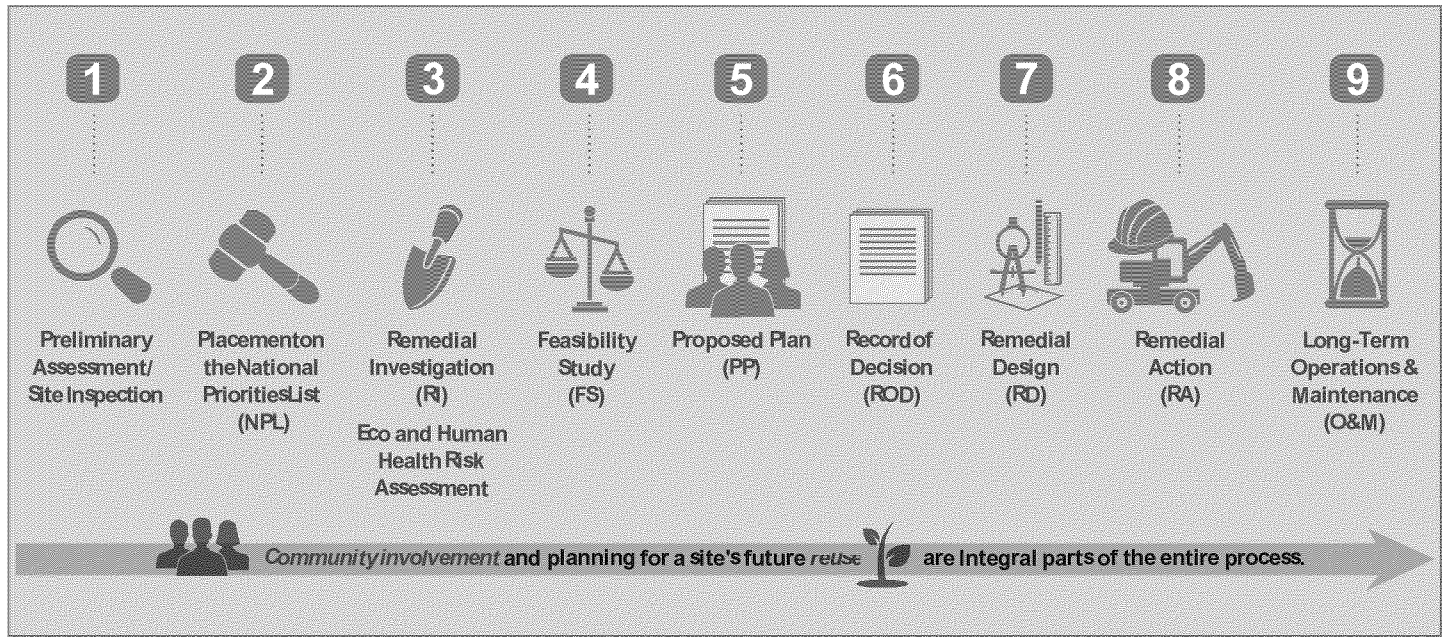
The Superfund Process



For More Information

Visit one of the Information Repositories located at:

Douglas County Library
1625 Library Lane
Minden, NV 89423
(775) 782-9841

EPA Superfund Records Center
95 Hawthorne St., 4th Floor
San Francisco, CA 94105
(415) 536-2000

Talk with one of the EPA or Washoe Tribe of Nevada & California representatives:

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Gary Riley
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Websites:
Leviathan Mine Superfund Site – **http://go.usa.gov/x9mf4**
April 2015 Site Updates Fact Sheet – **http://go.usa.gov/x9mfZ**

Be included on the Leviathan Mine Superfund site mailing list by contacting Yolanda Sanchez.

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EPA

Leviathan Mine Superfund Site

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • January 2017

History and Timeline

Background

Leviathan Mine is an abandoned open-pit sulfur mine. The mine is located approximately 25 miles southeast of Lake Tahoe high on the eastern slope of the Sierra Nevada mountain range, in a remote portion of northeastern Alpine County, CA surrounded by national forest and private land. The acid mine drainage (AMD) from Leviathan Mine has historically contaminated a nine-mile stretch of the Leviathan-Bryant Creek watershed, impacting Leviathan, Aspen, and Bryant Creeks, as well as the East Fork Carson River. In 2000, the U.S. Environmental Protection Agency (EPA) added the mine and the impacted areas (the "Superfund site") to the National Priorities List (NPL). The NPL is the list of the most complex, uncontrolled hazardous waste sites throughout the United States that threaten public health and the environment.

The historical activities from the Leviathan Mine have created AMD, impacting the surrounding environment. Sulfuric acid is created when water (rainwater, snowmelt and subsurface water) interacts with rocks containing sulfur-bearing minerals. The resulting highly acidic water moves into the surrounding environment, such as the groundwater, surface water and soil, and may have harmful effects on humans, animals and plants.

Although a long-term cleanup plan has not been developed, early cleanup activities are being conducted to reduce the discharge of untreated AMD. In the mid-1980s, the Pollution Abatement Project began which included re-grading the site, building evaporation ponds, and channeling the creek. Interim treatment systems have greatly improved the water quality of the Leviathan-Bryant Creek watershed.

Acid Mine Drainage (AMD)
When highly acidic water that is rich in metals moves (or drains) out of a mined area into the environment

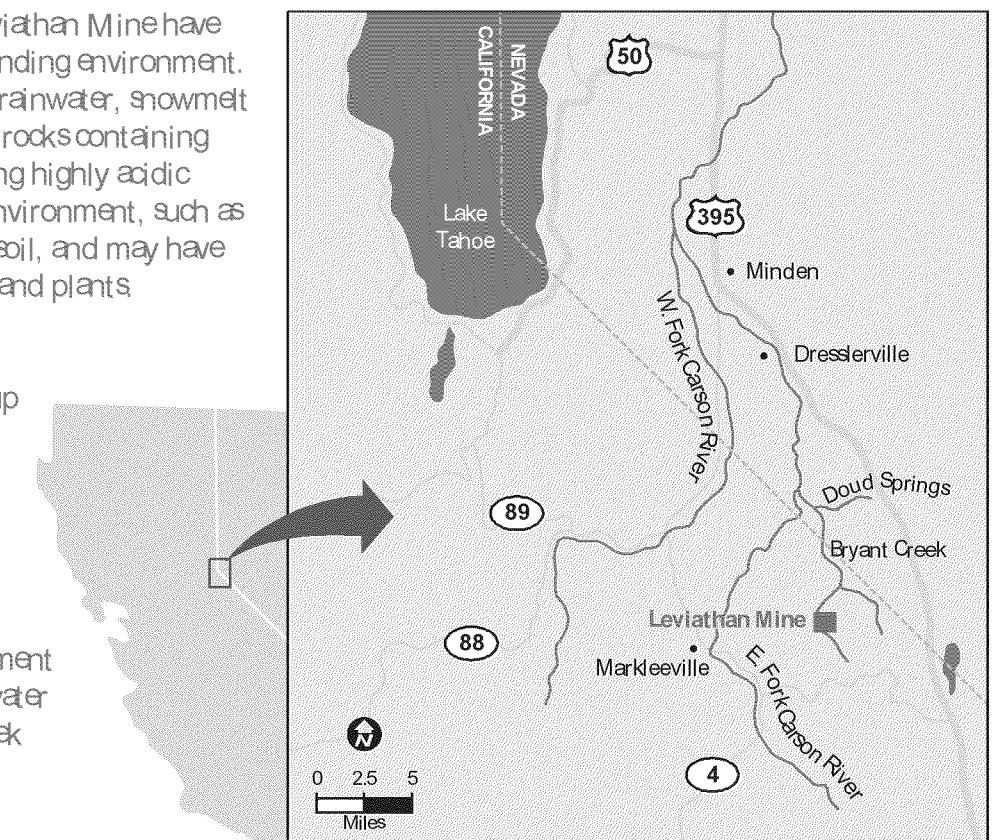


Figure 1: Leviathan Mine Superfund Site Location

Timeline for the Leviathan Mine Superfund Site

1863-1872 — Underground mining for copper

1873-1935 — Inactive

1935-1941 — Underground mining for sulfur

1952-1962 — Open pit sulfur mining by the Anaconda Company; Fish kills reported in 1950's

1977 — Atlantic Richfield Company purchased Anaconda

1982-1984 — USGS Groundwater monitoring began ('82); RWQCB acquired the site to address water quality ('84)

1985

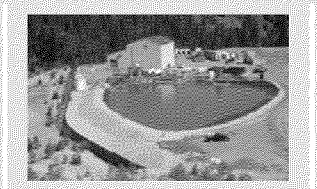
1995-1998 — Benthic macroinvertebrate sampling begins ('95); EPA and ARC Pond water treatment field studies; Surface water monitoring begins ('97-'98)

1999

2000 — EPA added the site to National Priorities List (NPL)

Early Interim Actions (Summary)

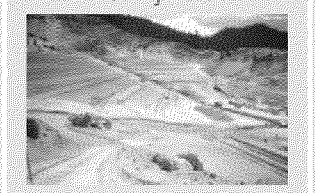
Lime treatment system



High-density sludge treatment system ('09 to present)

Results of revegetation efforts, July 2015

Pollution Abatement Project



Aspen Seep Bioreactor ('96 to present)

Pond water treatment system ('99 to present)

RI/FS Schedule

2001 - 2009 — RI/FS Ordered from EPA to ARC ('08); Groundwater Wells ('08)

2009-2010 — Workplans & Field Sampling ('09); Groundwater Wells

2014 — Workplans & Field Sampling

2015 — Workplans & Field Sampling; Evaluate Data & Identify Gaps

2016 — Workplans & Field Sampling; Evaluate Data & Identify Gaps

2017 — Evaluate Data & Identify Gaps**; ample & Resample to Fill Data Gaps**

2018 — Final RI/FS Report**

2019 — Proposed Plan**; Public Meeting**

2020 — Record of Decision**

2021 — Remedial Design**

Overall Schedule

DRAFT

Treatment System Achievements 1999-2016

	CA RWQCB	ARC	TOTAL	
Water Treated	**107,000,000**	**245,152,000**	**352,152,000**	**Gallons**
Aluminum Removed	405,337	448,943	854,280	Pounds
Arsenic Removed	5,500	5,767	11,267	Pounds
Iron Removed	592,284	812,140	1,404,424	Pounds
Nickel Removed	5,740	6,771	12,511	Pounds

Acronyms

RWQCB – California Regional Quality Control Board
USGS – United States Geological Survey
ARC – Atlantic Richfield Company
EPA – United States Environmental Protection Agency
RI/FS – Remedial Investigation/Feasibility Study

***Proposed Schedule*

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