Batch: WG1922522-2								
Mercury, Total	101		-		80-120	-		

Matrix Spike Analysis Batch Quality Control

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	MSD Qual	MSD Found	MSD %Recovery	MSD Qual	Recovery Limits	RPD	RPD Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03,05 QC Batch ID: WG1922518-3 QC Sample: L2426579-01 Client ID: MS Sample												
Arsenic, Total	4.90	10.3	16.3	111	-	-	-	-	75-125	-	-	20
Barium, Total	48.2	171	214	97	-	-	-	-	75-125	-	-	20
Cadmium, Total	0.144J	4.54	3.94	87	-	-	-	-	75-125	-	-	20
Chromium, Total	11.8	17.1	27.2	90	-	-	-	-	75-125	-	-	20
Lead, Total	50.9	45.4	95.0	97	-	-	-	-	75-125	-	-	20
Selenium, Total	ND	10.3	9.92	96	-	-	-	-	75-125	-	-	20
Silver, Total	ND	4.29	4.21	98	-	-	-	-	75-125	-	-	20
Total Metals - Mansfield Lab Associated sample(s): 01-03,05 QC Batch ID: WG1922522-3 QC Sample: L2426579-01 Client ID: MS Sample												
Mercury, Total	ND	1.46	1.56	107	-	-	-	-	80-120	-	-	20

Lab Duplicate Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Project Number: 14.0079993.00

Lab Number: L2426656

Report Date: 05/21/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Total Metals - Mansfield Lab Associated sample(s): 01-03,05 QC Batch ID: WG1922518-4 QC Sample: L2426579-01 Client ID: DUP Sample						
Arsenic, Total	4.90	5.64	mg/kg	14		20
Cadmium, Total	0.144J	0.138J	mg/kg	NC		20
Chromium, Total	11.8	11.8	mg/kg	0		20
Lead, Total	50.9	51.0	mg/kg	0		20
Selenium, Total	ND	ND	mg/kg	NC		20
Silver, Total	ND	ND	mg/kg	NC		20
Total Metals - Mansfield Lab Associated sample(s): 01-03,05 QC Batch ID: WG1922522-4 QC Sample: L2426579-01 Client ID: DUP Sample						
Mercury, Total	ND	ND	mg/kg	NC		20

INORGANICS & MISCELLANEOUS

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-01
Client ID: GZ-1@10'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 09:40
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.9		%	0.100	NA	1	-	05/15/24 10:12	121,2540G	ROI



Project Name: BIDDLE AIRBASE

Lab Number: L2426656

Project Number: 14.0079993.00

Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-02

Date Collected: 05/14/24 10:06

Client ID: GZ-2@10'

Date Received: 05/14/24

Sample Location: HORSHAM, PA

Field Prep: Not Specified

Sample Depth:

Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	84.4		%	0.100	NA	1	-	05/15/24 10:12	121,2540G	ROI



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-03
Client ID: GZ-3@8'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 12:15
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	86.8		%	0.100	NA	1	-	05/15/24 10:12	121,2540G	ROI



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-04
Client ID: GZ-4@8'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 13:03
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	85.4		%	0.100	NA	1	-	05/15/24 10:12	121,2540G	ROI



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

SAMPLE RESULTS

Lab ID: L2426656-05
Client ID: GZ-5@3'
Sample Location: HORSHAM, PA

Date Collected: 05/14/24 14:03
Date Received: 05/14/24
Field Prep: Not Specified

Sample Depth:
Matrix: Soil

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
General Chemistry - Westborough Lab										
Solids, Total	79.0		%	0.100	NA	1	-	05/15/24 10:12	121,2540G	ROI
pH (H)	7.86		SU	-	NA	1	-	05/20/24 17:56	1,9045D	AAS



Lab Control Sample Analysis Batch Quality Control

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 05 Batch: WG1923503-1								
pH	99		-		99-101	-		

Lab Duplicate Analysis

Batch Quality Control

Project Name: BIDDLE AIRBASE

Project Number: 14.0079993.00

Lab Number: L2426656

Report Date: 05/21/24

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-05 QC Batch ID: WG1921282-1 QC Sample: L2426373-03 Client ID: DUP Sample						
Solids, Total	79.9	79.0	%	1		20
General Chemistry - Westborough Lab Associated sample(s): 05 QC Batch ID: WG1923503-2 QC Sample: L2426221-04 Client ID: DUP Sample						
pH	8.44	8.37	SU	1		5

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Serial_No:05212417:33
Lab Number: L2426656
Report Date: 05/21/24

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler **Custody Seal**
A Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2426656-01A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2426656-01B	Vial water preserved	A	NA		4.6	Y	Absent	15-MAY-24 08:21	PA-8260HLW(14)
L2426656-01C	Vial water preserved	A	NA		4.6	Y	Absent	15-MAY-24 08:21	PA-8260HLW(14)
L2426656-01D	Plastic 120ml unpreserved	A	NA		4.6	Y	Absent		TS(7)
L2426656-01E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2426656-01F	Glass 250ml/8oz unpreserved	A	NA		4.6	Y	Absent		PA-8082(365),PA-8270SIM(14),PA-8270(14)
L2426656-02A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2426656-02B	Vial water preserved	A	NA		4.6	Y	Absent	15-MAY-24 08:21	PA-8260HLW(14)
L2426656-02C	Vial water preserved	A	NA		4.6	Y	Absent	15-MAY-24 08:21	PA-8260HLW(14)
L2426656-02D	Plastic 120ml unpreserved	A	NA		4.6	Y	Absent		TS(7)
L2426656-02E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		BA-TI(180),AS-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)
L2426656-02F	Glass 250ml/8oz unpreserved	A	NA		4.6	Y	Absent		PA-8082(365),PA-8270SIM(14),PA-8270(14)
L2426656-03A	Vial MeOH preserved	A	NA		4.6	Y	Absent		PA-8260HLW(14)
L2426656-03B	Vial water preserved	A	NA		4.6	Y	Absent	15-MAY-24 08:21	PA-8260HLW(14)
L2426656-03C	Vial water preserved	A	NA		4.6	Y	Absent	15-MAY-24 08:21	PA-8260HLW(14)
L2426656-03D	Plastic 120ml unpreserved	A	NA		4.6	Y	Absent		TS(7)
L2426656-03E	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),PB-TI(180),SE-TI(180),HG-T(28),CD-TI(180)
L2426656-03F	Glass 250ml/8oz unpreserved	A	NA		4.6	Y	Absent		PA-8082(365),PA-8270SIM(14),PA-8270(14)
L2426656-04A	Glass 250ml/8oz unpreserved	A	NA		4.6	Y	Absent		PA-8082(365),TS(7),PA-PAH(14)
L2426656-05A	Metals Only-Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		AS-TI(180),BA-TI(180),AG-TI(180),CR-TI(180),SE-TI(180),PB-TI(180),HG-T(28),CD-TI(180)

*Values in parentheses indicate holding time in days



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Serial_No:05212417:33
Lab Number: L2426656
Report Date: 05/21/24

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2426656-05B	Glass 60mL/2oz unpreserved	A	NA		4.6	Y	Absent		TS(7),PH-9045(1)

*Values in parentheses indicate holding time in days



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

GLOSSARY

Acronyms

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

Report Format: DU Report with 'J' Qualifiers



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

Report Format: DU Report with 'J' Qualifiers



Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

Data Qualifiers

Identified Compounds (TICs). For calculated parameters, this represents that one or more values used in the calculation were estimated.

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

Project Name: BIDDLE AIRBASE
Project Number: 14.0079993.00

Lab Number: L2426656
Report Date: 05/21/24

REFERENCES

- 1 Test Methods for Evaluating Solid Waste: Physical/Chemical Methods. EPA SW-846. Third Edition. Updates I - VI, 2018.
- 121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

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

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



Certification Information

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

Westborough Facility

EPA 624.1: m/p-xylene, o-xylene, Naphthalene

EPA 625.1: alpha-Terpineol

EPA 8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.

EPA 8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol, Azobenzene; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.

SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO₂, NO₃.

Mansfield Facility

SM 2540D: TSS.

EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene,

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

Nonpotable Water: EPA RSK-175 Dissolved Gases

Biological Tissue Matrix: EPA 3050B

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

Westborough Facility:

Drinking Water

EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2:** Nitrate-N, Nitrite-N; **SM4500NO3-F:** Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE,**

EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B

EPA 524.2: THMs and VOCs; **EPA 504.1:** EDB, DBCP.

Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT, SM9222D.**

Non-Potable Water

SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1:**

Ammonia-N, **LACHAT 10-107-06-1-B:** Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2:** Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E,**

SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.

EPA 624.1: Volatile Halocarbons & Aromatics,

EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II,

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

EPA 625.1: SVOC (Acid/Base/Neutral Extractables).

Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water

EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.

EPA 522, EPA 537.1.

Non-Potable Water

EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.

EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.

EPA 245.1 Hg.

SM2340B

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



CHAIN OF CUSTODY

PAGE _____ OF _____

Date Rec'd in Lab: 5/15/24

ALPHA Job #: 22426656

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

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

Project Information

Project Name: Biddle Airbase
Project Location: Horsham, PA
Project #: 14.0079993.00
Project Manager: Jessica Stearns
ALPHA Quote #: 23966

Report Information - Data Deliverables

FAX EMAIL
 ADEX Add'l Deliverables

Billing Information

Same as Client info PO #:

Client Information

Client: GZA Geo Environmental
Address: 1515 Market St. Ste 945
Philadelphia, PA 19102
Phone: 215-541-3800
Fax:
Email: jessica.stearns@gza.com
 These samples have been previously analyzed by Alpha

Turn-Around Time

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

Regulatory Requirements/Report Limits

State /Fed Program Criteria

Other Project Specific Requirements/Comments/Detection Limits:
Please send results to
jessica.stearns@gza.com

ANALYSIS
TCL VOCs 8260C
TCL SVOCs 8270D
PCBs 8082A
RCRA 8 6010D/7471
PH Hydrogen Ion Con. 9045
PAHs 8270E

SAMPLE HANDLING

Filtration _____
 Done
 Not needed
 Lab to do
 Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection		Sample Matrix	Sampler's Initials	ANALYSIS									
		Date	Time			TCL VOCs 8260C	TCL SVOCs 8270D	PCBs 8082A	RCRA 8 6010D/7471	PH Hydrogen Ion Con. 9045	PAHs 8270E				
26656-01	GZ-2@10'	5/14/23	9:40	Soil	BAW	x	x	x	x						
-02	GZ-2@10'		10:06		BAW	x	x	x	x						
-03	GZ-3@8'		12:15		BAW	x	x	x	x						
-04	GZ-4@8'		13:03		BAW		x			x					
-05	GZ-5@3'		14:03		BAW			x	x						

TOTAL # BOTTLES

Rel: [Signature] 5/15/24 0255
[Signature] 5/15/24 0255

Container Type	G	G	G	G	G	G
Preservative	AcH	MAH	A	A	A	A

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

Relinquished By: [Signature] Anthony Green
Date/Time: 5/14/24 16:4
Received By: [Signature] Anthony Green
Date/Time: 5/14/24 16:4
5/14/24 18:00
5/15/24 2:08
5/15/24 0045
MAY 14 2024 2:41
5/15/24 0045

APPENDIX D
SOIL BORING LOGS

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

David Mason + Associates
 Biddle Airbase Limited Soil Investigation
 39 Easton Road, Hatboro, PA
 Building 327

EXPLORATION NO.: GZ-01
 SHEET: 1 of 1
 PROJECT NO: 14.0079993.00
 REVIEWED BY: J. Stearns

Logged By: B. Wagner
Drilling Co.: East Coast Drilling, Inc.
Foreman: Struk Moylan

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): 0
Final Geoprobe Depth (ft.): 10
Date Start - Finish: 5/14/2024 - 5/14/2024

H. Datum: NAD83
V. Datum: NAVD

Type of Rig: GeoProbe Track
Rig Model: 7822 DT
Drilling Method: Direct Push

Sampler Type: Macrocore
Sampler O.D. (in.): 2.0
Sampler Length (in.): 60
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
Groundwater	Not	Encountered	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
1	S-1	0-5	60	60		S-1: 0-6": Topsoil 6-36": Brown Fine SILT, trace organic material (Roots) 36-48": Gray and Black medium SAND and fine GRAVEL, moist 48-60": Light Brown Clayey SILT, moist		-0.5	TOPSOIL	0.5
2									SILT	
3								-3.0		3
4								-4.0	SAND AND GRAVEL	4
5	S-2	5-10	60	60		S-2: 0-48": Light Brown Clayey SILT, moist 48-60": Reddish Brown Clayey SILT, moist				
6										
7									CLAYEY SILT	
8										
9										
10							1 2	-10.0		10
11						End of exploration at 10 feet.				
12										
13										
14										
15										

REMARKS

1 - Sample GZ-1@10' collected at 0940
 2 - Boring terminated at 10' bgs.

Field Screening performed with PID equipped with a 10.6 eV lamp calibrated to a 100 ppm isobutylene standard. See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-01

GEOPROBE LOG



David Mason + Associates
Biddle Airbase Limited Soil Investigation
39 Easton Road, Hatboro, PA
Building 327

EXPLORATION NO.: GZ-02
SHEET: 1 of 1
PROJECT NO: 14.0079993.00
REVIEWED BY: J. Stearns

Logged By: B. Wagner
Drilling Co.: East Coast Drilling, Inc.
Foreman: Struk Moylan

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): 0
Final Geoprobe Depth (ft.): 10
Date Start - Finish: 5/14/2024 - 5/14/2024

H. Datum: NAD83
V. Datum: NAVD

Type of Rig: GeoProbe Track
Rig Model: 7822 DT
Drilling Method: Direct Push

Sampler Type: Macrocore
Sampler O.D. (in.): 2.0
Sampler Length (in.): 60
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
Groundwter	Not	Encountered	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
1	S-1	0-5	60	60	0.1	S-1: 0-12": Topsoil 12-60": Light Brown fine to medium SAND, trace silt, moist		-1.0	TOPSOIL	1
2					0.1					
3					0.1					
4					0.1				SAND AND SILT	
5	S-2	5-10	60	60	0.1	S-2: 0-24": Light Brown fine to medium SAND, trace silt, moist 24-60": Light Brown and Reddish Brown SILT and CLAY, moist				
6					0.1					
7					0.1			-7.0		7
8					0.1				SILT & CLAY	
9					0.1					
10					0.1		1	-10.0		10
11						End of exploration at 10 feet.	2			
12										
13										
14										
15										

REMARKS
1 - Sample GZ-2@10' collected at 1006
2 - Boring terminated at 10' bgs.

Field Screening performed with PID equipped with a 10.6 eV lamp calibrated to a 100 ppm isobutylene standard. See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-02

GEOPROBE LOG



GZA
GeoEnvironmental, Inc.
Engineers and Scientists

David Mason + Associates
 Biddle Airbase Limited Soil Investigation
 39 Easton Road, Hatboro, PA
 Building 327

EXPLORATION NO.: GZ-03
 SHEET: 1 of 1
 PROJECT NO: 14.0079993.00
 REVIEWED BY: J. Stearns

Logged By: B. Wagner
Drilling Co.: East Coast Drilling, Inc.
Foreman: Struk Moylan

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): 0
Final Geoprobe Depth (ft.): 8
Date Start - Finish: 5/14/2024 - 5/14/2024

H. Datum: NAD83
V. Datum: NAVD

Type of Rig: NA
Rig Model: NA
Drilling Method: Hand Auger

Sampler Type: SS
Sampler O.D. (in.): 4.0
Sampler Length (in.): 12
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
5/14/24	11:07	5	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
1	S-1	0-5			0.1	S-1: 0-12": Concrete 12-48": Grey fine Gravel 48-60" Grey fine Gravel, wet		-1.0	CONCRETE	1
2					0.1					
3					0.1				FINE GRAVEL	
4					0.1					
5					0.1			-5.0		5
6	S-2	5-8			0.1	S-2: 0-24": Light Brown CLAY and SILT, moist 24-36": Light Brown CLAY and SILT, moist				
7					0.1				CLAY & SILT	
8					0.1		1	-8.0		8
9						End of exploration at 8 feet.	4			
10										
11										
12										
13										
14										
15										

REMARKS
 1 - Sample GZ-3@8' collected at 1215.
 4 - Refusal encountered at 8 ft bgs

Field Screening performed with PID equipped with a 10.6 eV lamp calibrated to a 100 ppm isobutylene standard. See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-03

GEOPROBE LOG



David Mason + Associates
Biddle Airbase Limited Soil Investigation
39 Easton Road, Hatboro, PA
Building 327

EXPLORATION NO.: GZ-04
SHEET: 1 of 1
PROJECT NO: 14.0079993.00
REVIEWED BY: J. Stearns

Logged By: B. Wagner
Drilling Co.: East Coast Drilling, Inc.
Foreman: Struk Moylan

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): 0
Final Geoprobe Depth (ft.): 8
Date Start - Finish: 5/14/2024 - 5/14/2024

H. Datum: NAD83
V. Datum: NAVD

Type of Rig: NA
Rig Model: NA
Drilling Method: Hand Auger

Sampler Type: SS
Sampler O.D. (in.): 4.0
Sampler Length (in.): 12
Rock Core Size: NA

Groundwater Depth (ft.)

Date	Time	Water Depth	Stab. Time
Groundwater	Not	Encountered	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
1	S-1	0-5			0.1	S-1: 0-12": Concrete 12-60": Light Brown and Grey Clayey SILT, some Medium Sand, moist		-1.0	CONCRETE	1
2					0.2					
3					0.1					
4					0.1					
5					0.1				CLAYEY SILT	
6	S-2	5-8			0.2	S-2: 0-24": Light Brown Clayey SILT, moist 24-36": Reddish Brown Clayey SILT, moist				
7					0.1					
8					0.2		1	-8.0		8
9						End of exploration at 8 feet.	2			
10										
11										
12										
13										
14										
15										

REMARKS
1 - Sample GZ-4@8' collected at 1303.
2 - Refusal encountered at 8 ft bgs

Field Screening performed with PID equipped with a 10.6 eV lamp calibrated to a 100 ppm isobutylene standard. See Log Key for explanation of sample description and identification procedures. Stratification lines represent approximate boundaries between soil types. Actual transitions may be gradual. Water level readings have been made at the times and under the conditions stated. Fluctuations of groundwater may occur due to other factors than those present at the times the measurements were made.

GZ-04

GEOPROBE LOG



David Mason + Associates
Biddle Airbase Limited Soil Investigation
39 Easton Road, Hatboro, PA
Building 327

EXPLORATION NO.: GZ-05
SHEET: 1 of 1
PROJECT NO: 14.0079993.00
REVIEWED BY: J. Stearns

Logged By: B. Wagner
Drilling Co.: East Coast Drilling, Inc.
Foreman: Struk Moylan

Geoprobe Location: See Plan
Ground Surface Elev. (ft.): 0
Final Geoprobe Depth (ft.): 3
Date Start - Finish: 5/14/2024 - 5/14/2024

H. Datum: NAD83
V. Datum: NAVD

Type of Rig: NA
Rig Model: NA
Drilling Method: Hand Auger

Sampler Type: SS
Sampler O.D. (in.): 4.0
Sampler Length (in.): 12
Rock Core Size: NA

Groundwater Depth (ft.)			
Date	Time	Water Depth	Stab. Time
Groundwater	Not	Encountered	

Depth (ft)	Sample					Sample Description Modified Burmister	Remark	Elev. (ft.)	Stratum Description	Depth (ft.)
	No.	Depth (ft.)	Pen. (in)	Rec. (in)	PID (ppm)					
1	S-1	0-3			0.1	S-1: 0-8": Concrete 8-12": Coarse Gravel 12-36": Light Brown Clayey SILT, little Coarse Gravel, moist		-1.0	CONCRETE	1
2					0.1				CLAYEY SILT	
3					0.2	End of exploration at 3 feet.	1	-3.0		3
4							2			
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

REMARKS
1 - Sample GZ-5@3' collected at 1403
2 - Refusal encountered at 3 ft bgs

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GZ-05

GZA TEMPLATE GEOPROBE; 6/5/2024; 11:23:51 AM



GZA GeoEnvironmental, Inc.