



**UNITED STATES ENVIRONMENTAL PROTECTION
AGENCY
REGION III
Four Penn Center
1600 John F. Kennedy Boulevard
Philadelphia, Pennsylvania 19103-2852**

SUBJECT: Long-Term Stewardship Assessment
U.S. Bronze Foundry & Machine, Inc.
EPA ID: PAD004318416
18649 Brake Shoe Road
Meadville, PA 16335

DATE: September 25, 2023

TO: Alizabeth Olhasso, RCRA Corrective Action South Section Manager
Long Term Stewardship File for U.S. Bronze Foundry & Machine, Inc.
RCRA Corrective Action

FROM: Andrew Clibanoff, Remedial Project Manager

Remedy Assessment Summary:

The site remains largely unchanged from the time of EPA's September 2015 Final Decision. All groundwater monitoring wells have been decommissioned with PADEP permission and as allowed by the Post Remediation Care Plan (PRCP) for the Metals Impacted Soils and Sediments (MISS) Area. The engineering and institutional controls associated with the MISS Area are still in place and protective of human health and the environment. Similarly, the engineering and institutions controls associated with the South Parking Lot Area remain in place and effective.

Introduction:

Long-term stewardship (LTS) refers to the activities necessary to ensure that engineering controls (ECs) are maintained and that institutional controls (ICs) continue to be enforced. The purpose of the EPA Region 3 LTS program is to periodically assess the efficacy of the implemented remedies (i.e., ECs and ICs) and to update the community on the status of the RCRA Corrective Action facilities. The assessment is conducted in twofold, which consists of a record review and a field inspection, to ensure that the remedies are implemented and maintained in accordance with the final decision.

Facility Background:

The 40-acre Facility is bordered on the north and south by residential areas, on the west by French Creek and on the east by Conrail tracks and U.S. Route 19. Figure 1 provides a Site Location Map. The Facility has been operated since 1947 by several companies including Pneumo Abex Corporation (ABEX), ABC Rail Corporation, and U.S. Bronze Foundry & Machine, Inc. (USBFMI or Facility) for the production of non-ferrous brass and bronze castings. USBFMI, the current owner, operates the Facility as a foundry and machine shop producing non-ferrous castings as well as semi-finished and finished machined products.

In the early 1960s, ABEX used a 3.1-acre portion of the Facility southwest of the main building and South Parking Area as a landfill for the storage and disposal of various types of high metals

content wastes (Landfill). The location of the landfill can be seen on Figure 2, the Facility Layout Map and Figure 3, a Geospatial Map showing areas where engineering/institutional controls and/or post-remediation care plans (PRCPs) are in place. The Landfill, which contains approximately 31,600 cubic yards of waste, was closed in 1985 under PADEP oversight and approval pursuant to Chapter 75 of PADEP's solid waste and hazardous waste regulations. ABEX also treated industrial waste in two wastewater treatment lagoons located west of the North Parking Area (Lagoons). ABEX identified the Lagoons as containing hazardous wastes in its 1981 Part A Application. The Lagoons were clay-lined and operated from an unknown date until 1984 when alternate methods of processing and recycling wastewater eliminated the wastewater discharge to the Lagoons. The Lagoons were also closed in 1985 under PADEP oversight and approval pursuant to Chapter 75 of PADEP's solid waste and hazardous waste regulations. Because there were no groundwater impacts associated with the lagoons and the lagoons were backfilled with clean soil, there are no land use restrictions or compliance reporting requirements for them. The former location of the lagoons can be seen in Figure 2.

From 1959 through 1969, spent foundry sands containing elevated levels of metals, primarily lead, and limited quantities of other fill materials generated from facility operations were placed in the South Parking Lot Area to bring that area to grade. In Fall 2008, an asphalt cover system was placed over the existing parking lot and a geocomposite cover system was placed on the western slope of this Area. The covers, along with institutional controls contained in an environmental covenant designed to maintain the engineered components and limit future site activities in this Area, effectively eliminated potential future exposure pathways. The extent of the South Parking Lot Area can be seen in Figure 3.

The Slag Reclamation Basin/Bank (SRB) Area is a former wastewater management basin and its adjacent bank located in the north central portion of the Facility. The SRB managed solids from the reclamation process and was filled to grade with sludge, debris, and soils containing elevated concentrations of metals, primarily lead. Waste materials including dried sludge and foundry sand were also present in the adjacent bank. The Metals Impacted Soils and Sediments (MISS) Area includes the SRB and the remainder of the Facility property with the exception of the landfill and South Parking Lot Area. Most of the surface and subsurface soil samples collected from the MISS Area did not exhibit elevated constituent concentrations. However, metals, primarily lead, were detected at elevated levels at a 2-acre area adjacent to the SRB Area, at a 0.5-acre area in the Equipment Storage Area north of the foundry building, at a 0.1-acre area north of the entrance road, in sediments in a portion of the unnamed tributary adjacent to the SRB Area, and in drainage features adjacent to stormwater outfalls. Soils with exceedances of non-residential statewide health standards were excavated and consolidated within the MISS Area either within or within the immediate vicinity of the SRB in 2012. The MISS Area containing contaminated soils including the SRB was then capped and institutional controls designed to maintain the engineered components and limit future site activities in this Area were recorded in an environmental covenant. The capped portion of the MISS Area can be seen in Figure 3.

Current Site Status:

U.S. Bronze Foundry and Machine, Inc. continues to operate at its Meadville location as a provider of precision cast metal parts for industrial applications. Metals contaminated soils contained within the on-site landfill, the SRB Area and beneath the South Parking Lot Area continue to be adequately contained and capped to prevent direct exposure. After many years of groundwater monitoring showing no impacts to groundwater outside of the capped areas, all groundwater monitoring wells at the Facility have been decommissioned and the compliance monitoring requirements for the landfill have been removed. Figure 4 shows the locations of the groundwater monitoring wells that have been properly abandoned. USBFMI will continue to maintain the landfill cap as required by its PRCP. USBFMI is up to date with its compliance monitoring/reporting requirements associated with the MISS and South Parking Lot Areas.

Long-term Stewardship Site Visit:

On September 14, 2023, the United States Environmental Protection Agency’s (USEPA) Land, Chemicals, and Redevelopment Division (LCRD) representative, Andrew Clibanoff, conducted a long-term stewardship assessment site visit at USBFMI in Meadville, PA. The purpose of the LTS site visit was to assess the status of the implemented remedies at the Facility.

The attendees were:

Name	Organization	Email Address
Andrew Clibanoff	US EPA Region 3	clibanoff.andrew@epa.gov
Tom Seringer	U.S. Bronze Foundry & Machine, Inc.	tseringer@usbfmi.com
Ron Arcuri, P.G.	Geosyntec Consultants	rarcuri@geosyntec.com
Stephen Perdziola	Geosyntec Consultants	SPerdziola@geosyntec.com
Henry Kramer	PADEP Northwest Region	henkramer@pa.gov
Carly Linkoski	PADEP Northwest Region	clinkoski@pa.gov

Prior to the site visit, Geosyntec provided EPA with copies of all Triennial Inspection Reports previously submitted to PADEP and EPA in accordance with the environmental covenants for the South Parking Lot and MISS Areas. No violations of any activity and use limitations (AULs) were noted and the caps associated with the South Parking Lot and MISS Area are adequately maintained and have not been disturbed per the findings of the reports. Also prior to the meeting, Geosyntec provided EPA with the five years of groundwater monitoring sampling results required by the PRCP for the MISS Area. Since dissolved metals were not detected above their respective MSCs during any of the eight rounds of sampling, groundwater monitoring was discontinued at the four MISS Area monitoring well locations after the May 2018 sampling event.

A brief meeting was held in an USBFMI conference room at approximately 2:00 p.m., during which the purpose of EPA’s LTS program was discussed. While EPA’s September 2015 Final Decision deferred handling of the landfill’s monitoring, reporting and PRCP requirements to PADEP, Mr. Arcuri of Geosyntec mentioned that the monitoring and reporting requirements for the landfill had recently been waived by PADEP. Mr. Arcuri also stated that the monitoring wells associated with the landfill and MISS Area had been decommissioned.

After leaving the conference room, the meeting attendees went outside to visit the South Parking Lot Area and capped portion of the MISS Area. The asphalt covered portion of the South Parking Lot was in good condition. Some cracks were observed but none that penetrated the full thickness of the asphalt. The vegetation over the geomembrane sloped portion of the containment area just north of the parking lot was clearly maintained and not stressed. Photos 1 and 2 in the Photolog contained in Attachment 1 of this report show views looking southwest from the South Parking Lot Area towards the closed landfill. The landfill vegetative cover had been mowed to the extent possible with the riding mower equipment. Areas inaccessible to that equipment were scheduled to be mowed shortly. From the South Parking Lot, the meeting attendees visited the capped portion of the MISS Area. Photos 3 and 4 show views of the northern boundary of the capped portion of the MISS Area to the east and west, respectively. The entire capped area is vegetated and is adequately maintained with no stressed vegetation or tree/shrub growth on the cap. No evidence of excavation or disturbance of the cap was observed. The LTS site visit concluded after the inspection of this area.

Subsequent to the LTS Site Visit, Geosyntec provided EPA with a copy of a May 7, 2020 letter in which PADEP approved cessation of groundwater monitoring and granted permission for USBFMI to decommission the monitoring wells associated with the landfill. A photolog showing well decommissioning activities as well as water well abandonments report forms filed with the PA Department of Conservation and Natural Resources were also submitted. The landfill monitoring wells and the monitoring wells associated with the MISS Area were all decommissioned in September 2020.

Implementation Mechanism(s):

The Implementation Mechanism is the method for implementing IC and ECs required as a condition of the Statement of Basis and Final Decision. The summary of implementation mechanisms is described in Attachment 2.

Financial Assurance:

Given that EPA's final decision did not require any further engineering actions to remediate soil, groundwater or indoor air contamination and given that the costs of complying with the 2010 and 2014 Environmental Covenants and associated PRCPs at the Facility are de minimis, EPA did not require financial assurance for its remedy.

Reporting Requirements/Compliance:

All reporting requirements/compliance have been met by USBFMI. The Facility was informed to begin submitting such reporting to EPA Region 3 Corrective Action's generic email address for such submissions: R3_RCRAPOSTREM@EPA.GOV rather than just the Corrective Action Project Manager who was previously assigned to the Facility. This

Mapping:

All capped areas have been geospatially mapped as shown on Figure 3 and as available on the Facility's EPA Factsheet.

Conclusions and Recommendations:

The remedy described in EPA's September 2015 Final Decision remains in effect and continues to be protective of human health and the environment. USBFMI is maintaining all engineering controls and abiding by the AULs contained within the 2010 Environmental Covenant for the South Parking Lot Area and 2014 Environmental Covenant for the MISS Area. The closed landfill is also being maintained as required by its PRCP. All compliance reporting is up to date. The Facility was informed to send email future reports to : R3_RCRAPOSTREM@EPA.GOV to guarantee the document gets to the then-current RCRA Corrective Action Project Manager's desk. Another LTS site visit should be scheduled approximately five years from now.

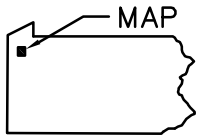
Files Reviewed:

Triennial Compliance Reports for South Parking Lot and MISS Areas
September 2015 EPA Final Decision for USBFMI
2010 Environmental Covenant for South Parking Lot Area
2014 Environmental Covenant for MISS Area
October 2013 MISS Site Cleanup Final Report
October 2009 South Parking Lot Area Final Report

Enc.:

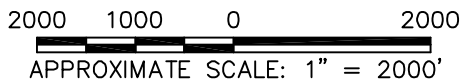
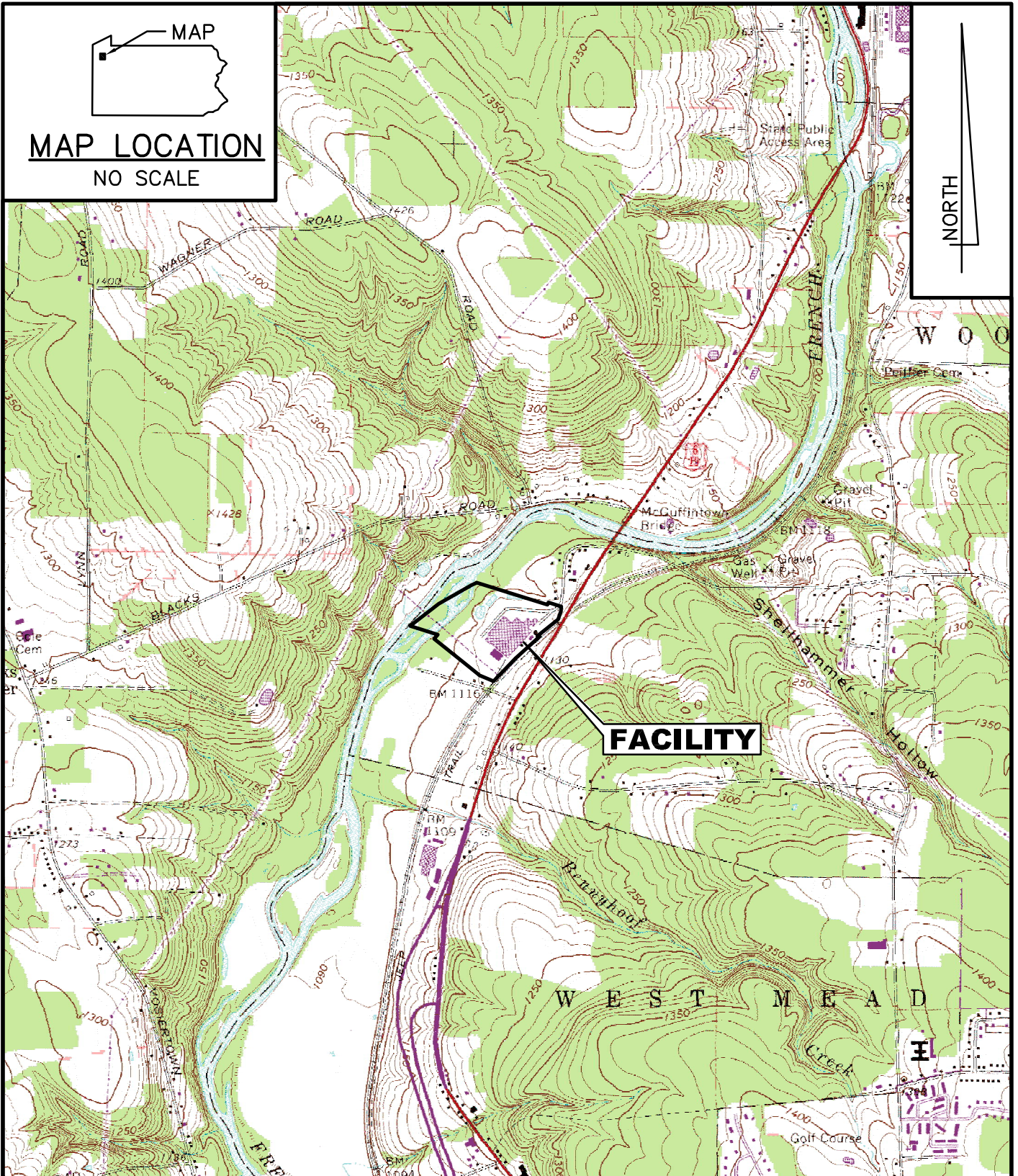
Attachments

Figures



MAP LOCATION
NO SCALE

NORTH



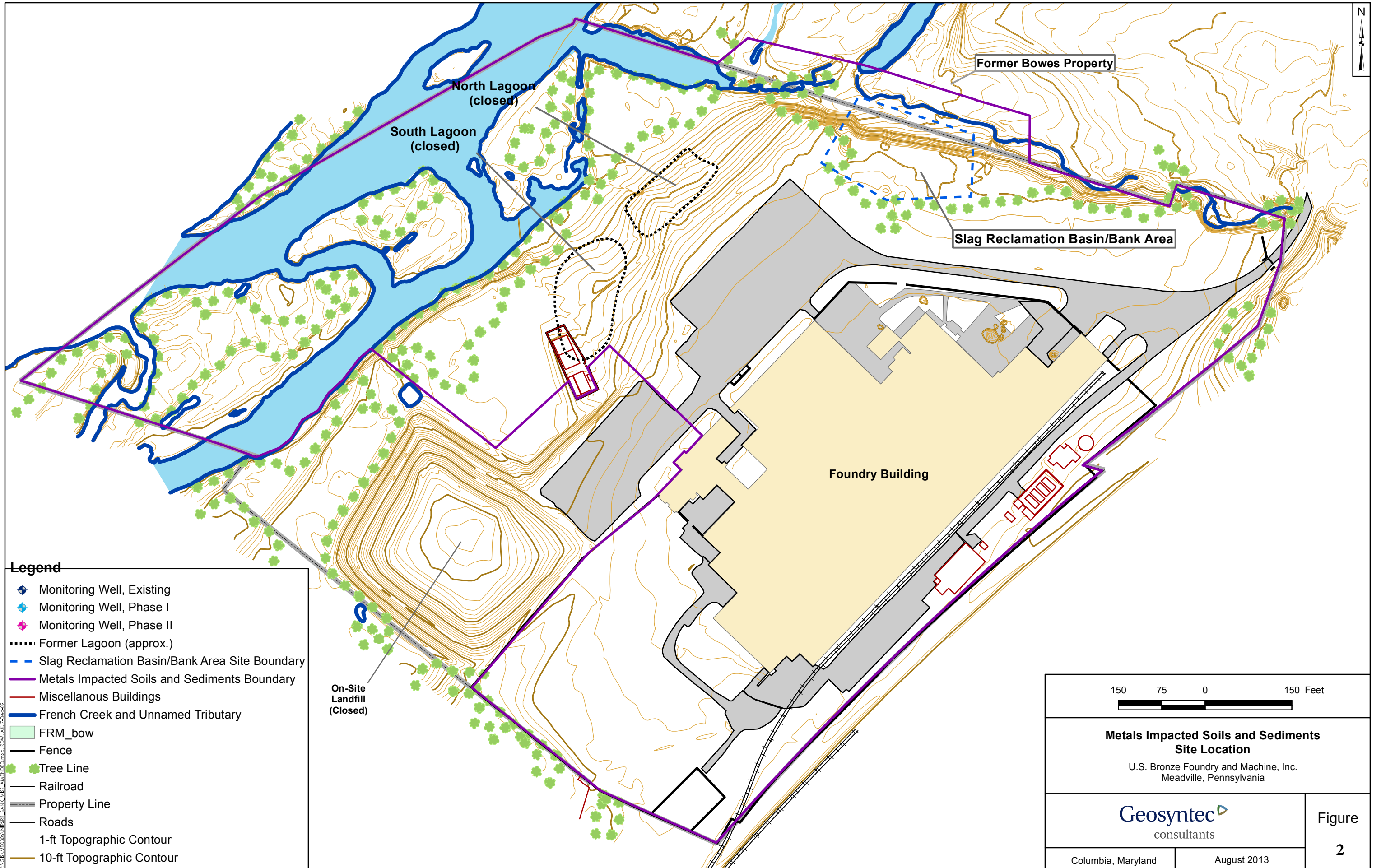
SOURCE: "MEADVILLE, PENNSYLVANIA"
USGS 7.5' QUAD MAP, 1968
(PHOTOREVISED 1988).

FACILITY LOCATION MAP
U.S. BRONZE FOUNDRY AND MACHINE, INC.
MEADVILLE, PENNSYLVANIA

Geosyntec
consultants

COLUMBIA, MARYLAND

DATE:	AUGUST 2013
PROJECT NO.	MR0709C
DOCUMENT NO.	
FILE NO.	0709f001
FIGURE NO.	1



P:\GEO\W0030A\W0030A_BANK_MIS_AUG13\DWG_AUG13.dwg, A:\2013\2013-08-28

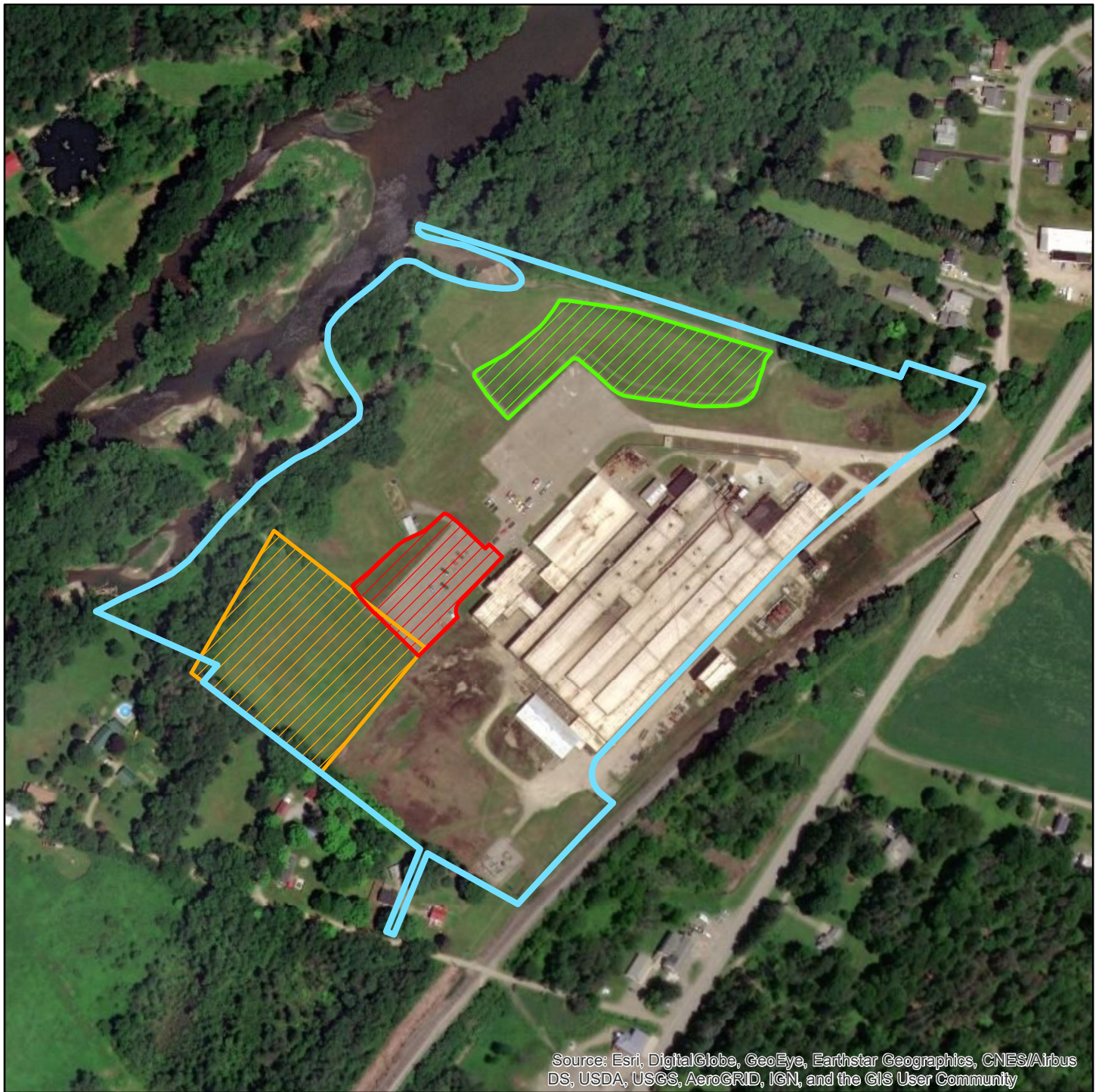
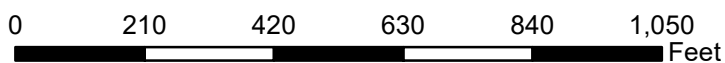


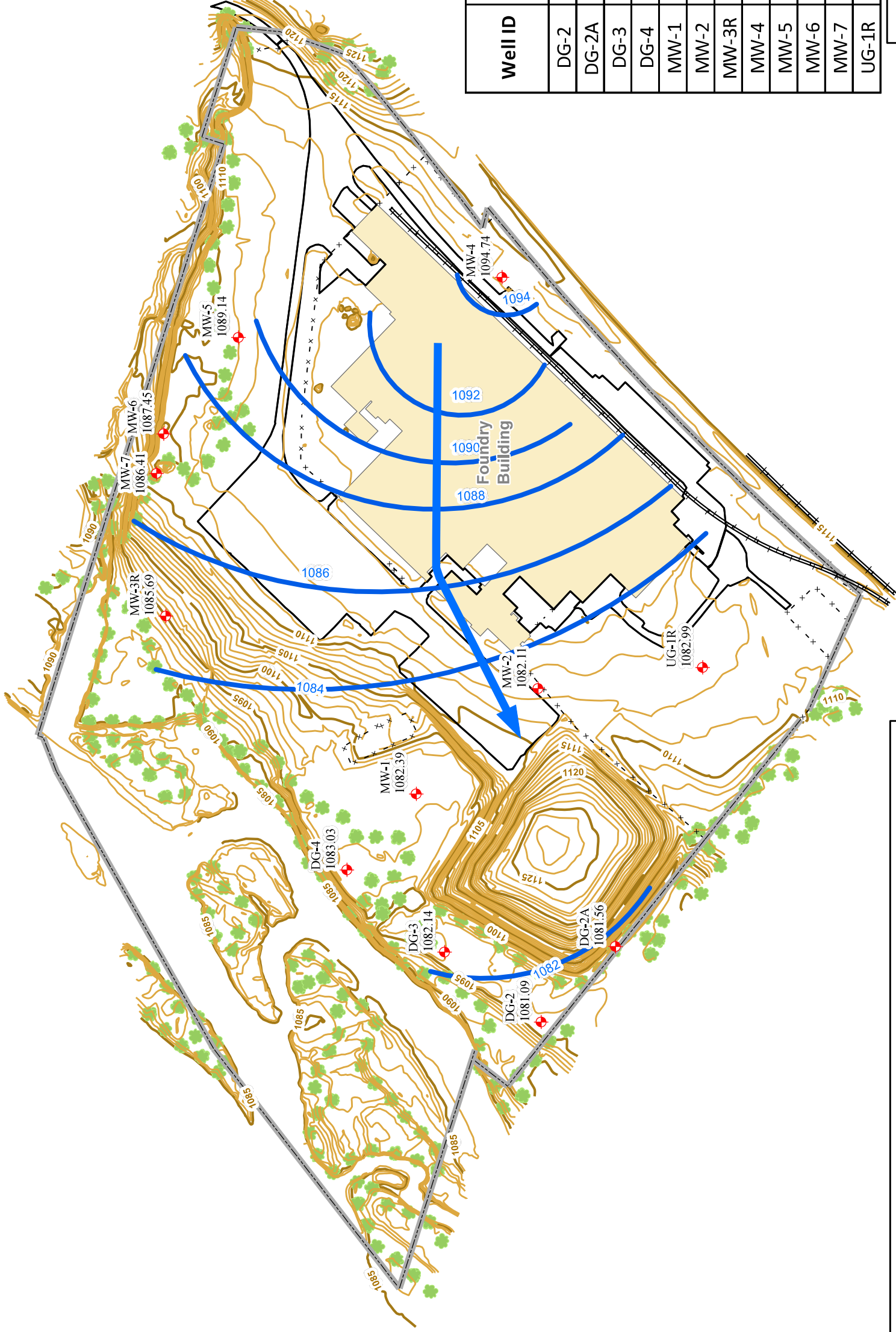
Figure 3

**US Bronze Foundry & Machine Inc.
 18649 Brake Shoe Rd.
 Meadville, PA 16335
 EPA ID: PAD004318416**



- ENTIRE FACILITY
- CAPPED PORTION OF MISS AREA
- SOUTH PARKING LOT AREA
- LANDFILL





Well ID	Top of Casing Elevation (ft)	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)
DG-2	1095.56	14.47	1081.09
DG-2A	1098.10	16.54	1081.56
DG-3	1096.00	13.86	1082.14
DG-4	1097.00	13.97	1083.03
MW-1	1097.26	14.87	1082.39
MW-2	1112.36	30.25	1082.11
MW-3R	1097.80	12.11	1085.69
MW-4	1111.59	16.85	1094.74
MW-5	1114.86	25.72	1089.14
MW-6	1098.31	10.86	1087.45
MW-7	1098.43	12.02	1086.41
UG-1R	1112.34	29.35	1082.99

- Legend**
- Monitoring Well
 - Inferred Potentiometric Contour (2 ft- interval)
 - Inferred Groundwater Vector
 - Railroad
 - Property line
 - Fence
 - Roads
 - Topographic contours (1-ft interval)
 - Topographic contours (5-ft interval)
 - Tree line



Potentiometric Surface Map
 September 2019
 U.S. Bronze Foundry and Machine, Inc.
 Meadville, Pennsylvania

Notes
 Groundwater levels measured on 18 September 2019.
 ft msl: feet above mean sea level
 ft btoc: feet below top of casing

Geosyntec
 consultants

Pittsburgh, Pennsylvania

September 2019

Figure
4

Attachment 1.

September 14, 2023
Long Term Stewardship Inspection
Photolog



U.S. Bronze Foundry & Machine, Inc.

Photolog

Long Term Stewardship Inspection

Meadville, PA

9/14/2023

Long Term Stewardship Inspection Photolog

U.S. Bronze Foundry & Machine, Inc.

Location: Meadville, PA

EPA ID No: PAD004318416

Camera: OnePlus 6T

Date Photos Taken: 09/14/23

Photographer: A Clibanoff

Compiler: A. Clibanoff



Photo No. 1 (142656): View looking southwest at capped portion of South Parking Lot Area and closed landfill.



Photo No. 2 (142707): View looking southwest at asphalt and geomembrane capped portions of South Parking Lot Area with closed landfill in background.



Photo No. 3 (143230): View looking east along northern boundary of capped portion of the Metals Impacted Soils and Sediments (MISS) Area.



Photo No. 4 (143233): View looking west along northern boundary of capped portion of the Miss Area.

Attachment 2: Remedial EC/IC Summary Table.

Facility Name	U.S. Bronze Foundry & Machine, Inc.			
Address	18649 Brakeshoe Rd., Meadville, PA 16355			
EPA ID#	PAD004318416			
Are there restrictions or controls that address:	Yes	No	Area(s)	Description of restrictions, controls, and mechanisms
Groundwater Use	X		Landfill, South Parking Lot Area, Capped portion of Slag Reclamation Basin (SRB) Area.	No potable wells are to be installed within the boundary of the approved cover systems of the included areas.
Residential Use	X		Facility Wide	Both the environmental covenants for the Metals Impacted Soils and Sediment (MISS) Area and the South Parking Lot Area require that the Property be used solely for nonresidential purposes.
Excavation	X		Landfill, South Parking Lot Area, Capped portion of Slag Reclamation Basin (SRB) Area.	The PRCP for the landfill and both the environmental covenants for the MISS Area and the South Parking Lot Area require no excavations or disturbances of cover systems without prior PADEP approval.
Vapor Intrusion		X		
Capped Area(s)	X		Landfill, South Parking Lot Area, Capped portion of Slag Reclamation Basin (SRB) Area.	The PRCP for the landfill and both the environmental covenants for the MISS Area and the South Parking Lot Area require maintenance of and no disturbances of cover systems without prior PADEP approval.
Other Engineering Controls	X		MISS Area	The MISS Area environmental covenant requires operation and maintenance of the permanent post-construction stormwater management best management practices which include permanent diversion channels, riprap apron and infiltration berm/retentive grading.
Other Restrictions		X		

Attachment 3: Remedial Review Questionnaire

LTS Checklist Template

<u>IC Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Have the ICs specified in the remedy been fully implemented? Implementation mechanism in place?	X		
• Do the ICs provide control for the entire extent of contamination (entire site or a specific portion)?	X		
• Are the ICs eliminating or reducing exposure of all potential receptors to known contamination?	X		
• Are the ICs effective and reliable for the activities (current and future) at the property to which the controls are applied?	X		
• Have the risk of potential pathway exposures addressed under Corrective Action changed based on updated screening levels and new technologies?	X		
• Are modifications to the IC implementation mechanism needed? (i.e., UECA Covenant, Permit or Order)		X	
• Are there plans to develop or sell the property?		X	Facility continues to operate as a manufacturer of cast metal parts for industrial applications.
• Have all reporting requirements been met?	X		

<u>Groundwater Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Is groundwater onsite used for potable purposes?		X	
• Is the Facility connected to a public water supply?	X		
• Have any new wells been installed at the facility?		X	
• Are the current groundwater flow rate and direction similar as mentioned in the previous studies?	X		
• Groundwater contaminants stable or decreasing in concentration?	X		

• Are groundwater monitoring wells still in place (# wells)?		X	All monitoring wells have been properly abandoned.
• Any evidence or reason to re-evaluate the number and location of monitoring points and/or monitoring frequency?		X	
• For wells where groundwater monitoring is no longer required, have the wells be decommissioned?	X		Water Well Abandonment Reports provided to EPA subsequent to site visit.
• Is there evidence of monitored natural attenuation occurring in groundwater?			NA. Groundwater not found to be impacted by site activities
• Has (active remediation system) been maintained as necessary?			NA
• Is the (groundwater containment system) effectively containing COCs and protecting potential receptors (surface water body and/or groundwater resource) via hydraulic control?			NA
• Have notification letters been sent to the local POTW, County Department of Health, and Planning and Zoning Department regarding groundwater use restrictions?			Unknown

<u>Surface and Subsurface Soil Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Is the facility being used for residential purposes?		X	
• Have there been recent construction or earth-moving activities or plans for such?		X	

<u>Engineered Cap or Cover Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Have geosynthetic/vegetative landfill caps (name) been properly maintained?	X		
• Have any repairs been necessary? (i.e., regrading, filling, root removal)		X	

<u>Vapor Intrusion Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Have there been construction of new structures within the vapor intrusion restriction zone(s)?			NA. Vapor Intrusion not of concern at the Facility.
• Is the vapor intrusion mitigation system radius of influence effective for the structure in which its installed?			NA

<u>Miscellaneous Review and Assessment Questions:</u>	<u>Yes</u>	<u>No</u>	<u>Notes</u>
• Is the security fence intact?	X		
• Is the appropriate signage posted?	X		