



NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL REMEDIATION
Site Classification Report



DATE: 5/19/2020

Site Code:	340032	Site Name:	Arsenic Mine Site
City:	Carmel	Town:	Kent
Region:	3	County:	Putnam
Current Classification:	A	Proposed Classification:	02
Estimated Size (acres):	30.00	Disposal Area:	
Significant Threat:	Unknown	Site Type:	
Priority ranking Score:		Project Manager:	Kiera Thompson

Summary of Approvals

Originator/Supervisor: Kevin Carpenter	03/24/2020
RHWRE: :	04/10/2020
BEEI of NYSDOH:	01/31/2020
CO Bureau Director: Janet Brown, Director, Remedial Bureau C:	04/09/2020
Assistant Division Director: George Heitzman, P.E.:	05/19/2020

Basis for Classification Change

The historical use and operations associated with mining at the site have resulted in elevated levels of arsenic in the soil of ten residential properties and in groundwater. EPA has designated this site as an NPL site. Therefore, proceeding directly to a Class 2 listing.

Site Description - Last Review: 02/28/2020

Location: The Arsenic Mine site is located on multiple residential parcels totaling approximately 22 acres near Pine Pond on either side of Gypsy Trail Road in the Town of Kent, Putnam County. The site is bordered by wetlands and a small stream to the east, Pine Pond and residential and forested land to the northeast. NYSDEC's Nimham Mountain Multiple Use Area (MUA) lies to the west and south.

Site Features: The site is situated in mountainous and forested terrain and includes ten residentially-zoned parcels. The mine entrance is set back approximately 300 feet from Mt. Nimham Court, which dead ends near the top of Mount Nimham. Impacts from the mine entrance and associated spoils piles have impacted the described area and potentially areas beyond the site. The state-owned MUA also contains a second mine entrance, and has also been impacted by contamination from mine activities but is not considered part of this site. Actions to reduce potential exposures that have occurred on the MUA are unrelated to activities at this site.



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Current Zoning and Land Use: Use of the site is residential. Ten residentially-zoned properties comprise of the site, six of which are currently occupied with single-family dwellings. One of the properties is a small farm with farmhouse, two parcels contain small buildings, but are not residential in nature. One property is undeveloped.

Past Use of the Site: The mine operated from the mid-1800s through approximately 1918 in the extraction of arsenopyrite ore and arsenical sulphate ore. Ore concentrating activities occurred at the site which included crushing, rolling, and slicing the rich ore to reduce physical size and remove less viable overburden rock. The concentrated ore was shipped by horse and rail from the site to a smelter location in Mamaroneck, NY for both domestic and overseas manufacture of pesticides, pigments, glass, pharmaceuticals, poisons, and chemicals. The mine entrance is flooded and is surrounded by rocky and vegetated spoils piles.

In 1987 residents at a single property living adjacent to the mine were hospitalized with arsenic poisoning from their drinking water. Actions were taken to provide an alternate water supply at the property. Drinking water in the area was routinely sampled in the area through 1992. Installation of filtration systems on some impacted wells proved to be effective.

In 2016 the alternate water supply at the one property was found to be fouled with arsenic containing sediment, which resulted in additional investigation of drinking water and surface soils in the area in 2017-2019. A Time-critical Removal Action was performed in 2018 and 2019. In 2019, NYSDOH and ATSDR issued a Public Health Consultation and a Public Health Advisory respectively. The site was listed on the NPL in November 2019.

Site Geology and Hydrogeology: The site lies within the geologically complex New England Uplands physiographic province within the Hudson Highlands. The geologic structure of the area is typified by northeast trending folds and faults. Glaciation has left low permeability till on hill tops, and lacustrine sand and gravel deposits in valleys. Bedrock in the area is high-grade metamorphosed Precambrian sedimentary and igneous rocks with dominant gneiss, schist, and granite, formed under high temperature and pressure conditions.

The site lies in the West Branch Reservoir watershed drainage basin which is part of New York City's water supply system's East Branch Croton River Watershed. The watershed is a part of the larger Lower Hudson River Basin. Water at the site drains into an unnamed tributary and wetland and south almost 2 miles to a discharge point on the West Branch Reservoir.

While bedrock groundwater flow direction at the site has not yet been determined, it can be assumed that shallow bedrock groundwater and any bedrock seeps will follow topographic drainage patterns, while deep bedrock flow will follow preferred fracture pathways. Regional folding and faulting trends northeast-southwest but local folding and fractures could override those macrostructures as flow paths for groundwater.



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Site Name: Arsenic Mine Site

Contaminants of Concern (Including Materials Disposed) Quantity Disposed

OU 01
arsenic

Analytical Data Available for : Surface Water, Drinking Water, Soil, Sediment

Applicable Standards Exceeded for: Soil, Sediment

Site Environmental Assessment- Last Review: 02/28/2020

Nature and Extent of Contamination: Soil and groundwater at the site are contaminated with arsenic at levels exceeding federal and state maximum contaminant levels/benchmarks.

Soils: Arsenic contamination in soils from 0-6" has been detected up to 56,000 milligrams per kilogram (mg/kg). The Hazard Ranking System (HRS) benchmark is 30 mg/kg in soils, the regional removal management level for soils is 35 mg/kg, and New York State residential soil cleanup number is 16 mg/kg.

Groundwater: Arsenic contamination in groundwater has been detected up to 170 micrograms per liter (µg/L); the federal and state maximum contaminant level is 10 µg/L.

Site Health Assessment - Last Update: 02/03/2020

Interim actions such as covering soil in high use areas with stone, wood chips or mulch or paving driveways have reduced, but not eliminated the potential for residents to come into direct contact with contaminated soil in yards. People could still contact contaminants in the yards by digging or otherwise disturbing the soil cover. Treatment systems in place on individual drinking water wells have reduced the potential that people are drinking the contaminated groundwater. The measures in place to reduce exposures to contaminated soil and groundwater are monitored to ensure they remain effective.

	Start		End	
OU 01				
Remedial Investigation	11/8/19	ACT	6/30/20	PLN
OU 01A				
Interim Site Management	11/22/19	ACT	11/22/29	PLN
Remedial Action	4/8/19	ACT	11/22/19	ACT
Site Characterization	8/1/17	ACT	6/30/18	ACT
OU 02				
Reclass Pkg.	1/10/20	ACT	4/30/20	PLN
Remedial Investigation	6/30/20	PLN	6/30/21	PLN

Remedy Description and Cost

Remedy Description for Operable Unit 01



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Total Cost



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Site Name: Arsenic Mine Site

Remedy Description for Operable Unit 01A

Total Cost



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Site Code: 340032

Site Name: Arsenic Mine Site

Remedy Description for Operable Unit 02

Total Cost

OU

Site Management Plan Approval:

Status:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Site Management Form
5/19/2020

SITE DESCRIPTION

SITE NO. 340032

SITE NAME Arsenic Mine Site

SITE ADDRESS: Gipsy Trail Road **ZIP CODE:** 10512

CITY/TOWN: Carmel

COUNTY: Putnam

ALLOWABLE USE:

SITE MANAGEMENT DESCRIPTION

SITE MANAGEMENT PLAN INCLUDES:

IC/EC Certification Plan	NO
Monitoring Plan	NO
Operation and Maintenance (O&M) Plan	NO

Periodic Review Frequency:

Periodic Review Report Submittal Date:



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Description of Institutional Control

0

Not Applicable/No IC's

Description of Engineering Control

Not Applicable/No EC's



SIGNIFICANT THREAT DETERMINATION WORKSHEET



☒ State Superfund Program
6 NYCRR 375-2.7

☐ Brownfield Cleanup Program
ECL 27-1411.1(c)

Site Name: Arsenic Mine Site Site ID No. 340032

City/Town: Town of Kent County: Putnam

1. Has all available and relevant evidence regarding the Site been reviewed and the factors in 375-2.7(a)(3) considered?	☒ Yes (go to 2)	☐ No (stop)	☐ Unsure (stop)
2. Does Site contamination result in significant adverse impacts (375-2.7(a)(1)) to:			
a. species that are endangered, threatened, or of concern?	☐ Yes (go to b)	☐ No (go to b)	☒ Unsure (go to b)
b. protected streams, tidal/freshwater wetlands, or significant fish and wildlife habitat?	☐ Yes (go to c)	☐ No (go to c)	☒ Unsure (go to c)
c. flora or fauna from bioaccumulation or leads to a recommendation to limit consumption?	☐ Yes (go to d)	☐ No (go to d)	☒ Unsure (go to d)
d. fish, shellfish, crustacea, or wildlife from concentrations that cause adverse/chronic effects?	☐ Yes (go to e)	☐ No (go to e)	☒ Unsure (go to e)
e. the environment due to a fire, spill, explosion, or reaction that generates toxic gases, vapors, fumes, mists or dusts?	☒ Yes (go to f)	☐ No (go to f)	☐ Unsure (go to f)
f. areas where individuals or water supplies may be present and NYSDOH has determined there to be a significantly increased risk to public health (including from soil vapor)?	☒ Yes (go to 3)	☐ No (go to 3)	☐ Unsure (go to 3)
3. Does Site contamination result in significant environmental damage (375-2.7(a)(2))?	☒ Yes (go to 4)	☐ No (go to 4)	☐ Unsure (stop)
4. If any box in items 2 or 3 have been checked "Yes," the site presents a significant threat to public health or the environment; check here.	Significant threat to: ☒ Public Health ☒ Environment		
5. If no boxes in items 2 or 3 have been checked "Yes," the site does not present a significant threat to public health or the environment; check here.	☐ Not a Significant Threat		

Kiera Thompson PG – Prof. Geologist 1
Project Manager Name/Title (Print)

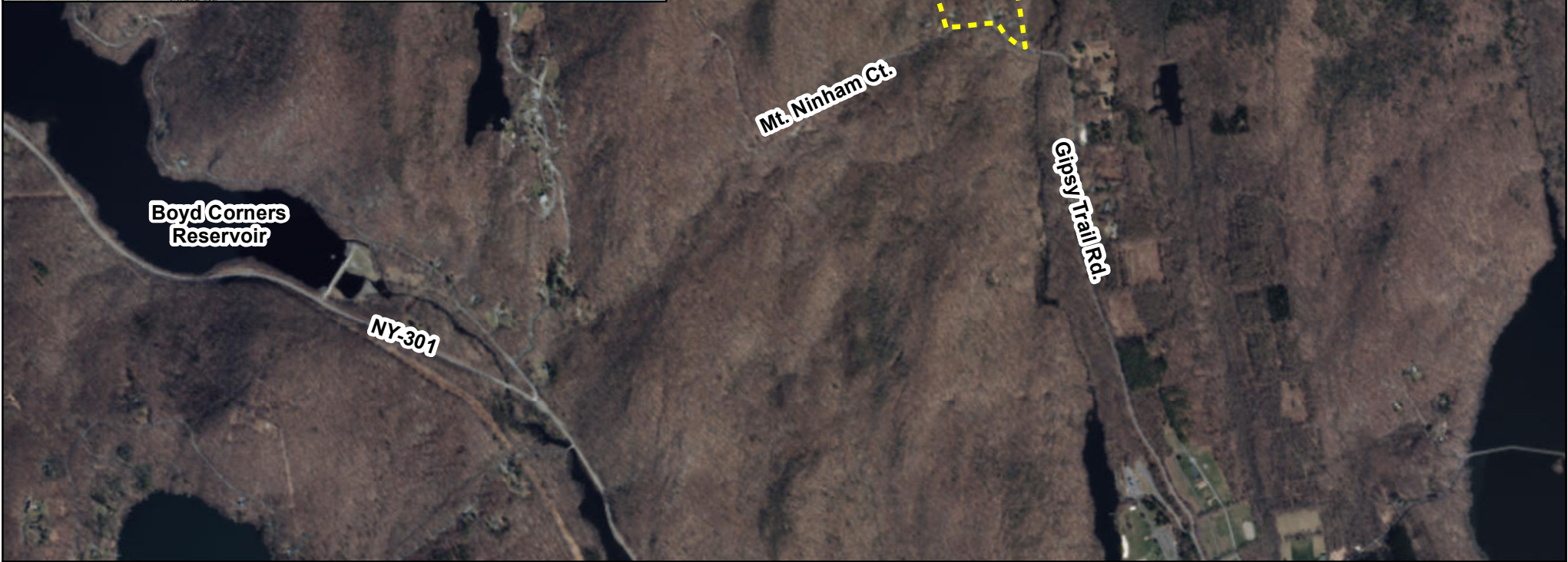
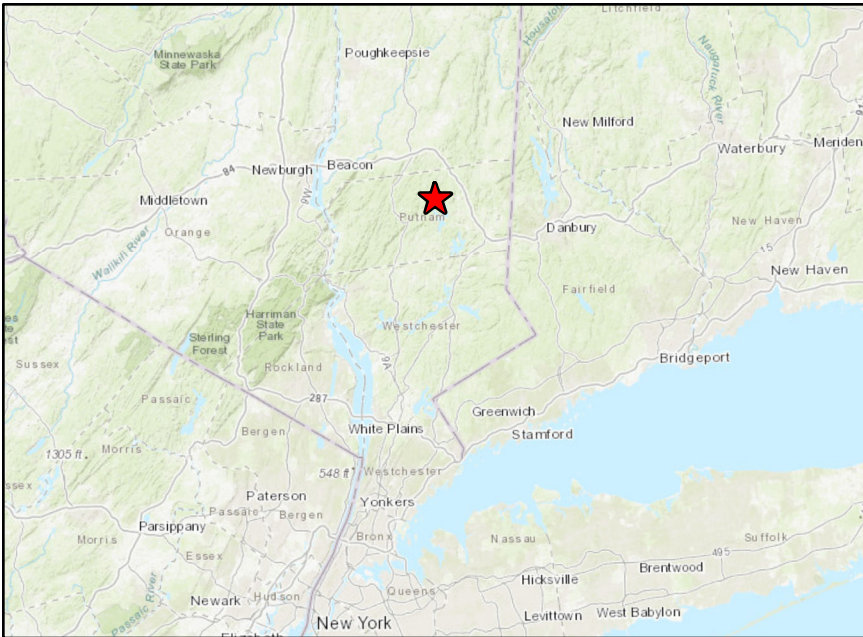
Project Manager Name (Signature)

2/05/2020
Date

Janet Brown PE – Director Bureau C
Bureau Director/RHWRE Name/Title (Print)

Bureau Director/RHWRE Name (Signature)

Date



Legend

 OU1 Study Area Boundary

**CDM
Smith**



0 750 1,500 3,000 Feet

Figure 2-1
Site Location Map
Arsenic Mine Superfund Site, OU1
Carmel, Putnam County, New York



Legend
OU1 Study Area Boundary
Parcel Boundaries

**CDM
Smith**



0 150 300 600 Feet

Figure 2-2
OU1 Study Area Map
Arsenic Mine Superfund Site, OU1
Carmel, Putnam County, New York



Department of Health

ANDREW M. CUOMO
Governor

HOWARD A. ZUCKER, M.D., J.D.
Commissioner

SALLY DRESLIN, M.S., R.N.
Executive Deputy Commissioner

January 31, 2020

Michael Ryan, Director
NYS Dept. of Environmental Conservation
Division of Environmental Remediation
625 Broadway
Albany, NY 12233

Re: **Site Listing- Class 2**
Arsenic Mine Site
Site # 344032
Kent, Putnam County

Dear Mr. Ryan,

At your request, we have reviewed the New York State Department of Environmental Conservation's (NYSDEC's) proposal to list the referenced site as a Class 2 site on the NYS Registry of Inactive Hazardous Waste Disposal Sites (Registry). The site was added to the National Priorities List by the United States Environmental Protection Agency (USEPA) in November 2019. The historical use and operations associated with mining at the site have resulted in elevated levels of arsenic in soil of ten residential properties and in groundwater. While the USEPA has taken interim measures on these residential properties to reduce direct contact exposures to contaminated soil and are also monitoring drinking water, the site remains a significant threat to human health. Permanent remedial actions are needed to reduce or eliminate exposures that are associated with remaining arsenic contamination in soil and groundwater at the site.

Based on this information, I believe this site represents a significant threat to human health and concur with your Department's proposal to list it as a Class 2 site on the Registry. If you have any questions, please contact Ms. Maureen Schuck at (518) 402-7860.

Sincerely,

For
Christine N. Vooris, P.E., Director
Bureau of Environmental Exposure Investigation

ec: E. Lewis- Michl / K. Malone / M. Schuck / S. Lawrence/ e- File
C. Westerman – NYSDOH MARO
R. Morris -- PCDOH
G. Heitzman / J. Brown / K. Lewandowski / K. Thompson – NYSDEC Central Office
D. Bendell – NYSDEC Region 3