

SUPERFUND

# Ely Mine Superfund Site

U.S. EPA | HAZARDOUS WASTE PROGRAM AT EPA NEW ENGLAND



**THE SUPERFUND PROGRAM** protects human health and the environment by investigating and cleaning up often-abandoned hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and groundwater to productive use.

## INTRODUCTION:

EPA has completed the investigation program for the Ely Mine Superfund Site. In 2011, EPA will release a series of reports summarizing the results of the investigations as well as the cleanup options for the Site. The proposed cleanup plan for the Ely Mine is expected to be presented to the community in June 2011.

## LOCATION AND HISTORY OF ELY MINE:

The Ely Copper Mine lies between the Elizabeth and Pike Hill mines and is located on the south side of Dwight Hill in the Town of Vershire, Vermont. The Ely Mine is one of the Orange County Copper Mines that are part of a mining district that is considered eligible for the National Register of Historic Places.

### Investigation Program:

EPA began collecting data at the Ely Mine in 2000. The field investigations spanned 6 years from 2004 through 2010. Investigation activities included:

- Collection and analysis of samples from surface water, sediment, soil, groundwater, soil invertebrates, small mammals, and fish;
- Installation of wells to monitoring the groundwater;
- Test pits and borings to assess the depth of waste and geologic conditions at the Site;
- Biological surveys of fish, benthic invertebrates, and amphibians; and
- Toxicity testing of the sediments, surface water, and soil.

## MAJOR FINDINGS:

The preliminary findings of the investigation program are:

- Mine wastes at the Ely Mine are releasing low pH leachate containing high levels of several metals (particularly aluminum, cadmium, cobalt, copper, iron, manganese, and zinc) into the surface water and groundwater. This a process

commonly referred to as acid rock drainage;

- The levels of several metals in the acid rock drainage are toxic to fish and other aquatic organisms;
- Erosion of waste material has resulted in the accumulation of mine waste in Ely Brook and in portions of Schoolhouse Brook at concentrations that may be toxic to benthic organisms;
- Groundwater beneath and adjacent to several of the mine waste areas contains elevated levels of cadmium, cobalt, copper, and manganese;
- A significant portion of Ely Brook along with Schoolhouse Brook from the confluence with Ely Brook to the Ompompanoosuc River fails Vermont Water Quality Standards; and
- The surface water in the lower two beaver ponds has been found to be toxic to amphibians.

## NEXT STEPS:

Five reports will be released to the community prior to the issuance of the cleanup plan for comment. Four of these reports: the Remedial Investigation Report; Human Health Risk Assessment; Aquatic Ecological Risk Assessment and Terrestrial Ecological Risk assessment will identify the contaminants of concern as well as current and future potential threats to human health and the environment. A fourth report, the Feasibility Study, will present information regarding the development and evaluation of the options to mitigate the impacts to human health and the environment. Each option is evaluated using a series of criteria to assess the degree to which it can achieve the cleanup objectives and comply with federal and state regulations.

## KEY CONTACTS:

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## GENERAL INFO:

### EPA NEW ENGLAND

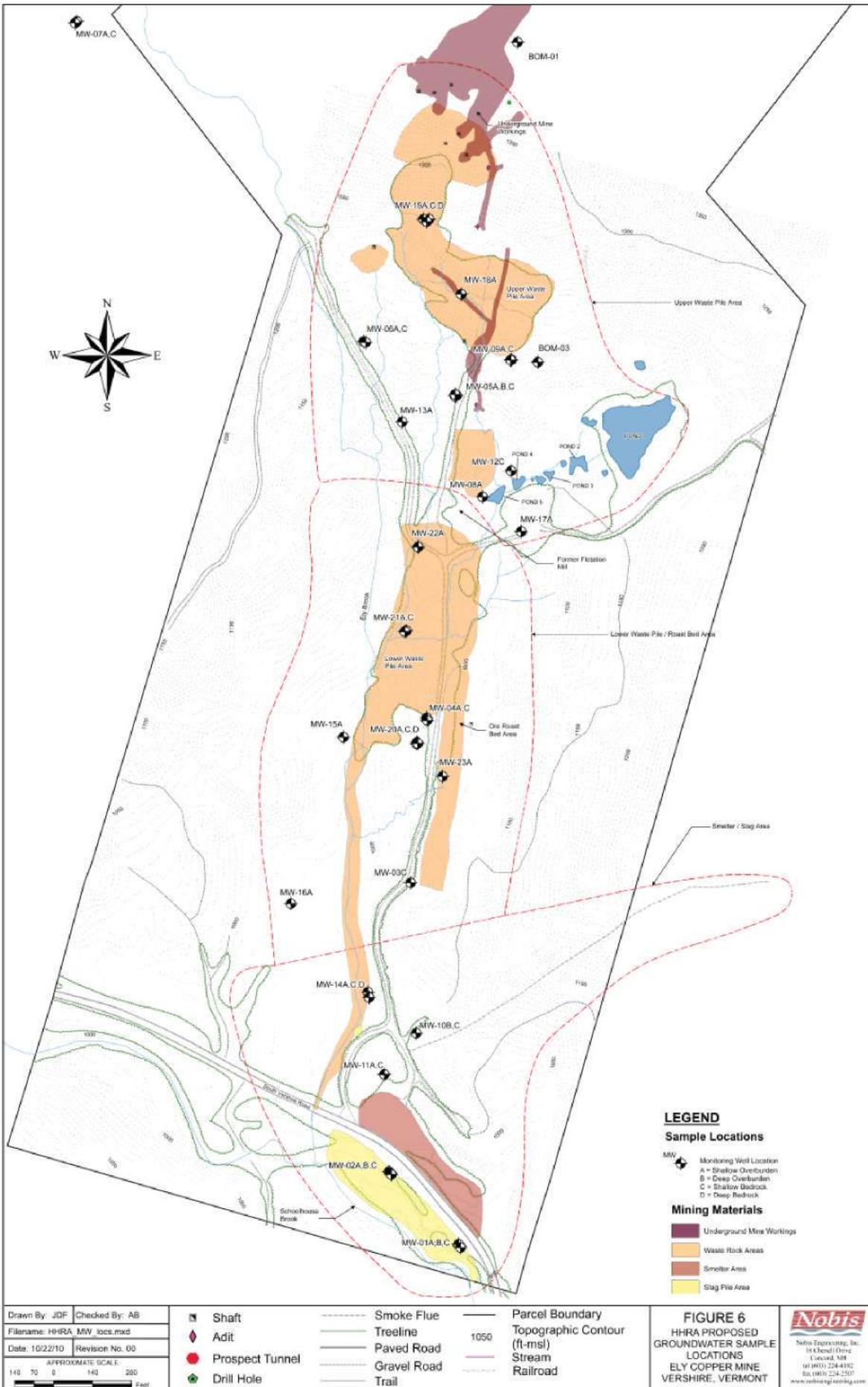
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### EPA TOLL-FREE CUSTOMER SERVICE

1-888-EPA-7341

### LEARN MORE AT:

[www.epa.gov/ne/superfund/sites/ely](http://www.epa.gov/ne/superfund/sites/ely)



Drawn By: JDF    Checked By: AB  
 Filename: HIRA\_MW\_locs.mxd  
 Date: 10/22/10    Revision No. 00  
 APPROXIMATE SCALE:  
 140 70 0 140 280  
 Feet

- Shaft
- Adit
- Prospect Tunnel
- Drill Hole
- Smoke Flue
- Treeline
- Paved Road
- Gravel Road
- Trail
- Parcel Boundary
- 1050 Topographic Contour
- Stream
- Railroad

- LEGEND**
- Sample Locations**
- MW Monitoring Well Location
  - A = Shallow Overburden
  - B = Deep Overburden
  - C = Shallow Bedrock
  - D = Deep Bedrock
- Mining Materials**
- Underground Mine Workings
  - Waste Rock Areas
  - Smelter Area
  - Slag Pile Area

**FIGURE 6**  
 HIRA PROPOSED  
 GROUNDWATER SAMPLE  
 LOCATIONS  
 ELY COPPER MINE  
 VERSHIRE, VERMONT

