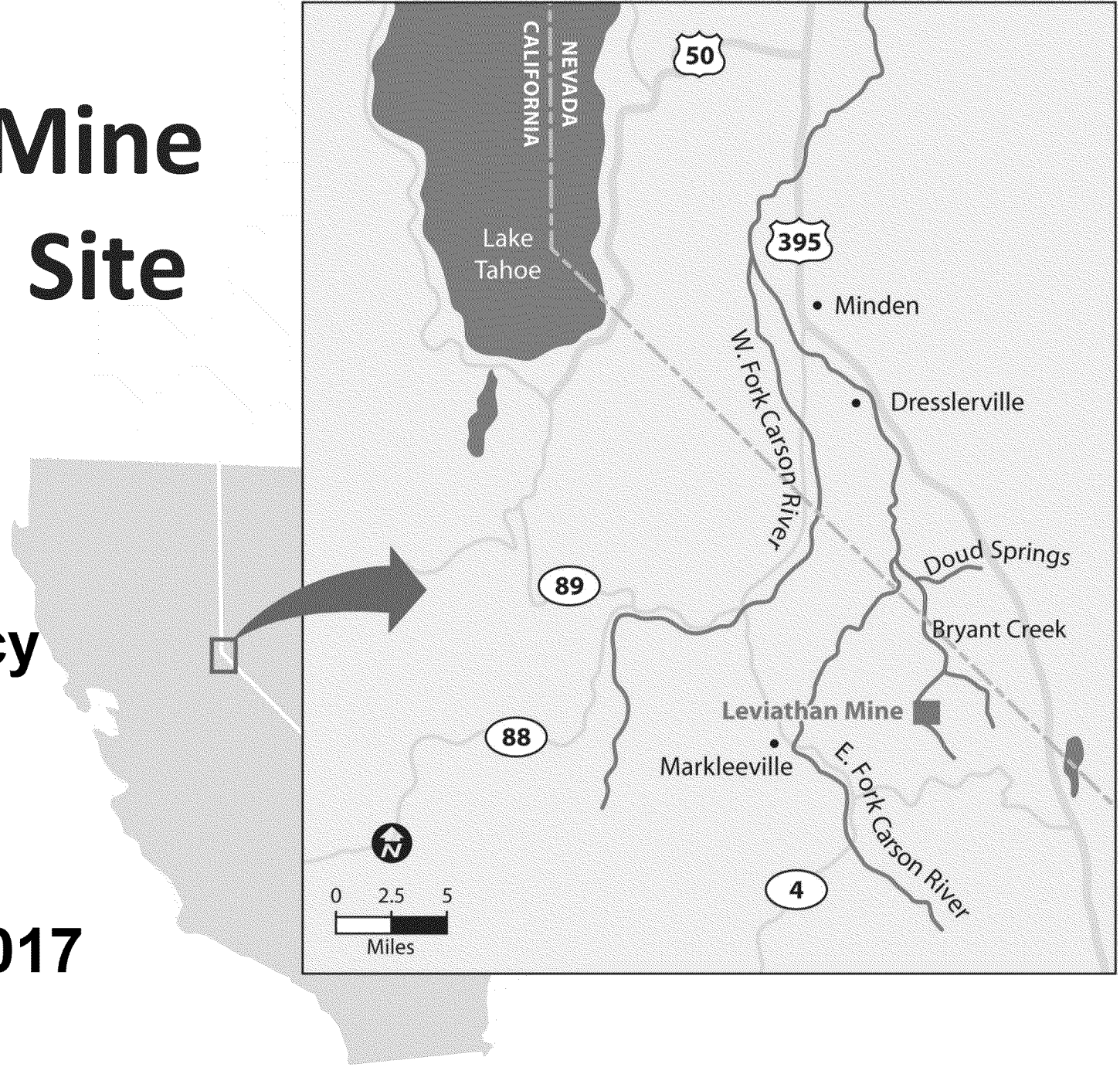
# Leviathan Mine Superfund Site

## U.S. Environmental Protection Agency Region 9

## January 26, 2017

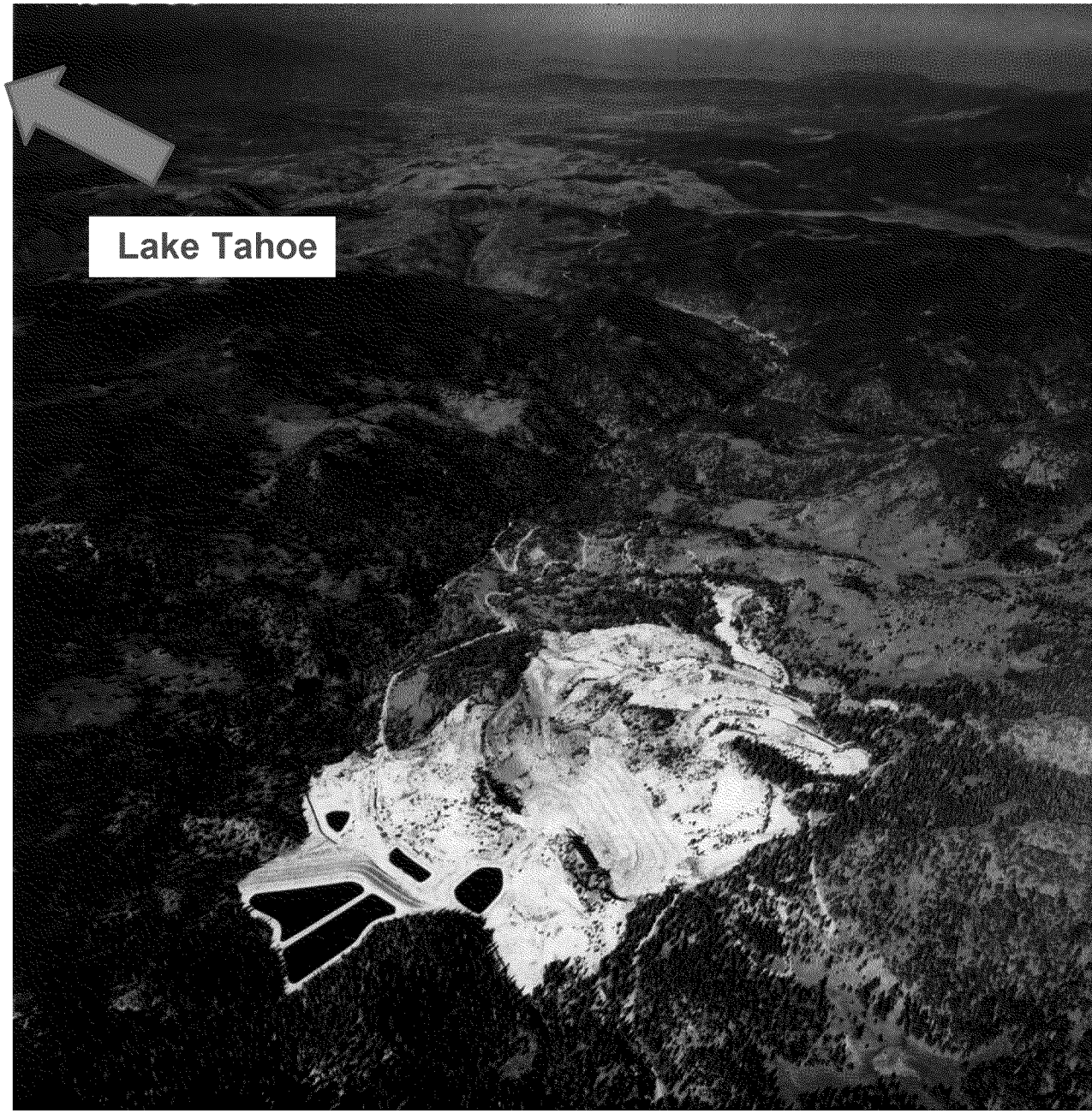


# Annual Technical Update Meeting - 2017

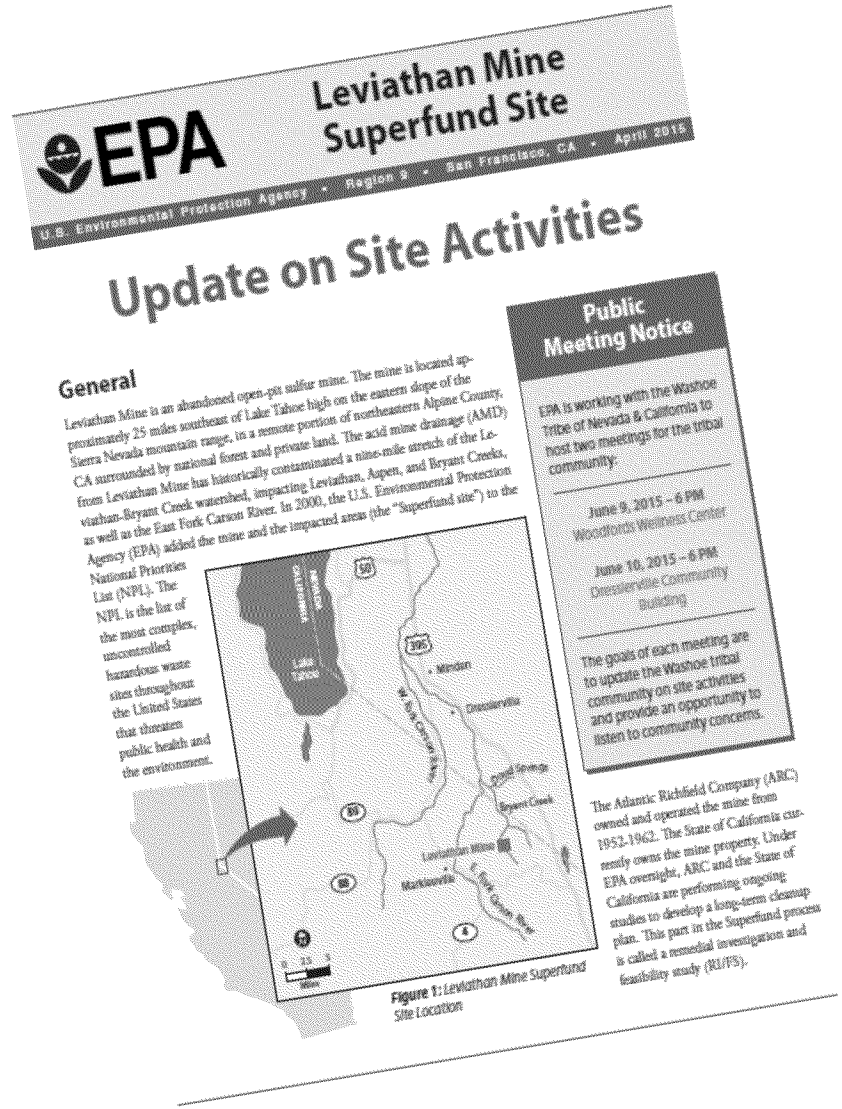
| | |
|---|---|
| • Introductions | • EPA Yolanda Sanchez, Gary Riley & Lynda Deschambault |
| • Treatment Season Overview | • Lahontan RWQCB & Atlantic Richfield |
| • Data Observations Update & Benthic Macroinvertebrate Sampling Update | • Dr. Ned Black & Dr. Herbst |
| • Break | |
| • Remedial Investigation; Human Health & Eco Risk Assessment & Feasibility Study Overview | • Atlantic Richfield Co. |
| • Wrap Up | • EPA |

# Leviathan Mine Alpine County, CA

- Abandoned open-pit sulfur mine. Listed on NPL 2000
- 24 Miles Southeast of Lake Tahoe
- Flows Northeast, to EFCR
- Impacts ~250 acres On site, ~750 acres Off site
- High elevation, inaccessible in winter
- Upstream from national forest, private, and Washoe land
- Interim Actions 80's;& Removal Actions still in place
- Remedial Investigation Ordered in 2008



# Leviathan Mine Superfund Site 2015 Fact Sheet



EPA

U.S. Environmental Protection Agency • Region 9 • San Francisco, CA • April 2015

## Leviathan Mine Superfund Site

## Update on Site Activities

### General

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.

Figure 1: Leviathan Mine Superfund Site Location

### Public Meeting Notice

EPA is working with the Washoe Tribe of Nevada & California to host two meetings for the tribal community:

June 9, 2015 – 6 PM
Woodfords Wellness Center

June 10, 2015 – 6 PM
Dressierville Community Building

The goals of each meeting are to update the Washoe tribal community on site activities and provide an opportunity to listen to community concerns.

The Atlantic Richfield Company (ARC) owned and operated the mine from 1952-1962. The State of California currently owns the mine property. Under EPA oversight, ARC and the State of California are performing ongoing studies to develop a long-term cleanup plan. This part in the Superfund process is called a remedial investigation and feasibility study (RI/FS).

# Leviathan Mine History & Timeline

# 2016

# Timeline for the Leviathan Mine Superfund Site

Underground mine closed, mining for copper

Island Mine

Underground mining for sulfur

Copper pit sulfur mining by the Anaconda Copper Company

Fish kills in portions of the [illegible]

Atlantic Richfield Company purchases Anaconda

USGS: Geochemistry [illegible] begins (1972)

EPA/CDHS: [illegible] the site for acid drainage water quality (1974)

Baseline surface water chemistry sampling begins (1995)

EPA and MDEQ fund water treatment/field studies. Surface water monitoring begins (1997-98)

EPA: [illegible] the site for Site Scoring [illegible] List (1999)

Earlyin terim Actions (Summary)

Publicly Available Project

Aspen Creek Diversion [illegible] (1998, 1st phase [illegible])

Pond water treatment [illegible] (1998, 1st phase [illegible])

Lime [illegible] water [illegible]

High [illegible] weathering along a fine shear in a volcanic (1998 [illegible])

Pressure of [illegible] [illegible] after [illegible], July 2015

RI/FS Schedule

[illegible]: Characterization [illegible] (1998)

Characterization [illegible] (1998)

Water [illegible] (2002, 2003, 2006, 2008)

Water [illegible] (2002, 2003, 2006, 2008) Pilot sampling (2006)

Characterization [illegible]

Water [illegible] (2002, 2003, 2006, 2008) Pilot sampling

Ecological Risk Assessment Data Gaps

Water [illegible] (2002, 2003, 2006, 2008) Pilot sampling

Ecological Risk Assessment Data Gaps

Ecological Risk Assessment Data Gaps

Ecological Risk Assessment Data Gaps

Ecological Risk Assessment Data Gaps

Final FS/PS Report (**)

Overall Schedule

DRAFT

Prop cover Plan (*)

Public Meeting (*)

Proposed Decision (*)

Proposed Decision (*)

## Treatment Systems Achievements 1999-2016

| | CARWQCB | ARC | TOTAL | |
|---|---|---|---|---|
| Water Treated | [illegible] | [illegible] | [illegible] | Gallons |
| Aluminum Removed | [illegible] | [illegible] | [illegible] | Pounds |
| Arsenic Removed | [illegible] | [illegible] | [illegible] | Pounds |
| Iron Removed | [illegible] | [illegible] | [illegible] | Pounds |
| Nickel Removed | [illegible] | [illegible] | [illegible] | Pounds |

## Acronyms

CARWQCB – California Regional Water Quality Control Board

USGS – United States Geological Survey

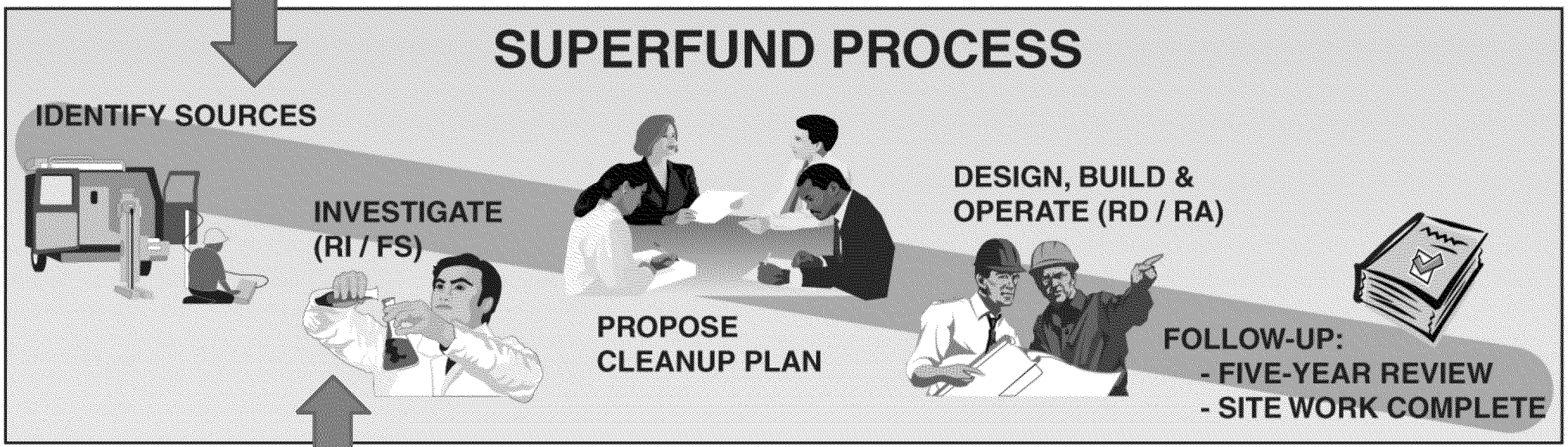
ARC – Atlantic Richfield Company

EPA – United States Environmental Protection Agency

FS/PS – Feasibility Investigation and Feasibility Study

(*) Proposed Schedule

# Early Interim Actions




# Remedial Investigation and Feasibility Study (RI/FS)

# EPA Contact Information

EPA's Superfund Toll-Free telephone number 1-800-231-3075

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EPA's Web page: www.epa.gov/region09/LeviathanMineSite

## Information Repositories

**Douglas County Library**
1625 Library Lane
Minden, NV 89432
(775) 782-9841

**EPA Superfund Records Center**
75 Hawthorne Street (3rd Floor)
San Francisco, CA 94105
(415) 536-2000

01/11/2016