

Former West Point Stevens Mill

Opelika, Alabama

ADEM VCP Site- 461-081-050

Fact Sheet

A Voluntary Cleanup Program (VCP) Risk Assessment Plan has been found to be technically adequate by the Alabama Department of Environmental Management (ADEM) for the former WestPoint Stevens Mill. The applicant is Holland Homes LLC. This fact sheet has been prepared to briefly advise the public of the principal legal and policy issues of the Risk Assessment Plan.

I. VCP PROCESS

The VCP provides a mechanism for the implementation of a cleanup program that encourages applicants to voluntarily assess, remediate, and reuse rural and urban areas of actual or perceived contamination. The program does not relieve any “responsible person” for the liability for administrative, civil, or criminal fines or penalties which are otherwise authorized by law and imposed as a result of the illegal or unpermitted disposal of solid waste, hazardous waste, hazardous constituents, hazardous substances, petroleum products, and/or pollutants to the land, air, or waters of the State on an identified property. The program is designed to expedite the voluntary cleanup process and has been designed for entry at any stage of the cleanup process as long as all applicable criteria have been met up to the point of entry.

II. PROCEDURES FOR REACHING A FINAL DECISION

The ADEM is proposing to issue Holland Homes LLC., a final decision for the site remediation.

ADEM Admin Code R. 335-15-6-.02 requires that the public be given a 30- day comment period from the date of the notice. The comment period will begin on August 5th, 2025, which is the date of publication of the public notice in major local newspaper(s) of general circulation and will end on September 3rd , 2025.

All persons wishing to comment on any of the conditions of the VCP Remediation should submit their comments in writing to the Alabama Department of Environmental Management, Permits and Services Division, 1400 Coliseum Blvd. (Zip 36110). P.O. Box 301463 (Zip 36130-1463) Montgomery, Alabama, ATTENTION: Mr. Russell

Kelly. Written comments on the VCP activities should be submitted to the Alabama Department of Environmental Management and be received by 5:00 p.m. on September 3rd, 2025.

ADEM will consider all written comments received during the comment period while making a final decision on this issue. When the Department makes its final decision, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision.

III. FACILITY DESIGN

Holland Homes, LLC. has completed Site Investigation activities under the VCP program at the Former West Point Stevens Mille site located at 2401 First Avenue , Opelika, Lee County, Alabama 36611. The site consists of 18 acres. Coordinates for the site are 32.63164948441062, -85.41471176682757

The contaminants found on the site are the following examples: PCE's in soil gas include Arsenic and Hexavalent chromium. The site is currently vacant with only a water tower and one 1 industrial type building still standing. The site was undeveloped wooded land until the 1950's when it was developed as a textile mill. West Point Stevens, also known as WestPoint Home operated the mill until operations ceased in the early 2020's

IV. Technical Contact

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PRELIMINARY ALABAMA RISK BASED CORRECTIVE ACTION ASSESSMENT REPORT

FORMER WEST POINT STEVENS MILL SITE
2401 FIRST AVENUE
Opelika, Lee County, Alabama 36801

ADEM VCP SITE No.: 461-081-050
LABELLA PROJECT No.: 2242252

PREPARED FOR:

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APRIL 24, 2025

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A handwritten signature in blue ink that reads 'David Wall'.

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A handwritten signature in blue ink that reads 'Lori K. Norton'.

Lori K. Norton, P.G.
Senior Project Geologist



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GEOLOGIST CERTIFICATION

I certify under penalty of law that I am a Registered Professional Geologist, licensed to practice in the State of Alabama and experienced in conducting hydro-geological investigations. The information submitted herein, to the best of my knowledge and belief is true, accurate and complete.

Lori K. Norton

Lori K. Norton, P.G.
Senior Project Geologist
LaBella Associates, D.P.C.

4/24/2025

Date



1.0 INTRODUCTION

On behalf of Holland Homes, LLC (Holland Homes), LaBella Associates, D.P.C. (LaBella) is submitting this Preliminary Alabama Risk-Based Corrective Action (ARBCA) evaluation for a portion of the Former West Point Stevens Mill facility (Property) located at 2401 First Avenue in Opelika, Lee County, Alabama. More specifically, this Preliminary ARBCA is for the approximate 18-acre area located on the northern half of the Property and is identified as Area 1 (Site). The Site location is shown in Figure 1. The risk evaluation was completed considering planned future use and has been prepared in general accordance with the guidance provided in the most recent version of the Alabama Department of Environmental Management (ADEM) *ARBCA Guidance Manual* (herein referred to as the “ARBCA Guidance Manual”).

1.1 SCOPE AND OBJECTIVES

The purpose of this ARBCA is to evaluate cumulative risk present at the Site, considering the planned future residential redevelopment of the Site, in an effort to determine what actions need to be taken in order to meet residential use objectives. The ARBCA includes the following tasks:

- Study of the Site history to determine Chemicals of Concern (COCs) for the Site.
- Evaluation of all soil and groundwater analytical data collected during the assessment activities completed in 2024.
- Comparison of existing soil and groundwater data to applicable Environmental Protection Agency (EPA) Regional Screening Levels (RSLs).
- Development of a Site Conceptual Exposure Model (SCEM) that depicts the relationship among the source area, transport mechanisms, receptors, and exposure routes.
- Determination of whether the cumulative risk at the Site exceeds appropriate risk levels (i.e., Hazard Index = 1.0 and Individual Lifetime Cancer Risk = 1×10^{-5}) based on historical data.



2.0 SITE CHARACTERIZATION

2.1 SITE DESCRIPTION AND LAND USE

The Site comprises approximately 18 acres of vacant land and is in a residential and commercial area of Opelika, Alabama. The Site is bordered to the north by 2nd Avenue followed by Pepperell Baptist Church, Alabama Rural Ministry, and residential development; to the east by North 24th Street followed by medical offices and Mingledorff's Distributors; and to the south by the West Point Stevens Mill Property, an industrial textile mill facility. The Site location is provided as Figure 1. A Parcel Map is provided as Figure 2. An Area Land Use Map is provided as Figure 3.

2.2 SITE HISTORY

According to the February 21, 2022 Phase I Environmental Site Assessment (ESA) (LaBella) and other available information, the Site consisted of undeveloped land prior to industrial development. By 1950, the Site was developed as part of the West Point Stevens Mill Property, an industrial textile mill facility comprised of approximately 35 acres, which operated for at least 70 years. More specifically, the Site included a parking lot in the western portion of the Site, a warehouse and office building located in the central portion of the Site, with the northeastern portion of the Site remaining undeveloped. It should be noted that Area 1, which is the subject of this ARBCA Evaluation, was not included in the former industrial footprint. Additional historical details regarding the Property are summarized in the *Voluntary Clean-up Program Property Assessment Report*, dated November 12, 2024, which is on file at ADEM.

The Property was accepted into the ADEM Voluntary Cleanup Program (VCP) in March 2022 and assigned the VCP Site number 461-081-050 with Holland Homes as the applicant. In 2024, the Property was acquired by Holland Homes, which intends to redevelop the Property with a mixture of single and multi-family residences, green spaces, commercial use (and/or mixed commercial and second floor residential space), and roadway access.

VCP Assessment - 2024

As part of the ADEM-approved *VCP Property Assessment Plan* for the Site, LaBella conducted soil and groundwater investigation activities in May through July 2024 at the Former West Point Stevens Mill Property, which included the approximately 18-acre Site (Area 1). A summary of the 2024 field activities and results are provided below.

- Ten soil borings were installed within Area 1 of the Site for the purpose of collecting soil samples. Three of the ten borings were converted to Type II monitoring wells. Soil and groundwater samples were analyzed for volatile organic compounds (VOCs), polycyclic



aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), Resource, Conservation, & Recovery Act (RCRA) 8 metals, and hexavalent chromium.

- The western most portion of Area 1 was divided into two sampling units (SUs) and further assessed with incremental sampling methodology (ISM). Soil samples were collected from the 0.0 to 0.5 feet below ground surface (ft-bgs) interval and from the 3.5 to 4.0 ft-bgs interval and analyzed for arsenic.
- Four shallow soil borings were advanced in an area of the Site considered to be a background location as this northeastern portion of the Site had only been used for residential purposes. Samples were collected from the 0.0 to 0.5 ft-bgs interval and from the 3.5 to 4.0 ft-bgs interval and analyzed for RCRA 8 metals and hexavalent chromium.
- The only constituents identified above EPA Residential RSL in soils on the Site included arsenic and hexavalent chromium. No other metals, VOCs, PAHs, or PCBs were detected at or above EPA Residential RSLs.
- Although arsenic concentrations in on-Site soils slightly exceeded the EPA Residential RSL, the concentrations are generally consistent with naturally elevated background concentrations, which according to *Elements in North American Soils*, James Dracun, Ph.D. and Khaled Chekiri, Ph.D., arsenic is naturally occurring in soils in Alabama up to 11 milligrams per kilogram (mg/kg). Site arsenic concentrations were also within the range of detected arsenic within the background samples.
- Hexavalent chromium was detected above the EPA Residential RSL but was within the range of detected hexavalent chromium of the background samples.
- Three monitoring wells (MW-1, MW-2, and MW-3) were installed on-Site to depths ranging from approximately 15 to 30 ft-bgs. The average depth to groundwater at the Site in March 2024 was approximately 10.60 feet below top of casing (ft-btoc). Groundwater samples were collected from monitoring wells MW-1 through MW-3 in March 2024. No constituents were detected in groundwater above EPA maximum contaminate levels (MCLs) or the EPA RSL for tapwater, in absence of an MCL.

2.3 LOCATION AND VICINITY

The Site comprises approximately 18 acres of vacant former industrial use property and is owned by Holland Homes. The Site is located in a residential and commercial area of Opelika, Alabama and is bordered to the north by 2nd Avenue followed by Pepperell Baptist Church, Alabama Rural Ministry, and residential development; to the east by North 24th Street followed by medical offices and Mingledorff's Distributors; to the south by train tracks, followed by a former water treatment plant; and, to the west by Cunningham Drive, followed by Alabama Math, Science, and Technology Initiative (AMSTI) and residential development. An Area Land Use Map is provided as Figure 3.



2.4 TOPOGRAPHY

Topography at the Site has a general slope towards the south. The elevation at the Site is approximately 720 feet above mean sea level (ft-amsl). There were no suspect topographic features, such as sinkholes, in the immediate area surrounding the Site as noted on the topographic map or during LaBella's February 2022 Site inspection nor the May through July 2024 Site assessment field investigation (performed by LaBella). A topographic map is provided as Figure 1.

2.5 CURRENT LAND USE

The Site is currently vacant land.

2.6 FORMER LAND USE

According to the *Phase I* ESA (LaBella, February 21, 2022) and other available information, the Site consisted of undeveloped land prior to industrial development. By 1950, the Site was developed with the West Point Stevens Mill (an industrial textile mill facility), which operated for at least 70 years. It should be noted that Area 1, which is the subject of this ARBCA Evaluation, was not included in the former industrial footprint. Additional historical details regarding the Property are summarized in the *Voluntary Clean-up Program Property Assessment Report*, dated November 12, 2024, which is on file at ADEM.

2.7 FUTURE LAND USE

The planned future land use of the Site is residential. The entire 18 acres is proposed for single family residential development as part of 35-acre redevelopment project. The balance of the 35-acre proposed redevelopment project is located adjacent to and south of the Site. The planned redevelopment will consist of single-family residential homes, townhomes, green space, and commercial use property.

2.8 SITE GEOLOGY, HYDROGEOLOGY AND STRATIGRAPHY

2.8.1 Site Geology and Hydrogeology

According to Special Map 232 prepared by the Alabama Geologic Survey, the Site is underlain by the Precambrian- to Paleozoic-aged Auburn Gneiss Formation. This formation consists of fine-grained biotite-oligoclase gneiss intermixed with coarse-grained muscovite-biotite schist; locally contains muscovite-rich pegmatite. Site geology conditions mimicked the above referenced articles observed during the May through July 2024 Site assessment. A Geologic Map is provided as Figure 4.

According to the Geohydrology and Susceptibility of Major Aquifers to Surface Contamination in Alabama; Area 5, 2000, prepared by the United States Geological Society (USGS), the Site is located



within the Opelika Complex of the Southern Piedmont Upland in the Piedmont Upland Section and within the recharge area of metasedimentary and metavolcanic aquifers. The metasedimentary and metavolcanic aquifers have been classified as “phyllite slate and slate,” “schist,” “metagraywacke,” “dolomite marble,” and “mylonite” hydrogeologic units. Higher yield zones for groundwater withdrawal are more common in the Southern Piedmont, southeast of the Brevard Fault zone. Rocks in the Opelika Complex are reported to not yield sufficient quantities of water for public use but do however provide water for some domestic wells. Site geology and shallow aquifer conditions mimicked the above referenced articles observed during the May through July 2024 Site assessment.

2.8.2 Site Soils

According to the *Natural Resource Conservation Service Web Soil Survey*, the soil underlying the Site is primarily identified as Urban land. Urban land describes soils that included altered native soils as well as transported materials. Urban soil areas may exhibit a wide variety of properties and conditions based on source material and alteration.

2.8.3 Site Stratigraphy

The Site is generally underlain by silty clay/clayey silt and sandy silts underlain by saprolite. Bedrock was not encountered in any of the soil borings. Logs from the soil borings advanced during the May through July 2024 Site assessment activities are included as Appendix A.

2.9 SURFACE WATER

Surface water from the Site discharges through storm drains or by sheet flow to the south towards Pepperell Creek.



3.0 REGIONAL SCREENING LEVEL EVALUATION

3.1 CHEMICALS OF POTENTIAL CONCERN (COPCs)

The Chemicals of Potential Concern (COPCs) for the Site (Area 1) in soil were identified based upon the results of the soil assessment activities conducted at the Site during the May through July 2024 Site assessment and were previously provided to ADEM in the *VCP Property Assessment Report* dated November 12, 2024. The locations of the soil borings installed in Area 1 during the assessment activities are provided in Figure 5. Areas 2 through 4, which are shown in Figure 5, are not included as part of this ARBCA Evaluation.

The laboratory results from the analysis of the soil boring samples collected for analysis from Area 1 were compared to EPA RSLs for residential and industrial soils. Constituents that exceeded EPA RSLs and/or the Site-specific background levels were determined to be COPCs and are presented in Table 3.1a below and Table 3.1b on the following page, and Table 1 (Soil Borings) and Table 2 (Background Soil Borings) in the Tables Section. Soil boring sample analytical results are spatially provided on Figure 6.

TABLE 3.1A – AREA 1 SOIL BORING SAMPLE RESULTS – SCREENING LEVEL EXCEEDANCES ONLY

Analyte	RES. RSL	IND. RSL	Background Screening Level	SB-1-DA	SB-1-DB	SB-3-DA	SB-3-DB	SB-3-06	SB-10-DA	SB-10-DB	SB-11-DA	SB-12-DA
Arsenic	0.68	3	4.77	5.4	5.7	6.1	4.8J	<1.7	7.1	7.8 J	4.2 J	<7.3
Chromium	NL	NL	46.48	19	47	31	26	38	28	170	26	68
Cr (VI)	0.95	20	3.59	3	NA	0.85	NA	NA	<0.17	NA	1.4	1.3

TABLE 3.1A (CONT.) – AREA 1 SOIL BORING SAMPLE RESULTS - SCREENING LEVEL EXCEEDANCES ONLY

Analyte	RES. RSL	IND. RSL	Background Screening Level	SB-13-DA	SB-13-DB	SB-14-DA	SB-14-DB	SB-15-DA
Arsenic	0.68	3	4.77	3	4.4 J	<2.7	4.1 J	<6.3
Chromium	NL	NL	46.48	16	30	40	46	34
Cr (VI)	0.95	20	3.59	0.45	NA	1.2	NA	1.7

Notes:

Screening Levels - Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for Industrial (Ind.) and Residential (Res.) Soils, November 2024 (THQ 0.1)
Results presented in milligrams per kilogram (mg/kg)

J- Result is less than the laboratory reporting detection limit (RDL) but greater or equal to the method detection limit (MDL). Concentration is approximate.

BOLD – constituent detected

NL - not listed

NA - Not analyzed

DA = 0.0 - 0.5 feet below ground surface (ft-bgs) interval

DB = 3.5 - 4.0 ft-bgs interval

	Detected concentration exceeds EPA Industrial RSL
	Detected concentration exceeds EPA Residential RSL
	Detected concentration exceeds background value if the background value is above the USEPA Industrial RSL



TABLE 3.1B – AREA 1 – BACKGROUND SOIL BORING SAMPLE RESULTS

Analyte	RES. RSL	IND. RSL	Calculated Background Screening Level	BKG-1- DA	BKG-1- DB	BKG-2- DA	BKG-2- DB	BKG-3- DA	BKG-3- DB	BKG-4- DA	BKG-4- DB
Arsenic	0.68	3	4.77	3.40	0.96	1.7	2.8	1.6	3.1	3.2	2.3
Cr (VI)	0.95	20	3.59	1.4	0.47	1.1	1.6	2	1.2	3	3.6

Notes:

Screening Levels - Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for Industrial (Ind.) and Residential (Res.) Soils, November 2024 (THQ 0.1)

Results presented in milligrams per kilogram (mg/kg)

* - Background screening level calculated by taking the average analyte results, then multiplying by 2.

BOLD – constituent detected above laboratory reporting limit

Cr (VI) - hexavalent chromium

DA = 0.0 - 0.5 feet below ground surface (ft-bgs) interval

DB = 3.5 - 4.0 ft-bgs interval

< - Not detected above the laboratory method detection limit

	Detected concentration exceeds EPA RSL for Industrial Soil
	Detected concentration exceeds EPA RSL for Residential Soil
	Calculated background value exceeds EPA RSL for Industrial Soil

Analytical results from the soil boring samples collected indicate that arsenic was detected at concentrations above the EPA RSLs for residential and industrial soil in thirteen of the soil boring samples collected. Additionally, detected arsenic concentrations exceeded the Site-specific background screening level in seven of the soil boring samples collected from Area 1.

Total chromium was detected at concentrations above laboratory method detection limits (MDLs) in all of the soil boring samples collected. EPA RSLs are not currently available for total chromium, however; EPA RSLs are listed for trivalent chromium and hexavalent chromium. Residential and Industrial EPA RSLs for trivalent chromium are listed as 12,000 mg/kg and 180,000 mg/kg, respectively. Residential and Industrial EPA RSLs for hexavalent chromium are listed as 0.95 mg/kg and 20 mg/kg, respectively.

Based on the detections of total chromium in the soil boring samples, select soil samples were further analyzed for Chromium VI (hexavalent chromium). Results indicated that hexavalent chromium was detected at concentrations above the EPA RSL for residential soils in the samples submitted for further analysis; however, the detected concentrations did not exceed the Site-specific background screening level for hexavalent chromium (3.59 mg/kg) with the exception of background location BKG-4-DB which had a detected concentration of 3.6 mg/kg.

Based on the slightly elevated concentrations of arsenic detected in the soil borings from the western portion of Area 1 (SB-1, SB-10, and SB-10), LaBella conducted ISM sampling in the western portion of Area 1 for arsenic only during a second mobilization to the Site in July 2024. The ISM soil sampling locations are provided on Figure 7. Results from the ISM sampling of Area 1 are provided in Table 3.1c on the following page.



TABLE 3.1c AREA 1 ISM RCRA 8 METALS RESULTS - SCREENING LEVEL EXCEEDANCES ONLY

Analyte	RES. RSL	IND. RSL	Background Screening Level	Area 1-1		Area 1-2	
				A1-1-DA	A1-1-DB	A1-2-DA	A1-2-DB
Arsenic	0.68	3	4.77	4 J	<6.6	3.5 J	<6.7

Notes:

Screening Levels - Environmental Protection Agency (EPA) Regional Screening Levels (RSLs) for Industrial (Ind.) and Residential (Res.) - Soils November 2024 (THQ 0.1)

Results presented in milligrams per kilogram (mg/kg)

J - Result is less than reporting limit but greater or equal to MDL. Concentration approximate.

BOLD - constituent detected above laboratory reporting limit

DA = 0.0 - 0.5 feet below ground surface (ft-bgs) interval

DB = 3.5 - 4.0 ft-bgs interval

	Detected concentration exceeds EPA Industrial RSL
	Detected concentration exceeds EPA Residential RSL
	Detected concentration exceeds background value if the background value is above the EPA Industrial RSL

Results from the ISM sampling event in the western portion of Area 1 indicated that arsenic was detected above the EPA RSL for residential and industrial soils in the 0.0 – 0.5 ft-bgs interval of each SU; however, the detected concentrations were below the Site background screening level for arsenic.

3.1.1 COPCs in Soil

As shown in Tables 3.1a, 3.1b, and 3.1c in the preceding Section, two metals were detected above the EPA RSL or Site calculated background in one or more soil samples submitted for analysis during the May through July 2024 assessment activities. The detected COPCs at the Site are presented in the following Table 3.1.1.

TABLE 3.1.1 – DETECTED CONSTITUENTS OF POTENTIAL CONCERN IN SOIL

Metals
Arsenic
Hexavalent Chromium

3.1.2 COPCs in Groundwater

Groundwater analytical results from the Site assessment activities indicated that no constituents were detected above applicable screening levels in Area 1 monitoring wells MW-1, MW-2, and MW-3, therefore, groundwater was not evaluated as part of this ARBCA Evaluation. The groundwater analytical results are provided in Table 3 in the Tables Section.

3.2 CHEMICALS OF CONCERN (COCs) IN SOIL

Constituents in soil which had detected concentrations greater than the EPA RSLs or background were considered chemicals of concern (COCs) for the Site. Metals arsenic and hexavalent chromium exceeded the EPA Residential RSLs in one or more of the soil samples collected from Area 1 during the assessment activities.

3.3 RECOMMENDATIONS

Based on the presence of metals arsenic and hexavalent chromium detected above EPA Residential RSLs in soil, a RM-1 evaluation has been conducted. The objective of a RM-1 evaluation is to



determine cumulative risks at the Site and determine whether cumulative risks exceed the allowable risk Hazard Index (HI) of 1.0 or the Individual Excess Lifetime Cancer Risk (IELCR) of 1×10^{-5} .



4.0 EXPOSURE ASSESSMENT

4.1 INTRODUCTION

4.1.1 Sources of Contamination

In May 2024, LaBella collected soil samples for background metals values in the northeast portion of Area 1. As previously discussed and presented in the 2022 Phase I ESA, there is no evidence indicating that Area 1 has been used for manufacturing activities since development. According to available information, the northeastern portion of Area 1 has only been used for residential purposes and, therefore, is expected to be unaffected by historical industrial activities at the Site.

4.1.2 Release Mechanisms

LaBella is not aware of any release mechanism and the COCs identified within soils may be from naturally occurring sources.

4.1.3 Transport Media

The primary horizontal transport media is typically the migration of dissolved chemicals via groundwater flow. The groundwater flow at the Site is generally to the southwest (Figure 8). For purposes of this risk assessment, the Groundwater Resource Protection (GRP) evaluation was not conducted. The Site will have an Environmental Covenant which includes a prohibition on the use of groundwater at the Site. Groundwater will be provided to the Site via a public utility. Additionally, the COCs at the Site (arsenic and hexavalent chromium), were not detected in the groundwater samples collected from monitoring wells MW-1 through MW-3 above the laboratory detection limit.

4.1.4 Receptors

The human receptors to be considered as part of this risk assessment are future residents, future commercial workers, and future construction workers.

4.1.5 Pathways of Exposure and Exposure Domains

Potential on-site exposure routes evaluated during this investigation for soil included the following:

- Future potential ingestion of, and particulates from, and dermal contact with soil during excavation activities.

Evaluation of the potential exposure pathways, and whether each is considered complete and thus carried forward in the risk evaluation, is discussed in this section. Surface water and sediment are not considered affected media; therefore, no potential risk exists for exposure via these media sources.



Indoor Inhalation

The COCs at the Site are metals and, therefore, the exposure pathway via indoor inhalation is an incomplete pathway.

Outdoor Inhalation

LaBella reviewed the soil and groundwater data at the Site and determined that the exposure pathway via outdoor inhalation is not a complete pathway for construction workers. This determination is based on the fact that the COCs at the Site are metals.

Dermal Contact, Ingestion, and Inhalation of Particulates

Contact with contaminated soils during future construction activities is considered complete as two metals were detected in soil above EPA Residential RSLs.

Ingestion of Groundwater and Vapor Inhalation

Groundwater beneath the Site and the surrounding areas is not currently being utilized as a drinking water source. In the future, drinking water will be supplied to the Site via a public utility. Additionally, the Site will have an Environmental Covenant which includes a prohibition on the use of groundwater at the Site and the COCs at the Site (arsenic and hexavalent chromium) were not detected in the groundwater samples collected from monitoring wells MW-1 through MW-3 above the laboratory detection limit.

4.2 SITE CONCEPTUAL EXPOSURE MODELS FOR EXPOSURE DOMAINS

The Site conceptual exposure model for current and future land use conditions is provided in Appendix B.

4.2.1 SCEM for Current Conditions

The Site is currently vacant. The potential receptors considered in the exposure model were the resident, commercial worker, and construction worker via soil dermal contact, soil ingestion, and inhalation of particulates. The trespasser was not considered as a potential receptor since the resident pathway is more conservative.

4.2.2 SCEM for Future Conditions

The likely future land use will be residential. The potential receptors considered in the exposure model were the resident, and commercial and construction workers via soil dermal contact, soil ingestion, and inhalation of particulates. The trespasser was not considered as a potential receptor since the resident pathway is more conservative.



4.3 GROUNDWATER RESOURCE PROTECTION

For purposes of this risk assessment, the GRP evaluation was not conducted. The Site will have an Environmental Covenant which includes a prohibition on the use of groundwater at the Site. Groundwater will be provided to the Site via a public utility. Additionally, the COCs at the Site (arsenic and hexavalent chromium), were not detected in the groundwater samples collected from monitoring wells MW-1 through MW-3 above the laboratory detection limit as shown on Table 3 in the Tables Section.

4.4 SURFACE WATER AND STREAM PROTECTION

Surface water bodies are not located within 500 feet of the facility. Therefore, this exposure pathway has been determined to be incomplete, and further evaluation is not warranted.

4.5 ECOLOGICAL EXPOSURE

No known ecological exposures are associated with the release at the Site. Therefore, this exposure pathway has been determined to be incomplete, and further evaluation is not warranted.



5.0 RISK MANAGEMENT-1 (RM-1) EVALUATION

Site specific data was not available for the Site; therefore, an RM-1 evaluation was completed. A RM-1 evaluation was performed using the ARBCA Computational Software, Version 4.0. July 2019, developed by RAM Group, Inc. (RAM) and the guidance and equations provided in the *ARBCA Guidance Manual*. The RAM Group model data input and results of the risks are included in Appendix B.

5.1 EXPOSURE DOMAIN CONCENTRATIONS

5.1.1 Subsurface Soil

The subsurface soil concentrations used to evaluate the risks to the resident, commercial worker, and construction worker were considered to be the maximum detected COC concentrations in soil during the May through July 2024 assessment activities and are summarized in Table 5.1.1 below. It should be noted that the results from the ISM sampling event conducted in July 2024 were used for the representative arsenic concentration in lieu of the results from the discrete soil boring sampling event since LaBella is of the opinion that this value (4.0 mg/kg) is more representative of arsenic concentrations at the Site as a whole as it is the result of a composite sample comprised of 30 soil sampling locations and of a larger area.

TABLE 5.1.1 – REPRESENTATIVE SUBSURFACE SOIL CONCENTRATIONS FOR RISK EVALUATION

CONSTITUENT OF CONCERN	SAMPLE ID	CONCENTRATION (MG/KG)
Arsenic	A1-1-DA	4.0
Chromium (VI)	BKG-4-DB	3.6

Notes:

Concentrations shown are in milligrams per kilogram (mg/kg)

DA = 0.0 – 0.5 feet below ground surface (ft-bgs) interval

DB = 3.5 – 4.0 ft-bgs interval

5.2 TOXICOLOGICAL PROPERTIES

Default toxicological values were used for the RM-1 evaluation. Toxicological properties are presented in Appendix B.

5.3 PHYSICAL AND CHEMICAL PROPERTIES

Default physical and chemical properties were used for the RM-1 evaluation. The physical and chemical properties of the constituents are presented in Appendix B.

5.4 EXPOSURE FACTORS

Default exposure factors were used in the RM-1 evaluation and are shown in Appendix B.



5.5 MODELS AND EQUATIONS

The models and equations recommended in Appendix B of the most recent edition of the *ARBCA Guidance Manual*, and incorporated into the RAM Group ARBCA Computational Software, were used for the RM-1 evaluation. These include the Domenico Model and the Johnson and Ettinger Model.

5.6 CUMULATIVE RISK EVALUATION

The cumulative risks calculated by the RAM Group software are summarized in Tables 5.6a and 5.6b below. The RAM Group model output for the risk evaluation is included as Appendix B.

TABLE 5.6A INDIVIDUAL EXCESS LIFETIME CANCER RISK

RECEPTOR	SUM OF IELCR ¹
Resident	7.06×10^{-6}
Commercial Worker	1.86×10^{-6}
Construction Worker	2.66×10^{-7}

Notes:

IELCR – Individual Excess Lifetime Cancer Risk

¹- Allowable IELCR is 1×10^{-5}

TABLE 5.6B HAZARD INDEX

RECEPTOR	SUM OF HI ¹
Resident	1.84×10^{-1}
Commercial Worker	1.17×10^{-2}
Construction Worker	4.16×10^{-2}

Notes:

HI - Hazard Index

¹- Allowable HI is 1.0

The cumulative risk for the resident, commercial worker, and construction worker receptors were calculated to be less than the allowable risks of 1×10^{-5} for the IELCR for carcinogens and less than the allowable risk of 1.0 for the HI for non-carcinogenic chemicals. The IELCR and the HI are the sum of the risks of the complete pathway as calculated and provided in Appendix B.



6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the RM-1 evaluation, the maximum detected COC concentrations at the Site in soil do not pose an unacceptable risk for any complete current or likely future direct human exposure pathway. Furthermore, results of the cumulative risk evaluation indicate the cumulative risks associated with the COCs at the Site are within acceptable levels. As the results of this ARBCA evaluation indicate that cumulative risk is not exceeded, LaBella is of the opinion that no threat to human health or the environment is posed and recommends the Site be allowed to be residentially developed without use restrictions except for a groundwater use restriction that will be part of an Environmental Covenant placed on the entire Former West Point Stevens Mill Property (comprising 35 acres), of which the Site (18 acres) is included.



7.0 REFERENCES

Alabama Department of Environmental Management, Alabama Risk-Based Corrective Action Guidance Manual, Revision 3.0 February 2017.

Geological Survey of Alabama, Special Map 220, Geologic Map of Alabama, 1988.

Gustavasson N., et al, "Geochemical Landscape of the Conterminous United States- New Map Presentations for 22 Elements," US Geological Survey Professional Paper 1648,2001, Denver Colorado

Kopaska-Merkel, Dean, and Moore, 2000. United States Geological Survey of Alabama, Geohydrology and Susceptibility of Major Aquifers to Surface Contamination in Alabama; Area 5, 2000.

LaBella Associates, D.P.C., Phase I Environmental Site Assessment, February 21, 2022.

LaBella Associates, D.P.C., Voluntary Clean-Up Program Property Assessment Report, Former West Point Stevens Mill Site, November 12, 2024.

SynTerra Corporation, Phase I Environmental Site Assessment, January 21, 2013.

TABLES

Table 1 - Soil Boring Analytical Detections
Former West Point Stevens Mill

Analyte	USEPA RSLs THQ 0.1_Resid Soil	USEPA RSLs THQ 0.1_Indust Soil	Background Screening Level	SB-1-DA mg/Kg	SB-1-DB mg/Kg	SB-1-08 mg/Kg	SB-2-DA mg/Kg	SB-2-DB mg/Kg	SB-2-13 mg/Kg	SB-3-DA mg/Kg	SB-3-DB mg/Kg	SB-3-06 mg/Kg	DUP-S-AREA- 3- 10 mg/Kg	SB-10-DA mg/Kg	SB-10-DB mg/Kg	SB-11-DA mg/Kg	SB-11-DB mg/Kg
Arsenic	0.68	3	4.77	5.4	5.7	<1.3	<1.7	<4.1	<2.6	6.1	4.8 J	<1.7	5.8	7.1	7.8 J	4.2 J	<7.3
Barium	1500	22000	63	76	53	150	8.3	8.5	38	40	16	16	94	80	68	49	55
Chromium	NL	NL	46.48	19	47	30	25	16	16	31	26	38	20	28	170	26	64
Lead	100	800	21.7	16	9.3	19	29	23	9.3	15	9	16	20	11	22	22	25
Cr (VI)	0.3	6.3	3.59	3	NA	NA	NA	NA	NA	0.85	NA	NA	NA	<0.17	NA	1.4	NA
Mercury	1.1	4.6	0.16	0.042J	0.049J	0.087	<0.024	<0.032	<0.025	0.066 J	0.036 J	0.037 J	0.12	0.049 J	0.13	0.19	0.078
2-Butanone (MEK)	2700	19000	NC	<0.0043	<0.0050	<0.0059	<0.0058 H	<0.0069 H	<0.0055	0.016 J	<0.0054	<0.0059	<0.0051	0.0086 J	<0.0059	<0.0058	<0.0059
Acetone	7000	110000	NC	0.13	0.075	<0.012	0.026 H	0.016 J H	<0.011	0.43	0.03	0.016J	0.018 J	0.15	0.081	0.13	0.098
Methyl acetate	7800	120000	NC	<0.0033	<0.0039	<0.0045	<0.0045 H	<0.0053 H	<0.0042	0.0049	<0.0042	<0.0045	<0.0039	<0.0036	<0.0045	0.0086	<0.0046
Benzo[a]pyrene	0.11	2.1	NC	<0.10	<0.055	<0.066	<0.057 H	<0.073 H	<0.061	<0.058	<0.056	<0.060	<0.060	<0.11	<0.058	0.1 J	<0.063
Benzo[b]fluoranthene	1.1	21	NC	<0.21	<0.11	<0.14	<0.12 H	<0.15 H	<0.13	<0.12	<0.12	<0.13	<0.13	<0.23	<0.12	0.12 J	<0.13
Chrysene	110	2100	NC	<0.071	<0.038	<0.046	<0.040 H	<0.051 H	<0.043	<0.041	<0.040	<0.042	<0.042	<0.077	<0.040	0.094 J	<0.044
Fluoranthene	240	3000	NC	<0.071	<0.038	<0.046	<0.040 H	<0.051 H	<0.043	<0.041	<0.040	<0.042	<0.042	<0.077	<0.040	0.19 J	<0.044
Fluorene	240	3000	NC	<0.071	<0.038	<0.046	<0.040 H	<0.051 H	<0.043	<0.041	<0.040	<0.042	<0.042	<0.077	<0.040	0.073 J	<0.044
Indeno[1,2,3-cd]pyrene	1.1	21	NC	<0.14	<0.077	<0.092	<0.079 H	<0.10 H	<0.086	<0.082	<0.079	<0.085	<0.085	<0.15	<0.081	0.081 J	<0.088
Phenanthrene	NL	NL	NC	<0.071	<0.038	<0.046	<0.040 H	<0.051 H	<0.043	<0.041	<0.040	<0.042	<0.042	<0.077	<0.040	0.39	<0.044
Pyrene	180	2300	NC	<0.17	<0.091	<0.11	<0.094 H	<0.12 H	<0.10	<0.097	<0.094	<0.10	<0.10	<0.18	<0.096	0.13 J	<0.10

Analyte	USEPA RSLs THQ 0.1_Resid	USEPA RSLs THQ 0.1_Indust	Background Screening Level	SB-12-DA mg/Kg	SB-12-DB mg/Kg	SB-13-DA mg/Kg	SB-13-DB mg/Kg	SB-14-DA mg/Kg	SB-14-DB mg/Kg	SB-15-DA mg/Kg	SB-15-DB mg/Kg	SB-16-DA mg/Kg	SB-16-DB mg/Kg
Arsenic	0.68	3	4.77	<7.3	<2.7	3	4.4 J	<2.7	4.1J	<6.3	<1.6	<1.2	<1.6
Barium	1500	22000	63	67	19	50	60	45	45	67	90	19	13
Chromium	NL	NL	46.48	68	32	16	30	40	46	34	21	31	15
Lead	100	800	21.7	19	15	9.7	10	10	18	25	6.9	29	12
Cr (VI)	0.3	6.3	3.59	1.3	NA	0.45	NA	1.2	NA	1.7	NA	NA	NA
Mercury	1.1	4.6	0.16	0.27	0.037 J	0.034 J	0.025J	0.39	0.058 J	<0.026	<0.024	<0.023	<0.026
2-Butanone (MEK)	2700	19000	NC	<0.0072	<0.0063	0.0064 J	<0.0059	<0.0064	<0.0061	0.019 J	<0.0063	0.0066 J H	<0.0061 H
Acetone	7000	110000	NC	0.065	0.022 J	0.22	0.11	0.04	0.014 J	0.36	<0.013	0.2 H	0.028 H
Methyl acetate	7800	120000	NC	<0.0055	<0.0048	0.019	<0.0045	<0.0049	<0.0047	0.04	<0.0048	<0.0032 H	0.0054 H
Benzo[a]pyrene	0.11	2.1	NC	<0.066	<0.057	<0.050	<0.049	<0.060	<0.067	<0.058	<0.059	<0.054 H	<0.059 H
Benzo[b]fluoranthene	1.1	21	NC	<0.14	<0.12	<0.11	<0.10	<0.13	<0.14	<0.12	<0.12	<0.11 H	<0.13 H
Chrysene	110	2100	NC	<0.046	<0.040	<0.035	<0.035	<0.042	<0.047	<0.041	<0.041	<0.038 H	<0.042 H
Fluoranthene	240	3000	NC	<0.046	<0.040	0.04 J	<0.035	<0.042	<0.047	<0.041	<0.041	<0.038 H	<0.042 H
Fluorene	240	3000	NC	<0.046	<0.040	<0.035	<0.035	<0.042	<0.047	<0.041	<0.041	<0.038 H	<0.042 H
Indeno[1,2,3-cd]pyrene	1.1	21	NC	<0.092	<0.081	<0.071	<0.069	<0.084	<0.094	<0.081	<0.083	<0.075 H	<0.083 H
Phenanthrene	NL	NL	NC	<0.046	<0.040	<0.035	<0.035	<0.042	<0.047	<0.041	<0.041	<0.038 H	<0.042 H
Pyrene	180	2300	NC	<0.11	<0.095	<0.083	<0.082	<0.10	<0.11	<0.096	<0.098	<0.089 H	<0.098 H

Notes:

mg/kg - milligrams per kilogram

Bold - Constituent detected

NL - Not listed

NC - Not calculated

< = Not detected above laboratory minimum detection limit

Detected concentration exceeds the Environmental Protection Agency (EPA) Industrial Regional Screening Level (RSL) (THQ 0.1, November 2024)

Detected concentration exceeds the EPA Residential RSL (THQ 0.1, November 2024)

Detected concentration exceeds background screening levels above EPA Industrial RSL

Table 2 - Background Soil Boring Analytical Results
Former West Point Stevens Mill

Analyte	RES. RSL	IND. RSL	BKG-1-DA	BKG-1-DB	BKG-2-DA	BKG-2-DB	BKG-3-DA	BKG-3-DB	BKG-4-DA	BKG-4-DB	Calculated Background Screening Level*
Arsenic	0.68	3	3.4	0.96	1.7	2.8	1.6	3.1	3.2	2.3	4.77
Barium	1500	22000	50	19	20	19	28	46	54	16	63
Cadmium	0.71	10	<0.089	<0.090	<0.086	<0.14	<0.10	<0.13	<0.095	<0.11	-
Chromium	NL	NL	26	4.2	8.2	32	9.5	38	32	36	46.48
Lead	100	800	12	3.5	11	7.9 J	9.3	9.4J	24	9.7	21.7
Selenium	39	580	<1.3	<1.4	2.1 J	<2.0	<1.5	<1.9	<1.4	<1.6	-
Silver	39	580	<0.36	<0.36	<0.35	<0.54	<0.40	<0.51	<0.38	<0.43	-
Cr (VI)	0.95	20	1.4	0.47	1.1	1.6	2	1.2	3	3.6	3.59
Mercury	1.1	4.6	0.038J	<0.020	0.031J	0.078J	0.086	0.28	0.068J	0.056J	0.16

Notes:

Screening Levels - Environmental Protection Agency Regional Screening Levels (RSL) for Industrial (Ind.) and Residential (Res.) Soils - May 2024 (THQ0.1)

Results presented in milligrams per kilogram (mg/kg)

* - Background screening level calculated by taking the average analyte results, then multiplying by 2.

NC - Indicates background screening level could not be calculated due to mostly non detect values.

J - Result is less than reporting limit but greater or equal to MDL. Concentration approximate.

BOLD – constituent detected above laboratory reporting limit

Cr (VI) - hexavalent chromium

NL - not listed

DA - 0 to 0.5 feet below ground surface (ft-bgs) interval

DB - 3.5- 4.0 ft-bgs interval

< - Not detected above the laboratory method detection limit

	Detected concentration exceeds USEPA RSL for Industrial Soil
	Detected concentration exceeds USEPA RSL for Residential Soil
	Calculated background value exceeds USEPA RSL for Industrial Soil

Table 3 - Groundwater Analytical Results
Former West Point Stevens Mill

Analyte	USEPA RSLs THQ 0.1_Tap Water	USEPA MCL THQ 0.1	MW-1 µg/L	MW-2 µg/L	MW-3 µg/L
Arsenic	NA	10	<16	<16	<16
Barium	NA	2000	46	30	14
Cadmium	NA	5	<1.0	<1.0	<1.0
Chromium	NA	100	<3.0	<3.0	<3.0
Lead	NA	15	<7.1	<7.1	<7.1
Selenium	NA	50	<16	<16	<16
Silver	NA	9.4	<4.0	<4.0	<4.0
Mercury	NA	2	<0.079	<0.079	<0.079
Chromium, hexavalent	0.0000350	0.035	<0.50	<0.50	<0.50
PCB-1016	0.14	0.14	<0.38	<0.38	<0.39
PCB-1221	0.0047	0.0047	<0.15	<0.15	<0.16
PCB-1232	0.0047	0.0047	<0.12	<0.12	<0.12
PCB-1242	0.0078	0.0078	<0.13	<0.14	<0.14
PCB-1248	0.0078	0.0078	<0.096	<0.097	<0.097
PCB-1254	0.0078	0.0078	<0.11	<0.12	<0.12
PCB-1260	0.0078	0.0078	<0.25	<0.25	<0.25
1,1-Dichloroethane	2.8	2.8	<0.50	<0.50	<0.50
1,1-Dichloroethene	NA	7	<0.50	<0.50	<0.50
1,1,1-Trichloroethane	NA	200	<0.18	<0.18	<0.18
1,1,2-Trichloro-1,2,2-trifluoroethane	1000	1000	<0.50	<0.50	<0.50
1,1,2-Trichloroethane	NA	5	<0.21	<0.21	<0.21
1,1,2,2-Tetrachloroethane	0.076	0.076	<0.50	<0.50	<0.50
1,2-Dibromo-3-Chloropropane	NA	0.2	<1.5	<1.5	<1.5
1,2-Dichlorobenzene	NA	600	<0.50	<0.50	<0.50
1,2-Dichloroethane	NA	5	<0.19	<0.19	<0.19
1,2-Dichloropropane	NA	5	<0.50	<0.50	<0.50
1,2,3-Trichlorobenzene	0.7	0.7	<0.90	<0.90	<0.90
1,2,4-Trichlorobenzene	0.4	70	<0.82	<0.82	<0.82
1,3-Dichlorobenzene	NA	NA	<0.54	<0.54	<0.54
1,4-Dichlorobenzene	0.48	75	<0.64	<0.64	<0.64
2-Butanone (MEK)	560	560	<2.6	<2.6	<2.6
2-Hexanone	3.8	3.8	<1.4	<1.4	<1.4
4-Methyl-2-pentanone (MIBK)	630	630	<1.8	<1.8	<1.8
Acetone	1800	1800	<10	*+	*+
Benzene	0.46	5	<0.50	<0.50	<0.50
Bromoform	3.3	80	<0.25	<0.25	<0.25
Bromomethane	0.75	0.75	<0.98	<0.98	<0.98
Carbon disulfide	81	81	<0.50	<0.50	<0.50
Carbon tetrachloride	0.46	5	<0.19	<0.19	<0.19
Chlorobenzene	7.8	100	<0.90	<0.90	<0.90
Chlorobromomethane	8.3	8.3	<0.21	<0.21	<0.21
Chlorodibromomethane	0.87	80	<0.24	<0.24	<0.24
Chloroethane	830	830	<0.76	<0.76	<0.76
Chloroform	0.22	80	<0.90	<0.90	<0.90
Chloromethane	19	19	<0.90	<0.90	<0.90
cis-1,2-Dichloroethene	2.5	70	<0.20	<0.20	<0.20

Table 3 - Groundwater Analytical Results
Former West Point Stevens Mill

Analyte	USEPA RSLs THQ 0.1_Tap Water	USEPA MCL THQ 0.1	MW-1 µg/L	MW-2 µg/L	MW-3 µg/L
cis-1,3-Dichloropropene	NA	NA	<0.50	<0.50	<0.50
Cyclohexane	1300	1300	<0.50	<0.50	<0.50
Dichlorobromomethane	0.13	80	<0.50	<0.50	<0.50
Dichlorodifluoromethane	20	20	<0.85	<0.85	<0.85
Ethylbenzene	1.5	700	<0.50	<0.50	<0.50
Ethylene Dibromide	0.0075	0.05	<0.23	<0.23	<0.23
Isopropylbenzene	45	45	<0.53	<0.53	<0.53
Methyl acetate	2000	2000	<0.61	<0.61	<0.61
Methyl tert-butyl ether	14	14	<0.22	<0.22	<0.22
Methylcyclohexane	20	20	<0.50	<0.50	<0.50
Methylene Chloride	11	5	<3.0	<3.0	<3.0
Styrene	120	100	<1.0	<1.0	<1.0
Tetrachloroethene	4.1	5	<0.90	<0.90	<0.90
Toluene	110	1000	<0.90	<0.90	<0.90
trans-1,2-Dichloroethene	6.8	100	<0.50	<0.50	<0.50
trans-1,3-Dichloropropene	NA	NA	<0.20	<0.20	<0.20
Trichloroethene	0.28	5	<0.15	<0.15	<0.15
Trichlorofluoromethane	520	520	<0.52	<0.52	<0.52
Vinyl chloride	0.019	2	<0.50	<0.50	<0.50
Xylenes, Total	19	10000	<1.6	<1.6	<1.6
1-Methylnaphthalene	0.00063	0.00063	<0.080	<0.077	<0.076
2-Methylnaphthalene	3.6	3.6	<0.066	<0.064	<0.062
Acenaphthene	53	53	<0.099	<0.096	<0.093
Acenaphthylene	NA	NA	<0.044	<0.043	<0.042
Anthracene	180	180	<0.047	<0.045	<0.044
Benzo[a]anthracene	0.03	NA	<0.034	<0.033	<0.032
Benzo[a]pyrene	NA	0.2	<0.064	<0.062	<0.060
Benzo[b]fluoranthene	0.25	0.25	<0.037	<0.036	<0.035
Benzo[g,h,i]perylene	NA	NA	<0.027	<0.026	<0.025
Benzo[k]fluoranthene	2.5	2.5	<0.062	<0.060	<0.059
Chrysene	25	25	<0.033	<0.032	<0.031
Dibenz(a,h)anthracene	0.025	0.025	<0.048	<0.046	<0.045
Fluoranthene	80	80	<0.034	<0.033	<0.032
Fluorene	29	29	<0.089	<0.086	<0.084
Indeno[1,2,3-cd]pyrene	0.25	0.25	<0.034	<0.033	<0.032
Naphthalene	0.12	0.12	<0.095	<0.092	<0.090
Phenanthrene	NA	NA	<0.090	<0.087	<0.085
Pyrene	12	12	<0.039	<0.038	<0.037

Notes:

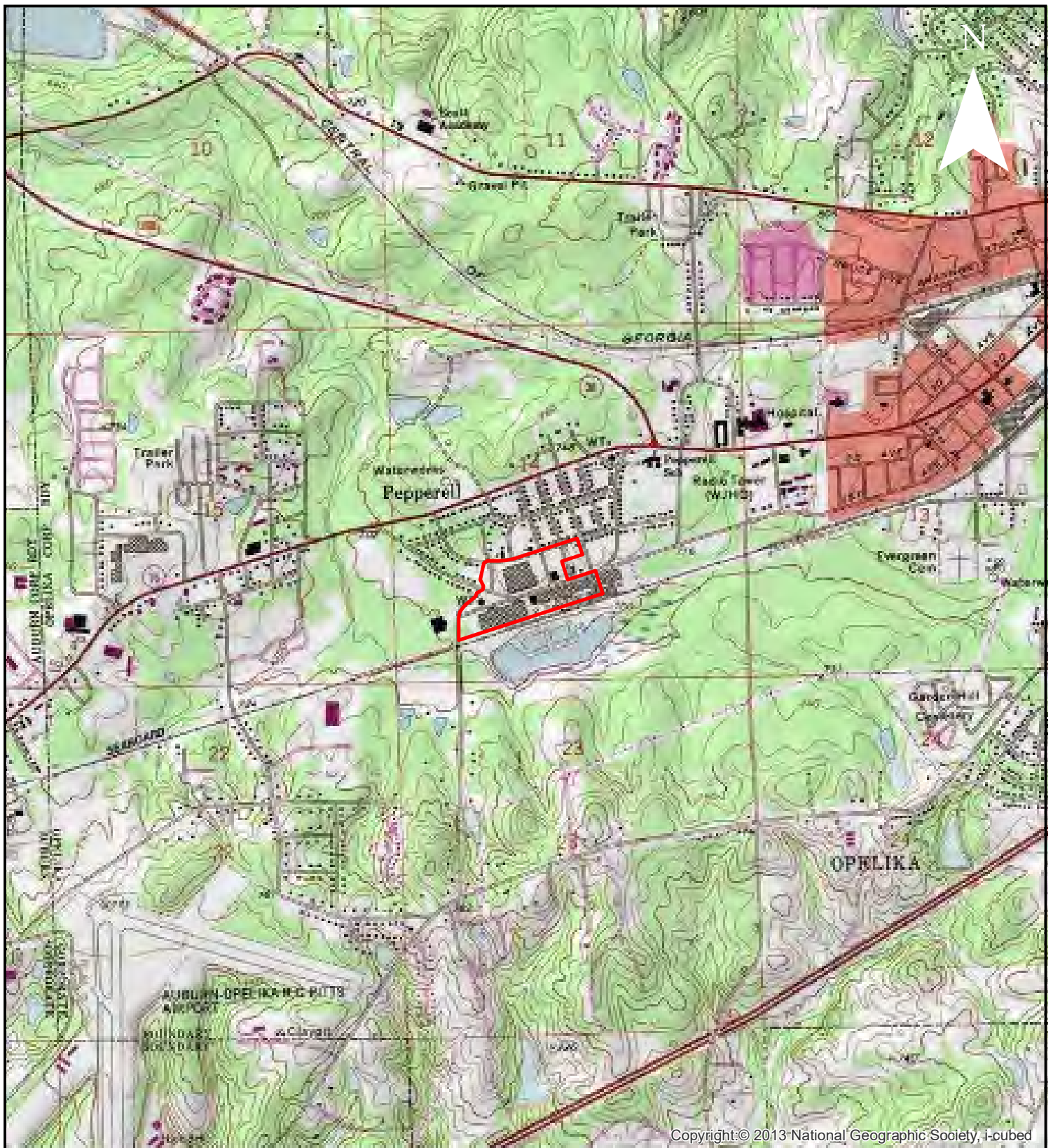
mg/l - All results in milligrams per liter

US EPA MCL - United States Environmental Protection Agency (US EPA) Maximum Contaminant Level (MCL), May 2024

US EPA RSL - US EPA Regional Screening Level for tapwater if MCL not available, May 2024

< = Not detected at the laboratory detection limit

FIGURES



Legend

Approximate Site Boundary



528 MINERAL TRACE
HOOVER, AL 35244
(205) 985-4874

TITLE:

Site Location Map

Preliminary ARBCA
Evaluation

Former West Point Stevens Mill
Opelika, Alabama 36801

SCALE:

0 1,000 2,000

1 inch = 2,000 feet

FIGURE NO.

1

PROJECT NO.

2242252

DRAWN BY

DW

DATE DRAWN

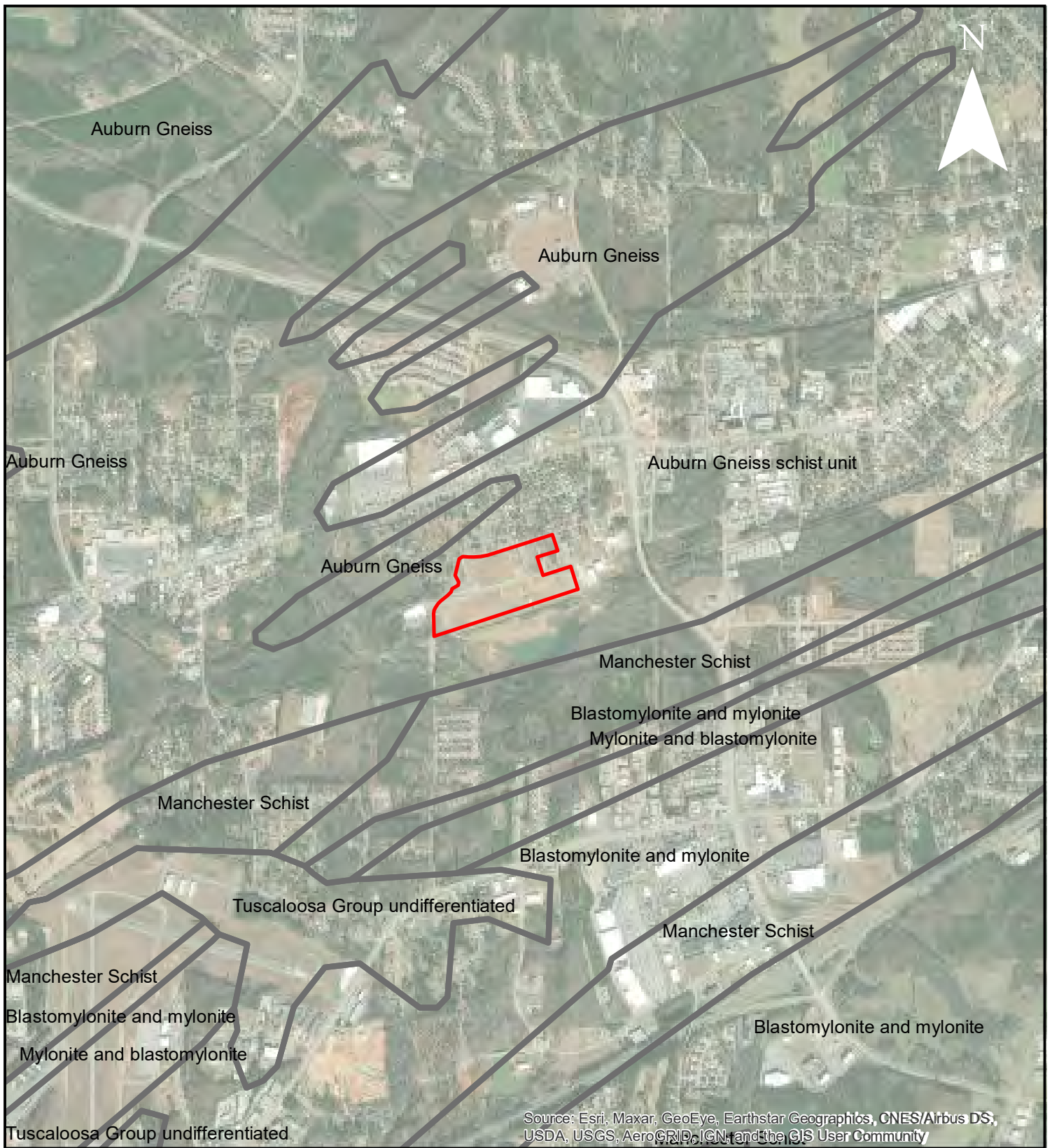
03-17-2022



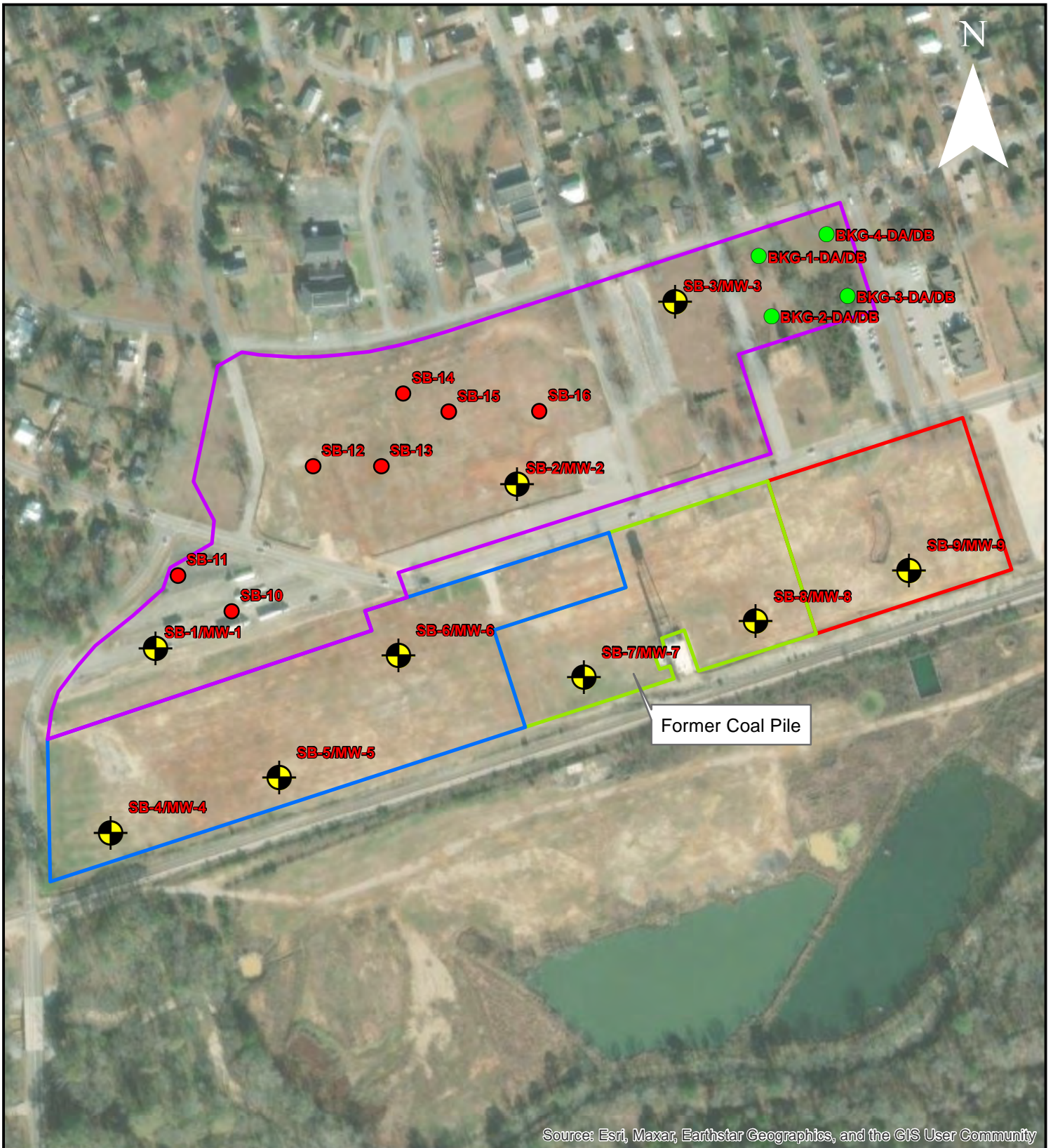
Legend  Approximate Site Boundary	 LaBella Powered by partnership	TITLE: Parcel ID Map Preliminary ARBCA Evaluation Former West Point Stevens Mill Opelika, Alabama 36801	FIGURE NO. 2
			PROJECT NO. 2242252
	528 MINERAL TRACE HOOVER, AL 35244 (205) 985-4874	SCALE: 0 175 350  1 inch = 350 feet	DRAWN BY DW
			DATE DRAWN 03-17-2022



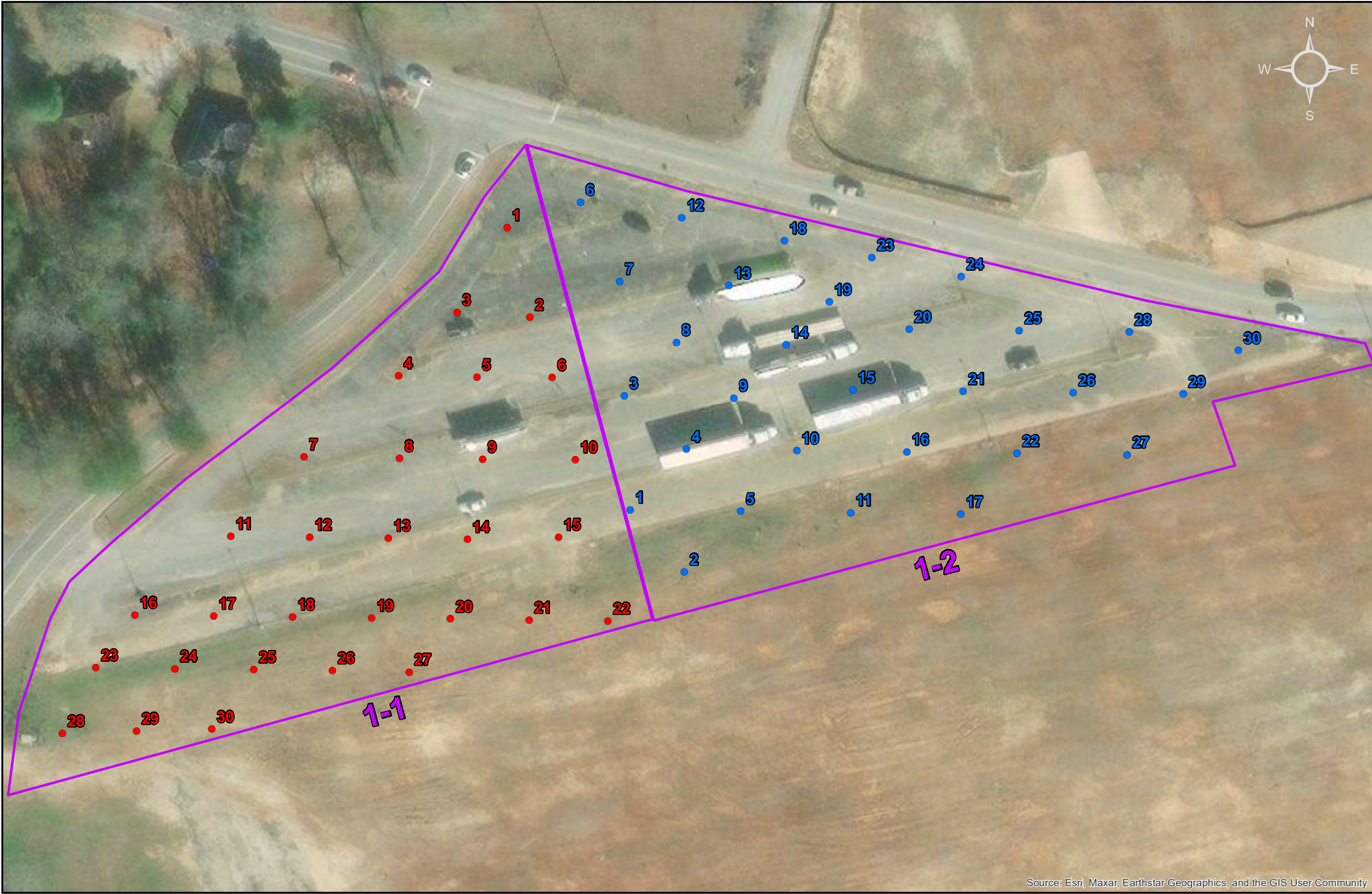
Legend  Approximate Site Boundary		TITLE: Area Land Use Map Preliminary ARBCA Evaluation Former West Point Stevens Mill Opelika, Alabama 36801	FIGURE NO. 3
			PROJECT NO. 2242252
	528 MINERAL TRACE HOOVER, AL 35244 (205) 985-4874	SCALE: 0 250 500  1 inch = 500 feet	DRAWN BY DW
			DATE DRAWN 03-17-2022



<p>Legend</p> <p> Approximate Site Boundary</p>	 <p>528 MINERAL TRACE HOOVER, AL 35244 (205) 985-4874</p>	<p>TITLE:</p> <p>Geologic Map</p> <p>Preliminary ARBCA Evaluation</p> <p>Former West Point Stevens Mill Opelika, Alabama 36801</p> <p>SCALE: 0 1,000 2,000  1 inch = 2,000 feet</p>	<p>FIGURE NO.</p> <p>4</p>
			<p>PROJECT NO.</p> <p>2242252</p> <p>DRAWN BY</p> <p>DW</p> <p>DATE DRAWN</p> <p>03-17-2022</p>

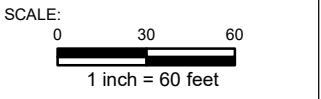


Legend <div style="display: flex; flex-wrap: wrap;"> <div style="width: 50%;"> <div style="border: 2px solid purple; width: 30px; height: 15px; margin-bottom: 5px;"></div> Area 1 </div> <div style="width: 50%;"> <div style="color: green;">●</div> Background Boring </div> <div style="width: 50%;"> <div style="border: 2px solid blue; width: 30px; height: 15px; margin-bottom: 5px;"></div> Area 2 </div> <div style="width: 50%;"> <div style="color: red;">●</div> Soil Boring </div> <div style="width: 50%;"> <div style="border: 2px solid green; width: 30px; height: 15px; margin-bottom: 5px;"></div> Area 3 </div> <div style="width: 50%;"> <div style="color: black;">⊗</div> Monitoring Well </div> <div style="width: 50%;"> <div style="border: 2px solid red; width: 30px; height: 15px; margin-bottom: 5px;"></div> Area 4 </div> </div>	<div style="text-align: center;">  LaBella <small>Powered by partnership</small> </div> <div style="text-align: center; margin-top: 20px;"> 528 MINERAL TRACE HOOVER, AL 35244 (205) 985-4874 </div>	TITLE: Soil Boring and Monitoring Well Location Map Preliminary ARBCA Evaluation Former West Point Stevens Mill Opelika, Alabama 36801 SCALE: 0 150 300 <div style="text-align: center;">  <small>1 inch = 300 feet</small> </div>	FIGURE NO. <div style="text-align: center; font-size: 1.2em;">5</div> <hr/> PROJECT NO. <div style="text-align: center;">2221011.01</div> <hr/> DRAWN BY <div style="text-align: center;">AJH</div> <hr/> DATE DRAWN <div style="text-align: center;">10-24-2024</div>



Legend

- 1-1 Samples
- 1-2 Samples
- Area 1-1
- Area 1-2



TITLE:

ISM Area 1 Map

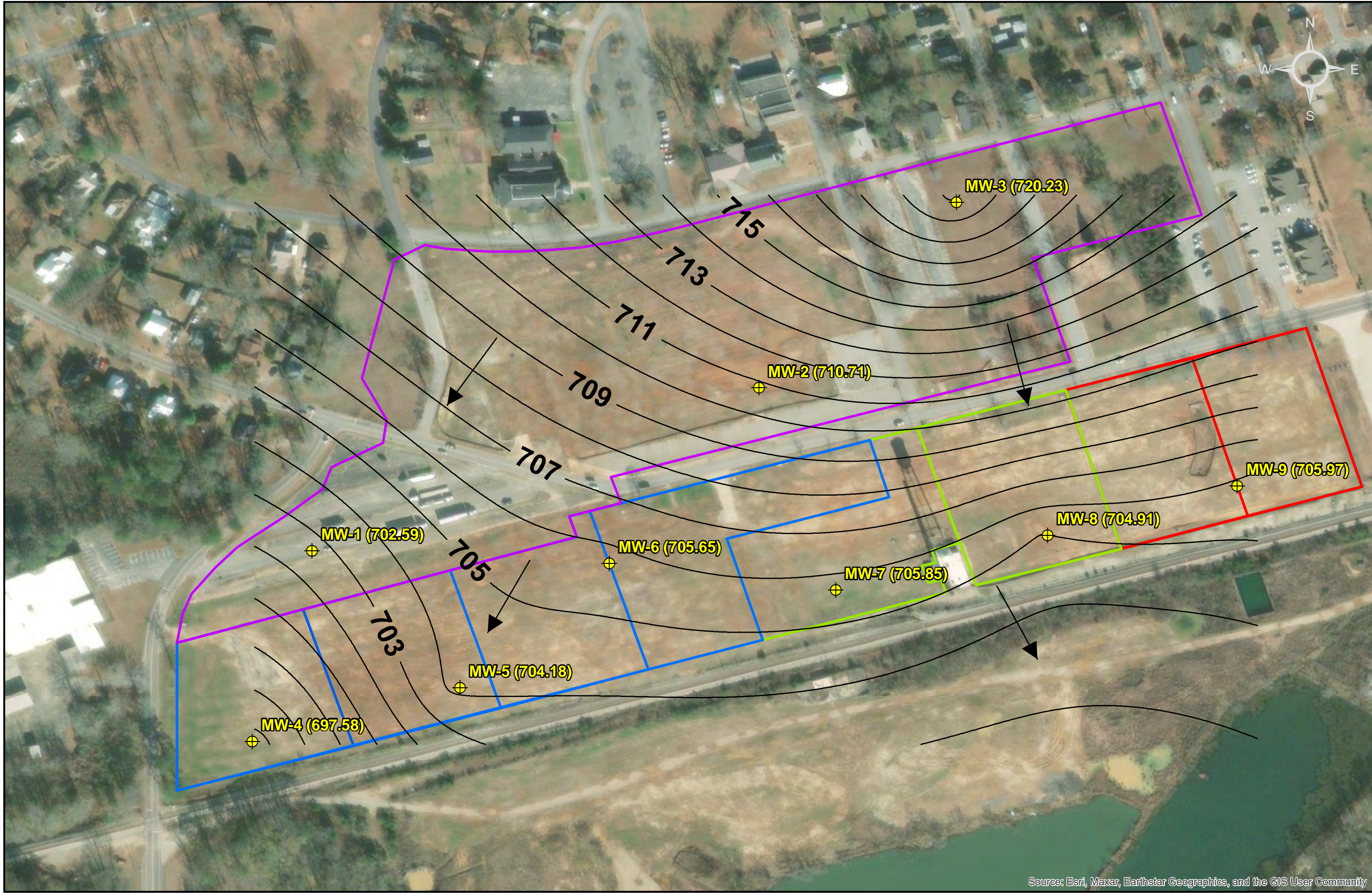
Preliminary ARBCA
Evaluation

Former West Point
Stevens Mill
Opelika, Alabama 36801

FIGURE NO.	PROJECT NO.
7	GENERAL
DRAWN BY:	DRAWN DATE:
AJH	07-15-2024

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528 MINERAL TRACE
HOOVER, AL 35244
(205) 985-4874



Legend


- Monitoring Wells
- Potentiometric Contour Line
- Area 1
- Area 2
- Area 3
- Area 4

SCALE:
0 100 200
1 inch = 200 feet

TITLE: Potentiometric Contour Map

June 12-13, 2024
Preliminary ARBCA Evaluation
Former West Point Stevens Mill
Opelika, Alabama 36801

FIGURE NO.	PROJECT NO.
8	GENERAL
DRAWN BY:	DRAWN DATE:
AJH	07-22-2024

**LaBella**
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528 MINERAL TRACE
HOOVER, AL 35244
(205) 985-4874

Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

APPENDIX A



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-1/MW-1

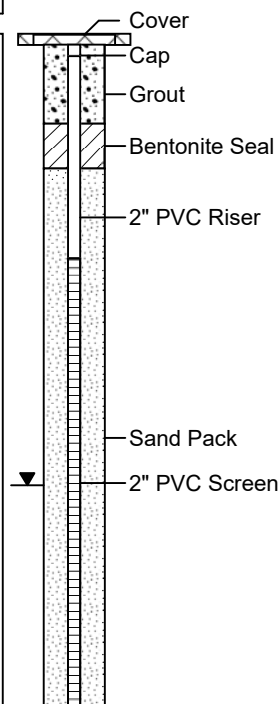
(Page 1 of 1)

Date Started : 5/20/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.631717
Longitude : -85.418492
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev. 712.77	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations
0	712				Asphalt and gravel fill	
				0	Reddish brown silty clay	
				0		
				0		
				0		
5				0		
	707			0	Reddish brown silt with trace sand	
				0		
				0		
				0		
10				0		
	702			0		
				0		
				0		
				0		
				0		
15				0	Saprolite	
	697				Boring terminated at ~ 15 ft-bgs	
20						
	692					
25						
	687					
30						

Well: MW-1
Elev.: 712.39



Depth in Feet (bgs)	Surf Elev. 723.19	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations
0	723			0	Topsoil	
				0	Reddish brown clayey silt, trace sand	
				0		
				0		
5	718			0	Saprolitic weathered bedrock, reddish brown, contains mica and quartz fragments	
				0		
				0		
				0		
10	713			0		
				0		
				0		
				0		
15	708			0		
				0		
				0		
				0		
20	703			0	Same as above, color grades to brown	
				0		
				0		
				0		
25	698			0		
				0		
				0		
				0		
30				0	Boring terminated at ~30 ft-bgs	

Well: MW-2
Elev.: 722.91



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-3/MW-3

(Page 1 of 1)

Date Started : 5/20/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.633804
Longitude : -85.414699
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev. 729.57	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: MW-3 Elev.: 729.23
0	729			0	Topsoil		Cover
				0	Reddish brown silty clay, trace sand		Cap
				0			Grout
				0	Reddish brown silt, trace gravel		Bentonite Seal
5	724			0			2" PVC Riser
				0			
				0	Saprolite		
10	719			0			Sand Pack
				0			2" PVC Screen
				0			
				0	Boring terminated at ~15 ft-bgs		
15	714			0			
20	709						
25	704						
30							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-4/MW-4

(Page 1 of 1)

Date Started : 5/16/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.630564
Longitude : -85.418811
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev. 713.40	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: MW-4 Elev.: 712.76
0	713			0	Topsoil		Cover
				0	Brown silty clay		Cap
				0	Reddish brown silt, trace sand		
5	708			0			
				0			Grout
				0			
10	703			0	Saprolite		2" PVC Riser
				0			
				0			
15	698			0			Bentonite Seal
				0			
				0			
20	693			0			Sand Pack
				0			2" PVC Screen
				0			
25	688			0			
				0			
				0			
30				0	Boring terminated at ~27.5 ft-bgs		



Former West Point Stevenson Mill
VCP Assessment

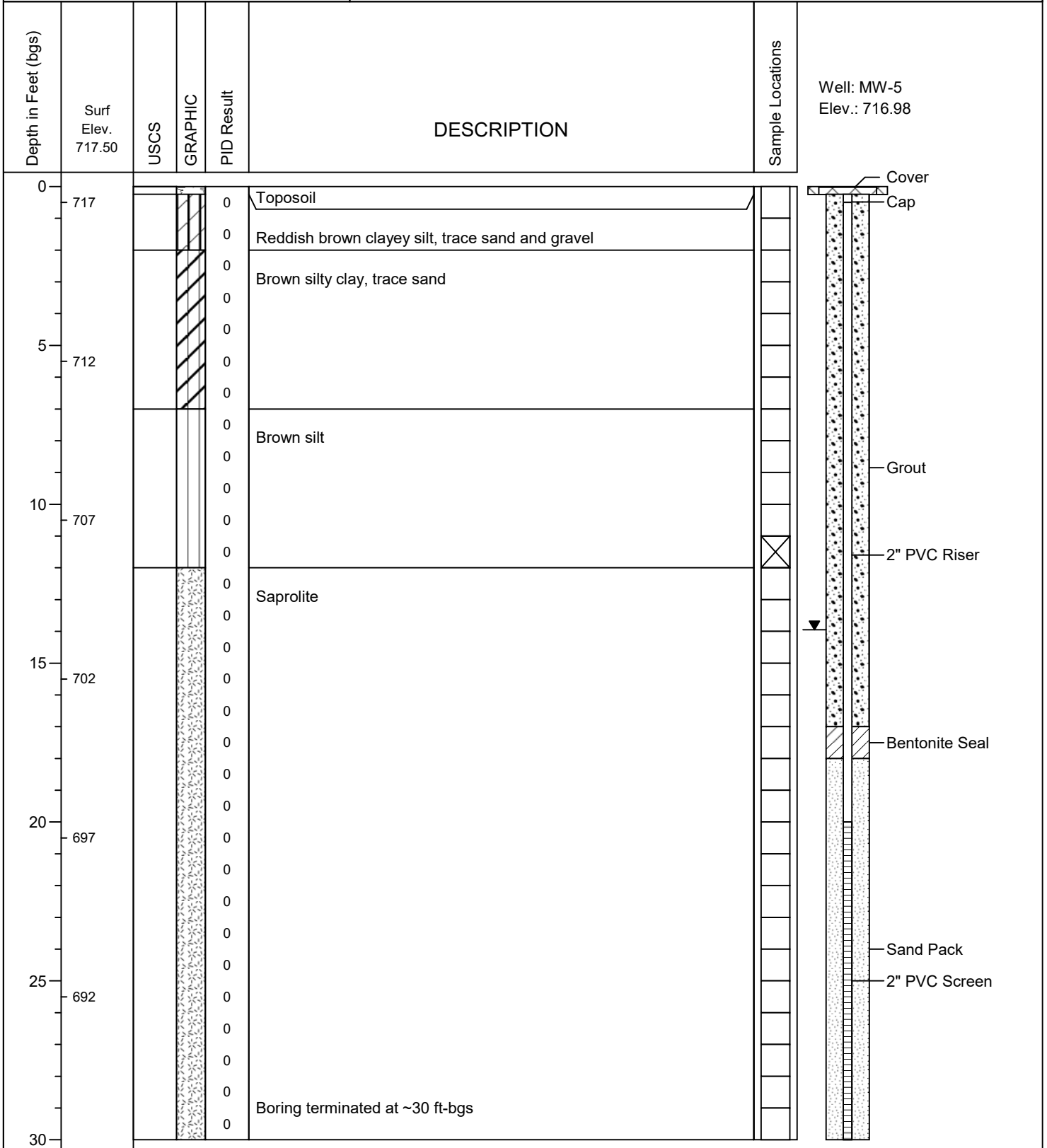
2401 First Avenue
Opelika, Alabama

Log for SB-5/MW-5

(Page 1 of 1)

Date Started : 5/16/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.630907
Longitude : -85.417649
Logged By : Thadeus Krueger





Former West Point Stevenson Mill
VCP Assessment


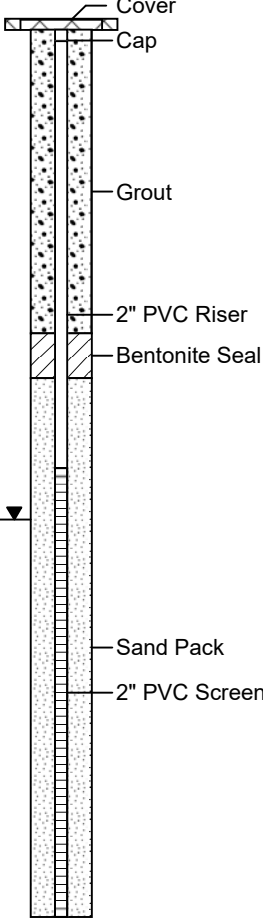

2401 First Avenue
Opelika, Alabama

Log for SB-6/MW-6

(Page 1 of 1)

Date Started : 5/16/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.631649
Longitude : -85.416756
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev. 717.39	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	
0	717			0	Reddish brown silty clay, trace sand		
				0	Saprolite		
5	712			0			
				0			
				0			
10	707			0			
				0			
				0			
				0			
15	702			0			
				0			
				0			
				0			
20	697			0	Boring terminated at ~20 ft-bgs		
25	692						
30							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-7/MW-7

(Page 1 of 1)

Date Started : 5/16/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.631526
Longitude : -85.415424
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev. 714.59	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	
0	714			0	Topsoil		Cover
				0	Crushed brick and gravel fill		Cap
				0	Concrete		
				0			
				0	Reddish brown silty clay		Grout
5	709			0			2" PVC Riser
				0			Bentonite Seal
				0	Saprolite		
10	704			0			
				0			
				0			
				0			
15	699			0			Sand Pack
				0			2" PVC Screen
				0			
				0	Boring terminated at ~19 ft-bgs		
20	694						
25	689						
30							



Former West Point Stevenson Mill
VCP Assessment

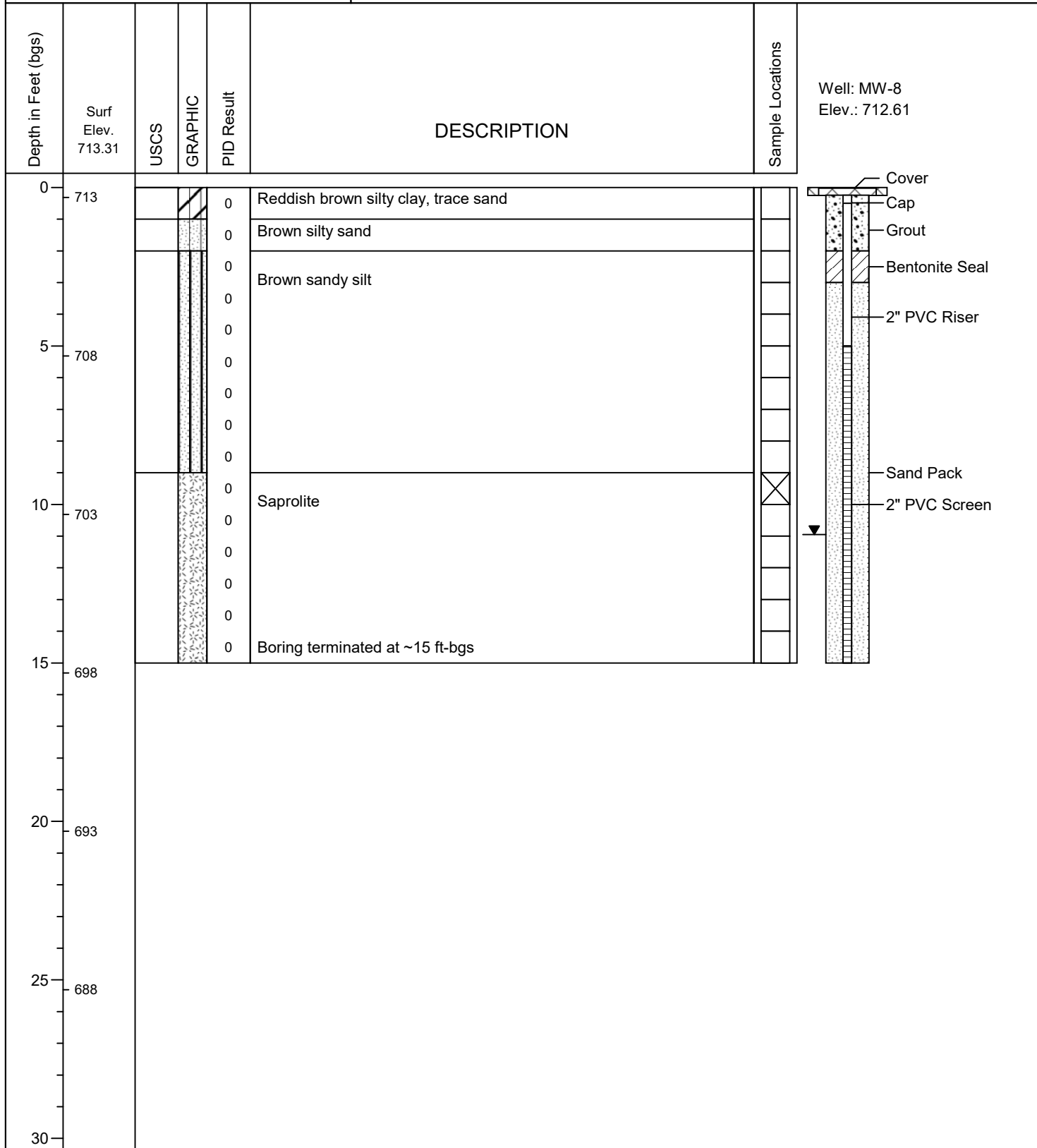
2401 First Avenue
Opelika, Alabama

Log for SB-8/MW-8

(Page 1 of 1)

Date Started : 5/20/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.631786
Longitude : -85.414169
Logged By : Thadeus Krueger





Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-9/MW-9

(Page 1 of 1)

Date Started : 5/20/2024
Date Completed : 5/20/2024
Hole Diameter : 4 1/4"
Drilling Method : HSA
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude : 32.632164
Longitude : -85.412895
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev. 713.49	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	
0	713			0	Reddish brown silt, trace sand		Cover
				0			Cap
				0			Grout
				0			Bentonite Seal
				0	Saprolite		2" PVC Riser
5	708			0			
				0			
				0			
				0			
				0			
10	703			0			Sand Pack
				0			2" PVC Screen
				0			
				0			
				0			
15	698			0	Boring terminated at ~15 ft-bgs		
20	693						
25	688						
30							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-10

(Page 1 of 1)

Date Started : 5/9/2024
Date Completed : 5/9/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0				0	Asphalt		
				0	Reddish brown silty clay, trace sand and organics		
				0	Reddish brown silt, trace sand and organics		
				0			
				0	Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-11

(Page 1 of 1)

Date Started : 5/9/2024
Date Completed : 5/9/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt		
				0	Reddish brown silty clay, trace sand and gravel		
				0	Reddish yellow silt, trace sand		
				0			
				0	Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-12

(Page 1 of 1)

Date Started : 5/9/2024
Date Completed : 5/9/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Topsoil		
				0	Reddish brown silty clay, trace sand		
				0			
				0	Reddish brown sandy silt		
				0			
				0	Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-13

(Page 1 of 1)

Date Started : 5/9/2024
Date Completed : 5/9/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Reddish brown clay		
				0	Brown sandy silt, trace gravel		
				0			
		AR		0	Loosely compacted fill		
				0			
				0	Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-14

(Page 1 of 1)

Date Started : 5/9/2024
Date Completed : 5/9/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0				0	Reddish brown sandy silt		
				0			
				0			
				0	Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for SB-14

(Page 1 of 1)

Date Started : 5/9/2024
Date Completed : 5/9/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Thadeus Krueger

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Topsoil		
				0	Reddish brown sandy silt		
				0			
				0			
				0	Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment




2401 First Avenue
Opelika, Alabama

Log for A1-1-01

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt and gravel fill		
					Yellowish-brown and reddish-brown mottled sandy clay		
							
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for A1-1-10

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt and gravel fill		
					Grayish brown and reddish brown sandy clay with black streaks		
					Reddish brown sandy clay		
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for A1-1-11

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt and gravel fill		
					Reddish brown clay		
					Medium gray sandy clay		
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment




2401 First Avenue
Opelika, Alabama

Log for A1-1-22

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Top soil and medium brown gravelly sandy clay		
					Reddish brown sandy clay		
							
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment




2401 First Avenue
Opelika, Alabama

Log for A1-1-26

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Top soil and medium brown gravelly sandy clay		
					Reddish brown sandy clay		
							
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment


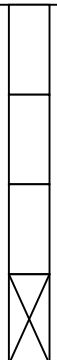
2401 First Avenue
Opelika, Alabama

Log for A1-1-28

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Yellowish brown and reddish brown mottled sandy clay		
5					Boring terminated at ~4 ft-bgs		
10							
15							



Former West Point Stevenson Mill
VCP Assessment




2401 First Avenue
Opelika, Alabama

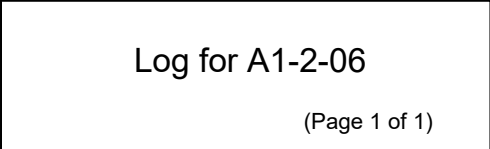
Log for A1-2-04

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt and gravel		
					Reddish brown to yellowish brown mottled sandy clay		
							
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Drilling Company	: Walker-Hill Environmental
Driller	:
Latitude	:
Longitude	:
Logged By	: Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt and gravel fill		
					Yellowish-brown and reddish-brown mottled sandy clay		
					Boring terminated at ~4 ft-bgs		
5							
10							
15							



Former West Point Stevenson Mill
VCP Assessment

2401 First Avenue
Opelika, Alabama

Log for A1-2-11

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Reddish brown sandy clay with limited gravel fragments		
5					Boring terminated at ~4 ft-bgs		
10							
15							



Former West Point Stevenson Mill
VCP Assessment




2401 First Avenue
Opelika, Alabama

Log for A1-2-24

(Page 1 of 1)

Date Started : 7/18/2024
Date Completed : 7/18/2024
Hole Diameter : 2 1/4"
Drilling Method : DPT
Sampling Method : DPT

Drilling Company : Walker-Hill Environmental
Driller :
Latitude :
Longitude :
Logged By : Adam J. Hughes

Depth in Feet (bgs)	Surf Elev.	USCS	GRAPHIC	PID Result	DESCRIPTION	Sample Locations	Well: Elev.:
0					Asphalt and gravel		
					Reddish brown mottled sandy clay		
							
					Boring terminated at ~4 ft-bgs		
5							
10							
15							

APPENDIX B

EXPOSURE MODEL

SITE: ADEM VCP Site No. 461-081-050

Source and Exposure Pathways	Resident *	Commercial Worker	Trespasser	Construction Worker **
Air				
Indoor Air	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Outdoor Air	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Surficial Soil (0 to 1 ft.)				
Dermal Contact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Ingestion	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Outdoor Inhalation of Vapor Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Outdoor Inhalation of Particulates	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
or				
Combined Pathway: Outdoor Inhalation of vapor emissions and particulates, Ingestion, and Dermal Contact	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Subsurface Soil (> 1 ft. to watertable)				
Indoor Inhalation of Vapor Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Outdoor Inhalation of Vapor Emission	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Soil Vapor				
Indoor Inhalation of Vapor Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Outdoor Inhalation of Vapor Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Groundwater (First Encountered Zone)				
Indoor Inhalation of Vapor Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Outdoor Inhalation of Vapor Emissions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ingestion	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>	<div style="border: 1px solid black; padding: 2px;">N/A</div>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Indoor Inhalation of Vapors from Water Use	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>	<div style="border: 1px solid black; padding: 2px;">N/A</div>	<div style="border: 1px solid black; padding: 2px;">N/A</div>
Combined Pathway: Ingestion and Inhalation of Vapors from Water Use	<input type="checkbox"/>	<div style="border: 1px solid black; padding: 2px;">N/A</div>	<div style="border: 1px solid black; padding: 2px;">N/A</div>	<div style="border: 1px solid black; padding: 2px;">N/A</div>

Other Exposure Pathways

Protection of Groundwater Use	<input type="checkbox"/>
Protection of Surface Water	<input type="checkbox"/>
Soil & Groundwater Protective of Indoor Inhalation	
Resident	<input type="checkbox"/>
Commercial Worker	<input type="checkbox"/>
Trespasser	<input type="checkbox"/>

* Includes calculations for child, and adult.

** For construction worker, thickness of surficial soil is from ground surface to depth of construction.

N/A

 Not Applicable

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SITE: ADEM VCP Site No. 461-08

TOXICOLOGICAL PROPERTIES OF CHEMICALS OF CONCERN

Chemicals of Concern					Absorption Factor		Is Chemical Mutagen? Yes/No
	Oral (SF _o)	Inh. (IUR)	Oral (RfD _o)	Inh. (RfC)	Oral (RAF _o)	Dermal (RAF _d)	
	[kg-day/mg]	[µg/m ³] ⁻¹	[mg/kg-day]	[mg/m ³]	[--]	[--]	
Arsenic	1.50E+00	4.30E-03	3.00E-04	1.50E-05	1	0.03	No
Chromium (VI)	1.60E-01	1.10E-02	9.00E-04	3.00E-05	0.025	NA	Yes

NA: Not Available

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SITE: ADEM VCP Site No. 461-4

PHYSICAL AND CHEMICAL PROPERTIES OF CHEMICALS OF CONCERN

Chemicals of Concern	Molecular Weight	Water Solubility	Henry's Law Constant	Org. Carbon Adsorption Coeff.	Soil-Water Sorption Coeff. Vadose Zone	Soil-Water Sorption Coeff. Saturated zone	Molecular Diffusion Coefficient		Saturated Soil Concentration
	(MW) [g/mol]	(S) [mg/L]	(H) [L-water/L-air]	(K _{oc}) [cm ³ /g]	(K _{sv}) [cm ³ -water /g-soil]	(K _{ss}) [cm ³ /g]	in air (D ^a) [cm ² /s]	in water (D ^w) [cm ² /s]	[mg/kg]
Arsenic	7.49E+01	NA	NA	NA	2.90E+01	2.90E+01	NA	NA	NA
Chromium (VI)	5.20E+01	1.69E+06	NA	NA	1.90E+01	1.90E+01	NA	NA	3.23E+07

NA: Not Available

The values in red are calculated.

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(Page 1 of 2)

Parameter	Symbol	Unit	Default Value	Value Used	Comment
Averaging Time for Carcinogen	AT _c	year	70	70	Default Value
Averaging Time for Non-Carcinogen	AT _n	year	=ED	=ED	Default Value
Body Weight:					
Resident Child	BW	kg	15	15	Default Value
Resident Adult	BW	kg	80	80	Default Value
Trespasser	BW	kg	NA	NA	Default Value
Commercial Worker	BW	kg	80	80	Default Value
Construction Worker	BW	kg	80	80	Default Value
Exposure Duration:					
Resident Child	ED	year	6	6	Default Value
Resident Adult	ED	year	20	20	Default Value
Mutagenic Mode of Action (Child and Adult)	ED	year	72	72	Default Value
Trespasser	ED	year	NA	NA	Default Value
Commercial Worker	ED	year	25	25	Default Value
Construction Worker	ED	year	1	1	Default Value
Exposure Frequency:					
Resident Child	EF	day/year	350	350	Default Value
Resident Adult	EF	day/year	350	350	Default Value
Trespasser	EF	day/year	NA	NA	Default Value
Commercial Worker	EF	day/year	250*/225**	225	Default Value
Construction Worker	EF	day/year	250	250	Default Value
Soil Ingestion Rate:					
Resident Child	IRS	mg/day	200	200	Default Value
Resident Adult	IRS	mg/day	100	100	Default Value
Trespasser	IRS	mg/day	NA	NA	Default Value
Commercial Worker	IRS	mg/day	50*/100**	100	Default Value
Construction Worker	IRS	mg/day	330	330	Default Value
Water Ingestion Rate:					
Resident Child	IRW	L/day	0.78	0.78	Default Value
Resident Adult	IRW	L/day	2.5	2.5	Default Value
Exposure Time for Indoor Inhalation:					
Resident Child	ET _{in}	hr/day	24	24	Default Value
Resident Adult	ET _{in}	hr/day	24	24	Default Value
Trespasser	ET _{in}	hr/day	NA	NA	Default Value
Commercial Worker	ET _{in}	hr/day	8	8	Default Value
Construction Worker	ET _{in}	hr/day	8	8	Default Value

*: Indoor worker per RSL (USEPA 2017)

**: Outdoor worker per RSL (USEPA 2017)

The values in red are calculated.

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Parameter	Symbol	Unit	Default Value	Value Used	Comment
Exposure Time for Outdoor Inhalation:					
Resident Child	ET _{out}	hr/day	24	24	Default Value
Resident Adult	ET _{out}	hr/day	24	24	Default Value
Trespasser	ET _{out}	hr/day	NA	NA	Default Value
Commercial Worker	ET _{out}	hr/day	8	8	Default Value
Construction Worker	ET _{out}	hr/day	8	8	Default Value
Soil to Skin Adherence Factor:					
Resident Child	M	mg/cm ²	0.2	0.2	Default Value
Resident Adult	M	mg/cm ²	0.07	0.07	Default Value
Trespasser	M	mg/cm ²	NA	NA	Default Value
Commercial Worker	M	mg/cm ³	0.12	0.1	Default Value
Construction Worker	M	mg/cm ²	0.3	0.3	Default Value
Skin Surface Area for Dermal Contact:					
Resident Child	SA	cm ² /day	2373	2373	Default Value
Resident Adult	SA	cm ² /day	6032	6032	Default Value
Trespasser	SA	cm ² /day	NA	NA	Default Value
Commercial Worker	SA	cm ² /day	3527	3527	Default Value
Construction Worker	SA	cm ² /day	3527	3527	Default Value

The values in red are calculated.

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Parameter	Symbol	Unit	Default Value	Value Used	Comment
SOIL:					
Length of soil source area parallel to wind direction	W_a	cm	**		Site-Specific Value
Depth to subsurface soil sources	L_s	cm	30.48	30.48	Default Value
Lower depth of surficial soil zone	d	cm	30.48	30.48	Default Value
Depth to soil vapor measurement	d_{sv}	cm	30.48	30.48	Default Value
VADOSE ZONE:					
Total soil porosity	θ_T	cm ³ /cm ³ -soil	0.43	0.43	Default Value
Volumetric water content	θ_{ws}	cm ³ /cm ³	0.143	0.143	Default Value
Volumetric air content	θ_{as}	cm ³ /cm ³	0.287	0.287	Calculated
Thickness	h_v	cm	200	200	Calculated
Dry soil bulk density	ρ_s	g/cm ³	1.5	1.5	Default Value
Fractional organic carbon content	f_{oc}	g-C/g-soil	0.002	0.002	Default Value
FOUNDATION/WALL CRACKS:					
Total soil porosity	θ_{Tcrack}	cm ³ /cm ³ -soil	0.43	0.43	Default Value
Volumetric water content	θ_{wcrack}	cm ³ /cm ³	0.143	0.143	Default Value
Volumetric air content	θ_{acrack}	cm ³ /cm ³	0.287	0.287	Calculated
CAPILLARY FRINGE:					
Total soil porosity	θ_{Tcap}	cm ³ /cm ³ -soil	0.43	0.43	Default Value
Volumetric water content	θ_{wcap}	cm ³ /cm ³	0.387	0.387	Calculated
Volumetric air content	θ_{acap}	cm ³ /cm ³	0.043	0.043	Calculated
Thickness	h_{cap}	cm	100	100	Default Value
GROUNDWATER:					
Depth to groundwater	L_{gw}	cm	300	300	Default Value
Width of GW source perpendicular to GW flow direction	Y	cm	**		Site-Specific Value
Length of GW source parallel to GW flow direction	W	cm	**		Site-Specific Value
Total soil porosity in the saturated zone	θ_{TS}	cm ³ /cm ³	0.43	0.43	Default Value
Dry soil bulk density in the saturated zone	ρ_{ss}	g/cm ³	1.5	1.5	Default Value
Fractional organic carbon content in the saturated zone	f_{ocs}	g-C/g-soil	0.002	0.002	Default Value
Groundwater mixing zone thickness	δ_{gw}	cm	200	200	Default Value
Hydraulic conductivity in the saturated zone	K	cm/year	***		Site-Specific Value
Hydraulic gradient in the saturated zone	i	cm/cm	***		Site-Specific Value
Groundwater darcy velocity	U_{gw}	cm/year	157.68	157.68	Default Value
Infiltration rate	I	cm/year	14.46	14.46	Default Value
AMBIENT AIR:					
Breathing zone height	δ_a	cm	200	200	Default Value
Inverse of mean concentration at center of square source	Q/C	(g/m ² -s)/(kg/m ³)	81.05	81.05	Default Value
Fraction of vegetative cover	V	m ² /m ²	0.5	0.5	Default Value
Wind speed within the breathing zone	U_a	m/s	4.69	4.69	Default Value
Equivalent threshold value of windspeed at 7 meters	U_t	m/s	11.32	11.32	Default Value
Windspeed distribution function from Cowherd et. al, 1985	F(x)	unitless	0.194	0.194	Default Value
DOMESTI WATER USE:					
Andelman volatilization factor	K_f	L/m ³	0.5	0.5	Default Value
AVERAGING TIME FOR VAPOR FLUX:					
Resident child	τ	sec	1.89E+08	1.89E+08	Calculated
Resident adult	τ	sec	9.46E+08	6.31E+08	Calculated
Trespasser	τ	sec	NA	NA	Calculated
Commercial worker	τ	sec	7.88E+08	7.88E+08	Calculated
Construction worker	τ	sec	3.15E+07	3.15E+07	Calculated

***: The source area (assumed to be square) should be classified as either (i) small (270 yd²) = (1500 cm X 1500 cm), (ii) medium (1/2 acre) = (4,498 cm X 4,498 cm), or (iii) large (1 acre) = (6,362 cm X 6,362 cm).

***: Site-specific value to calculate site-specific groundwater Darcy velocity.

The values in red are calculated.

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Parameter	Symbol	Unit	Default Value	Value Used	Comment
Resident					
Distance from the Downgradient Edge of the Groundwater Source to the On/Off-site Building	X_{bld}	ft	variable	1000	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	100.000	Calculated
Transverse Dispersivity	α_y	ft	variable	33.333	Calculated
Vertical Dispersivity	α_z	ft	variable	5.000	Calculated
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Sentry Well)	X_{poc}	ft	variable	1000	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	100.000	Calculated
Transverse Dispersivity	α_y	ft	variable	33.333	Calculated
Vertical Dispersivity	α_z	ft	variable	5.000	Calculated
Commercial Worker					
Distance from the Downgradient Edge of the Groundwater Source to the On/Off-site Building	X_{bld}	ft	variable	1000	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	100.000	Calculated
Transverse Dispersivity	α_y	ft	variable	33.333	Calculated
Vertical Dispersivity	α_z	ft	variable	5.000	Calculated
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Sentry Well)	X_{poc}	ft	variable	1000	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	100.000	Calculated
Transverse Dispersivity	α_y	ft	variable	33.333	Calculated
Vertical Dispersivity	α_z	ft	variable	5.000	Calculated
Trespasser					
Distance from the Downgradient Edge of the Groundwater Source to the On/Off-site Building	X_{bld}	ft	variable	1000	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	100.000	Calculated
Transverse Dispersivity	α_y	ft	variable	33.333	Calculated
Vertical Dispersivity	α_z	ft	variable	5.000	Calculated
Distance from the Downgradient Edge of the Groundwater Source to the Point of Compliance (Sentry Well)	X_{poc}	ft	variable	1000	Site-specific
Longitudinal Dispersivity	α_x	ft	variable	100.000	Calculated
Transverse Dispersivity	α_y	ft	variable	33.333	Calculated
Vertical Dispersivity	α_z	ft	variable	5.000	Calculated

Enter additional chemical-specific values on the "Chemical-Specific Inputs for Other Exposure Pathways" table.

The values in red are calculated.

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SITE: ADEM VCP Site No. 461-

REPRESENTATIVE CONCENTRATION FOR A RESIDENT

CHEMICALS OF CONCERN	AIR		SURFICIAL SOIL					SUBSURFACE SOIL		SOIL VAPOR		GROUNDWATER		
	Indoor	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Ingestion
	[mg/m ³ -air]		[mg/kg]							[mg/m ³]		[mg/L]		
Arsenic			4.00E+00	4.00E+00		4.00E+00								
Chromium (VI)			3.60E+00	3.60E+00		3.60E+00								

Soil concentrations are presented on a dry weight basis.

NA: Not Available

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R	
Indoor Inhalation of Vapors from Water Use	Ingestion and Inhalation from Water Use

REPRESENTATIVE CONCENTRATION FOR A COMMERCIAL WORKER

CHEMICALS OF CONCERN	AIR		SURFICIAL SOIL					SUBSURFACE SOIL		SOIL VAPOR		GROUNDWATER	
	Indoor	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions
	[mg/m ³ -air]		[mg/kg]							[mg/m ³]		[mg/L]	
Arsenic			4.00E+00	4.00E+00		4.00E+00							
Chromium (VI)			3.60E+00	3.60E+00		3.60E+00							

Soil concentrations are presented on a dry weight basis.

NA: Not Available

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SITE: ADEM VCP Site No. 461-081.

REPRESENTATIVE CONCENTRATION FOR A CONSTRUCTION WORKER

CHEMICALS OF CONCERN	AIR	SOIL UPTO DEPTH OF CONSTRUCTION					SOIL VAPOR	GROUNDWATER
	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions
	[mg/m ³ -air]	[mg/kg]					[mg/m ³]	[mg/L]
Arsenic		4.00E+00	4.00E+00		4.00E+00			
Chromium (VI)		3.60E+00	3.60E+00		3.60E+00			

Soil concentrations are presented on a dry weight basis.

NA: Not Available

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SITE: ADEM VCP Site No. 461

RM-1 IELCR FOR A COMMERCIAL WORKER

<div>CUMULATIVE</div> <div>1.86E-06</div>		AIR		SURFICIAL SOIL				SUBSURFACE SOIL		SOIL VAPOR		GROUNDWATER		
		Indoor	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions
<div>CUMULATIVE HI</div> <div>1.17E-02</div>														
CHEMICALS OF CONCERN														
Arsenic		NC	NC	2.10E-07	1.65E-06	NC	NA	NREP	NC	NC	NC	NC	NC	NC
Chromium (VI)		NC	NC	NTOX	3.96E-09	NC	NA	NREP	NC	NC	NC	NC	NC	NC
CUMULATIVE RISK														

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SITE: ADEM VCP Site No. 461

RM-1 HQ FOR A COMMERCIAL WORKER

<div>CUMULATIVE</div> <div>CUMULATIVE HI</div>		AIR		SURFICIAL SOIL				SUBSURFACE SOIL		SOIL VAPOR		GROUNDWATER		
		Indoor	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions
CHEMICALS OF CONCERN														
Arsenic		NC	NC	1.30E-03	1.03E-02	NC	NA	NREP	NC	NC	NC	NC	NC	NC
Chromium (VI)		NC	NC	NTOX	7.71E-05	NC	NA	NREP	NC	NC	NC	NC	NC	NC
CUMULATIVE RISK														

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SITE: ADEM VCP Site No. 46| RM-1 CUMULATIVE RISK FOR A COMMERCIAL WORKER

CUMULATIVE	1.86E-06	SUM OF IELCR	SUM OF HQ (HI)
CUMULATIVE HI	1.17E-02		
CHEMICALS OF CONCERN			
Arsenic		1.86E-06	1.16E-02
Chromium (VI)		3.96E-09	7.71E-05
CUMULATIVE RISK		1.86E-06	1.17E-02

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SITE: ADEM VCP Site No. 46

RM-1 IELCR FOR A CONSTRUCTION WORKER

<div><div>CUMULATIVE</div><div>2.66E-07</div></div> <div><div>CUMULATIVE HI</div><div>4.16E-02</div></div> <div>CHEMICALS OF CONCERN</div>	AIR	SOIL UPTO DEPTH OF CONSTRUCTION					SOIL VAPOR	GROUNDWATER
	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions
Arsenic	NC	2.33E-08	2.42E-07	NC	NA	NREP	NC	NC
Chromium (VI)	NC	NTOX	5.81E-10	NC	NA	NREP	NC	NC
CUMULATIVE RISK								

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SITE: ADEM VCP Site No. 46

RM-1 HQ FOR A CONSTRUCTION WORKER

<div>CUMULATIVE2.66E-07</div> <div>CUMULATIVE HI4.16E-02</div> <div>CHEMICALS OF CONCERN</div>		AIR	SOIL UPTO DEPTH OF CONSTRUCTION				SOIL VAPOR	GROUNDWATER	
		Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions
Arsenic		NC	3.62E-03	3.77E-02	NC	NA	NREP	NC	NC
Chromium (VI)		NC	NTOX	2.83E-04	NC	NA	NREP	NC	NC
CUMULATIVE RISK									

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SITE: ADEM VCP Site No. 46 RM-1 CUMULATIVE RISK FOR A CONSTRUCTION WORKER

<div> <div>CUMULATIVE</div> <div>2.66E-07</div> </div> <div> <div>CUMULATIVE HI</div> <div>4.16E-02</div> </div> <div>CHEMICALS OF CONCERN</div>	SUM OF IELCR	SUM OF HQ (HI)
Arsenic	2.65E-07	4.13E-02
Chromium (VI)	5.81E-10	2.83E-04
CUMULATIVE RISK	2.66E-07	4.16E-02

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<div>CUMULATIVE7.06E-06</div> <div>CUMULATIVE HI1.84E-01</div> <div>CHEMICALS OF CONCERN</div>		AIR		SURFICIAL SOIL					SUBSURFACE SOIL		SOIL VAPOR		GROUNDWATER			
		Indoor	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Ingestion	Indoor Inhalation of Vapors from Water Use
Arsenic		NC	NC	4.68E-07	6.58E-06	NC	NC	NREP	NC	NC	NC	NC	NC	NC	NC	NC
Chromium (VI)		NC	NC	NTOX	1.58E-08	NC	NC	NREP	NC	NC	NC	NC	NC	NC	NC	NC
CUMULATIVE RISK																

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SITE: ADEM VCP Site No. 46

CUMULATIVE	7.06E-	
	06	
CUMULATIVE HI	1.84E	Ingestion and Inhalation from Water Use
	-01	
CHEMICALS OF CONCERN		
Arsenic		NC
Chromium (VI)		NC
CUMULATIVE RISK		

<div>CUMULATIVE7.06E-06</div> <div>CUMULATIVE HI1.84E-01</div> <div>CHEMICALS OF CONCERN</div>		AIR		SURFICIAL SOIL				SUBSURFACE SOIL		SOIL VAPOR		GROUNDWATER			
		Indoor	Outdoor	Dermal Contact	Ingestion	Outdoor Inhalation of Vapor Emissions	Outdoor Inhalation of Particulates	Combined Pathway	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Indoor Inhalation of Vapor Emissions	Outdoor Inhalation of Vapor Emissions	Ingestion
Arsenic		NC	NC	1.21E-02	1.70E-01	NC	NC	NREP	NC	NC	NC	NC	NC	NC	NC
Chromium (VI)		NC	NC	NTOX	1.28E-03	NC	NC	NREP	NC	NC	NC	NC	NC	NC	NC
CUMULATIVE RISK															

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SITE: ADEM VCP Site No. 46

<div>CUMULATIVE</div> <div>7.06E-06</div>			
<div>CUMULATIVE HI</div> <div>1.84E-01</div>		Indoor Inhalation of Vapors from Water Use	Ingestion and Inhalation from Water Use
CHEMICALS OF CONCERN			
Arsenic		NC	NC
Chromium (VI)		NC	NC
CUMULATIVE RISK			

CUMULATIVE	7.06E-06	SUM OF IELCR	SUM OF HQ (HI)
CUMULATIVE HI	1.84E-01		
CHEMICALS OF CONCERN			
Arsenic		7.04E-06	1.83E-01
Chromium (VI)		1.58E-08	1.28E-03
CUMULATIVE RISK		7.06E-06	1.84E-01

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