Pike Hill Copper Mine Superfund Site

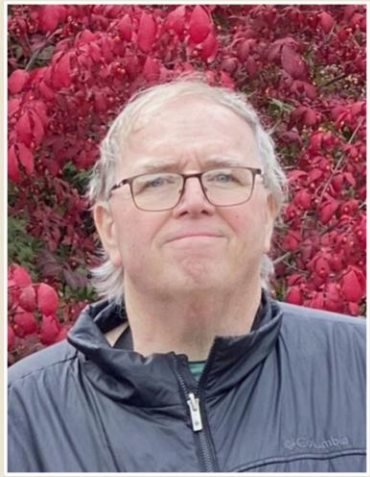
Non-Time Critical Removal Action

Public Information Update

September 25, 2025

1

Edward M. Hathaway



Previous EPA Remedial Project Manager for Pike Hill Copper Mine Superfund Site

May 10, 1961 - March 7, 2025

2

Project Team

Team Subcontractors
- Milestone Heritage Consultants (Cultural Resources)
- Biodiversity Research Institute (Bat Study)

nobis

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Team Subcontractors
- Public Archaeology Lab (Cultural Resources)

Conti Federal

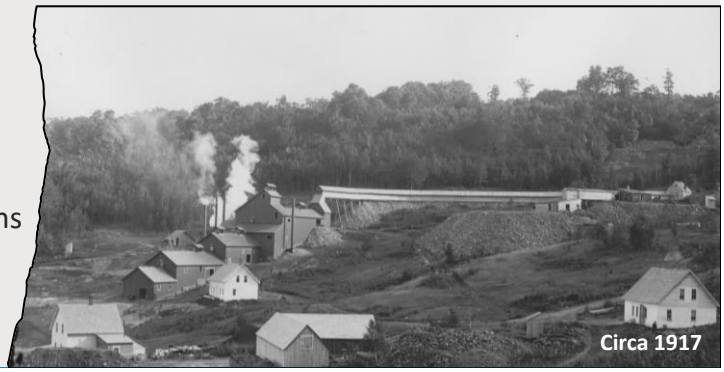
Key Team Subcontractors
- Northwoods Excavating (Earthwork, Tree Clearing & Chipping, Restoration, etc.)
- Sovereign Consultants (Sampling)
- WSP (Professional Engineer, Soil Scientist and Biologist)
- TCE (Surveyor)
- MultiVista (Photographic Documentation)

3

Site History

- Copper ore discovered (1845)
- Onsite mining & processing (1846–1919)
  - Ore shipped to Ely Mine smelter (1878 – 1882)
  - Waste pile ore shipped to Elizabeth Mine (Late-1940's & early 1950's)
- No mining since 1950's
- Remaining building burned in 1960's
- 4,300 tons of copper produced
- Currently privately owned, multiple owners, unrelated to mining operations

Circa 1907



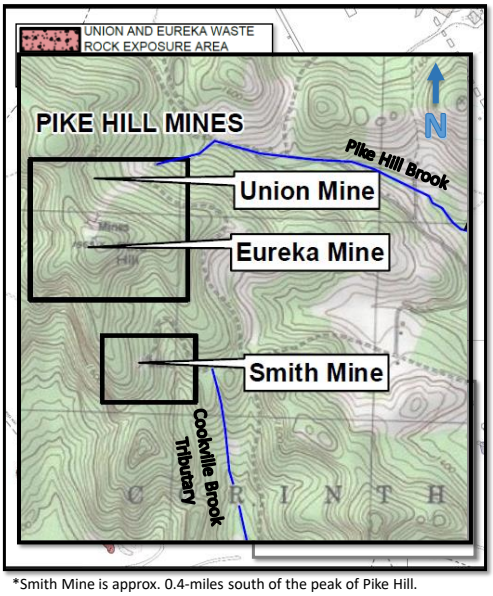
Circa 1917

Historic photographs from University of Vermont collection.

4

Site Background

- Placed on National Priorities List (NPL) in 2004
- Pike Hill Superfund Site includes:
  - Eureka Mine & Union Mine:
    - Drains to Pike Hill Brook watershed
    - Approx. 94,000 cubic yards of mine waste
    - Approx. 43 waste rock piles and 4 tailing piles (over approx. 14 acres)
    - Underground workings (shafts and adits)
  - Smith Mine*:
    - Drains to tributary to Cookville Brook
    - Approx. 4,000 cubic yards of mine waste (1 acre)
    - Underground workings (shafts and adits)



*Smith Mine is approx. 0.4-miles south of the peak of Pike Hill.

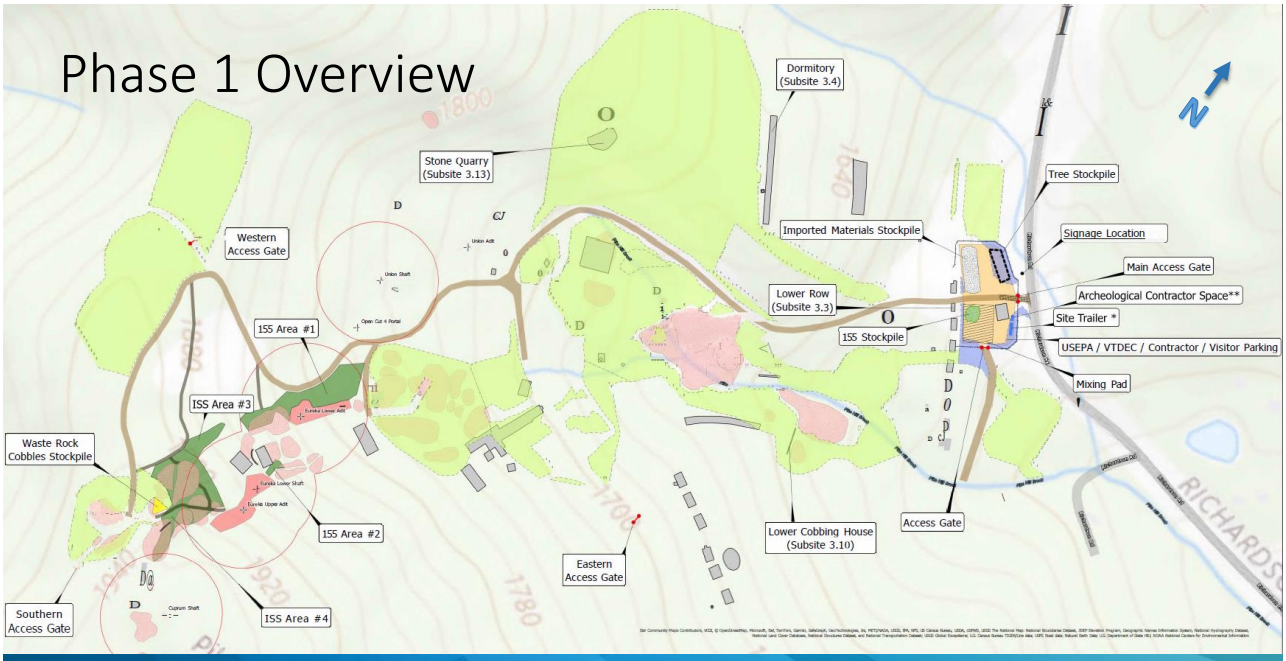
Non-Time Critical Removal Action (NTCRA)

- EPA Action Memorandum issued in September 2022
  - Onsite Consolidation & Capping with *Insitu* Stabilization
  - Separated into two phases of work
- Phase 1 NTCRA (*Insitu* Stabilization)
  - Mobilization/Site Preparation
    - Survey, Clearing, Erosion & Sediment Controls
  - Construction
    - Staging Area and Access/Haul Road Improvements
    - Richardson Road Improvements & Traffic Control
    - Site-wide Erosion & Sediment Controls
    - *Insitu* (in-place) Stabilization ("ISS")
    - Inspections & Monitoring (*modified*)
    - Sediment Basin Construction (*modified*)
    - Revegetation
  - Bat Studies & Archaeological Data Recovery
  - Demobilization

Photo 2: Pike Hill Brook below waste piles

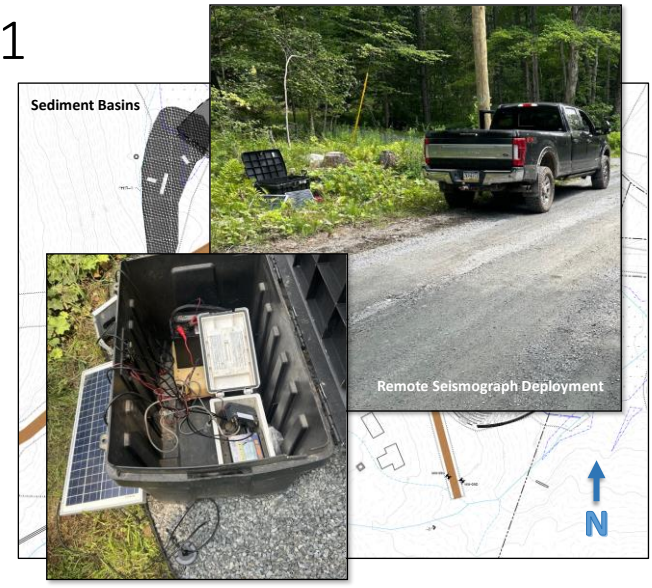
Photo 1: Tailings below Eureka Mine

Phase 1 Overview



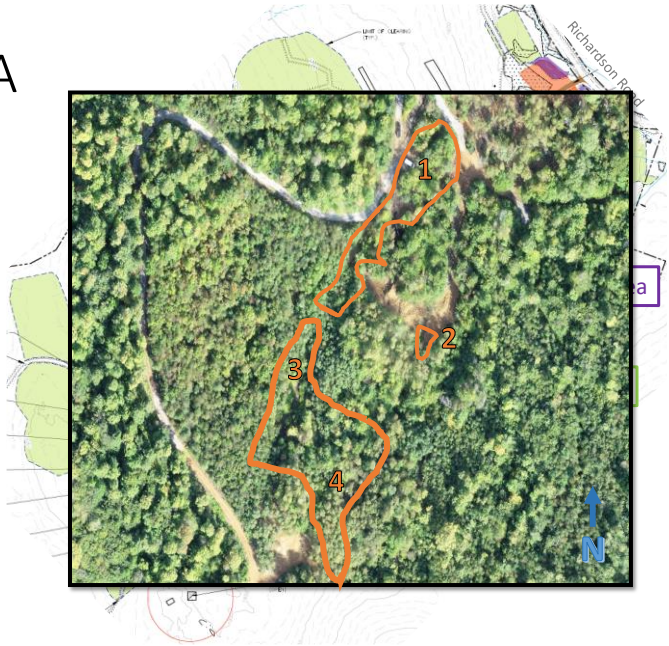
Modifications to Phase 1

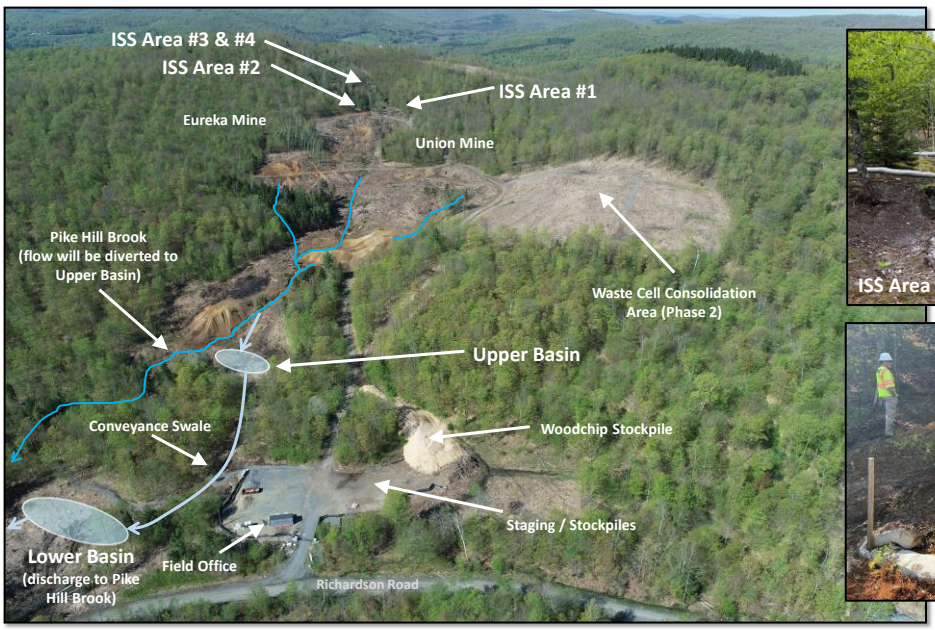
- Pre- and Post-Construction Structural Inspections
  - Response to community concerns
  - Inspections completed at 10 properties
  - Performed by structural engineer
  - Photos, videos and documentation
- Vibration Monitoring
  - Remote seismograph (5 locations)
  - Monitor ground vibrations
  - Baseline data & monitoring throughout construction
  - No threshold exceedances to date
- Sediment Basin Construction
  - Originally included under Phase 2 work scope
  - Reduce/minimize sediment discharge from the Site
  - Stabilize vulnerable portions of the Lower Waste Area



Status of Phase 1 NTCRA

- Complete (2024/2025):
  - Survey Controls & Layout
  - Site Preparation & Staging Area Construction
  - Vegetation, Tree Clearing & Chipping (~19 acres)
  - Onsite Access Road Improvements
  - Richardson Rd Improvements (widening & safety improvements)
  - Erosion & Sediment Control Installation & Maintenance
  - Material Importing (e.g., soil, manure & biochar)
  - ISS Blend Mixing
- Ongoing/Planned (Aug. – Nov. 2025):
  - Site Inspections & Monitoring
  - ISS Material Placement (4 areas)
  - ISS Areas Seeding & Planting
  - Side-wide Erosion & Sediment Controls
  - Construction of Sediment Basins
  - Stockpile Management
  - Demobilization & Reporting



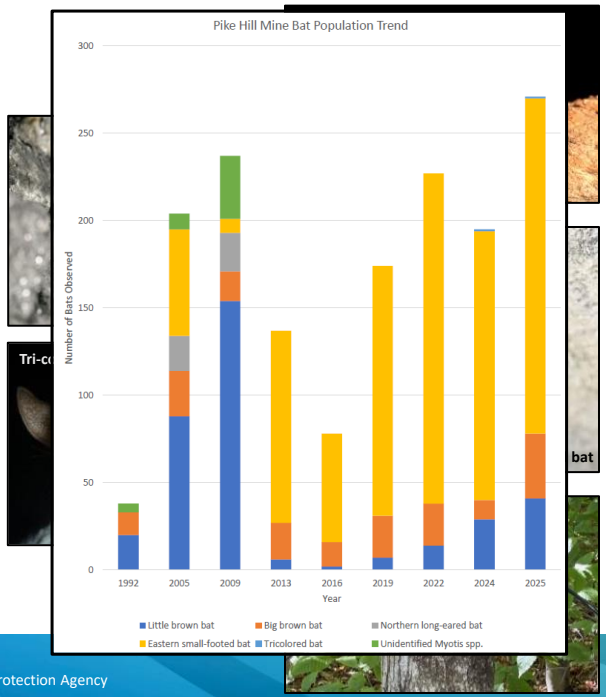


National Historic Preservation Act

- Site eligible for National Register of Historic Places (2011)
- Area of Potential Effect (APE) of approx. 119-acres
- Archeological survey and testing
  - VTDEC support contractor
  - Pre-construction conditions (16 subsites & 70+ features identified)
  - Controlled excavation to identify features and record information
  - Primarily hand excavation
  - Survey and detailed photo documentation
  - Monitoring during construction
- Memorandum of Agreement (MOA)
  - EPA, VTDEC and State Historic Preservation Officer (SHPO)
  - Avoid, if practical
  - Mitigate unavoidable impacts
- Archeological data recovery to be completed prior to implementation of Phase 2

Endangered Species

- Four threatened and endangered VT bat species
  - Northern long-eared bat (federally and state endangered)
  - Little brown bat (state endangered)
  - Eastern small-footed bat (state endangered)
  - Tri-colored bat (federally proposed and state endangered)
- Investigations (2023 – Present)
  - Temperature and humidity monitoring (ongoing)
  - Acoustic monitoring (presence and activity; ongoing)
  - Capture, banding and trapping (2023)
  - Habitat assessment (2023)
  - Winter hibernacula survey (overwinter shelter; ongoing)
- Targeted ISS near mine openings
  - Tree clearing restrictions (seasonal & exclusion zones)
  - Promote vegetation to stabilize mostly barren waste piles
  - Vibration considerations
  - Minimize impacts to habitat close to hibernacula
  - Maintain mature vegetation & tree canopy (helps regulate airflow, temperature, and humidity)



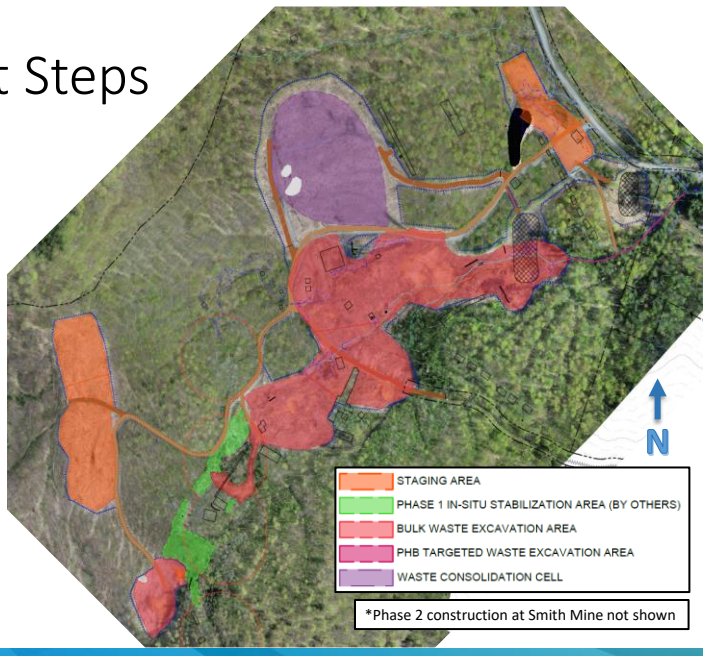
- Graph represents counts from winter hibernacula surveys (January 2025 report with data collected by VTFWS and BRI consultants)

Schedule

- Phase 1 NTCRA (2025)
  - ISS application (Sept. 2025)
  - ISS area restoration (Sept. 2025)
  - Sediment basin construction (Oct. 2025)
  - Post-construction structural inspections (Nov. 2025)
  - Site-wide sediment & erosion control measures (Nov. 2025)
  - Final site inspection (Nov. 2025)
  - Demobilization and reporting (Nov. 2025)
- Post-Phase 1 NTCRA (2025/2026)
  - Site inspections & Security
  - Erosion & sediment control monitoring/maintenance
  - Archeological data recovery
  - Bat studies

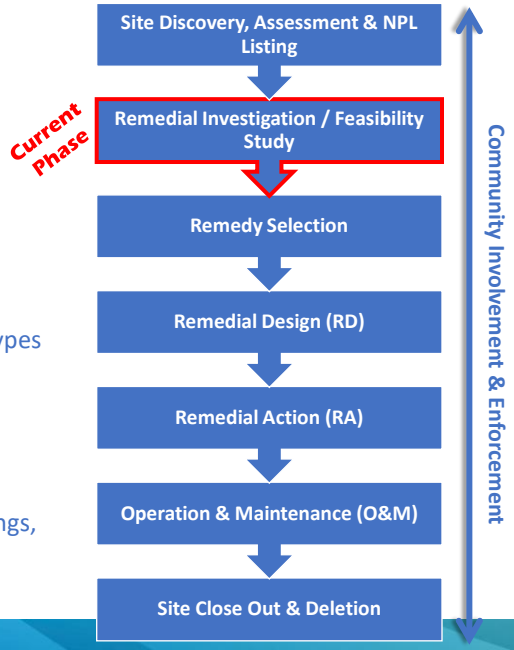
Phase 2 NTCRA & Next Steps

- Phase 2 NTCRA Planning (2026 - TBD)
  - Update and finalize Basis of Design
  - Bid package and procurement
    - Contract mechanism (EPA vs. Army Corps)
    - Funding
    - Agency evolution
  - Award construction contract
- Major Components
  - Mobilization & Site Preparation
  - Preparation of waste cell
  - Waste excavation & placement
  - Construction of cover system
  - Site restoration



Superfund Remedial Process

- Removal Actions
  - Generally short-term actions
  - Prevent, minimize or mitigate damage
- Remedial Actions
  - Achieve a permanent remedy
  - Taken instead of or in addition to Removal Action
  - Typical multiple medium (soil, groundwater) and many types of chemicals
- Remedial Investigation/Feasibility Study (RI/FS)
  - Ongoing (completed vs. planned activities)
  - Preparation of RI Report, HHRA, BERA and FS
  - Operable Units (OUs) are likely (e.g., underground workings, groundwater, and downstream sediments & wetlands)
  - NTCRA represents the bulk of the cleanup



15

Questions?

Contact Info:

Jeff Saunders
Remedial Project Manager
US EPA, Region 1
5 Post Office Sq. Suite 100
Mail Code: 07-1
Boston, MA 02109-3912
Office: 617-918-1352
Email: saunders.jeffry@epa.gov

Darriel Swatts
Community Involvement Coordinator
US EPA, Region 1
5 Post Office Sq. Suite 100
Mail Code: ORA01-3
Boston, MA 02109-3912
Office: 617-918-1065
Cell: 857-329-3740
Email: swatts.darriel@epa.gov

Graham Bradley, PhD
Hazardous Sites Manager
Sites Management Section
VTDEC
One National Life Drive, Davis 1
Montpelier, VT 05620-3704
Cell: 802-622-4129
Email: Grahame.Bradley@vermont.gov

Pike Hill Copper Mine Superfund Site Profile Page: www.epa.gov/superfund/pikehill

16

16