THIRD FIVE-YEAR REVIEW REPORT FOR AMERICAN BRASS INC. SUPERFUND SITE HEADLAND, HENRY COUNTY, ALABAMA

September 2024

Prepared by

U.S. Environmental Protection Agency
Region 4
Atlanta, Georgia

CAROLINE FREEMAN

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Caroline Y. Freeman, Director
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REGION 4
ATLANTA, GA 30303

UNITED STATES ENVIROMENTAL PROTECTION AGENCY
Region 4
61 FORSYTH ST SW
ATLANTA, GA 30303

MEMORANDUM

Subject: **Errata for the *Third Five Year Review Report, American Brass Inc,* September 30, 2024**

Date: **October 8, 2024**

From: **Nathaniel Ertep, U.S. EPA** NATHANIEL ERTEP Digitally signed by NATHANIEL ERTEP Date: 2024.10.08 15:17:09 -04'00'

To: **Site File**

On September 30, 2024, the U.S. Environmental Protection Agency issued the *Third Five Year Review Report for the American Brass Inc. Site in Headland, Alabama.* Transcription errors were identified in the Five-Year Review; these errors are corrected below. The corrections do not change the conclusions of the report but are provided for the record and for future Five Year Reviews.

The Corrections are summarized as follows and page substitutions are attached.

1. Page 21: Issues/Recommendations table does not list the complete Milestone Date that additional sampling needs to be preformed by. The table currently only lists the year the sampling needs to be preformed by instead of the correct date of 09/30/2025.
2. Page 22: The Protectiveness Statement's verbiage does not comply with the FYR guidance. The protectiveness statement did not describe how the site remedy was protective of human health and the environment, these elements are included in the corrected statement.

Attachments:
Revised Page 21, Issues/Recommendations Table
Revised Page 22, Protectiveness Statement

Question B Summary:

Soil cleanup is completed, and the cleanup goals are still valid. The ROD did establish groundwater cleanup goals for the Site. Groundwater monitoring was established to determine if any COCs were migrating from the Site either horizontally or vertically, and to ascertain if the remedy chosen (MNA) was effective.

Land use for the Site is agricultural use. No new human health or ecological routes of exposure or receptors have been identified or changed that could affect the protectiveness of the soil remedy. There are no newly identified contaminants or contaminant sources originating on the property.

No changes have been made in Risk Assessment methods to affect the protectiveness of the Site. Applicable or relevant and appropriate requirements (ARARs) remain the same.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations				
OU(s) without Issues/Recommendations Identified in the Five-Year-Review				
None				
Issues and Recommendations Identified in the Five-Year-Review				
OU(s): Groundwater	**Issue Category:**			
	Issue: Based on available groundwater sampling data, boron levels appear abnormally low in MW5 for a natural attunement remedy.			
	Recommendation: Conduct groundwater sampling for MW5 to confirm data in this review			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversite Party**	**Milestone Date**
No	Yes	ADEM	EPA	09/30/2025

OTHER FINDINGS

In addition, the following are recommendations that were identified during the FYR but do not affect current or future protectiveness:

> In 2018, the State raised the question of whether PFAS sampling in soil and groundwater was applicable for this Site. Based on the Site's history and available information, the EPA concluded that the Site was unlikely to be impacted by PFAS contaminants, therefore there are no plans to sample for them.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement	
Protectiveness Determination:	*Planned Addendum Completion Date:*
Short-term Protective	NA
Protectiveness Statement: The remedy for the soil and sediment currently protects human health and the environment because contamination above health-based levels has been excavated, disposed off-site and replaced with clean fill at levels that support unlimited use and unrestricted exposure. No exposure to contaminated groundwater is occurring and ICs prohibit groundwater use. However, in order for the remedy to be protective in the long-term, the following action is needed to ensure protectiveness: Conduct groundwater sampling for MW5 to confirm data in this review.	

VIII. NEXT REVIEW

The next FYR for the Site is required five years from the completion date of this review.

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LIST OF ABBREVIATIONS & ACRONYMS

ABI	American Brass, Inc
ADEM	Alabama Department of Environmental Management
ARAR	Applicable or Relevant and Appropriate Requirement
bgs	below ground surface
bls	below land surface
CD	Consent Decree
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CIC	Community Involvement Coordinator
COCs	Contaminants of Concern
DDT	Dichlorodiphenyl trichloroethane
EPA	United States Environmental Protection Agency
ESD	Explanation of Significant Differences
FS	Feasibility Study
FYR	Five-Year Review
Gpm	Gallons per minute
IC	Institutional Control
MCL	Maximum Contaminant Level
mg/kg	Milligrams per Kilogram
MLS	Mean Sea Level
MW	Monitoring well
MNA	Monitored Natural Attenuation
NCP	National Contingency Plan
NPL	National Priorities List
OU	Operable Unit
O&M	Operations and Maintenance
PCE	Tetrachloroethene
ppm	Parts per million
PRP	Potentially Responsible Party
PVC	Polyvinyl chloride
RA	Remedial Action
RAO	Remedial Action Objective
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design
RG	Remedial Goal
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
RPM	Remedial Project Manager
RSL	Regional Screening Level
SESD	Science and Ecosystem Support Division
SDWA	Safe Drinking Water Act
SS&R	Sitkin Smelting and Refining

TCE	Trichloroethylene or trichloroethene
TSCA	Toxic Substance Control Act
µg/kg	Micrograms per Kilogram
µg/L	Micrograms per Liter, equal to parts per billion
VOC	Volatile organic compound
USACE	US Army Corp of Engineers
UU/UE	Unlimited Use and Unrestricted Exposure

I. INTRODUCTION

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is, and will continue to be, protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The Alabama Department of Environmental Management (ADEM) is preparing this five-year-review for the U.S. Environmental Protection Agency pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 121, consistent with the National Contingency Plan (NCP) (40 Code of Federal Regulations (CFR) Section 300.430(f)(4)(ii)), and considering the EPA policy.

This is the third FYR for the American Brass, Inc Superfund Site (the Site or ABI). The triggering action for this statutory review is the signing of the previous review dated September 30, 2019. The FYR has been prepared due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure (UU/UE). The soils and sediments have been addressed by removal actions and the groundwater has been sampled annually to monitor the progress of the natural attenuation of contaminants on Site.

The Site consists of one operable unit (OU) that addresses the entire site.

The American Brass, Inc. Superfund Site FYR was led by the EPA remedial project managers (RPM) Brian Farrier and Nathaniel Ertep. Relevant entities were notified of the initiation of the FYR**.** The review began with the initial site visit with ADEM and the EPA personnel on December 7, 2023. Participants included Kenneth Prestridge from the ADEM and Brian Farrier and Nathaniel Ertep from the EPA. William Overstreet and William Duke from the ADEM were present on-site inspecting monitoring wells for sampling later in the year.

Site Background

The ABI Site is located west of the City of Headland, Henry County, Alabama on Highway 134. The Site is a former secondary brass smelter/foundry facility and is located adjacent to the south side of Highway 134 at 31°32’50.0” N, -85°40’36.1” W. It is approximately 6 miles east of US 231 and 3 miles east of the Dothan regional airport. The Site contains approximately 148 acres, 24 of which were previously occupied by the former foundry facility. All foundry buildings have been demolished with only the foundation slab for the former foundry building remaining. There are three (3) deep wells on-site of about 600 feet in depth. These wells are not impacted by the shallow groundwater contamination on ABI. The northern 24 acres is separated from the remainder of the Site by a railroad track running east to west. Just south of the railroad tracks is the location of the former pile where ball mill residue, foundry bricks, and excavated waste from the Site were stockpiled. This pile was removed during the emergency removal action in the late 1990s. The undeveloped portion of the site continues south of the railroad to the Houston County line. The current owner of the facility (R & B Investments, LLC. – Ronald and Benny Nowell) utilizes the property for agriculture uses and a storage area for equipment. The Site is fenced along the western border but is otherwise fairly accessible for entry.

There is a partial fence on the north side of the property which is off set from the road and does not stretch completely across the northern border of the property. The fence was once the entry way into the former foundry building area from the administration building (both structures now demolished). It in no way impedes entry to the Site. The two closest residences are located to the east along Arnold Falkner Road (one occupied, one unoccupied). The next nearest residence is located immediately north of the Site across Highway 134.

The property is owned by R & B Investments, LLC. The Site began as a fertilizer package and blending operation run by Mississippi Chemical Company in the mid to late 1960s. The Sitkin Smelting and Refining (SS&R) began operations on the Site in 1976 and filed for bankruptcy in 1978. Creditors were bought out by Commercial Technology (Comtech) and the company was reorganized as American Brass, Inc. in 1978. This company operated until December 1992 when the owner's declared bankruptcy. The Site was investigated by ADEM in 1995 and referred to the EPA Emergency Response and Removal Branch (ERRB). The ERRB performed several removal actions to stabilize the Site and to remove hazardous waste to appropriate facilities. During the time, the Site was proposed to the NPL and finalized on the Federal Register May 10, 1999. After that, the Remedial Investigation (RI) and Feasibility Study (FS) was performed, Risk Assessments for Ecology and Human Health were completed, and the Record of Decision (ROD) was signed August 24, 2006. Remedial soil excavations were performed utilizing the ERRB in Nov 2008 and the final Remedial Action Report was completed in December 2009. The remaining portion of the cleanup is the shallow groundwater contamination which was proposed for Monitored Natural Attenuation (MNA). Since then, annual groundwater monitoring has been performed and recently, environmental covenants have been placed on the property.

The soil and sediment remediation has been completed and groundwater contamination is being monitored with sampling performed in 2014, 2015, 2016, 2018, and 2024. The Environmental Covenant was finalized by all concerned parties and sent to the Clerk of Henry County Court for recording on April 4, 2019.

The geologic formations are of the Coastal Plain physiographic province. The facility is underlain by the Dothan soil series which consists of deep, well-drained, low to moderately permeable soils. Geologically, the site is mapped as residuum which overlies the Lisbon Formation. It is described as consisting of white, yellow, and red, fine to coarse-grained gravelly sand, white to gray mottled sandy silty clay, fossiliferous chert boulders, ferruginous sandstone, and limonite concretions. The thickness of the residuum beneath the site is approximately 40 feet.

Beneath the residuum is the Lisbon Formation. This formation overlies the Tallahatta and Hatchechubbee Formations and outcrops in the center and southern part of Henry County. The Lisbon Formation outcrops just north of the American Brass site. It consists of massive sands, sandy clay, and sandy limestone. This is underlain by the Tallahatta and Hatchechubbee Formations, two undifferentiated units due to their similar lithologies and lack of distinguishing characteristics. These are underlain in order by the Tuscahoma Sands, The Nanafalia Formation, The Clayton formation, The Providence Sand, and the Ripley Formation.

Groundwater aquifers in the Dothan area are the Lisbon aquifer, the Tallahatta and Hatchechubbee Formations, the Nanafalia-Clayton aquifer which consists of the basal part of the Tuscahoma Sands,

and the Nanafalia and Claytons Formations, and the providence Ripley aquifer. There are clay units in the upper part of the Tuscahoma Sands which cause a confining unit between the Lisbon aquifer and the underling Nanafalia-Clayton aquifer. The residuum layer is not considered a major aquifer. No known local private drinking water wells are screened in the residuum.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: American Brass, Inc. Superfund Site		
EPA ID: ALD981868466		
Region: IV	**State:** AL	**City/County:** Headland, Henry County
SITE STATUS		
NPL Status: Final		
Multiple OUs? No	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name: Kenneth L. Prestridge Brian Farrier, Nathaniel Ertep		
Author affiliation: EPA with support provided by ADEM.		
Review period: 10-1-23 – 9-1-24		
Date of site inspection: December 7, 2023		
Type of review: Statutory		
Review number: 3		
Triggering action date: 9/30/2019		
Due date *(five years after triggering action date):* 9/30/2024		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

Primary and supplemental Remedial Investigations (RIs) were conducted at the Site in 2001 and 2003. The studies collected surface water, sediment, surface and subsurface soil, groundwater, and potable water samples and analyzed them to define the nature and extent of contamination associated with operations conducted at the ABI Site. All surface water and sediment samples were analyzed for volatiles, extractable organics, metals and pesticides/PCBs.

The RI determined that contaminated soil was a current and future risk to human health and the environment at the Site. Information collected during the RI/FS sampling investigations indicated that hazardous substances released from the Site had contaminated the soil and sediments surrounding the Site. Primary contaminants of concern in the soil and sediments were aluminum, arsenic, boron, cadmium, chromium, copper, iron, lead, thallium, vanadium, zinc, DDT, and PCB-1260. Potential exposure to contaminated groundwater also presents an unacceptable future risk at the Site. Information collected during the RI/FS sampling investigations indicated that hazardous substances released from the Site had contaminated the groundwater beneath the Site. Primary contaminants of concern in the groundwater are boron, iron, manganese, selenium, ammonia, chloride, nitrate, and sulfate.

Table 1 summarizes the COCs identified as impacting the Site.

Table 1: COCs and Performance Standards for Groundwater

Contaminant of Concern	2006 ROD (µg/L)	2009 ESD Revised (µg/L)	Applicable Standards
Boron	1,400	3,129	HQL/Risk
Iron	4,600	10,733	HQL/Risk
Manganese	300	No Change	HQL/Risk
Selenium	50	No Change	MCL
Ammonia	400	No Change	HQL/Risk
Nitrate	10,000	No Change	MCL

Response Actions

The Remedial Action Objectives (RAOs) for the Site are:

1) prevent ingestion, inhalation, or direct contact with surface soils and sediments that contain concentrations in excess of the performance standards, for both human and ecological receptors.
2) control migration and leaching of contaminants in Site soils and sediments to groundwater that could result in future groundwater contamination in excess of drinking water standards. and/or health-based levels.
3) control ingestion or inhalation of soil particulates in air during implementation of the selected remedies for soils/sediments.

4) control future releases of contaminants to ensure protection of human health.
5) prevent ingestion of groundwater having concentrations of contaminants in excess of drinking water standards and/or health-based levels.
6) restore the groundwater aquifer to drinking water standards and health-based levels.
7) control migration and leaching of contaminants from Site soils, sediments, and groundwater to surface water that would exceed surface water quality standards.

The selected remedial action for the Site is "Excavation of Contaminated Soils and Sediment with Off-Site Disposal — Monitored Natural Attenuation (Limited Action) for Groundwater." The major components of the remedy include:

• Decontamination and demolition of all of the ABI buildings, pavements, and structures. Recyclable building material such as the structural steel will be recycled;
• Excavation of contaminated soils and sediments (estimated 31,672- 36,970 yd3);
• Confirmatory sampling of the excavated areas to ensure the Site Remedial Goals have been attained;
• Disposal of the excavated materials in an approved and appropriate off-site disposal facility. Any soils or sediments with characteristics requiring it to be considered RCRA hazardous waste will be treated pursuant to RCRA treatment standard requirements found at 40 CFR 268, then disposed offsite in an appropriate waste facility. Any soils or sediments with concentrations of PCBs greater than 50 ppm will be disposed off-site in a TSCA-approved facility;
• Backfill the excavated areas with clean imported fill and plant vegetative cover over the backfilled areas;
• Restore the impacted wetlands;
• Monitored natural attenuation of the groundwater beneath the Site, with long-term monitoring of the groundwater to verify that the level of contamination in the groundwater is decreasing. If monitoring data indicates that contaminant levels have remained steady or increased, an active remediation plan (such as recovery and treatment of the contaminated groundwater) will be developed and implemented.
• Engineering controls to control surface water runoff, dust, air quality, etc. and ensure that Remedial Action Objectives are met during and after putting the remedy in place;
• Institutional controls as necessary to restrict future groundwater use.

After the ROD was signed on August 24, 2006, the remedial design was conducted in conformance with the ROD and completed in September 2007. In accordance with the NCP, the EPA analyzed remedial options based on important cost and non-cost factors, such as performance, reliability, implementability, institutional requirements, and public health and environmental considerations. These analysis criteria provide for the determination of the most technically feasible, cost-effective remedy that adequately protects public health, welfare, and the environment. In addition to considering such cost factors as capital and operation and maintenance, the EPA also considered the results of a sensitivity analysis in the overall cost of each remedy alternative. The purpose of the sensitivity analysis is to assess the effect of variation in specific assumptions associated with the cost estimates of the remedial action alternatives.

The EPA chose a remedy and issued the ROD on August 24, 2006. The EPA selected the remedy for the area based on data collected during the RI/FS, previous investigations, and the exposure assessment. The goals of the cleanup were to prevent potential future human exposure to contaminated soil,

restore the wetlands, and demolish site buildings. This addressed the soil contamination and was implemented in November 2008. The last building was demolished in 2014. Confirmatory sampling indicated the soil and sediment remedy met all remedial goals and no further action was needed.

OU-1 Groundwater Remedy

The major component of the groundwater remedy, as set forth in the ROD, is monitored natural attenuation of the groundwater beneath the Site to verify that the level of contamination is decreasing. If the monitoring data indicates that contaminant levels have remained steady or increased, an active remediation plan (such as recovery and treatment of the contaminated groundwater) may be developed and implemented. The following tables show the historical concentrations from the thirteen sampling events at the Site since 2010 with emphasis on the last three sampling events. Highlighted results are above remediation goals – Red are increases from the previous sampling event and above remediation goals, green are reductions from the previous sampling event, but still above remediation goals.

TABLE 2

BORON

AMERICAN BRASS INC. HEADLAND, ALABAMA

Boron ug/L													
Remedial Goal - 3,129 ug/L													
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MWOlS	870 870*	260	450	410	370 400*	710	870	750	930	<MDL <MDL*	<MDL	<MDL	526
MWOlI	50U	51	50U	--	50U	50U	50U	50U	87	<MDL	<MDL	<MDL	8
MWOlD	50U 50U*	50U	50U	--	50U	63	50U	50U	50U	<MDL	<MDL	<MDL	9
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	79000	82000	89000	90000	100000	76000	75000	77000	80000	123000	100000	79300	11
MW05I	67000	61000	59000	58000	53000	53000	46000	49000	50000	61600	51700	50,200	8
MW05D	18000	800	370	700	770	14000	19000	4900	20000	14900	38600	16,000	10
Remedial Goal	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129
MW07I	50U	50U	50U	50U	50U	69	50U	50U	50	<MDL	<MDL	<MDL	11
MW07D	50U	--	50U	50U	50U	72	58	50U	50U	<MDL	<MDL	<MDL	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW08S	4400	4,100	3,800	4,200	3,800	4,100	3,700	3,500	3,700	3,910	3,860	3,550	3071
MW08I	3200	3,000	2,900	3,000	2,900	3,200	2,900	2,600	2,700	<MDL	<MDL	2450	2510
MW08D	640	--	280	230	230	2,500	3,900	2,500	3,000	<MDL	5240	2570	6630
Remedial Goal	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW09S	270,000	230,000	240,000	240,000	230,000	250,000	250,000	230,000	250,000	260,000	242000	275000	183000
MW09I	36,000	18,000	27,000	24,000	28,000	33,000	30,000	35,000	31,000	26,500	33500	38,100	44800
MW09D	50U	50U	50U	--	50U	100	50U	50U	50U	<MDL	<MDL	<MDL	83
Remedial Goal	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129
MWl0I	50U	50U 50U*	50U	--	50U	61	50U	50U	130	<MDL <MDL*	<MDL	<MDL	23
MWl0D	50U	--	50U	--	50U	87	50U	50U	150	<MDL	<MDL	<MDL	29
MW16D	550	--	570	600	580	740	--	890	1,000 1,000*	1,220	<MDL	<MDL	1640
MW19I	--	--	--	--	--	--	--	--	--	<MDL	<MDL	<MDL	238
MW19D	--	--	--	--	--	--	--	--	--	<MDL	<MDL	<MDL	527

Note:

* - Designates split sample.

Data Qualifiers:

U - The analyte was not detected at or above the reporting limit;

J - The identification of the analyte is acceptable; the reported value is an estimate.

O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD .

<MDL - Analyte not detected at or above the method detection limit. MDL for boron is 3,800 µg/L

TABLE 3

IRON/SELENIUM/MANGANESE

AMERICAN BRASS INC. HEADLAND, ALABAMA

	Iron ug/L												
	Remedial Goal - 10,733 ug/L												
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	1000U	3500U	1000U	2,100	1,200	2000U	1000U	2000U	1000U	<MDL	3,990	580	442
MW05I	800U	600U	800U	800U 800U*	580	2000U	500U	1,500U	500U	1410JI	4,750	4,050	2710
MW05D	1300	170	100U	100U	100U	300U, 300U*	200U 200U*	200U 200U*	200U	<MDL	99JI	<MDL	5
MW11I	9,500	12,000	12,000	13,000	12,000	12,000	8,500	11,000	9,400	13,900	10,500	13,000	12600
MW11D	340	--	490	--	320	230	110	100	100	213	236	219	91
MW19I	--	--	--	--	--	--	--	--	--	522	245	820	60
MW19D	--	--	--	--	--	--	--	--	--	<MDL	166JI	<MDL	67
Remedial Goal	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733
	Selenium ug/L												
	Remedial Goal/MCL - 50 ug/L												
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	56U, O	37	48	44	47	33	40	110	97	83	41.3	39.3	28
MW05I	30U, O	15	19	19	17	18	16	26	18	8	5.16	3.35	9.46
MW05D	9.0U, O	2U	3.2U,J,O	2.0U	2.0,U	8.3	11	5.8U,O	12	<MDL	5.45	<MDL	3.22
Remedial Goal	50	50	50	50	50	50	50	50	50	50	50	50	50
MW19I	--	--	--	--		--	--	--	--	<MDL	<MDL	<MDL	<MDL
MW19D	--	--	--	--		--	--	--	--	<MDL	<MDL	<MDL	<MDL
	Manganese ug/L												
	Remedial Goal - 300 ug/L												
MW01S	190, 190*	160	200	200	230,220*	190	240	210	230	204, 209*	224, 203*	216, 000	237
MW01I	5U	5U	5U	--	5U	5.0U	5.0U	5.0U	5.0U	<MDL	<MDL	13	7
MW0lD	5U, 6.2	32	6.5	--	17	17	5.0U	5.0U	5.0U	<MDL	<MDL	<MDL	2
MW05S	86	68	59, 58	57	50U	100U	54	100U	50U	<MDL	19	260	12
MW05I	83	76	77	7 1, 73*	62	100U	65	75U	63	29	36JI	47JI	30
MW05D	200	140	140	110	130	95, 95*	150 160	160 160*	150	276	164JI	272	253
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW07D	270	--	450	700	170	120	72	72	70	42	48	61	60
Remedial Goal	300	300	300	300	300	300	300	300	300	300	300	300	300
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019		
MW08D	260	--	260	900	380	210	160	180	160	<MDL	128	137JI	116
Remedial Goal	300	300	300	300	300	300	300	300	300	300	300	300	300
MWlll	71	87	95	94	90	92	68	85	71	84JI	61JI	89JI	110
MWllD	88	--	99	--	54	42	--	--	--	--			
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW14S	670	660	580	560	570	540	570	570	530	565	547	579	508
MW14I	63	71	56	54	47	45	39	41	40	271	32	59JI	63
MW14D	5.0U	8.4	5.0U	7.7	5.0U	5.0U	5.0U	5.0U	5.0U	<MDL	<MDL	<MDL	<MDL
Remedial Goal	300	300	300	300	300	300	300	300	300	300	300	300	300
MW19I	--	--	--	--	--	--	--	--	--	166JI	49JI	55JI	29
MW19D	--	--	--	--	--	--	--	--	--	19JI	<MDL	5JI	210

Note: * - Designates split sample.

Data Qualifiers:

U - The analyte was not detected at or above the reporting limit;

J - The identification of the analyte is acceptable; the reported value is an estimate

CR - Bromine interference on selenium conection calculated from data. Result will not match initial analysis. Correction calculation attached to project.

O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD.

JI - Estimated value between MDL/PQL

<MDL - Analyte not detected at or above the method detection limit.

TABLE 4
NITRATE-NITRITE NITROGEN
AMERICAN BRASS INC. HEADLAND, ALABAMA

	Nitrate-Nitrite Nitrogen (mg/L)												
	Nitrate Remedial Goal/MCL - 10 (mg/L)												
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW0IS	3.7	4.4	2.8	2.5	3.4	4.2	3.7	2.9	3.9	3.23	2.86	2.98	3.23
MW0II	13	14	12	13	11	11	12	12	10	9.69	8.87	8.22	7.25
MW0ID	5.2	4.6	3.6	--	4.2	3.8	4.9	4.8	5.1	3.8	4.05	3.94	4.16
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	47	43	41	43	41	43	51	63	67	62.5	58.5	40.2	21.8
MW05I	29	29	25	27	25	26	29	35	31	30.4	26.1	22.6	16
MW05D	20	6.6	5.3	5.4	6.6	16	24	12	20	18.6	27.5	17.1	27.3
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW06S	14	14	12	13	13	10	11	11	9	9.31	8.87	7.69	6.02
MW06I	18	17	15	16	16	11	15	16	14	14.2	13.2	11.6	9.45
MW06D	6.8	6.6	6.2	6.1	6.2	6	5.3		7.1	5.87	5.88	5.61	4.94
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW07S	11	11	7.9	9.7	7.8	7.9	8.6	8.4	8.2	6.86	8.18	8.69	7.19
MW07I	12	12	11	12	11	10	11.00	11	9.4	9.65	9.43	9.14	8.04
MW07D	4.1	--	3.8	3.9	4.4	3.9	4	5	4.7	4.55	4.46	4.73	4.66
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW08S	3.8	3.8	3.7	3.6	3.9	3.5	3.9	4.3	4	3.98	4	3.76	3.25
MW08I	7.4	7.6	6.8	6.9	7.4	6.7	6.8	7.1	6.4	6.33	6.15	5.93	5.26
MW08D	16	--	15	16	16	17	13	14	13	16.7	13.2	13.8	10.7
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW09S	14	13	13	14	14	15	18	20	17	17.5	16.8	17.2	14.4
MW09I	3.2	2.5	3.2	2.5	2.5	2.9	2.8	3.3	2.81	2.75	2.73	3.05	3.16
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
MW10S	0.82	0.82	0.66	--	0.69	0.80	0.68	0.66	0.67	0.65	0.843	1.17	1.94
MW10I	0.94	0.84, 0.84	0.98	--	0.9	1.2	1	1.2	0.98	1.12, 1.12*	1.18, 1.20*	1.35	1.52
MW10D	2.5	--	2.4	--	3	2.21	2.3	2.9	2.61	2.43	2.51	2.6	2.54
MW 13I	6.6, 6.7*	7.3	7.8	7.4	7.2	7.5	--	7.5	5.3	3.36	3.73	4.83	--
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW14S	12	11	11	11	11	15	11	12	10	10.4	10.6	8.72	7.46
MW 14I	6.6	6.4	6.4	--	7.3	7.4	7.8	8.8	7.8	8.77	8.73	9.39	8.87
MW 14D	#	2.3	2.3	--	3	2.8	2.7	3.2	2.6	3.03	3.04	3.26	2.88
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW 15S	12		12	12	12	24	17	22	18	18.2	19	15.6	11.3
MW15I	8.4	8	7.1	8.6	7.2	8.8	10	10	12	11.7	14.7	15.7	14.5
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW 16S	0.084		0.11		0.13				1.1	1.5	1.29	1.89	3.45
MW 16I	0.94		0.050U		0.050U,O				6.9	3.02	2.69	0.753	0.623
MW 16D	43		35	33	38	34		27	26	20.8	20.2	16.6	13.1
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW 17S	23	30	21	26	27	24	16	10	6	8.57	3.61	0.19	0.727
MW17I	10	9.2	7.8	9.4	7.5	8.8	8.6	8.6	7.9	7.11	7.74	6.79	6.09
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
MW19I	--	--	--	--	--	--	--	--	--	2.1	2.32	2.58	2.47
MW19D	--	--	--	--	--	--	--	--	--	1.56	1.62	2.12	2.17

Note: * - Designates split sample.
- Elevated level due to incorrect preservative used or mislabeled sample. Data rejected and not included in trend chart.

Data Qualifiers:
U - The analyte was not detected at or above the reporting limit.
J - The identification of the analyte is acceptable: the repmted value is an estimate.
O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD
<MDL - Analyte not detected at or above the method detection limit.

TABLE 5

AMMONIA

AMERICAN BRASS INC. HEADLAND,ALABAMA

	Ammonia (mg/L)												
	Remedial Goal - 0.40 (mg/L)												
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW0lS	2.2	2.4	2.3	1.8	1.2	2.5	2.0	1.9	1.6	1.91	1.49	1.63	1.49
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW05S	13	14	13	13	11	9.2	11	12	12	10.2	5.92	7.54	5.49
MW05I	27	27	25	24	24	23	25	25	22	19.4	11.9	15.62	11.2
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW05D	1.0	0.086	0.050U	0.067	0.068	1	1.2	0.17	0.91	1.93	2.58	1.11	3.05
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW07S	7.0	7.4	5.0	3.4	4.4	5.0	5.4	4.5	6.0	3.74	3.91	4.08	3.61
MW07I	4.1	4.2	4.1	4.0	3.9	3.8	3.8	3.3	3.5	3.18	2.92	3.58	3.08
MW07D	0.050U	--	0.050U	--	0.050U	0.050U	0.050U	0.050U	0.050U	<MDL	<MDL	<MDL	<MDL
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW08S	0.32	0.45	0.24	0.44	0.20	0.21	0.17	0.20U,O	0.18	0.072	<MDL	.0312JI	0.0452
MW08I	0.75	0.78	0.75	0.73	0.70	0.70	0.69	0.64	0.67	0.58	0.07	0.481	0.457
MW08D	0.07	--	0.11	--	0.12	0.068	0.050U	0.16U,O	0.16	0.256	0.262	0.71	0.521
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW 14S	5.0	4.9	5.9	4.3	6.2	6.0	6.0	6.7	6.5	6.35	4.86	3.71	3.56
MW14I	0.91	0.47	0.70	0.65	0.51	0.39	0.47	0.44	0.50	0.645	0.7	0.799	0.776
MW14D	0.050U	0.050U	0.050U	--	0.050U	0.050U	0.050U	0.050U	0.050U	<MDL	<MDL	<MDL	<MDL
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW16S	0		0		0				0	0	<MDL	<MDL	<MDL
MW16I	0.22		0		0				1.2	0.568	0.409	0.0643	0.0701
MW16D	83		74	68	67	65		57	55	4.63	41.1	42.3	47.5
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4
MW19I	--	--	--	--	--	--	--	--	--	<MDL	<MDL	<MDL	<MDL
MW19D	--	--	--	--	--	--	--	--	--	0.013	<MDL	<MDL	<MDL

Note: * - Designates split sample.

Data Qualifiers:

U - The analyte was not detected at or above the reporting limit.

J - The identification of the analyte is acceptable; the reported value is an estimate.

O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD

<MDL - Analyte not detected at or above the method detection limit.

Table 6

DEPTH TO WATER AMERICAN BRASS INC. HEADLAND, ALABAMA

Station ID	Total Depth (feet)	Depth to Water (feet)												
		March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	December 2017	March 2018	March 2021	April 2024
MW01S	32.3	11.18	14.24	13.68	15.7 1	14.61	12.4	10.47	11.25	11.4	--	12.9	11.66	12.96
MW01I	60	10.9	13.98	13.44	15.48	14.39	12. 14	10.17	11.02	11.17	13.85	12.68	11.41	12.70
MW01D	91.3	5.49	13.21	11.55	--	13.68	8.7	4.55	8.48	5.73	12.38	10.11	7.79	9.26
MW05S	33	14.77	23.75	20.96	25.68	23.6	17.66	12.92	17.19	14.44	--	19.12	15.23	17.55
MW05I	51.9	14.64	23.7	20.87	25.62	23.55	17.62	12.67	17.15	14.39	22.09	19.09	15.59	17.50
MW05D	101.5	15	24.11	21.1	26.24	23.66	17.69	13.23	17.05	14.75	22.45	19.15	15.28	17.90
MW06S	32.9	14.44	23.57	20.38	25.66	23.08	17.4 1	12.41	15.86	14.48	--	16.7	14.65	17.60
MW06I	51.29	14.22	23.22	20.18	25.42	22.85	17.2	12.31	15.86	14.23	21.98	18.51	14.64	17.65
MW06D	90.7	14.2	23.07	20.1	25.2	22.79	13.19	12.41	16. 10	14.23	21.81	18.52	14.87	17.85
MW07S	32.6	7.56	19.13	13.45	20.66	15.55	9.02	6.54	7.57	7.91	--	9.58	7.4	10.51
MW07I	50.7	10.63	21.52	16.9	23. 15	19.23	12.74	9.28	11.95	10.9	18.77	14.07	11.22	13.27
MW07D	88.15	10.89	--	17.14	23.28	19.5	12.99	9.5	12.25	11.11	19	14.37	11.46	13.90
MW08S	33.1	9.74	21.25	16.2	22.65	18.08	11.05	7.89	9.22	9.75	--	12.04	9.17	12.81
MW08I	56.5	12.19	23.03	17.8	24.6	20.8	14.2	10.6	13.27	12.3	20.3	15.6	12.67	15.30
MW08D	96.75	13.03	--	19.3	25. 19	21.79	15.27	11.54	14.46	13.17	21.05	16.9	13.57	16.07
MW09S	32.5	11.3	21.49	17.55	23.35	20.28	14.01	9.52	13.14	11.4	--	15.91	11.64	14.65
MW09I	60.8	11.29	21.99	18	23.74	20.67	14.44	10.01	13.57	11.89	20.08	16.03	12.18	15.15
MW09D	93.05	12.2	22.36	18.38	--	21.01	14.88	10.47	14.1	12.3	20.42	16.45	12.63	15.55
MW10S	33.22	8.54	19.8	14.3	--	17.22	10.48	7.04	9.54	8.86	--	12.11	8.64	11.35
MW10I	53.2	9.26	20.01	15.1	--	17.73	11.37	7.72	10.64	9.5	17.59	12.99	9.55	12.30
MW10D	101.3	9.23	--	15.6	--	17.67	11.38	7.7	10.7	9.49	17.42	13	9.54	13.30
MW11I	48.83	6.46	16.78	11.75	18.16	14.31	8.11	5.06	7.33	6.82	14.21	9.62	6.6	9.78
MW11D	92.69	6. 16	--	11.5	--	14.06	7.88	4.79	7.15	6.55	14.01	9.41	6.36	9.14
MW13I	33.3	19.2	23.26	22.98	23.97	23.45	20.95	--	21.85	19.66	--	--	22.3	--
MW14S	33.2	8.74	13.69	11.39	16.24	10.9	8.24	7.03	4. 53	8.49	--	7.91	6.75	10.60
MW141	53.8	10.75	16.83	15.3	18.68	17.14	12.98	9.63	11.87	10.86	16.11	13.91	11.63	13.55
MW14D	100.85	10.41	18.7	16.7	20.61	18.77	13.53	9.4	13.32	10.6	17.5	16.00*	12.48	14.05
MW15S	33.3	16.58	26.74	23.02	28.75	25.94	19.62	14.64	19.14	16.83	--	21.52	17.11	20.25
MW15I	53.7	17.09	26.96	23.3 1	28.99	26. 13	20.03	15.16	19.24	17.42	25.42	21.68	17.65	20.70
MW16S	33.34	4.64	--	7.08	15.92	10.85	--	--	--	5.38	--	9.27	4.75	6.20
MW16I	53.55	5.69	--	11.3	18.28	14.18	--	--	--	6.06	13.85	9.11	6.23	8.70
MW16D	103.6	5.85	--	11.7	18.3	14.25	7.84	--	7	6.2	14	8.46	6.23	8.94
MW17S	33.6	8	21.98	18.34	23.7 1	21.6	11.16	7.68	12.58	9.4	--	13.4	8.61	11.32
MW17I	53.7	20.9	30.33	28.63	32	30.3	24.02	20.3	24.95	21.68	29.15	26.00*	23.72	24.65
MW19I		--	--	--	--	--	--	--	--	--	--	10.52	8.11	10.70
MW19D		--	--	--	--	--	--	--	--	--	--	10.25	7.7	10.4

* Estimate; back calculated; exact measurement not recorded

Status of Implementation/Remediation

Construction activities for the soil/sediment and groundwater remedies, as called for by the 2006 ROD, were completed in 2009.

Based on confirmation sampling, all soils and sediments above the cleanup goals set forth in the 2006 ROD have been disposed offsite.

The selected groundwater remedy called for by the 2006 ROD has started to be effective with half of the wells sampling below the cleanup goal for boron.

Institutional Controls

The property owner (R & B Investments, LLC.) has coordinated with the EPA, ADEM, and the County Clerk of Henry County, Alabama, pursuant to the Alabama Uniform Environmental Covenants Act, Ala. Code §§ 35-19-1 to 35-19-14, and the regulations promulgated thereunder to place an Environmental Covenant on the ABI property. This Covenant was signed by the owners on 5th and 6th March, 2019. It was signed by ADEM March 19, 2019. It was signed by Region 4, EPA on March 27, 2019, and signed and recorded by the County Clerk of Henry County, Alabama on April 4, 2019. A copy of the Environmental Covenant and map of the institutional control areas can be viewed in Appendix K.

Systems Operations/Operation & Maintenance (O&M)

O&M at the ABI Site is minimal. Annual O&M consists mostly of landscaping maintenance (paid for by the owner) to keep the Site accessible for ongoing groundwater monitoring activities and Site inspections. The monitoring wells are in good condition, as observed during the December 7, 2023, site visit and groundwater sampling conducted during the week of April 2024. Annual O & M costs during the review period are summarized in the following table:

Table 7. Annual O&M Costs over the review period

Date	Annual O&M Cost (Rounded to the nearest $1,000)
2019	$11,609.68
2020	$17,578.87
2021	$22,746.61
2022	$3,134.13
2023	$91.04

The State of Alabama is scheduled to accept responsibility for the annual O&M maintenance per the Superfund State Contract as amended. The State has raised objections to following through with this agreement since the groundwater remedy is progressing slower than anticipated.

III. PROGRESS SINCE THE LAST FIVE-YEAR REVIEW

Table 8: Status of Recommendations from the 2019 FYR Report

Issue	Recommendations	Current Status	Current Implementation Status Description*	Completion Date (if applicable)
1. Based on linear regression analysis of available groundwater sampling data, natural attenuation may not be complete for all COCs over the entire Site within the 30-year estimate. Based on sampling results for monitoring well MW-16D, nitrate and ammonia may be extending further southward than is currently known.	Continue with groundwater monitoring and add a new well cluster near the southern boundary.	In Progress	Groundwater sampling has continued on a regular basis with sampling events in 2015, 2016, 2018, and 2019. A new well cluster was also put in place in February 2018 (19I and 19D)	Ongoing

There have been three groundwater sampling events since the last FYR: April 2019, March 2021, and April 2024. Based on the results, MNA continues to show some progress in achieving the groundwater remedial goals set forth in the 2006 ROD. Some sample results are still well above remediation goals with some showing increases and some showing minor decreases and some few falling below remedial goals. Year by year fluctuations up and down have also been noted.

In 2020, a Remedy Optimization Study (RO Study) was finalized for the Site. The purpose of the RO Study was to identify specific actions that would improve the effectiveness of the groundwater remediation. This was an independent study conducted and funded by the EPA. The RO Study recommended an amended groundwater remedy that would cost an estimated $8.3 million. This amended remedy recommended a revised groundwater-protectiveness cleanup standard for boron in Site soils, for which additional characterization was recommended for sub-surface soils. The EPA would be responsible for a 90% cost share for the soil's component of an emended groundwater remedy. However, pursuant to the NCP, the State would be responsible for 100% of the cost for the groundwater treatment component of an amended remedy since the groundwater Long-Term Response Action ended in 2019.

ISSUES/RECOMMENDATIONS FROM THE 2019 FYR

Table 9. Current Issues

Issue	Affects Current Protectiveness (Yes or No)	Affects Future Protectiveness (Yes or No)
Based on available groundwater sampling data, natural attenuation may not be complete for all COCs over the entire Site within the 30-year estimate	NO	YES

IV. FIVE-YEAR REVIEW PROCESS

Community Notification, Involvement & Site Interviews

For the 2024 FYR, the EPA ran a public notice on October 19, 2023. A copy of the tare sheet and affidavit of public notice can be found at Appendix E of this report. During the FYR process, interviews were conducted to document any perceived problems or successes with the remedy that has been implemented to date**.** The results of these interviews are summarized below.

Interviews were conducted with State government personnel, PRP representatives, and one resident living near the site who had knowledge and/or concerns regarding Site activities. Most interviewees were familiar with the cleanup effort and had participated in prior discussions of remediation efforts. There were no outlier issues or problems raised by anyone concerning the Site. The only issue raised by individuals was the possibility of better dissemination of information about Site activities.

Data Review

Soil

Soil remediation was completed in 2009. Soil samples are not collected as part of Site O&M.

Groundwater

Groundwater monitoring has been conducted since 2010 in order to monitor the MNA remedy. To date, thirteen (13) sampling events have been accomplished since 2010. Since the last FYR, there have been 3 sampling events (2019, 2021, and 2024). The most current groundwater sampling occurred during the week of April 8, 2024. The results for the 2019, 2021, and 2024 sampling events show the groundwater data were consistent with the results from the 2018 sampling event. The remedial goal

for boron was exceeded at wells MW08D, MW09S, and MW09I. There are possible problems with the results for the well cluster at MW05 (S, I, and D). Results for those wells were 4- and 5-times magnitude less than any previous year's sampling event. Historical results show two of these wells exceeding remedial goals for all twelve previous sampling events, and one monitoring well (MW05D) exceeding remedial goals for 8 of the previous 12 sampling events. Boron concentrations remain significantly elevated at cluster MW08 and MW09. Concentrations in the shallow wells appear to be generally decreasing; Intermediate wells show no clear trend, with some concentrations increasing and some decreasing. All the deeper wells where there were detections exhibit an increasing trend (which may indicate greater interconnection and downward migration than originally surmised and hoped for). MW09S (275,000 µ/L) is the highest concentration in the well's sampling history (2021). Boron was detected on MW08D (6,630 µ/L) at concentrations above the Remedial Goal for the second time since 2014. This is also the highest concentration ever observed within MW08D.

The iron previously detected in MW11 which was below remedial goals in 2019 (10,500 µg/L) has increased and exceeded the remedial goals for the past two sampling events (2021 and 2024) It remains the only well exceeding iron remedial goals at this time. Similarly, the decreasing trend of selenium in MW05S continued and the concentration (28 µg/L) continues to remain below the Remedial Goal. No wells sampled in 2021 or 2024 exceeded the Remedial Goal for selenium. The manganese concentration continues to steadily exceed the Remedial Goal in monitoring well MW14S. Latest concentration for the 2024 sampling event was 507 µg/L.

Nitrate-nitrite nitrogen was detected at or above the remedial goal in eight (8) wells (MW05S, MW05I, MW05D, MW08D, MW09S, MW15S, MW15I, and MW16D) ranging from 10.7 mg/L to 27.3 mg/L. Nitrate-nitrite concentrations have remained relatively stable across all three intervals over the past several sampling events with mostly slight increases or decreases observed. One notable exception is well MW05D which has exhibited the highest concentration in 2019 (27.5 mg/L) since sampling began and is currently at 27.3 mg/L.

Ammonia was detected above the remedial goal in eleven (11) wells (MW01S, MW05S, MW05I, MW05D, MW07S, MW07I, MW 08I, MW08D, MW14S, MW14I, and MW16D) ranging from 0.457 mg/L to 47.5 mg/L. MW08I's concentration dropped from 0.58 mg/L in 2018 to 0.07 mg/L in 2019, placing it within the Remedial Goal for the first time since sampling began, but it has rebounded in 2021 and 2024 at 0.481 and 0.457 mg/L respectively. The concentration in MW16D had rebounded during the 2019 event (4.63 mg/L to 41.1 mg/L). That trend continues with the last two sampling events showing a concentration of 42.3 and 47.5 mg/L respectively.

Table 10: COCs Analysis and Detections (2019, 2021, and 2024)

AMERICAN BRASS INC. HEADLAND, ALABAMA

	Ammonia (mg/L)			Nitrate-Nitrite Nitrogen			Iron µg/L		
	Remedial Goal – 0.40 (mg/L)			Nitrate Remedial Goal/MCL – 10mg/L			Remedial Goal – 10,733 µg/L		
Station	Mar-19	Mar-21	Apr-24	Mar-19	Mar-21	Apr-24	March 2019	Mar-21	Apr-24

MW0lS	1.49	1.63	1.49	2.86	2.98	3.23			
MW01I				8.87	8.22	7.25			
MW01D				4.05	3.94	4.16			
MW05S	5.92	7.54	5.45	58.5	40.2	21.8	3990	580	442
MW05I	11.9	15.62	11.2	26.1	22.6	16	4750	4050	2710
MW05D	2.58	1.11	3.05	27.5	17.1	27.3	99JI	<MDL	5
MW06S				8.87	7.69	6.02			
MW06I				13.2	11.6	9.45			
MW06D				5.88	5.61	4.94			
MW07S	3.91	4.08	3.61	8.18	8.69	7.19			
MW07I	2.92	3.58	3.08	9.43	9.14	8.04			
MW07D	<MDL	<MDL	<MDL	4.46	4.73	4.66			
MW08S	<MDL	0.0312JI	0.0452	4	3.76	3.25			
MW08I	.07	0.481	0.457	6.15	5.93	5.26			
MW08D	.262	0.71	0.521	13.2	13.8	10.7			
MW09S				16.8	17.2	14.4			
MW09I				2.73	3.05	3.16			
MW09D									
MW 10S				.843	1.17	1.94			
MW10I				1.18, 1.20*	1.35	1.52			
MW10D				2.51	2.6	2.54			
MW11I							10500	13,000	12,600
MW11D							236	219	91
MW13I				3.73	4.83				
MW14S	4.86	3.71	3.56	10.6	8.72	7.46			
MW14I	0.7	0.799	0.776	8.73	9.39	8.87			
MW14D	<MDL	<MDL	<MDL	3.04	3.26	2.88			
MW15S				19	15.6	11.3			
MW15I				14.7	15.7	14.5			
MW 16S	<MDL	<MDL	<MDL	1.29	1.89	3.45			
MW16I	0.409	0.0643	0.0701	2.69	0.753	0.623			
MW16D	41.1	42.3	47.5	20.2	16.6	13.1			
MW17S				3.61	0.19	0.727			
MW17I				7.74	6.79	6.09			
MW19I	**<MDL**	**<MDL**	**<MDL**	2.32	2.58	2.47	245	820	60

MW19D	<MDL	<MDL	<MDL	1.62	2.12	2.17	166JI	<MDL	67

Note: * - Designates split sample.

Data Qualifiers:
U – The analyte was not detected at or above the reporting limit.
J – The identification of the analyte is acceptable; the reported value is an estimate.
O – Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD
<MDL – Analyte not detected at or above the method detection limit.

TABLE 10 (Cont)

AMERICAN BRASS INC. HEADLAND, ALABAMA

	Selenium µg/L			Manganese µg/L			Boron µg/L		
	Remedial Goal/MCL – 50 µg/L			Remedial Goal – 300 µg/L			Remedial Goal – 3,129 µg/L		
Station ID	Mar-19	Mar-21	Apr-24	Mar-19	Mar-21	Apr-24	Mar-19	Mar-21	Apr-24
MW0lS				224, 203*	216, 000	237	<MDL	<MDL	526
MW01I				<MDL	13	7	<MDL	<MDL	8
MW 01D				<MDL	<MDL	2	<MDL	<MDL	9
MW05S	41.3	39.3	28	19	260	12	100000	79,300	11
MW05I	5.16	3.35	9.46	36JI	47JI	30	51700	50,200	8
MW05D	5.45	<MDL	3.22	164JI	272	253	38600	16,000	10
MW06S									
MW06I									
MW06D									
MW07S									
MW07I							<MDL	<MDL	10
MW07D				48	61	60	<MDL	<MDL	11
MW08S							3860	3550	3071
MW08I							<MDL	2450	2510
MW08D				128	137JI	116	5240	2570	6630
MW09S							242000	275,000	183000
MW09I							33500	38,100	44800
MW09D							<MDL	<MDL	83
MW 10S									
MW10I							<MDL	<MDL	23
MW10D							<MDL	<MDL	29
MW11I				61JI	89JI	110			
MW11D				--					
MW13I									
MW14S				547	579	506			

MW14I				32	59JI	63			
MW14D				<MDL	<MDL	<MDL			
MW15S									
MW15I									
MW 16S									
MW16I									
MW16D							<MDL	<MDL	1640
MW17S									
MW17I									
MW19I	**<MDL**	**<MDL**	**<MDL**	49JI	55JI	29	<MDL	<MDL	239
MW19D	**<MDL**	**<MDL**	**<MDL**	<MDL	5JI	210	<MDL	<MDL	527

Note: * - Designates split sample.

Data Qualifiers:
U – The analyte was not detected at or above the reporting limit;
J – The identification of the analyte is acceptable; the reported value is an estimate
CR – Bromine interference on selenium connection calculated from data. Result will not match initial analysis. Correction calculation attached to project.
O – Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD.
JI – Estimated value between MDL/PQL
<MDL – Analyte not detected at or above the method detection limit.

Document Review

This FYR includes a review of relevant, Site-related documents including the First and Second Five Year Reviews, Records of Decision, Remedial Investigation report, remedial action reports, and recent groundwater monitoring reports. A complete list of the documents reviewed can be found in Appendix A.

Site Inspection

The Site inspection took place on December 7, 2023. In attendance were the EPA RPM Brian Farrier and Nathaniel Ertep and Kenneth Prestridge of ADEM. During the Site inspection, ADEM personnel were on Site performing the annual groundwater monitoring well inspection in preparation of the 2024 groundwater sampling event. Some in attendance included William Overstreet and William Duke of the Land Division of ADEM. The RPM and Site Investigator met with the owner of the property, Mr. Nowell and discussed the possible reuse plans for the property, the process of the Five-Year Review, and answered any questions Mr. Nowell had. He also filled out a questionnaire for the PRP/Property Owner. The Site inspection's purpose was to assess the protectiveness of the remedy and Site conditions. For a full list of Site inspection activities, see the Site Inspection Checklist in Appendix H. Site photographs are available in Appendix I.

Participants accessed the Site through the north end of the property. There is no fence or gate surrounding the property. All buildings have been razed with only a couple of foundations remaining. The Site was returned to an unregulated reuse status and the only concern on-site is contaminated groundwater. Inspectors arrived on Site at approximately 11:15 a.m. Central Standard Time (CST) and entered the Site. Inspectors toured the Site to examine the locations of monitoring wells, take photos of the property and tour the north and south part of the property. No maintenance issues were observed. One residential questionnaire was distributed and filled out by a local resident just east of the Site. Inspectors approached approximately five other nearby residences, and no one answered the doors of the residences. More attempts were made during the April 2024 groundwater sampling event, but those attempts were also unsuccessful. Inspectors left the Site at approximately 12:45 pm CST with sampling crew inspectors still on Site at the time.

V. TECHNICAL ASSESSMENT

QUESTION A: Is the remedy functioning as intended by the decision documents?

Question A Summary:

Remedial Action Performance: The remedial action for the site in regard to the soil/sediments continues to be functioning as intended. The MNA remedy for the groundwater is progressing slower than anticipated in the ROD, however it is functioning as intended. The recent sampling event in 2024 did show that half the wells for boron are meeting the clean-up goals showing a trend towards completion. Groundwater sampling takes place, usually in the spring of the year (March/April timeframe). The most current events were 2021 and 2024.

System Operations/O&M: Current operating procedures will maintain the effectiveness of the response. Groundwater sampling from 2019, 2021, and 2024 sampling events indicate no definite downward trend of most COCs under the MNA remedy. There are not expected to be any large variances in O&M costs because all buildings or structures on the Site have been razed and all monitoring wells are in place, in good condition, and are functioning as designed.

Implementation of Institutional Controls and Other Measures:

The Site is inspected on a regular basis once every five years by groundwater sampling teams. Since Site soils are safe for an unrestricted reuse, no fencing or signage is required at the Site. All groundwater monitoring wells are in good condition and secured by locked covers, while most are also protected by concrete bollards. In March 2019, an Environmental Covenant restricting groundwater use was placed on the Site and registered by the Clerk of the Henry County Court. The ICs are adequate for the current Site conditions.

QUESTION B: Are the exposure assumptions, toxicity data, cleanup levels and Remedial Action Objectives (RAO) used at the time of the remedy selection still valid?

Question B Summary:

Soil cleanup is completed, and the cleanup goals are still valid. The ROD did establish groundwater cleanup goals for the Site. Groundwater monitoring was established to determine if any COCs were migrating from the Site either horizontally or vertically, and to ascertain if the remedy chosen (MNA) was effective.

Land use for the Site is agricultural use. No new human health or ecological routes of exposure or receptors have been identified or changed that could affect the protectiveness of the soil remedy. There are no newly identified contaminants or contaminant sources originating on the property.

No changes have been made in Risk Assessment methods to affect the protectiveness of the Site. Applicable or relevant and appropriate requirements (ARARs) remain the same.

QUESTION C: Has any other information come to light that could call into question the protectiveness of the remedy?

No other information has come to light that could call into question the protectiveness of the remedy.

VI. ISSUES/RECOMMENDATIONS

Issues/Recommendations
OU(s) without Issues/Recommendations Identified in the Five-Year Review:
None

Issues and Recommendations Identified in the Five-Year Review:

OU(s):	**Issue Category:**			
Groundwater	**Issue:** Based on available groundwater sampling data, boron levels appear abnormally low in MW5 for a natural attunement remedy.			
	Recommendation: Conduct groundwater sampling next year for MW5 to confirm data in this review			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Party Responsible**	**Oversight Party**	**Milestone Date**
No	Yes	ADEM	EPA	2025

OTHER FINDINGS

In addition, the following are recommendations that were identified during the FYR but do not affect current or future protectiveness:

In 2018, the State raised the question of whether PFAS sampling in soil and groundwater was applicable for this Site. Based on the Site's history and available information, the EPA concluded that the Site was unlikely to be impacted by PFAS contaminants, therefore there are no plans to sample for them.

VII. PROTECTIVENESS STATEMENT

Sitewide Protectiveness Statement	
Protectiveness Determination: Short-term Protective	*Planned Addendum Completion Date:* NA
Protectiveness Statement: For soils, and sediment, the remedy at the Site is protective of human health and the environment. For groundwater, the remedy is short term protective since the ground water doesn't meet clean up levels, however there are no exposure pathways and there are ICs in place that prevent the use of groundwater. To achieve long term protectiveness the natural attenuation of the groundwater needs to demonstrate progress towards achieving cleanup goals.	

VIII. NEXT REVIEW

The next FYR for the Site is required five years from the completion date of this review.

APPENDIX A – REFERENCE LIST

1. Office of Solid Waste and Emergency Response (OSWER) No. 9355.7-03B-P (June 2001), *Comprehensive Five-Year Review Guidance*

2. "CERCLA Site Investigation Report, American Brass, Inc. Site, Headland, Henry County, Alabama," PRC Environmental Management, Inc., prepared for USEPA Region 4, April 1996.

3. "Remedial Investigation Report, American Brass, Inc. Superfund Site, Headland, Alabama", COM Federal Programs Corporation, prepared for USEPA Region 4, September 19, 2001.

4. "Record of Decision, Summary of Remedial Alternative Selection, American Brass, Inc. Site, Headland, Henry County, Alabama." EPA Region 4, Aug 24, 2006. EPA Doc ID 10466719

S. ''Proposed Plan for Remedial Action, American Brass, Inc. Superfund Site, Headland, Henry County, Alabama," EPA Region 4, February 2006. EPA Doc ID 10299432

6. "Final Remedial Design Report, American Brass, Inc. Superfund Site, Headland, Henry County, Alabama", Black & Veatch Special Projects, Corp., Prepared for USEPA Region 4, December 2007.

7. "Sampling and Analysis Plan, Field Sampling Plan, Groundwater Sampling Remedial Action, American Brass, Inc. Superfund Site, Headland, Henry County, Alabama", Black & Veatch Special Projects, Corp., Prepared for USEPA Region 4, April 2009.

8. Preliminary Closeout Report, American Brass, Inc. National Priorities List Superfund Site, Headland, Henry County, Alabama, August, 2009.

9. "Final Remedial Action Report, Revision 0, American Brass, Inc. Superfund Site, Headland, Henry County, Alabama", Black & Veatch Special Projects, Corp., Prepared for USEPA Region 4, December 2009.

10. National Primary Drinking Water Regulations, EPA 816-F-09-004, U.S. Environmental Protection Agency, May 2009.

11. "Potable Water Investigation Report, American Brass, Inc., Headland Alabama", USEPA, Science and Ecosystem Support Division, January 2009.

12. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, June 2010.

13. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, January 2011.

14. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, January 2012.

15. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, August 2012.

16. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, August 2013.

17. Uniform Environmental Covenants Program. Alabama Department of Environmental Management Administrative Code r.335-7-x-.xx, 2011.

18. Water Supply Program, Alabama Department of Environmental Management Administrative Code r.335-5-x-.xx, 2009.

19. Groundwater Data Review and Evaluation of Monitored Natural Attenuation. American Brass. Inc.. CABD Site. Headland and Dothan. Henry County. AL. Prepared for USEPA by Black and Veatch Special Projects Corp., Alpharetta, GA, 2007.

20. Wilson, John, T. An Approach for Evaluating the Progress of Natural Attenuation in Groundwater. EPA 600/R-11/204, December 2011.

21. O'Steen, William N. Memorandum to Brian Farrier, US EPA Region 4, Atlanta, GA,. 16 July –2012. (Memo addresses proposed changes to groundwater monitoring well sampling, American Brass, Inc. Superfund Site, Headland, Henry County, Alabama.)

22. "First Five Year Review Report for American Brass, Inc., Superfund Site, EPA ID 981 868 466, Headland, Henry County, Alabama," US Corp of Engineers, July 2014.

23. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, June 2015.

24. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", USEPA Science and Ecosystem Support Division, July 2016.

25. Second Amended Superfund State Contract, April 2017.

26. "Groundwater Investigation Report, American Brass, Inc., Headland, Alabama", Alabama Department of Environmental Management, July 2018.

27. Request for PFAS Sampling at American Brass, Inc, ADEM to EPA, August 2018.

28. Environmental Covenant signed by ADEM, EPA, Property Owner, and filed by Henry County Clerk, 4 April 2019.

29. Effectiveness of Monitored Natural Attenuation Remedy ltr, ADEM to US EPA, May 2019.

30. Response to EPA letter concerning PFAS sampling at American Brass, Inc, June 2019.

31. EPA response to ADEM ltr, Effectiveness of Monitored Natural Attenuation (May 15, 2019), 12 June 2019.

32. Response from EPA to ADEM Request for PFAS Sampling at American Brass, Inc., January 2019.

33. ADEM response to EPA reply to Effectiveness of Monitored Natural Attenuation (12 June 2019), 26 June 2019.

34. O'Steen, William N., Physical Scientist, Scientific Support Section, Superfund Division Memorandum Report, Draft Five Year Review, American Brass, to Brian Farrier, August 26, 2019.

35. Sampling well data for 2021 and 2024, ADEM Laboratory.

APPENDIX B – CURRENT SITE STATUS

Environmental Indicators

- Current human exposures at the Site are under control.

Are Necessary Institutional Controls in Place?

☒ All ☐ Some ☐ None

The Site has had environmental covenants put on the property and no groundwater usage apply.

Has EPA Designated the Site as Sitewide Ready for Anticipated Use?

☐ Yes ☒ No

Has the Site Been Put into Reuse?

☐ Yes ☒ No

APPENDIX C – SITE CHRONOLOGY

Table C-1: **Chronology of Site Events**

Event	Date
Mississippi Chemical Company develops the northern portion of the Site into a fertilizer packaging and bending facility	Mid to late 1960s
Sitkin Smelting and Refining (SS&R) began brass smelting operations	1976
SS&R began silver extraction operations at the Site	1977
SS&R files for bankruptcy, its creditors are bought out by Commercial Technology (Comtech), and it is reorganized as American Brass, Inc. It begins production of brass ingots from scrap metals for sale to pluming materials manufacturers	1978
ABI operations have several code enforcement violations with both ADEM and EPA	1978-1992
Consent Decree entered in response to civil action case requiring closure of slag pile, management of ball house dust, and prohibited placement of newly generated slag on ground Civil penalty of $242,000	8 Jun 1989
ABI ceases operations and declares bankruptcy	Dec 1992
Following ADEM Site Investigation in July 1995, ADEM refers Site to the EPA Region 4 Emergency Response and Removal Branch (ERRB) for immediate actions based on examination of preliminary assessment results	Feb 1996
The EPA's ERRB Contractor conducts site investigation	Apr 1996
The EPA's ERRB Contractor conducts second site investigation	Aug 1996
The EPA's ERRB contractor conducts 1st emergency removal	Oct 1996 – May 1997
The EPA's ERRB contractor conducts 2nd emergency removal action	Oct 1998 – May 1999
The EPA Expanded Site investigation and Preliminary Ecological Risk Assessment Conducted	Jan 1999
Site Finalized on NPL (Federal Register, Vol. 64, No. 89)	10 May 1999
Primary Remedial Investigation (RI) conducted	Sep 1999 – Aug 2000
Final RI Report signed	19 Sep 20001
Supplemental RI conducted	Nov 2002 – Feb 2003
Baseline Ecological Risk Assessment	Apr 2004
Feasibility Study completed	23 May 2004
Baseline Risk Assessment for Human Health (BRA-HH) completed	Jun 2004
Proposed Plan for Remedial Action completed	Feb 2006
ROD Signed	24 Aug 2006
Remedial Design Completed	Sep 2007

Pre-excavation sampling conducted. ERRB contractor started remedial action activities	Nov 2008
Potable Water Well Sampling Event	Dec 2008
Explanation of Significant Differences (ESC) is signed	21 Apr 2009
Start of Remedial Action	10 Nov 2008
Operational and Functional	25 Aug 2009
LTRA (Start)	Aug 2009
Final Remedial Action	Dec 2009
First Semi-Annual Groundwater Monitored Natural Attenuation (MNA) Sampling Event	Mar 2010
Second Semi-Annual Groundwater MNA Sampling Event	Nov 20010
Third Semi-Annual Groundwater MNA Sampling Event	Apr 2011
Fourth Semi-Annual Groundwater MNA Sampling Event	Oct 2011
Fifth Semi-Annual Groundwater MNA Sampling Event (change to Annually)	Apr 2012
First Annual Groundwater MNA Sampling Event	Apr 2013
Second Annual Groundwater MNA Sampling Event	Apr 2014
First Five-Year Review completed/signed	30 Sep 2014
Third Annual Groundwater MNA Sampling Event	Apr 2015
Fourth Annual Groundwater MNA Sampling Event	Mar 2016
Fifth Annual Groundwater MNA Sampling Event (2017 not sampled)	Mar 2018
ADEM Correspondence to EPA with PFAS concerns	Sept 2018
Scoping Meeting with ADEM and EPA for Second Five Year Review	29 Oct 2018
EPA Response to ADEM on PFAS	Nov 2018
Site Visit for Second Five Year Review (ADEM, EPA)	5 Mar 2019
Sixth Annual Groundwater MNA Sampling Event	Mar 2019
Environmental Covenant for Site Signed and Recorded	Apr 2019
ADEM Correspondence to EPA on MNA effectiveness concerns	15 May 2019
The EPA Response to ADEM's Concerns of MNA Effectiveness	12 Jun 2019
ADEM Response to the EPA MNA Response of 12 June 2019	26 Jun 2019
LTRA (End)	Aug 2019
Groundwater Sampling Event	March 2021
Site Visit for FYR	7 Dec 2023
Groundwater Sampling Event	8 – 12 April 2024

APPENDIX D – SI CHECKLIST

FIVE-YEAR REVIEW SITE INSPECTION CHECKLIST

I. SITE INFORMATION

Site Name: American Brass, Inc	**Date of Inspection:** 03/05/18
Location and Region: Greenville, Butler County, Alabama, Region 4	**EPA ID:** ALD981868466
Agency, Office or Company Leading the Five-Year Review: USEPA Region 4	**Weather/Temperature:** Clear/Partly Cloudy/showers / 70s

Remedy Includes: (Check all that apply)

- ☐ Landfill cover/containment
- ☐ Access controls
- ☒ Institutional controls
- ☐ Ground water pump and treatment
- ☐ Surface water collection and treatment
- ☐ Other:
- ☒ Monitored natural attenuation
- ☐ Ground water containment
- ☐ Vertical barrier walls

Attachments: ☒ Inspection team roster attached ☐ Site map attached

II. INTERVIEWS (check all that apply)

1. **O&M Site Manager** _____ (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone : _____
   Problems, suggestions ☐ Report attached: _____

2. **O&M Staff** _____ (Name) _____ (Title) _____ (Date)
   Interviewed ☐ at site ☐ at office ☐ by phone : _____
   Problems/suggestions ☐ Report attached: _____

3. **Local Regulatory Authorities and Response Agencies** (i.e., state and tribal offices, emergency response office, police department, office of public health or environmental health, zoning office, recorder of deeds, or other city and county offices). Fill in all that apply.

   Agency ADEM
   Contact William Overstreet (Name) Environmental Engineer (Title) _____ (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: _____

   Agency ADEM
   Contact _____ (Name) Title _____ (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: Yes

   Agency ADEM
   Contact Kenneth Prestridge (Name) Environmental Scientist, Sr. (Title) _____ (Date) _____ (Phone No.)
   Problems/suggestions ☐ Report attached: Yes

   Agency _____

Contact _____ _____ _____ _____
Name Title Date Phone No.
Problems/suggestions ☐ Report attached: _____

Agency _____
Contact _____ _____ _____ _____
Name Title Date Phone No.
Problems/suggestions ☐ Report attached: _____

4. **Other Interviews** (optional) ☐ Report attached: Yes

Owner/PRP

III. ON-SITE DOCUMENTS AND RECORDS VERIFIED (check all that apply)

1. **O&M Documents**

☒ O&M manual	☒ Readily available	☒ Up to date	☐ N/A
☒ As-built drawings	☒ Readily available	☒ Up to date	☐ N/A
☒ Maintenance logs	☒ Readily available	☒ Up to date	☐ N/A

Remarks: EPA and PRPs retain O&M documents off site.

2. **Site-Specific Health and Safety Plan** ☒ Readily available ☒ Up to date ☐ N/A
☐ Contingency plan/emergency response plan ☒ Readily available ☒ Up to date ☐ N/A

Remarks: EPA and PRP retain safety documents off site.

3. **O&M and OSHA Training Records** ☒ Readily available ☒ Up to date ☐ N/A

Remarks: EPA and PRP retain training records off site.

4. **Permits and Service Agreements**

☐ Air discharge permit	☐ Readily available	☐ Up to date	☒ N/A
☐ Effluent discharge	☐ Readily available	☐ Up to date	☒ N/A
☐ Waste disposal, POTW	☐ Readily available	☐ Up to date	☒ N/A
☐ Other permits: _____	☐ Readily available	☐ Up to date	☒ N/A

Remarks: _____

5. **Gas Generation Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

6. **Settlement Monument Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

7. **Ground Water Monitoring Records** ☒ Readily available ☒ Up to date ☐ N/A

Remarks: Groundwater sampling performed by ADEM 2021 and 2024

8. **Leachate Extraction Records** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

9. **Discharge Compliance Records**

☐ Air	☐ Readily available	☐ Up to date	☒ N/A

☐ Water (effluent) ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

10. **Daily Access/Security Logs** ☐ Readily available ☐ Up to date ☒ N/A

Remarks: _____

IV. O&M COSTS

1. **O&M Organization**

☒ State in-house ☐ Contractor for state

☒ PRP in-house ☐ Contractor for PRP

☒ Federal facility in-house ☐ Contractor for Federal facility

☐ _____

2. **O&M Cost Records**

☐ Readily available ☐ Up to date

☒ Funding mechanism/agreement in place ☒ Unavailable

Original O&M cost estimate: _____ ☐ Breakdown attached

Total annual cost by year for review period if available

From: _____ Date	To: 2019 Date	$11,609.68 Total cost	☐ Breakdown attached
From: _____ Date	To: 2020 Date	$17,578.87 Total cost	☐ Breakdown attached
From: _____ Date	To: 2021 Date	$22,746.67 Total cost	☐ Breakdown attached
From: _____ Date	To: 2022 Date	$3,134.13 Total cost	☐ Breakdown attached
From: _____ Date	To: 2023 Date	$91.04 Total cost	☐ Breakdown attached

3. **Unanticipated or Unusually High O&M Costs during Review Period**

Describe costs and reasons: _____

V. ACCESS AND INSTITUTIONAL CONTROLS ☒ Applicable ☐ N/A

A. Fencing

1. **Fencing Damaged** ☐ Location shown on site map ☐ Gates secured ☐ N/A

Remarks: There is minimal fencing around the site. Soil and Sediments have been remediated to unrestricted reuse. Groundwater contamination is the driving factor at this Site.

B. Other Access Restrictions

1. **Signs and Other Security Measures** ☐ Location shown on site map ☐ N/A

Remarks: _____.

C. Institutional Controls (Ics)

E. Implementation and Enforcement*

Site conditions imply Ics not properly implemented ☐ Yes ☒ No ☐ N/A

Site conditions imply Ics not being fully enforced ☐ Yes ☒ No ☐ N/A

Type of monitoring (e.g., self-reporting, drive by): _____

Frequency: _____

Responsible party/agency: _____

Contact _____ _____ _____ _____

Name Title Date Phone no.

Reporting is up to date ☒ Yes ☐ No ☐ N/A

Reports are verified by the lead agency ☒ Yes ☐ No ☐ N/A

Specific requirements in deed or decision documents have been met ☒ Yes ☐ No ☐ N/A

Violations have been reported ☐ Yes ☐ No ☒ N/A

Other problems or suggestions: ☐ Report attached

Ics have been implemented at the Site. The Site has an environmental covenant on the property for no reuse/use of groundwater.

2. **Adequacy** ☒ Ics are adequate ☐ Ics are inadequate ☐ N/A

Remarks: ICs have been implemented at the Site.

D. General

1. **Vandalism/Trespassing** ☐ Location shown on site map ☐ No vandalism evident

Remarks: There appears to be no sign of trespassing or vandalizing at the Site. The Site has no structures left on-site. The owner utilizes the former foundation of the foundry building to store irrigation supplies for future use. The owner has utilized the land on the north side of the property to grow crops for the past few years (i.e. cotton and wheat). He did have plans to put in an RV park, but local land owners and county government vetoed the idea. The south property portion is utilized as a sod farm.

2. **Land Use Changes On Site** ☐ N/A

Remarks: No land use changes.

3. **Land Use Changes Off Site** ☐ N/A

Remarks: There has been some development of properties near the Site, but nothing directly adjacent to the property.

VI. GENERAL SITE CONDITIONS

A. Roads ☐ Applicable ☒ N/A

1. **Roads Damaged** ☐ Location shown on site map ☒ Roads adequate ☐ N/A

Remarks: There are no roads on the Site just a dirt drive through from the main entrance to the east entrance on Arnold Faulkner Road.

B. Other Site Conditions

Remarks: _____

VII. LANDFILL COVERS ☐ Applicable ☒ N/A

A. Landfill Surface

1. **Settlement** (low spots) ☐ Location shown on site map ☐ Settlement not evident

Arial extent: _____ Depth: _____

Remarks: The other portion of the site slopes to the north and east. The southern portion slopes to the south and west. The site is on a divide.

2. **Cracks** ☐ Location shown on site map ☒ Cracking not evident
Lengths: _____ Widths: _____ Depths: _____
Remarks: _____

3. **Erosion** ☐ Location shown on site map ☒ Erosion not evident
Arial extent: _____ Depth: _____
Remarks: _____

4. **Holes** ☐ Location shown on site map ☒ Holes not evident
Arial extent: _____ Depth: _____
Remarks: _____

5. **Vegetative Cover** ☒ Grass ☒ Cover properly established
☒ No signs of stress ☐ Trees/shrubs (indicate size and locations on a diagram)
Remarks:

6. **Alternative Cover** (e.g., armored rock, concrete) ☒ N/A
Remarks: _____

7. **Bulges** ☐ Location shown on site map ☒ Bulges not evident
Arial extent: _____ Height: _____
Remarks: _____

8. **Wet Areas/Water Damage** ☒ Wet areas/water damage not evident

☐ Wet areas	☐ Location shown on site map	Arial extent: _____
☐ Ponding	☐ Location shown on site map	Arial extent: _____
☐ Seeps	☐ Location shown on site map	Arial extent: _____
☐ Soft subgrade	☐ Location shown on site map	Arial extent: _____

Remarks: _____

9. **Slope Instability** ☐ Slides ☐ Location shown on site map
☒ No evidence of slope instability
Arial extent: _____
Remarks: _____

B. Benches ☐ Applicable ☒ N/A

(Horizontally constructed mounds of earth placed across a steep landfill side slope to interrupt the slope in order to slow down the velocity of surface runoff and intercept and convey the runoff to a lined channel.)

1. **Flows Bypass Bench** ☐ Location shown on site map ☐ N/A or okay
Remarks: _____

2. **Bench Breached** ☐ Location shown on site map ☐ N/A or okay
Remarks: _____

3. **Bench Overtopped** ☐ Location shown on site map ☐ N/A or okay

Remarks: _____

C. Letdown Channels ☐ Applicable ☒ N/A

(Channel lined with erosion control mats, riprap, grout bags or gabions that descend down the steep side slope of the cover and will allow the runoff water collected by the benches to move off of the landfill cover without creating erosion gullies.)

1. **Settlement** (Low spots) ☐ Location shown on site map ☐ No evidence of settlement

Arial extent: _____ Depth: _____

Remarks: _____

2. **Material Degradation** ☐ Location shown on site map ☐ No evidence of degradation

Material type:_____ Arial extent: _____

Remarks: _____

3. **Erosion** ☐ Location shown on site map ☐ No evidence of erosion

Arial extent: _____ Depth: _____

Remarks: _____

4. **Undercutting** ☐ Location shown on site map ☐ No evidence of undercutting

Arial extent: _____ Depth: _____

Remarks: _____

5. **Obstructions** Type: _____ ☐ No obstructions

☐ Location shown on site map Arial extent: _____

Size: _____

Remarks: _____

6. **Excessive Vegetative Growth** Type: _____

☐ No evidence of excessive growth

☐ Vegetation in channels does not obstruct flow

☐ Location shown on site map Arial extent: _____

Remarks: _____

D. Cover Penetrations ☐ Applicable ☒ N/A

1. **Gas Vents** ☐ Active ☐ Passive

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A

Remarks: _____

2. **Gas Monitoring Probes**

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A

Remarks: _____

3. **Monitoring Wells** (within surface area of landfill)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition
☐ Evidence of leakage at penetration ☐ Needs maintenance ☐ N/A
Remarks: _____

4. **Extraction Wells Leachate**
☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition
☐ Evidence of leakage at penetration ☐ Needs maintenance ☒ N/A
Remarks: _____

5. **Settlement Monuments** ☐ Located ☐ Routinely surveyed ☒ N/A
Remarks: _____

E. Gas Collection and Treatment ☐ Applicable ☒ N/A

1. **Gas Treatment Facilities**
☐ Flaring ☐ Thermal destruction ☐ Collection for reuse
☐ Good condition ☐ Needs maintenance
Remarks: _____

2. **Gas Collection Wells, Manifolds and Piping**
☐ Good condition ☐ Needs maintenance
Remarks: _____

3. **Gas Monitoring Facilities** (e.g., gas monitoring of adjacent homes or buildings)
☐ Good condition ☐ Needs maintenance ☐ N/A
Remarks: _____

F. Cover Drainage Layer ☐ Applicable ☒ N/A

1. **Outlet Pipes Inspected** ☐ Functioning ☐ N/A
Remarks: _____

2. **Outlet Rock Inspected** ☐ Functioning ☐ N/A
Remarks: _____

G. Detention/Sedimentation Ponds ☐ Applicable ☒ N/A

1. **Siltation** Area extent: _____ Depth: _____ ☒ N/A
☐ Siltation not evident
Remarks: _____

2. **Erosion** Area extent: _____ Depth: _____
☐ Erosion not evident
Remarks: _____

3. **Outlet Works** ☐ Functioning ☒ N/A
Remarks: _____

4. **Dam** ☐ Functioning ☒ N/A
Remarks: _____

H. Retaining Walls ☐ Applicable ☒ N/A

1. **Deformations** ☐ Location shown on site map ☐ Deformation not evident
   Horizontal displacement: _____ Vertical displacement: _____
   Rotational displacement: _____
   Remarks: _____

2. **Degradation** ☐ Location shown on site map ☐ Degradation not evident
   Remarks: _____

I. Perimeter Ditches/Off-Site Discharge ☐ Applicable ☒ N/A

1. **Siltation** ☐ Location shown on site map ☒ Siltation not evident
   Area extent: _____ Depth: _____
   Remarks: _____

2. **Vegetative Growth** ☐ Location shown on site map ☐ N/A
   ☐ Vegetation does not impede flow
   Area extent: _____ Type: _____
   Remarks: _____

3. **Erosion** ☐ Location shown on site map ☒ Erosion not evident
   Area extent: _____ Depth: _____
   Remarks: _____

4. **Discharge Structure** ☐ Functioning ☒ N/A
   Remarks: _____

VIII. VERTICAL BARRIER WALLS ☐ Applicable ☒ N/A

1. **Settlement** ☐ Location shown on site map ☐ Settlement not evident
   Area extent: _____ Depth: _____
   Remarks: _____

2. **Performance Monitoring** Type of monitoring:
   ☐ Performance not monitored
   Frequency: ☐ Evidence of breaching
   Head differential: _____
   Remarks: _____

IX. GROUND WATER/SURFACE WATER REMEDIES ☒ Applicable ☐ N/A

A. Ground Water Extraction Wells, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Pumps, Wellhead Plumbing and Electrical**
   ☐ Good condition ☐ All required wells properly operating ☐ Needs maintenance ☐ N/A
   Remarks: _____

2. **Extraction System Pipelines, Valves, Valve Boxes and Other Appurtenances**
   ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

B. Surface Water Collection Structures, Pumps and Pipelines ☐ Applicable ☒ N/A

1. **Collection Structures, Pumps and Electrical**

☐ Good condition ☐ Needs maintenance

Remarks: _____

2. **Surface Water Collection System Pipelines, Valves, Valve Boxes and Other Appurtenances**

☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Spare Parts and Equipment**

☐ Readily available ☐ Good condition ☐ Requires upgrade ☐ Needs to be provided

Remarks: _____

C. Treatment System ☐ Applicable ☒ N/A

1. **Treatment Train** (check components that apply)

☐ Metals removal ☐ Oil/water separation ☐ Bioremediation*

☐ Air stripping ☐ Carbon adsorbers ☐ In-situ chemical oxidation*

☐ Filters: _____ ☐ Monitored natural attenuation*

☐ Additive (e.g., chelation agent, flocculent): _____

☐ Others: _____

☐ Good condition ☐ Needs maintenance

☐ Sampling ports properly marked and functional

☐ Sampling/maintenance log displayed and up to date

☐ Equipment properly identified

☐ Quantity of ground water treated annually: _____

☐ Quantity of surface water treated annually: _____

Remarks: *The groundwater remedy has been called into question as to effectiveness. Annual sampling events are in progress.

2. **Electrical Enclosures and Panels** (properly rated and functional)

☒ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

3. **Tanks, Vaults, Storage Vessels**

☒ N/A ☐ Good condition ☐ Proper secondary containment ☐ Needs maintenance

Remarks: _____

4. **Discharge Structure and Appurtenances**

☒ N/A ☐ Good condition ☐ Needs maintenance

Remarks: _____

5. **Treatment Building(s)**

☒ N/A ☐ Good condition (esp. roof and doorways) ☐ Needs repair

☐ Chemicals and equipment properly stored

Remarks: _____

6. **Monitoring Wells** (pump and treatment remedy)

☐ Properly secured/locked ☐ Functioning ☐ Routinely sampled ☐ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: All monitoring wells properly secured and functional.

D. Monitoring Data.

1. **Monitoring Data**

☒ Is routinely submitted on time ☒ Is of acceptable quality

2. **Monitoring Data Suggests:**

☐ Ground water plume is effectively contained ☐ Contaminant concentrations are declining

E. Monitored Natural Attenuation

1. **Monitoring Wells** (natural attenuation remedy)

☒ Properly secured/locked ☒ Functioning ☒ Routinely sampled ☒ Good condition

☐ All required wells located ☐ Needs maintenance ☐ N/A

Remarks: _____

X. OTHER REMEDIES

If there are remedies applied at the Site and not covered above, attach an inspection sheet describing the physical nature and condition of any facility associated with the remedy. An example would be soil vapor extraction.

XI. OVERALL OBSERVATIONS

A. Implementation of the Remedy

Describe issues and observations relating to whether the remedy is effective and functioning as designed. Begin with a brief statement of what the remedy is designed to accomplish (e.g., to contain contaminant plume, minimize infiltration and gas emissions).

The soil remedy was designed to eliminate direct exposures between contaminated soil and sediment and receptors. Excavation of contaminated soil and sediment was completed and no longer a concern. Groundwater remedy of monitored natural attenuation was selected and monitoring has been taking place since 2010. The effectiveness of the remedy has been called into question by the State. Sampling events are performed in the spring. The State has requested EPA investigate a possible alternate remedy..

B. Adequacy of O&M

Describe issues and observations related to the implementation and scope of O&M procedures. In particular, discuss their relationship to the current and long-term protectiveness of the remedy.

O&M procedures for the Site seem to be adequate at this time.

C. Early Indicators of Potential Remedy Problems

	Describe issues and observations such as unexpected changes in the cost or scope of O&M or a high frequency of unscheduled repairs that suggest that the protectiveness of the remedy may be compromised in the future. None noted at this time.
D.	**Opportunities for Optimization**
	Describe possible opportunities for optimization in monitoring tasks or the operation of the remedy. Closure of monitoring wells anthat are no longer needed would cut maintenance costs and upkeep on the wells.

Site Inspection Participants:

Brian Farrier, EPA RPM
Nathaniel Ertep, EPA RPM
Kenneth Prestridge, ADEM
William Overstreet, ADEM (on Site performing monitoring well inventory and inspection)
William Duke, ADEM (on Site performing monitoring well inventory and inspection)

APPENDIX E – PRESS NOTICE

EPA to Review Cleanups at 40 Southeast Superfund Sites

October 19, 2023

Contact Information
Region 4 Press Office (region4press@epa.gov)
(404) 562-8400

ATLANTA (Oct. 19, 2023) – Today, the U.S. Environmental Protection Agency (EPA) announced that comprehensive reviews will be conducted of completed cleanup work at 40 Superfund sites in the Southeast.

The sites, located in Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee, will undergo a legally required Five-Year Review to ensure that previous remediation efforts at the sites continue to protect public health and the environment.

"Five-Year Reviews are an integral part of the site remediation process because they help make sure remedies are still protective," **said Acting EPA Region 4 Administrator Jeaneanne Gettle**. "The Southeast Region will benefit tremendously from the full restoration of Superfund sites, which can become valuable parts of the community landscape."

The Superfund Sites where EPA will conduct Five-Year Reviews in Calendar Year 2024 are listed below. The web links provide detailed information on site status as well as past assessment and cleanup activity. Once the Five-Year Review is complete, its findings will be posted in a final report at https://www.epa.gov/superfund/search-superfund-five-year-reviews.

Alabama

American Brass Property https://www.epa.gov/superfund/american-brass

Florida

Arkla Terra Property https://www.epa.gov/superfund/arkla-terra

Brown's Dump https://www.epa.gov/superfund/brown's-dump

City Industries, Inc. https://www.epa.gov/superfund/city-industries-inc

Coleman-Evans Wood Preserving Co. https://www.epa.gov/superfund/coleman-evans-wood

Harris Corp. (Palm Bay Plant) https://www.epa.gov/superfund/harris-corporation-palm

Jacksonville Ash Site https://www.epa.gov/superfund/jacksonville-ash

Kassauf-Kimerling Battery Disposal https://www.epa.gov/superfund/kassauf-kimerling-th

Nocatee Hull Creosote https://www.epa.gov/superfund/nocatee-creosote

Pioneer Sand Co. https://www.epa.gov/superfund/pioneer-sand-company

Piper Aircraft Corp./Vero Beach Water & Sewer Dept. https://www.epa.gov/superfund/piper-aircraft-corp

Sandford Gasification Plant https://www.epa.gov/superfund/sanford-gasification

Sixty-Second Street Dump https://www.epa.gov/superfund/sixty-second-street

Solitron Microwave https://www.epa.gov/superfund/solitron-microwave

Tyndall Air Force Base https://www.epa.gov/superfund/tyndall-air-force-base

United Metals, Inc. https://www.epa.gov/superfund/united-metals-inc

Whitehouse Oil Pits https://www.epa.gov/superfund/whitehouse-oil-pits

Georgia

Woolfolk Chemical Works, Inc. https://www.epa.gov/superfund/woolfolk-chemical-works

Kentucky

Airco https://www.epa.gov/superfund/airco

B. F. Goodrich https://www.epa.gov/superfund/bf-goodrich

Paducah Gaseous Diffusion Plant (USDOE) https://www.epa.gov/superfund/paducha-gaseous-diffusion-plant

Mississippi

Sonford Products https://www.epa.gov/superfund/sonford-products

North Carolina

General Electric Co/Shephard Farm https://www.epa.gov/superfund/general-electric-shepherd-farm

North Belmont PCE https://www.epa.gov/superfund/north-belmont-pce

South Carolina

Calhoun Park Area https://www.epa.gov/superfund/search-superfund-five-year-reviews

Gieger (C & M Oil) https://www.epa.gov/superfund/geiger

Helena Chemical Co. Landfill https://www.epa.gov/superfund/helena-chemical-landfill

Lyman Dyeing and Finishing https://www.epa.gov/superfund/lyman-dyeing-finishing

Medley Farm Drum Dump https://www.epa.gov/superfund/medley-farm-drum-dump

Savannah River Site (USDOE) https://www.epa.gov/superfund/savannah-river-site

WamChem, Inc. https://www.epa.gov/superfund/wamchem

Tennessee

American Creosote Works, Inc. (Jackson Plant) https://www.epa.gov/superfund/american-creosote-works-jackson

Oak Ridge Reservation (USDOE) https://www.epa.gov/superfund/oak-ridge-reservation

Ross Metals Inc. https://www.epa.gov/superfund/ross-metals

Background

Throughout the process of designing and constructing a cleanup at a hazardous waste site, EPA's primary goal is to make sure the remedy will be protective of public health and the environment. At many sites, where the remedy has been constructed, EPA continues to ensure it remains protective by requiring reviews of cleanups every five years. It is important for EPA to regularly check on these sites to ensure the remedy is working properly. These reviews identify issues (if any) that may affect the protectiveness of the completed remedy and, if necessary, recommend action(s) necessary to address them.

There are many phases of the Superfund cleanup process including considering future use and redevelopment at sites and conducting post cleanup monitoring of sites. EPA must ensure the remedy is protective of public health and the environment and any redevelopment will uphold the protectiveness of the remedy into the future.

The Superfund program, a federal program established by Congress in 1980, investigates and cleans up the most complex, uncontrolled, or abandoned hazardous waste sites in the country and endeavors to facilitate activities to return them to productive use. In total, there are more than 280 Superfund sites across the Southeast.

More information:

EPA’s Superfund program: https://www.epa.gov/superfund

APPENDIX F – SITE INSPECTION PHOTOS

Asphalt and dirt pile at entrance to the site

Site entrance on the north side of the property

EPA RPMs Farrier and Ertep viewing cotton plants on north side of property

One cluster of monitoring wells on the site

Sod farm on south part of property

Creek on south side of property

ADEM Personnel Performing Monitoring Well Sampling April 2024


W
1


PEL-PLUG

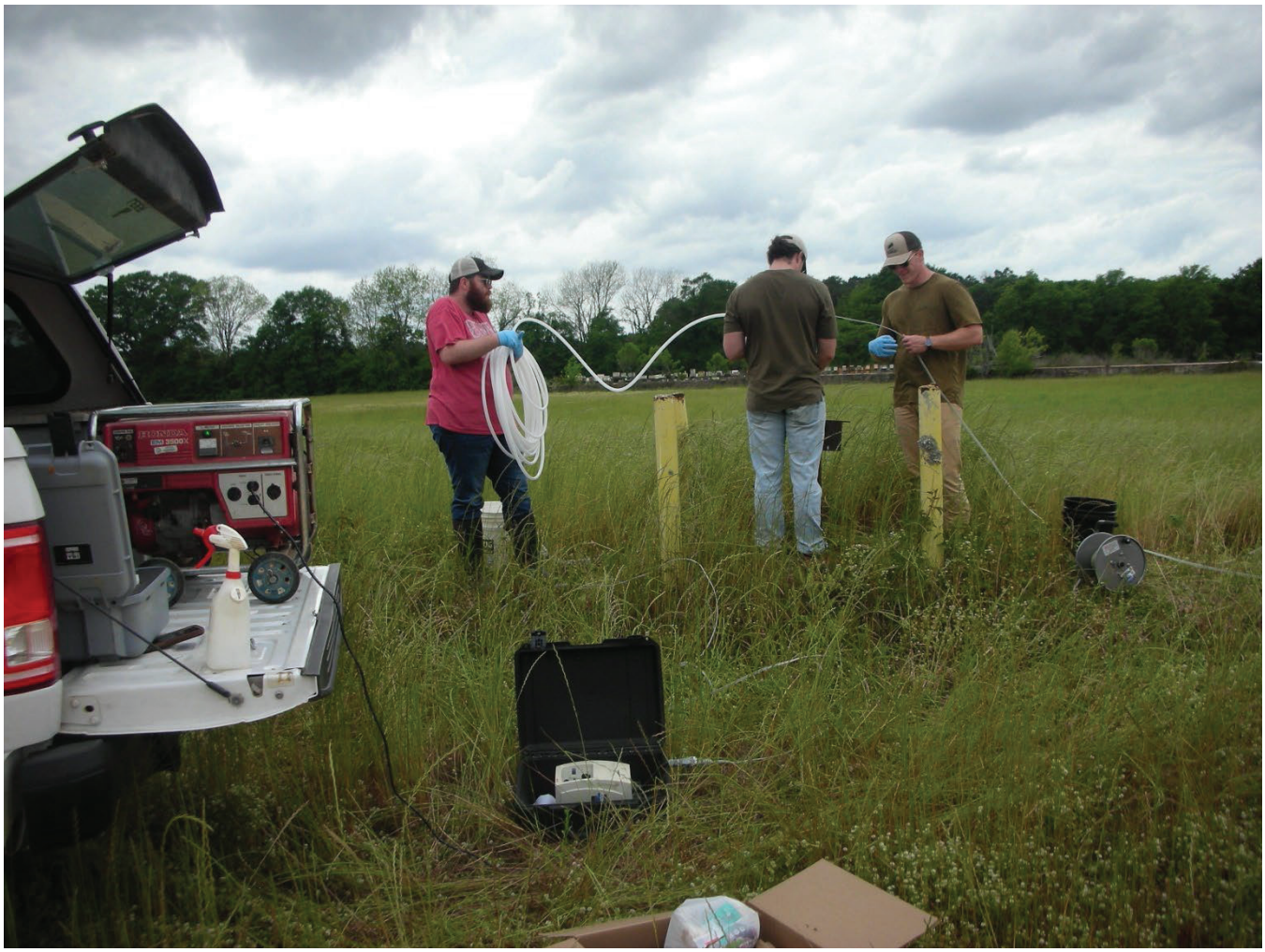

W
1

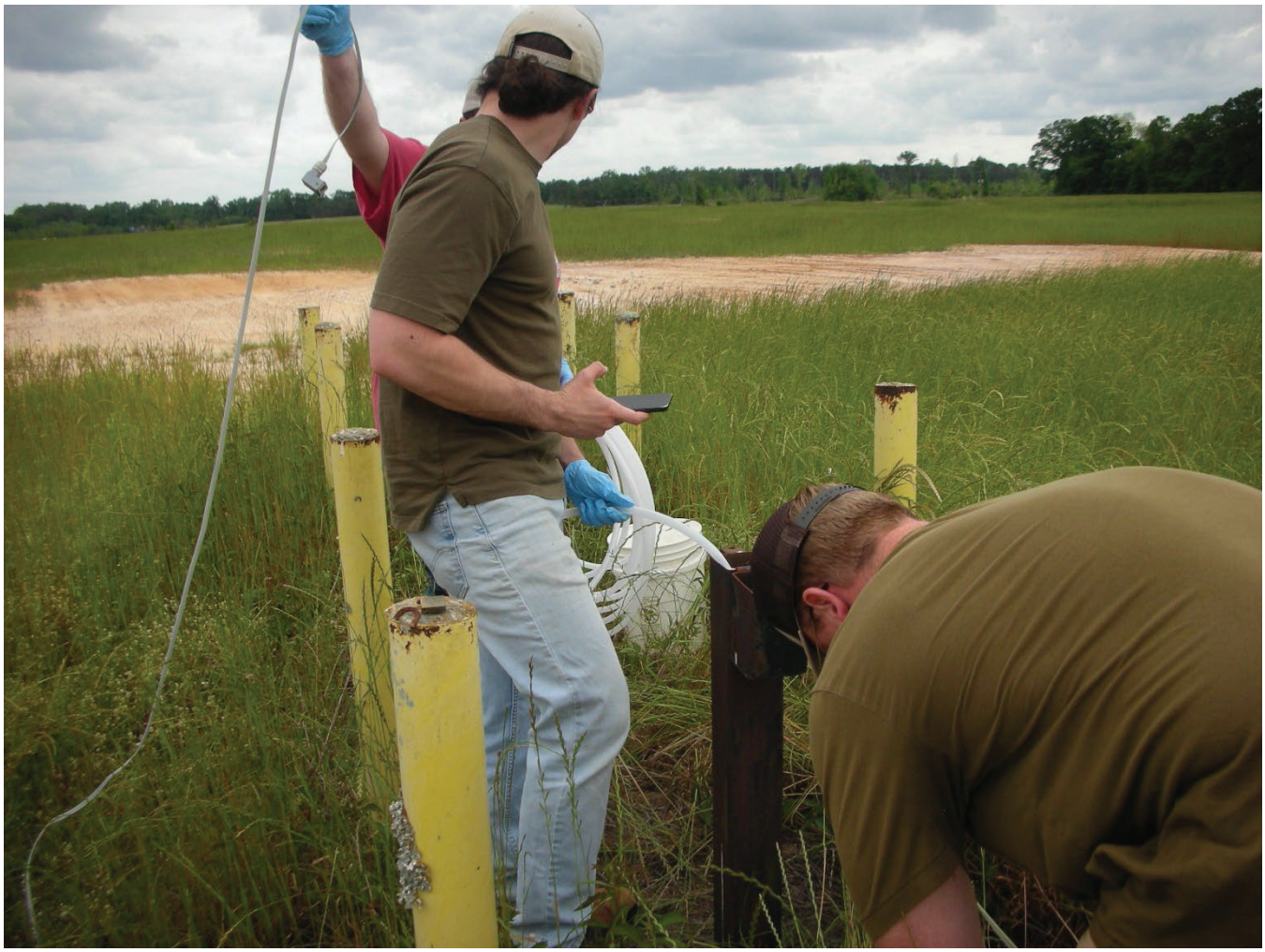

W
1


W
14
I


Pro DS


Pro DSS






patagonia
4X4


4X4

APPENDIX G – DETAILED ARARs REVIEW

CERCLA Section 121(d)(1) requires that Superfund remedial actions attain "a degree of cleanup of hazardous substance, pollutants, and contaminants released into the environment and of control of further release at a minimum which assures protection of human health and the environment." The remedial action must achieve a level of cleanup that at least attains those requirements that are legally applicable or relevant and appropriate. Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under federal environmental or state environmental or facility siting laws that specifically address a hazardous substance, remedial action, location, or other circumstance found at a CERCLA site. Relevant and appropriate requirements are those standards that, while not "applicable," address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well suited to the particular site. Only those state standards that are more stringent than federal requirements may be applicable or relevant and appropriate. To-Be-Considered (TBC) criteria are non-promulgated advisories and guidance that are not legally binding, but should be considered in determining the necessary remedial action. For example, TBC criteria may be particularly useful in determining health-based levels where no ARARs exist or in developing the appropriate method for conducting a remedial action. The ROD for the MEC site did not include ARARs, however, the table below lists those ARARs that apply to the current status of this Site:

Medium	ARAR	Status	Requirement Synopsis	Action to be taken to Attain ARAR
All	State: ADEM Admin. Code r. 335-5 – Uniform Environmental Covenants Program	Applicable	Establishes minimum requirements governing environmental covenants for sites undergoing a response action that does not allow for unrestricted use.	An environmental covenant must be recorded and maintained in accordance with these standards as long as waste is left in place exceeding levels that would allow for unrestricted use of the site.

APPENDIX H – DATA REVIEW SUPPORTING DOCUMENTATION

Figure H1 – Historic Boron Groundwater Results 2010 - 2024

TABLE 2

BORON

AMERICAN BRASS INC. HEADLAND, ALABAMA

Boron ug/L													
Remedial Goal - 3,129 ug/L													
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MWOlS	870 870*	260	450	410	370 400*	710	870	750	930	<MDL <MDL*	<MDL	<MDL	526
MWOlI	50U	51	50U	--	50U	50U	50U	50U	87	<MDL	<MDL	<MDL	8
MWOlD	50U 50U*	50U	50U	--	50U	63	50U	50U	50U	<MDL	<MDL	<MDL	9
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	79000	82000	89000	90000	100000	76000	75000	77000	80000	123000	100000	79300	11
MW05I	67000	61000	59000	58000	53000	53000	46000	49000	50000	61600	51700	50,200	8
MW05D	18000	800	370	700	770	14000	19000	4900	20000	14900	38600	16,000	10
Remedial Goal	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129
MW07I	50U	50U	50U	50U	50U	69	50U	50U	50	<MDL	<MDL	<MDL	11
MW07D	50U	--	50U	50U	50U	72	58	50U	50U	<MDL	<MDL	<MDL	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW08S	4400	4,100	3,800	4,200	3,800	4,100	3,700	3,500	3,700	3,910	3,860	3,550	3071
MW08I	3200	3,000	2,900	3,000	2,900	3,200	2,900	2,600	2,700	<MDL	<MDL	2450	2510
MW08D	640	--	280	230	230	2,500	3,900	2,500	3,000	<MDL	5240	2570	6630
Remedial Goal	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW09S	270,000	230,000	240,000	240,000	230,000	250,000	250,000	230,000	250,000	260,000	242000	275000	183000
MW09I	36,000	18,000	27,000	24,000	28,000	33,000	30,000	35,000	31,000	26,500	33500	38,100	44800
MW09D	50U	50U	50U	--	50U	100	50U	50U	50U	<MDL	<MDL	<MDL	83
Remedial Goal	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129	3129
MWl0I	50U	50U 50U*	50U	--	50U	61	50U	50U	130	<MDL <MDL*	<MDL	<MDL	23
MWl0D	50U	--	50U	--	50U	87	50U	50U	150	<MDL	<MDL	<MDL	29
MW16D	550	--	570	600	580	740	--	890	1,000 1,000*	1,220	<MDL	<MDL	1640
MW19I	--	--	--	--	--	--	--	--	--	<MDL	<MDL	<MDL	238
MW19D	--	--	--	--	--	--	--	--	--	<MDL	<MDL	<MDL	527

Note:

* - Designates split sample.

Data Qualifiers:

U - The analyte was not detected at or above the reporting limit;

J - The identification of the analyte is acceptable; the reported value is an estimate.

O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD .

<MDL - Analyte not detected at or above the method detection limit. MDL for boron is 3,800 µg/L

Figure H2: Historic Metals Groundwater Sampling Results 2010 - 2024

TABLE 3

IRON/SELENIUM/MANGANESE

AMERICAN BRASS INC. HEADLAND, ALABAMA

	Iron ug/L												
	Remedial Goal - 10,733 ug/L												
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	1000U	3500U	1000U	2,100	1,200	2000U	1000U	2000U	1000U	<MDL	3,990	580	442
MW05I	800U	600U	800U	800U 800U*	580	2000U	500U	1,500U	500U	1410JI	4,750	4,050	2710
MW05D	1300	170	100U	100U	100U	300U, 300U*	200U 200U*	200U 200U*	200U	<MDL	99JI	<MDL	5
MW11I	9,500	12,000	12,000	13,000	12,000	12,000	8,500	11,000	9,400	13,900	10,500	13,000	12600
MW11D	340	--	490	--	320	230	110	100	100	213	236	219	91
MW19I	--	--	--	--	--	--	--	--	--	522	245	820	60
MW19D	--	--	--	--	--	--	--	--	--	<MDL	166JI	<MDL	67
Remedial Goal	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733	10733
	Selenium ug/L												
	Remedial Goal/MCL - 50 ug/L												
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	56U, O	37	48	44	47	33	40	110	97	83	41.3	39.3	28
MW05I	30U, O	15	19	19	17	18	16	26	18	8	5.16	3.35	9.46
MW05D	9.0U, O	2U	3.2U,J,O	2.0U	2.0,U	8.3	11	5.8U,O	12	<MDL	5.45	<MDL	3.22
Remedial Goal	50	50	50	50	50	50	50	50	50	50	50	50	50
MW19I	--	--	--	--		--	--	--	--	<MDL	<MDL	<MDL	<MDL
MW19D	--	--	--	--		--	--	--	--	<MDL	<MDL	<MDL	<MDL
	Manganese ug/L												
	Remedial Goal - 300 ug/L												
MW01S	190, 190*	160	200	200	230,220*	190	240	210	230	204, 209*	224, 203*	216, 000	237
MW01I	5U	5U	5U	--	5U	5.0U	5.0U	5.0U	5.0U	<MDL	<MDL	13	7
MW0lD	5U, 6.2	32	6.5	--	17	17	5.0U	5.0U	5.0U	<MDL	<MDL	<MDL	2
MW05S	86	68	59, 58	57	50U	100U	54	100U	50U	<MDL	19	260	12
MW05I	83	76	77	7 1, 73*	62	100U	65	75U	63	29	36JI	47JI	30
MW05D	200	140	140	110	130	95, 95*	150 160	160 160*	150	276	164JI	272	253
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW07D	270	--	450	700	170	120	72	72	70	42	48	61	60
Remedial Goal	300	300	300	300	300	300	300	300	300	300	300	300	300
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019		
MW08D	260	--	260	900	380	210	160	180	160	<MDL	128	137JI	116
Remedial Goal	300	300	300	300	300	300	300	300	300	300	300	300	300
MWlII	71	87	95	94	90	92	68	85	71	84JI	61JI	89JI	110
MWlID	88	--	99	--	54	42	--	--	--	--			
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW14S	670	660	580	560	570	540	570	570	530	565	547	579	508
MW14I	63	71	56	54	47	45	39	41	40	271	32	59JI	63
MW14D	5.0U	8.4	5.0U	7.7	5.0U	5.0U	5.0U	5.0U	5.0U	<MDL	<MDL	<MDL	<MDL
Remedial Goal	300	300	300	300	300	300	300	300	300	300	300	300	300
MW19I	--	--	--	--	--	--	--	--	--	166JI	49JI	55JI	29
MW19D	--	--	--	--	--	--	--	--	--	19JI	<MDL	5JI	210

Note: * - Designates split sample.

Data Qualifiers:

U - The analyte was not detected at or above the reporting limit;

J - The identification of the analyte is acceptable; the reported value is an estimate

CR - Bromine interference on selenium conection calculated from data. Result will not match initial analysis. Correction calculation attached to project.

O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD.

JI - Estimated value between MDL/PQL

<MDL - Analyte not detected at or above the method detection limit.

Figure H3: Historical Nitrate/Nitrite Sampling Results 2010 – 2024

TABLE 4
NITRATE-NITRITE NITROGEN
AMERICAN BRASS INC. HEADLAND, ALABAMA

	Nitrate-Nitrite Nitrogen (mg/L)												
	Nitrate Remedial Goal/MCL - 10 (mg/L)												
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW0lS	3.7	4.4	2.8	2.5	3.4	4.2	3.7	2.9	3.9	3.23	2.86	2.98	3.23
MW0lI	13	14	12	13	11	11	12	12	10	9.69	8.87	8.22	7.25
MW0lD	5.2	4.6	3.6	--	4.2	3.8	4.9	4.8	5.1	3.8	4.05	3.94	4.16
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW05S	47	43	41	43	41	43	51	63	67	62.5	58.5	40.2	21.8
MW05I	29	29	25	27	25	26	29	35	31	30.4	26.1	22.6	16
MW05D	20	6.6	5.3	5.4	6.6	16	24	12	20	18.6	27.5	17.1	27.3
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW06S	14	14	12	13	13	10	11	11	9	9.31	8.87	7.69	6.02
MW06I	18	17	15	16	16	11	15	16	14	14.2	13.2	11.6	9.45
MW06D	6.8	6.6	6.2	6.1	6.2	6	5.3		7.1	5.87	5.88	5.61	4.94
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW07S	11	11	7.9	9.7	7.8	7.9	8.6	8.4	8.2	6.86	8.18	8.69	7.19
MW07I	12	12	11	12	11	10	11.00	11	9.4	9.65	9.43	9.14	8.04
MW07D	4.1	--	3.8	3.9	4.4	3.9	4	5	4.7	4.55	4.46	4.73	4.66
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW08S	3.8	3.8	3.7	3.6	3.9	3.5	3.9	4.3	4	3.98	4	3.76	3.25
MW08I	7.4	7.6	6.8	6.9	7.4	6.7	6.8	7.1	6.4	6.33	6.15	5.93	5.26
MW08D	16	--	15	16	16	17	13	14	13	16.7	13.2	13.8	10.7
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW09S	14	13	13	14	14	15	18	20	17	17.5	16.8	17.2	14.4
MW09I	3.2	2.5	3.2	2.5	2.5	2.9	2.8	3.3	2.81	2.75	2.73	3.05	3.16
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
MWl0S	0.82	0.82	0.66	--	0.69	0.80	0.68	0.66	0.67	0.65	0.843	1.17	1.94
MWl0I	0.94	0.84, 0.84	0.98	--	0.9	1.2	1	1.2	0.98	1.12, 1.12*	1.18, 1.20*	1.35	1.52
MWl0D	2.5	--	2.4	--	3	2.21	2.3	2.9	2.61	2.43	2.51	2.6	2.54
MW 13I	6.6, 6.7*	7.3	7.8	7.4	7.2	7.5	--	7.5	5.3	3.36	3.73	4.83	--
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW14S	12	11	11	11	11	15	11	12	10	10.4	10.6	8.72	7.46
MW 14I	6.6	6.4	6.4	--	7.3	7.4	7.8	8.8	7.8	8.77	8.73	9.39	8.87
MW 14D	#	2.3	2.3	--	3	2.8	2.7	3.2	2.6	3.03	3.04	3.26	2.88
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW 15S	12		12	12	12	24	17	22	18	18.2	19	15.6	11.3
MW15I	8.4	8	7.1	8.6	7.2	8.8	10	10	12	11.7	14.7	15.7	14.5
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW 16S	0.084		0.11		0.13				1.1	1.5	1.29	1.89	3.45
MW 16I	0.94		0.050U		0.050U,O				6.9	3.02	2.69	0.753	0.623
MW 16D	43		35	33	38	34		27	26	20.8	20.2	16.6	13.1
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
Station ID	March 2010	November 2010	April 2011	October 2011	April 2012	April 2013	April 2014	April 2015	March 2016	March 2018	April 2019	March 2021	Apr-24
MW 17S	23	30	21	26	27	24	16	10	6	8.57	3.61	0.19	0.727
MW17I	10	9.2	7.8	9.4	7.5	8.8	8.6	8.6	7.9	7.11	7.74	6.79	6.09
Remedial Goal	10	10	10	10	10	10	10	10	10	10	10	10	10
MW19I	--	--	--	--	--	--	--	--	--	2.1	2.32	2.58	2.47
MW19D	--	--	--	--	--	--	--	--	--	1.56	1.62	2.12	2.17

Note: * - Designates split sample.
- Elevated level due to incorrect preservative used or mislabeled sample. Data rejected and not included in trend chart.

Data Qualifiers:
U - The analyte was not detected at or above the reporting limit.
J - The identification of the analyte is acceptable: the reprnted value is an estimate.
O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD
<MDL - Analyte not detected at or above the method detection limit.

Figure H4: Historical Ammonia Groundwater Sampling Results 2010 - 2024

TABLE 5

AMMONIA

AMERICAN BRASS INC. HEADLAND,ALABAMA

	Ammonia (mg/L)												
	Remedial Goal - 0.40 (mg/L)												
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW0IS	2.2	2.4	2.3	1.8	1.2	2.5	2.0	1.9	1.6	1.91	1.49	1.63	1.49
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW05S	13	14	13	13	11	9.2	11	12	12	10.2	5.92	7.54	5.49
MW05I	27	27	25	24	24	23	25	25	22	19.4	11.9	15.62	11.2
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW05D	1.0	0.086	0.050U	0.067	0.068	1	1.2	0.17	0.91	1.93	2.58	1.11	3.05
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW07S	7.0	7.4	5.0	3.4	4.4	5.0	5.4	4.5	6.0	3.74	3.91	4.08	3.61
MW07I	4.1	4.2	4.1	4.0	3.9	3.8	3.8	3.3	3.5	3.18	2.92	3.58	3.08
MW07D	0.050U	--	0.050U	--	0.050U	0.050U	0.050U	0.050U	0.050U	<MDL	<MDL	<MDL	<MDL
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW08S	0.32	0.45	0.24	0.44	0.20	0.21	0.17	0.20U,O	0.18	0.072	<MDL	.0312JI	0.0452
MW08I	0.75	0.78	0.75	0.73	0.70	0.70	0.69	0.64	0.67	0.58	0.07	0.481	0.457
MW08D	0.07	--	0.11	--	0.12	0.068	0.050U	0.16U,O	0.16	0.256	0.262	0.71	0.521
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW 14S	5.0	4.9	5.9	4.3	6.2	6.0	6.0	6.7	6.5	6.35	4.86	3.71	3.56
MW14I	0.91	0.47	0.70	0.65	0.51	0.39	0.47	0.44	0.50	0.645	0.7	0.799	0.776
MW14D	0.050U	0.050U	0.050U	--	0.050U	0.050U	0.050U	0.050U	0.050U	<MDL	<MDL	<MDL	<MDL
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4	0.4	0.4
Station ID	**March 2010**	**November 2010**	**April 2011**	**October 2011**	**April 2012**	**April 2013**	**April 2014**	**April 2015**	**March 2016**	**March 2018**	**April 2019**	**March 2021**	Apr-24
MW16S	0		0		0				0	0	<MDL	<MDL	<MDL
MW16I	0.22		0		0				1.2	0.568	0.409	0.0643	0.0701
MW16D	83		74	68	67	65		57	55	4.63	41.1	42.3	47.5
Remedial Goal	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.40	0.4
MW19I	--	--	--	--	--	--	--	--	--	<MDL	<MDL	<MDL	<MDL
MW19D	--	--	--	--	--	--	--	--	--	0.013	<MDL	<MDL	<MDL

Note: * - Designates split sample.

Data Qualifiers:

U - The analyte was not detected at or above the reporting limit.

J - The identification of the analyte is acceptable; the reported value is an estimate.

O - Additional data qualifier. Refer to analytical data sheets from July 2016 Groundwater Investigation, SESD

<MDL - Analyte not detected at or above the method detection limit.

APPENDIX I – QUESTION B SUPPORT INFORMATION

APPENDIX J – SITE INTERVIEWS

American Brass Inc. Superfund Site **Five-Year Review Interview Form**

Site Name: American Brass Inc. **EPA ID No.:** ALD981868466

Interviewer Name: Kenneth L. Prestridge **Affiliation:** ADEM
Subject Name: Benny Nowell **Affiliation:**
Subject Contact Information: 334. 726-1288 bhnowell@gmail.com
Time: 1:00 pm **Date:** 12/7/2023
Interview Location: Headland, AL.
Interview Format (circle one): (In Person) Phone Mail Other:

Interview Category: Potentially Responsible Parties (PRPs)

1. What is your overall impression of the remedial activities at the Site?
   Very pleased with progress & completion of remedial activity.
2. What have been the effects of this Site on the surrounding community, if any?
   Very little effect on surrounding community
3. What is your assessment of the current performance of the remedy in place at the Site?
   Very pleased with performance
4. Are you aware of any complaints or inquiries regarding environmental issues or the remedial action from residents since implementation of the cleanup?
   No complaints from neighbors since cleanup.
5. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
   Yes, very well informed in every phase of cleanup
6. Do you have any comments, suggestions or recommendations regarding the management or operation of the Site's remedy?
   No
7. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
   Yes

Site Name:	**American Brass Inc.**		**EPA ID No.:**	ALD981868466
Interviewer Name:	Kenneth Prestridge		**Affiliation:**	ADEM
Subject Name:	Resident 1		**Affiliation:**	Resident
Subject Contact Information:	345 Co. Rd. 157 Headland, AL			
Time:	11:50 AM		**Date:**	12/7/2023
Interview Location:	ABI			
Interview Format (circle one):	In Person	Phone Mail	Other: Email	
Interview Category:	Resident			

1. What is your overall impression of the remedial activities at the Site?
   None

2. What have been effects of this Site on the surrounding community, if any?
   None

3. What is your assessment of the current performance of the remedy in place at the Site?
   Seems to have done a good job.

4. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
   None

5. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?
   Yes

6. Do you have any comments, suggestions, or recommendations regarding the management or operation of the Site's remedy?
   None

7. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
   Yes

Site Name:	**American Brass Inc.**		**EPA ID No.:**	ALD981868466	
Interviewer Name:	Kenneth Prestridge		**Affiliation:**	ADEM	
Subject Name:	William Overstreet		**Affiliation:**	ADEM	
Subject Contact Information:	3342705646				
Time:			**Date:**	7/25/19	
Interview Location:	ADEM				
Interview Format (circle one):	In Person	Phone	Mail	Other: Email	
Interview Category:	State Agency				

1. What is your overall impression of the remedial activities at the Site?
    - Going well.

2. What is your assessment of the current performance of the remedy in place at the Site?
    - May need to be amended based on current and past data.

3. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?
    - None.

4. Has your office conducted any site-related activities or communications in the past five years? If so, please describe the purpose and results of these activities?
    - ADEM has been on-site for the past three sampling events and has been to Headland, AL to discuss the signing of the Environmental Covenant with the property owner.

5. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site's remedy?
    - No.

6. Are you comfortable with the status of the institutional controls at the Site? If not, what are the associated outstanding issues?
    - Yes.

7. Are you aware of any changes in projected land use(s) at the Site?
    - To the Department's knowledge, projected land uses will still remain as agricultural along the southern half of the property and industrial on the northern half.

8. Do you have any comments, suggestions, or recommendations regarding the management or operation of the Site's remedy?
    - None.

9. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?
    - Yes.

Site Name:	**American Brass Inc.**		**EPA ID No.:**	ALD981868466
Interviewer Name:	Kenneth Prestridge		**Affiliation:**	ADEM
Subject Name:			**Affiliation:**	Local Govt.
Subject Contact Information:				
Time:			**Date:**	
Interview Location:				
Interview Format (circle one):	In Person	Phone	Mail	Other: Email
Interview Category:	Local Govt.			

1. What is your overall impression of the remedial activities at the Site?
    .

2. What have been effects of this Site on the surrounding community, if any

3. What is your assessment of the current performance of the remedy in place at the Site?

4. Are you aware of any complaints or inquiries regarding site-related environmental issues or remedial activities from residents in the past five years?

5. Are you aware of any changes to state laws or local regulations that might affect the protectiveness of the Site's remedy?

6. Do you feel well-informed regarding the Site's activities and remedial progress? If not, how might EPA convey site-related information in the future?

7. Do you have any comments, suggestions, or recommendations regarding the management or operation of the Site's remedy?

8. Do you consent to have your name included along with your responses to this questionnaire in the FYR report?

APPENDIX K – INSTITUTIONAL CONTROLS

ENVIRONMENTAL COVENANT

Pursuant to The Alabama Uniform Environmental Covenants Act, Ala. Code §§ 35-19-1 to 35-19-14 (hereinafter "the Act" or "Act"), and the regulations promulgated thereunder, R & B Investments, L.L.C. (hereinafter "Grantor") grants this Environmental Covenant (hereinafter "Covenant") this 6 day of March, 2019, to the following Grantee: the Alabama Department of Environmental Management.

WHEREAS, the Grantor is the owner of certain real property located in the City of Headland, Alabama, Section 14, Township 4N and Range 26E, identified as the former American Brass, Inc. which includes four parcels (37-23-06-14-0-001-002.000 [47 acres], 37-23-06-14-0-001-002.004 [7 acres], 37-23-06-14-0-001-002.003 [31 acres] and 37-23-06-14-0-001-002.001 [51 acres]) situated along State Highway 134, specifically at 31°32'50.0" north latitude and 85°40'36.1" west longitude, in Henry County, Alabama, (hereinafter "the Property"). The property which was conveyed to Grantor by deed dated 11/21/2006, and recorded in the Office of the Judge of Probate for Henry County, Alabama, in Deed Book 0187 at Page 0000628;

WHEREAS, the Property is more particularly described as the following:

Parcel 37-23-06-14-0-001-002.000
E 1 2 of NE 1 4 LYING S OF HWY U S HWY 134 & N OF SEABOARD COASTLINE R R CONT 54 AC

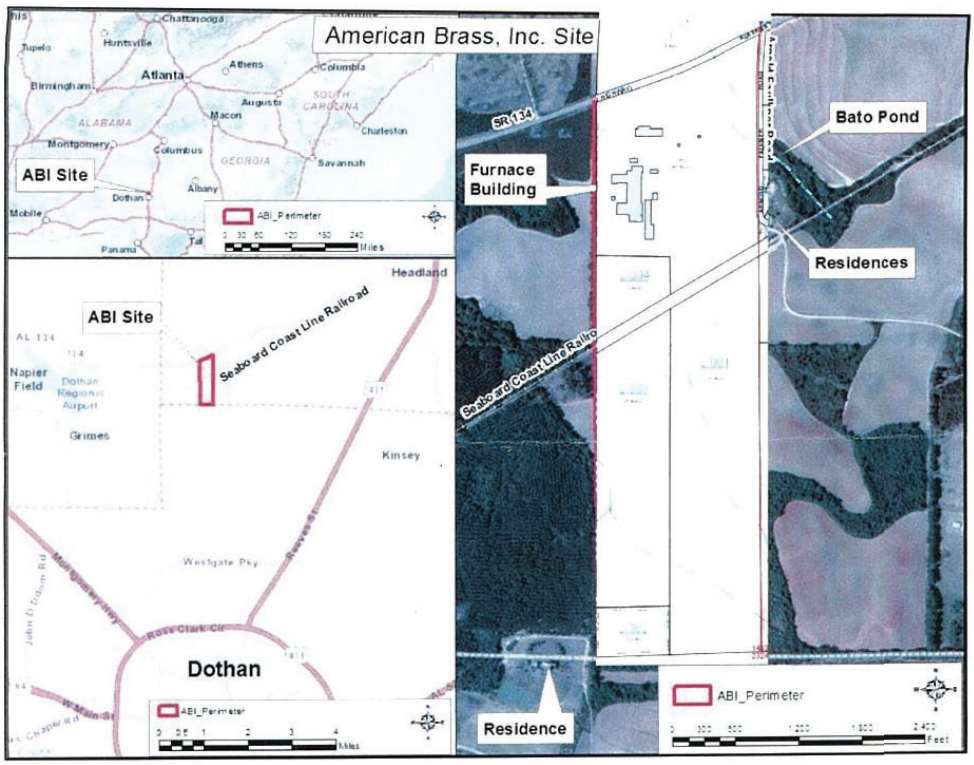
Parcel 37-23-06-14-0-001-002.004
BEG INT OF W LINE OF SE 1 4-NE1 4 & N R W OF RR TH NE ALG RR 640 S; N 320 S; W 610 S, S 695 S; TO POB SEC 14 TWP 4N RGR 26E

Parcel 37-23-06-14-0-001-002.003
BEG INT OF W LINE OF NE 1 4- SE 1 4 & S R W OF RR; TH NE ALG RR 700 S; S 2420 S; W 609.93; N 2080 S TO POB SEC 14 TWP 4N RNG 26E

Parcel 37-23-06-14-0-001-002.001
BEG SE COR OF SEC; TH W 700 S; N 357.09 D(390 S); NE 609.93 N 2090 S TO SE R W OF RR; TH NE ALG RR R W 1540 S; S 3240 S TO POB SEC 14 TWP 4N RNG 26E

The following figure shows the approximate location of the above four parcels:

MISC 508 650
Recorded In Above Book and Page
04/04/2019 04:07:58 PM
David Money
Probate Judge
Henry County, Alabama
Recording Fee 44.00
TOTAL 44.00



WHEREAS, this instrument is an Environmental Covenant developed and executed pursuant to the Act and the regulations promulgated thereunder;

WHEREAS, the Property is the subject of enforcement and/or remedial action pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. §§9601 et seq., as amended (CERCLA), as more particularly described in the U.S. Environmental Protection Agency's (EPA) Record of Decision (ROD), issued on August 24, 2006;

WHEREAS, a release/disposal of hazardous substances, including, but not limited to, boron, iron, manganese, selenium, ammonia, and nitrate in the groundwater, and aluminum, arsenic, boron, cadmium, chromium, copper, dichlorodiphenyltrichloroethane (DDT), iron, lead, polychlorinated biphenyl (PCB)-1260, thallium, vanadium, and zinc in the soil and sediment, occurred on the Property;

WHEREAS, the selected "remedial action" for the Property, which has now been implemented, providing in part, for the following actions:

The Remedial Action Plan (February 2006) was implemented at the site between November 2008 and August 2009 by EPA. Nonhazardous (110,248 tons) and hazardous (588 tons) soils and sediments were excavated and backfilled with clean fill from off-site. Confirmatory sampling has shown that the remedy has met the soil and sediment cleanup goals for residential

land use. The groundwater remedy is ongoing, with 53 monitoring wells located on-site at the Property. Of these 53 wells, 36 are currently being sampled annually to monitor the shallow (0-30 feet below ground surface (bgs)), intermediate (30-60 feet bgs), and deep (60-101 feet bgs) zones of the contamination plume.

WHEREAS, ADEM has agreed to perform operation and maintenance activities at the Property pursuant to the *Superfund State Contract between the State of Alabama and the U.S. Environmental Protection Agency, Region 4 for Remedial Action (Soil and Groundwater) at the American Brass Inc. Superfund Site*, dated August 21, 2008, cosigned with EPA;

WHEREAS, the ROD requires institutional controls to be implemented to address the effects of the release/disposal and to protect the remedy so that exposure to the hazardous waste, hazardous constituents, hazardous substances, pollutants, or contaminants is controlled by restricting the use of the Property and the activities on the Property;

WHEREAS, hazardous wastes, hazardous constituents, hazardous substances, pollutants, or other contaminants remain on the Property;

WHEREAS, the purpose of this Covenant is to ensure protection of human health and the environment by placing restrictions on the Property to reduce the risk to human health to below the target risk levels for those hazardous wastes, hazardous constituents, hazardous substances, pollutants, or contaminants that remain on the Property;

WHEREAS, due to contamination in the groundwater, the exposure pathways of concern are groundwater consumption, dermal contact, and ingestion.

WHEREAS, further information concerning the release/disposal and the activities to correct the effects of the release/disposal may be obtained by contacting the Director, EPA Region 4 Superfund Division, at 61 Forsyth Street, S.W.; Atlanta, GA, 30303 and the Chief of the Land Division at ADEM, or his or her designated representative, at 1400 Coliseum Boulevard, Montgomery, Alabama, 36110; and

WHEREAS, the Administrative Record concerning the Property is located at:

Blanch R. Solomon Memorial Library
17 Park Street
Headland, Alabama 36345
(334) 693-2706

and

The Superfund Records Center
USEPA, Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

NOW, THEREFORE, Grantor hereby grants this Environmental Covenant to ADEM, and declares that the Property shall hereinafter be bound by, held, sold, used, improved, occupied, leased, hypothecated, encumbered, and/or conveyed subject to the following requirements set forth in paragraphs 1 through 3 below:

1. **DEFINITIONS**

Owner. "Owner" means R & B Investments, L.L.C. (Grantor), its successors and assigns in interest.

2. **USE RESTRICTIONS**

A. The following activities shall not take place on the identified Property without first obtaining written approval from EPA and/or ADEM through modification of this covenant:

i) Any use, including, but not limited to, agricultural, residential, commercial, or industrial, of shallow groundwater on the Property. Shallow groundwater at the Property is defined as the Lisbon Aquifer and the interconnected residuum associated with this aquifer only. This excludes the underlying aquifers and does not apply to the groundwater wells currently on-site that are used for agricultural purposes.

ii) Installation of additional groundwater wells, except those for the sole purpose of monitoring groundwater contamination, as approved by EPA and/or ADEM.

3. **GENERAL PROVISIONS**

A. **Restrictions to Run with the Land.** This Environmental Covenant runs with the land pursuant to Ala. Code §35-19-5; is perpetual, unless modified or terminated pursuant to the terms of this Covenant pursuant to Ala. Code §35-19-9; is imposed upon the entire Property unless expressly stated as applicable only to a specific portion thereof; inures to the benefit of and passes with each and every portion of the Property; and binds the Owner, the Holders, all persons using the land, all persons, their heirs, successors and assigns having any right, title or interest in the Property, or any part thereof who have subordinated those interests to this Environmental Covenant, and all persons, their heirs, successors and assigns who obtain any right, title or interest in the Property, or any part thereof after the recordation of this Environmental Covenant.

B. **Notices Required.** In accordance with Ala. Code §35-19-4(b), the Owner shall send written notification, pursuant to Section J, below, following transfer of a specified interest in, or concerning proposed changes in use of, applications for building permits for, or proposals for any site work affecting the contamination on, the

Property. Said notification shall be sent within fifteen (15) days of each event listed in this Section.

C. **Registry/Recordation of Environmental Covenant; Amendment; or Termination.** Pursuant to Ala. Code §35-19-12(b), this Environmental Covenant and any amendment or termination thereof, shall be contained in ADEM's registry for environmental covenants. After an environmental covenant, amendment, or termination is filed in the registry, a notice of the covenant, amendment, or termination may be recorded in the land records in lieu of recording the entire covenant in compliance with §35-19-12(b). Grantor shall be responsible for filing the Environmental Covenant within thirty (30) days of the final required signature upon this Environmental Covenant.

D. **Compliance Certification.** In accordance with Ala. Code §35-19-4(b), the Owner shall submit an annual report to the Director of the EPA Region 4 Superfund Division, and to the Chief of the ADEM Land Division, on the anniversary of the date this Covenant was signed by the Grantor. Said report shall detail the Owner's compliance, and any lack of compliance with the terms of the Covenant.

E. **Right of Access.** The Owner hereby grants ADEM; ADEM's agents, contractors and employees; the Owner's agents, contractors and employees; and any Holders the right of access to the Property for implementation or enforcement of this Environmental Covenant.

F. **ADEM and EPA Reservations.** Notwithstanding any other provision of this Environmental Covenant, ADEM and EPA each, respectively, retains all of its access authorities and rights, as well as all of its rights to require additional land/water use restrictions, including enforcement authorities related thereto, under CERCLA and any other applicable statute or regulation.

G. **Representations and Warranties.** Grantor hereby represents and warrants to the other signatories hereto:

i) That the Grantor has the power and authority to enter into this Environmental Covenant, to grant the rights and interests herein provided and to carry out all obligations hereunder;

ii) That the Grantor is the sole owner of the Property and holds fee simple title which is free, clear and unencumbered;

iii) That the Grantor has identified all other parties that hold any interest (e.g., encumbrance) in the Property and notified such parties of the Grantor's intention to enter into this Environmental Covenant;

iv) That this Environmental Covenant will not materially violate, contravene, or constitute a material default under, any other agreement, document, or

instrument to which Grantor is a party, by which Grantor may be bound or affected;

v) That this Environmental Covenant will not materially violate or contravene any zoning law or other law regulating use of the Property;

vi) That this Environmental Covenant does not authorize a use of the Property which is otherwise prohibited by a recorded instrument that has priority over the Environmental Covenant.

H. **Compliance Enforcement.** In accordance with Ala. Code §35-19-11(b), the terms of the Environmental Covenant may be enforced by the parties to this Environmental Covenant; any person to whom this Covenant expressly grants power to enforce; any person whose interest in the real property or whose collateral or liability may be affected by the alleged violation of the Covenant; or a municipality or other unit of local government in which the real property subject to the Covenant is located, in accordance with applicable law. The parties hereto expressly agree that ADEM, EPA, or both have the power to enforce this Environmental Covenant. Failure to timely enforce compliance with this Environmental Covenant or the use or activity limitations contained herein by any person shall not bar subsequent enforcement by such person and shall not be deemed a waiver of the person's right to take action to enforce any non-compliance. Nothing in this Environmental Covenant shall restrict ADEM, EPA, or the Grantor, from exercising any authority under applicable law.

I. **Modifications/Termination.** Any modifications or terminations to this Environmental Covenant must be made in accordance with Ala. Code §§35-19-9 and 35-19-10.

J. **Notices.** Any document or communication required to be sent pursuant to the terms of this Environmental Covenant shall be sent to the following persons:

ADEM

Chief, Land Division
Alabama Department of Environmental Management
1400 Coliseum Boulevard
Montgomery, AL 36110

EPA

Director, Superfund Division
The United States Environmental Protection Agency
Region 4
61 Forsyth Street
Atlanta, GA 30303

R & B Investments, L.L.C.

Ronald Nowell	Benny Nowell
Title: MEMBER	Title: MEMBER
Nowell Farms	Nowell Farms
6860 E Highway 134	6860 E Highway 134
Headland, Alabama 36345	Headland, Alabama 36345

K. **No Property Interest Created in ADEM or EPA.** This Environmental Covenant does not in any way create any interest by ADEM or EPA in the Property that is subject to the Environmental Covenant. Furthermore, the act of approving this Environmental Covenant does not in any way create any interest by ADEM or EPA in the Property in accordance with Ala. Code §35-19-3(b).

L. **Severability.** If any provision of this Environmental Covenant is found to be unenforceable in any respect, the validity, legality, and enforceability of the remaining provisions shall not in any way be affected or impaired.

M. **Governing Law.** This Environmental Covenant shall be governed by and interpreted in accordance with the laws of the State of Alabama.

N. **Recordation.** In accordance with Ala. Code §35-19-8(a), Grantor shall record this Environmental Covenant and any amendment or termination of the Environmental Covenant in every county in which any portion of the real property subject to this Environmental Covenant is located. Grantor agrees to record this Environmental Covenant within fifteen (15) days after the date of the final required signature upon this Environmental Covenant.

O. **Effective Date.** The effective date of this Environmental Covenant shall be the date upon which the fully executed Environmental Covenant has been recorded, in accordance with Ala. Code §35-19-8(a).

P. **Distribution of Environmental Covenant.** Within fifteen (15) days of filing this Environmental Covenant, the Grantor shall distribute a recorded and date stamped copy of the recorded Environmental Covenant in accordance with Ala. Code §35-19-7(a). However, the validity of this Environmental Covenant will not be affected by the failure to provide a copy of the Covenant as provided herein.

Q. **EPA References.** All references to EPA shall include successor agencies, departments, divisions, or other successor entities.

R. **ADEM References.** All references to ADEM shall include successor agencies, departments, divisions, or other successor entities.

S. **Grantor References.** All references to the Grantor shall include successor agencies, departments, divisions, or other successor entities.

Grantor has caused this Environmental Covenant to be executed pursuant to The Alabama Uniform Environmental Covenants Act, on this 05 day of MARCH, 2019.

IN TESTIMONY WHEREOF, the parties have hereunto set their hands this the day and year first above written.

Ronald Nowell

Grantor
Ronald Nowell

Title: MEMBER

R & B Investments, L.L.C.

STATE OF ALABAMA)
COUNTY OF Henry)

I, the undersigned Notary Public in and for said County in said State or Commonwealth, hereby certify that Ronald Nowell whose name as RONALD NOWELL MEMBER of R & B Investments, L.L.C. (Grantor) is signed to the foregoing conveyance and who is known to me, acknowledged before me on this day that, being informed of the contents of the conveyance, (s)he, as such officer and with full authority executed the same voluntarily for and as the act of said corporation.

Given under my hand this the 5th day of MARCH, 2019.

Jewel B. Bodiford

Notary Public

My Commission Expires: 09/20/2021

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Grantor has caused this Environmental Covenant to be executed pursuant to The Alabama Uniform Environmental Covenants Act, on this 6 day of March, 2019.

IN TESTIMONY WHEREOF, the parties have hereunto set their hands this the day and year first above written.

Grantor
Benny Nowell

Title: Managing Member
R & B Investments, L.L.C.

STATE OF ALABAMA)
COUNTY OF Houston)

I, the undersigned Notary Public in and for said County in said State or Commonwealth, hereby certify that Benny Nowell, whose name as Benny Nowell of R & B Investments, L.L.C. (Grantor) is signed to the foregoing conveyance and who is known to me, acknowledged before me on this day that, being informed of the contents of the conveyance, (s)he, as such officer and with full authority executed the same voluntarily for and as the act of said corporation.

Given under my hand this the 6 day of March, 2019.

Katelyn Nicole Jordan
Notary Public

My Commission Expires: My Commission Expires 4/17/2022

KATELYN NICOLE JORDAN NOTARY PUBLIC ALABAMA STATE AT LARGE

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ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

This Environmental Covenant is hereby approved by the State of Alabama this 19th day of March, 2019.

Stephen A. Cobb
Chief, Land Division
Alabama Department of Environmental Management

STATE OF ALABAMA)
MONTGOMERY, COUNTY)

I, the undersigned Notary Public in and for said County and State, hereby certify that Stephen A. Cobb, whose name as Chief, Land Division, Alabama Department of Environmental Management is signed to the foregoing conveyance, and who is known to me, acknowledged before me on this day that, being informed of the contents of the conveyance, he approved the same voluntarily on the day the same bears date and with full authority to do so.

Given under my hand and official seal this 19 day of March, 2019.

Notary Public

My Commission Expires: 1-30-23

THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The United States Environmental Protection Agency hereby executes this Environmental Covenant to acknowledge that it has reviewed and accepted this document.

By: _____ Date: 3/27/2019

Franklin E. Hill
Director
United States Environmental Protection Agency
Region 4
Superfund Division

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STATE OF ALABAMA)
COUNTY OF HENRY)

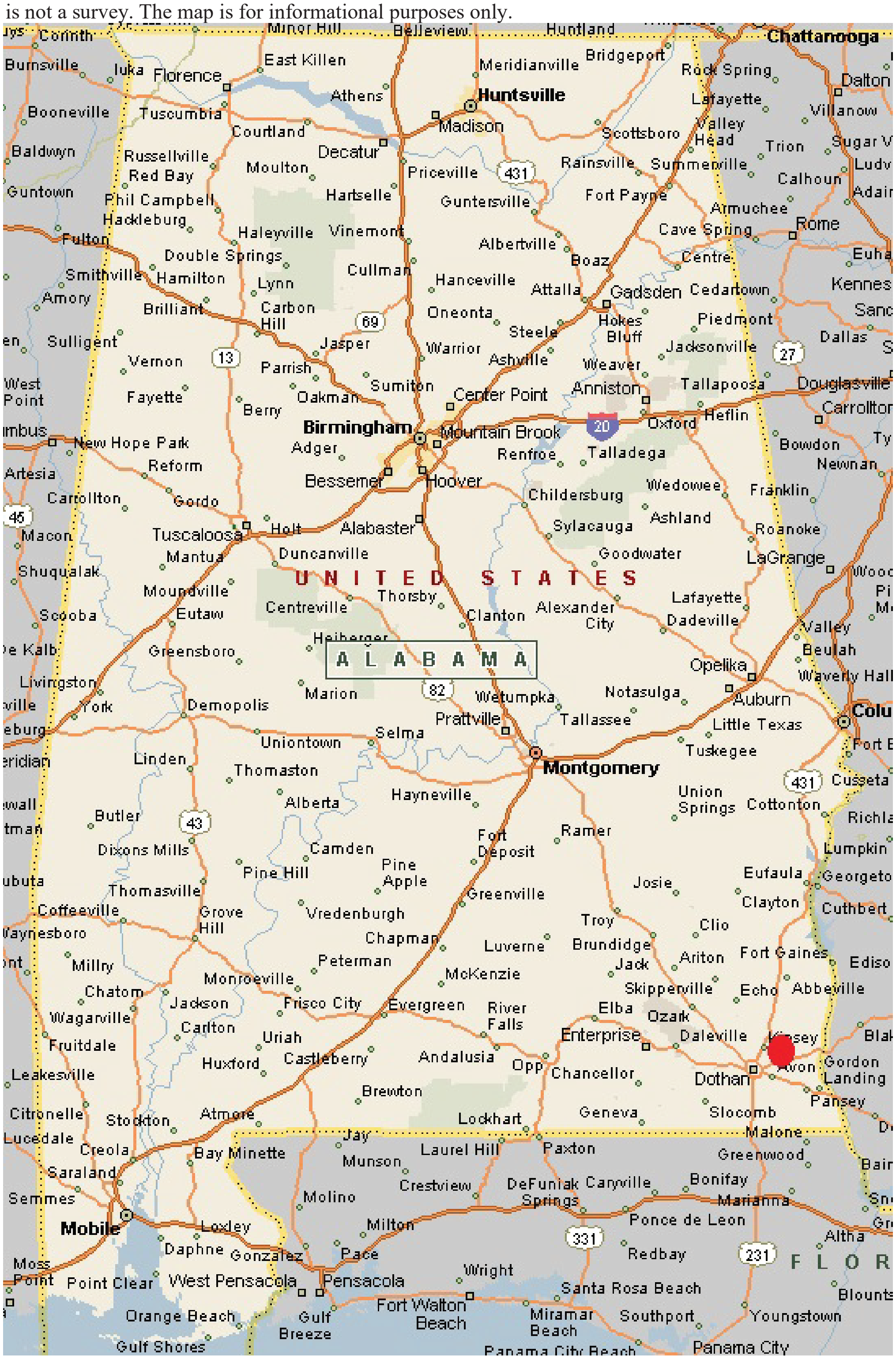
I, Kenya Williams, Clerk of the Henry County Court, do certify that the foregoing Environmental Covenant was lodged in my office for record, and that I have recorded it, and the certificate thereon, this 4th day of April, 2019 in the Deed Recordation Book.

Kenya Williams

County Clerk

APPENDIX L – SITE MAPS

Figure L-1: Site Vicinity Map Disclaimer: This map and any boundary lines within the map are approximate and subject to change. The map is not a survey. The map is for informational purposes only.



General location of American Brass, Inc. Site (State)

Figure L-2: Site Map – **General location of American Brass, Inc. Site Headland, Henry County, Alabama (City)**

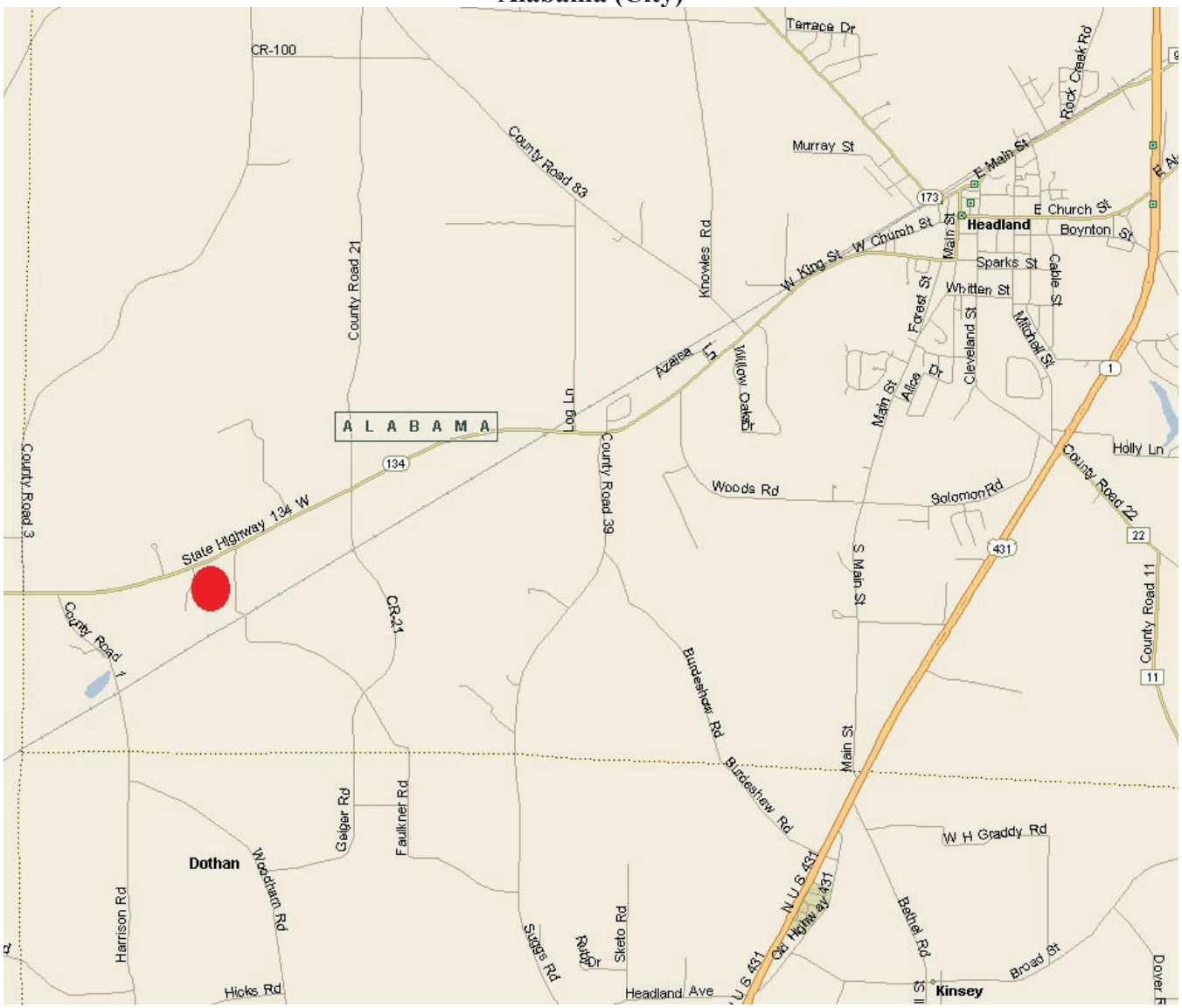


Figure L-3: Site Map – **General location of American Brass, Inc. Site Headland, Henry County, Alabama (Property)**

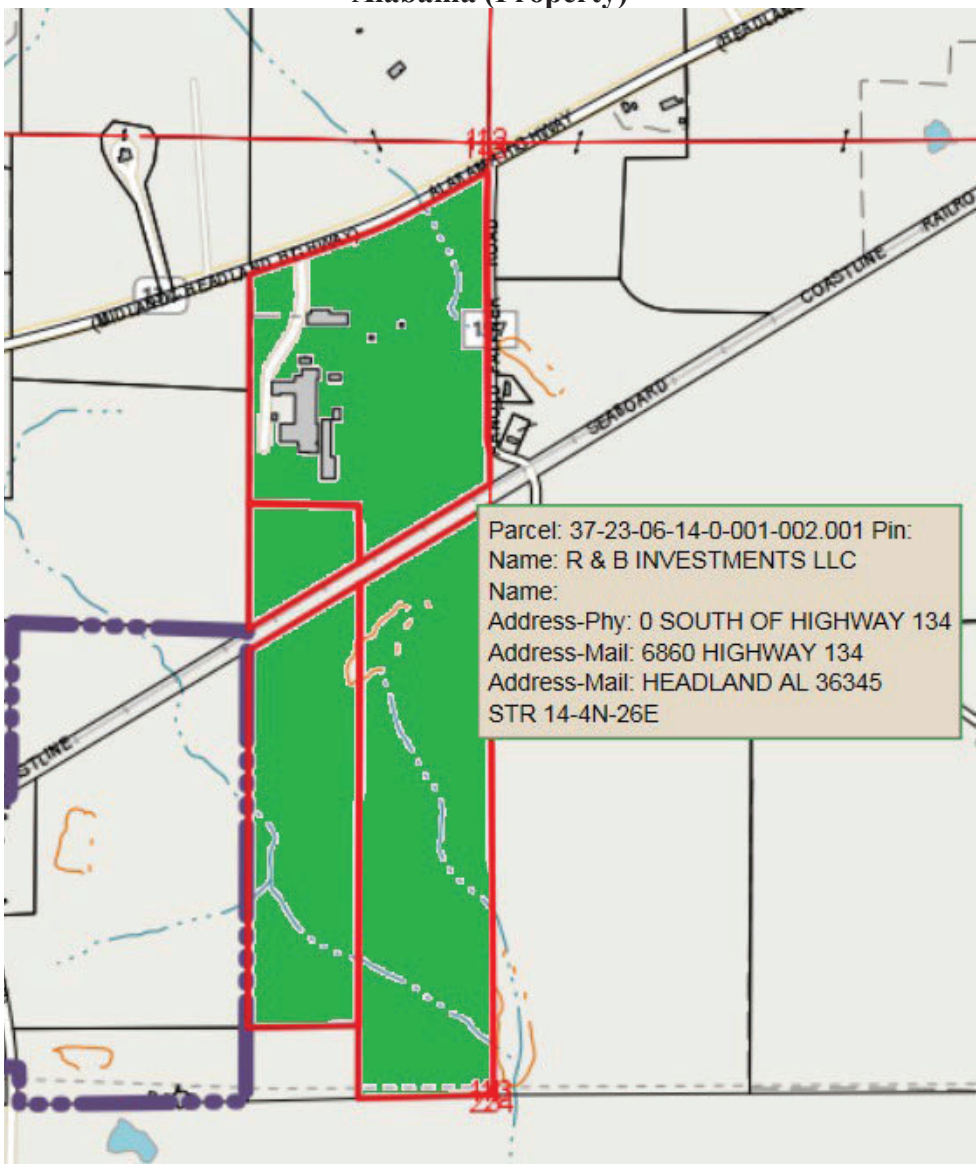


Figure L-4: Site Map –American Brass, Inc. Aerial Photographs (Google Earth ®)

Aerial of Mowbray Engineering Site Location

Figure L-5: North Part of ABI – location of former foundry operations


American Brass, Inc
Aerial Photograph (2018)
North Portion, former foundry location
Legend
134
Google Earth
©2018 Google
800 ft
N