Smoky Canyon Mine
Proposed Remedial Action

Public Meeting

May 2, 2023

Agenda

- Welcome and Introductions
- Overview of the Proposed Remedial Action for Smoky Canyon Mine
- Questions and Comments
- Closing

Location


Wayan (Unincorp)
Freedom
Thayne
Bedford
Henry
N RESERVOIR RD
GOVERNMENT DAM RD
STATE HWY 34
IDAHO
WYOMING
Stump Ck
Salt River
Grover
Auburn
US HWY 89
Afton
SMOKY CANYON MINE
CARIBOU COUNTY
Conda
Dry Ridge
Freeman Ridge
Crow Ck
Fairview
Osmond Community
Smoot
LINCOLN COUNTY
Alexander
Soda Springs
Rose
Grace
Manson
Meade Peak
Niter
Bench
Nounan
Georgetown
Lago
Giveout
Thatcher
BEAR LAKE COUNTY
Bennington
US HWY 30
Mound Valley
STATE HWY 36
Sharon
Bern
FRANKLIN COUNTY
Liberty
Montpelier
Hellhole
US HWY
Lanark
Ovid
0
6
12
Miles
N
IDAHO
Smoky Canyon Mine
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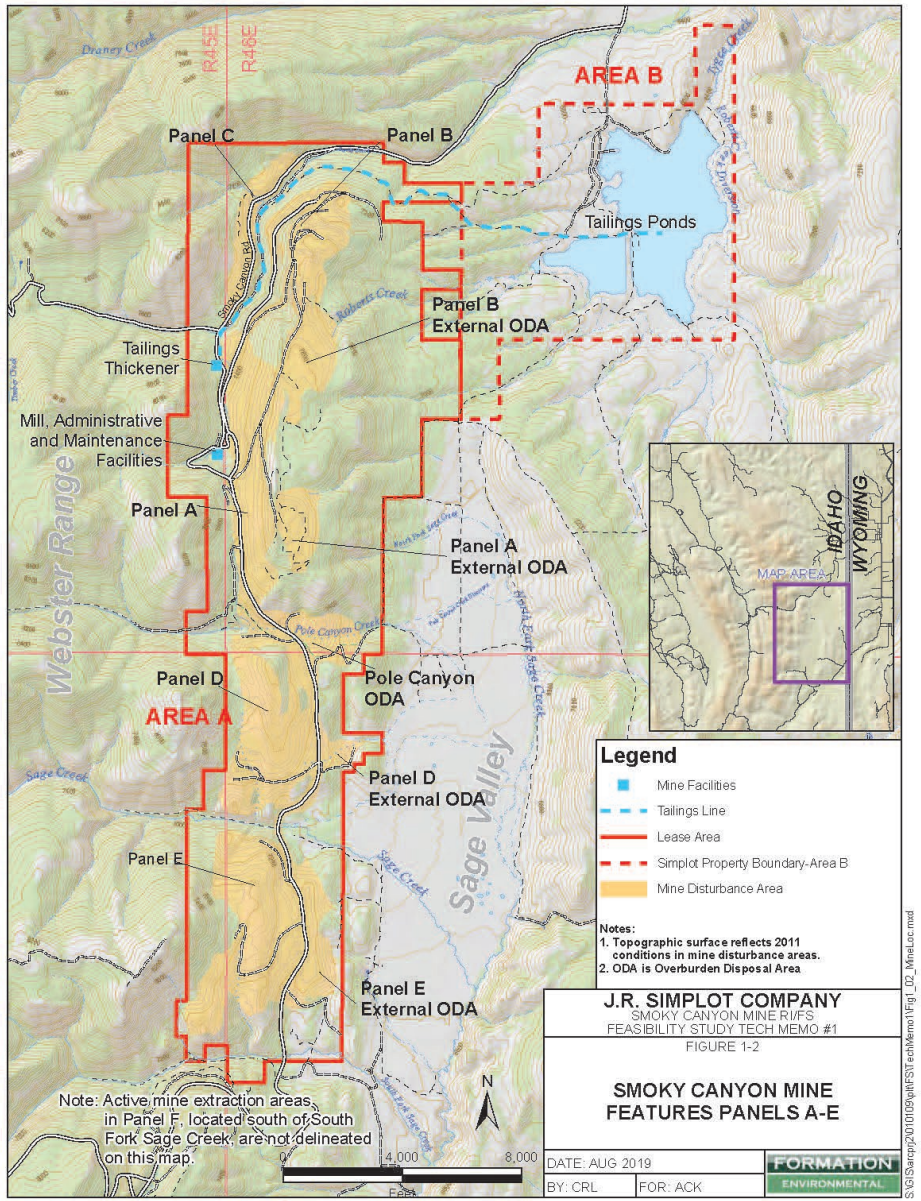
Mine Features

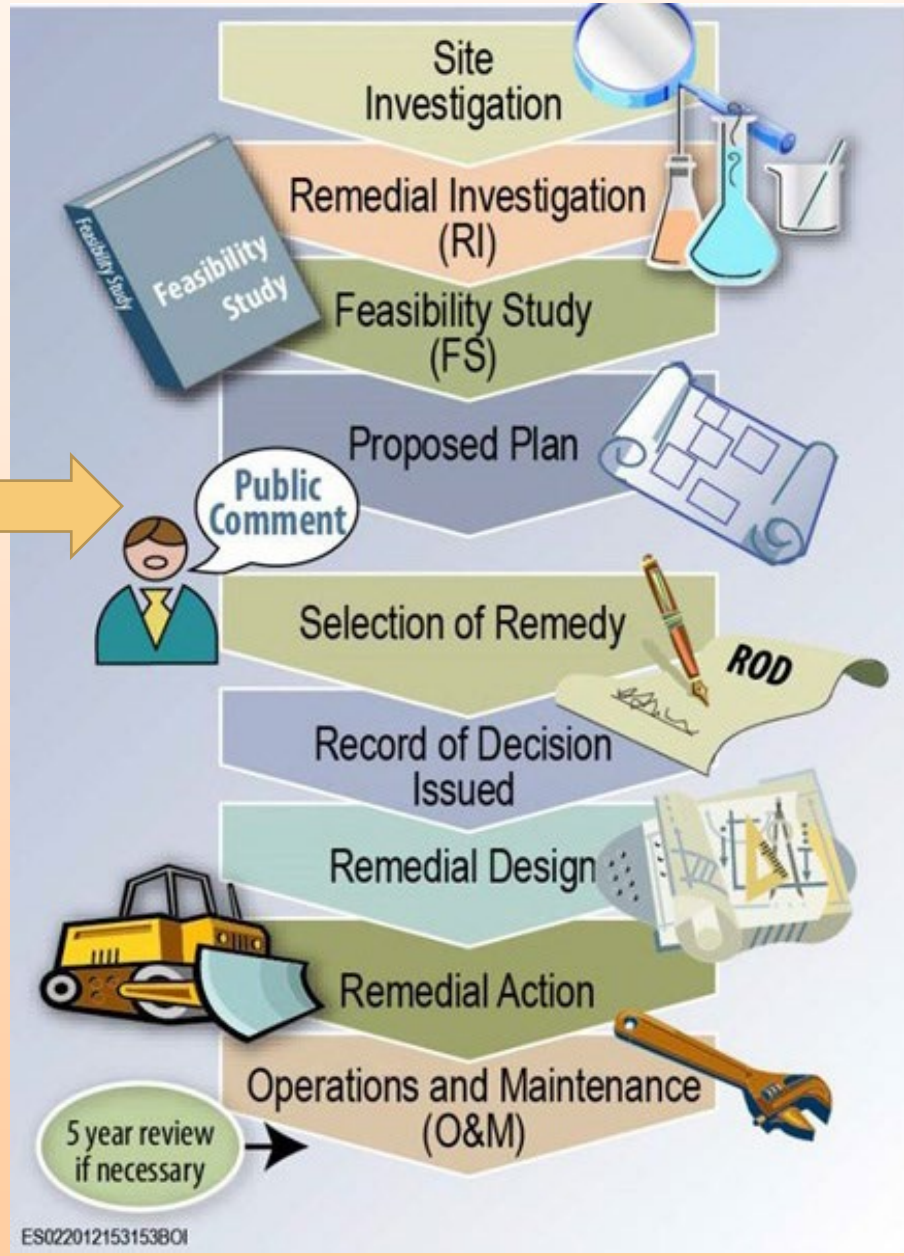


Mine Background

- Phosphate ore is extracted from a series of pits, referred to as mine panels.
- Mining activities began at Smoky Canyon in 1983. Ore is recovered through open pit mining practices that follow the north-south trending Phosphoria Formation outcrop as it dips to the west.
- Selenium is the predominant contaminant of concern associated with phosphate mining in SE Idaho.
- In 2001, IDEQ led an area-wide investigation of contamination from phosphate mining, with participation by other state and federal agencies and mining companies with operations in southeast Idaho.
- Site-specific investigations were warranted on the larger historic and active open-pit mines located in the mining district, including the Smoky Canyon Mine and others.

Remedial Cleanup Process Overview

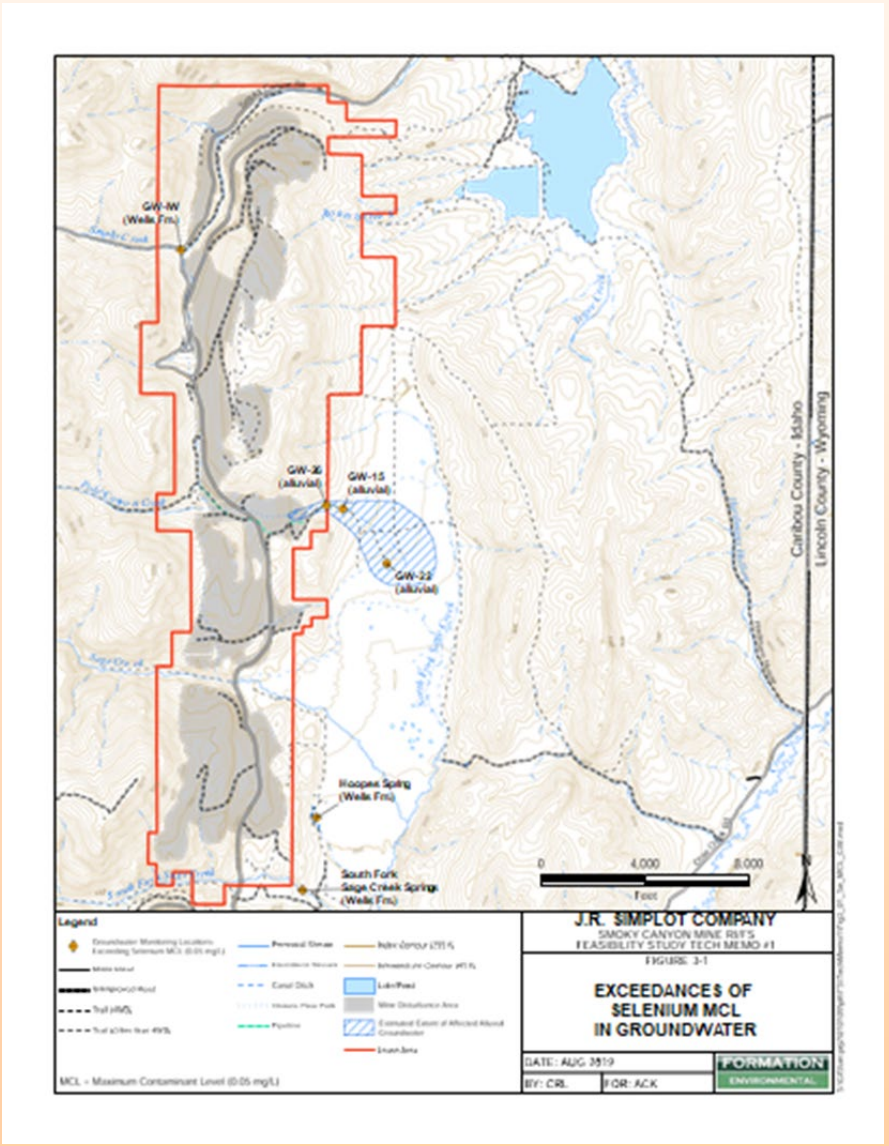
We are here



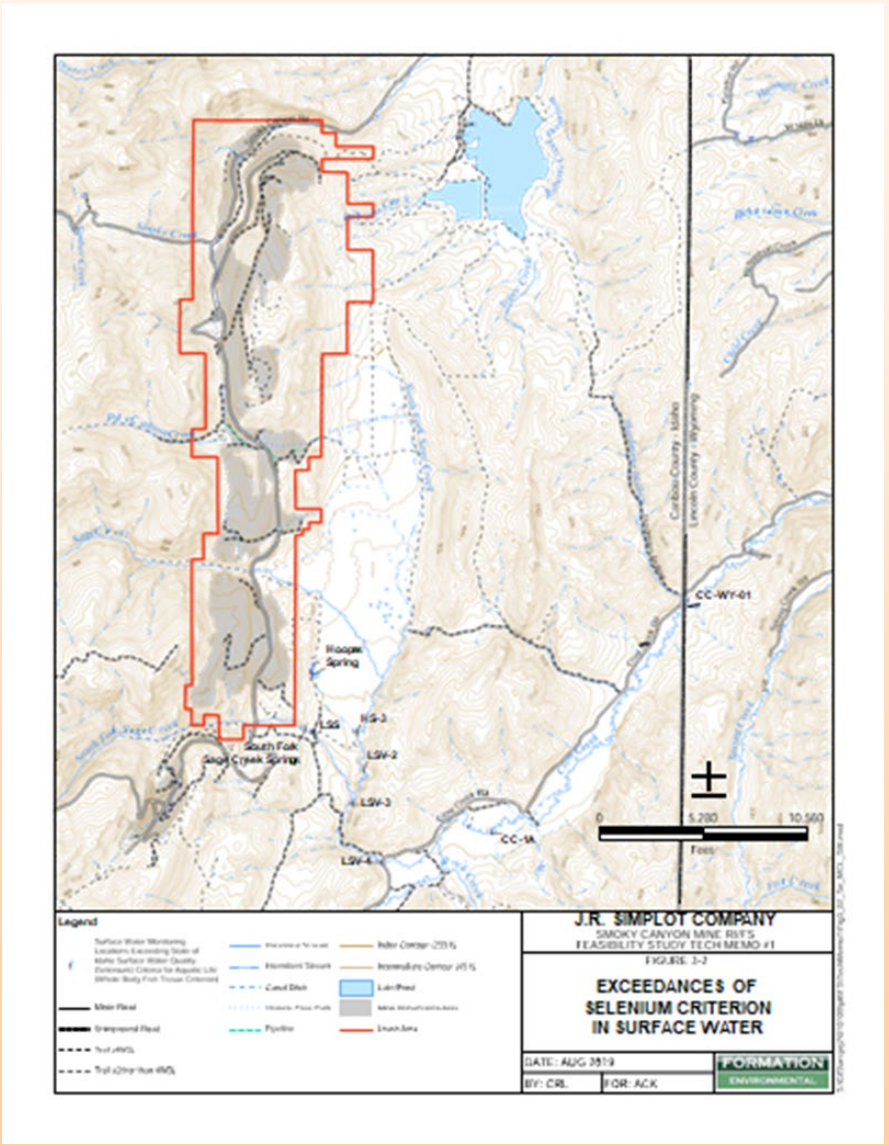
Smoky Canyon Mine
Prior Cleanup Work

- 2003: Site Investigation initiated by JR Simplot Co.
- 2006: Removal Action at Pole Canyon Overburden Disposal Area (ODA)
- 2009: Remedial Investigation / Feasibility Study (RI/FS) initiated
- 2009-2010: Water Treatability Studies
- 2013: Additional removal action was conducted to further address contamination from Pole Canyon ODA (Pole Canyon Cover)
- 2014: Remedial Investigation Report completed
- 2015: Initiation of Pilot Water Treatment Plant (treatability study for innovative technology of fluidized bed reactor (FBR)); still ongoing
- 2015: Risk Assessments completed
- 2023: Feasibility Study completed

Remedial Investigation: Ground Water

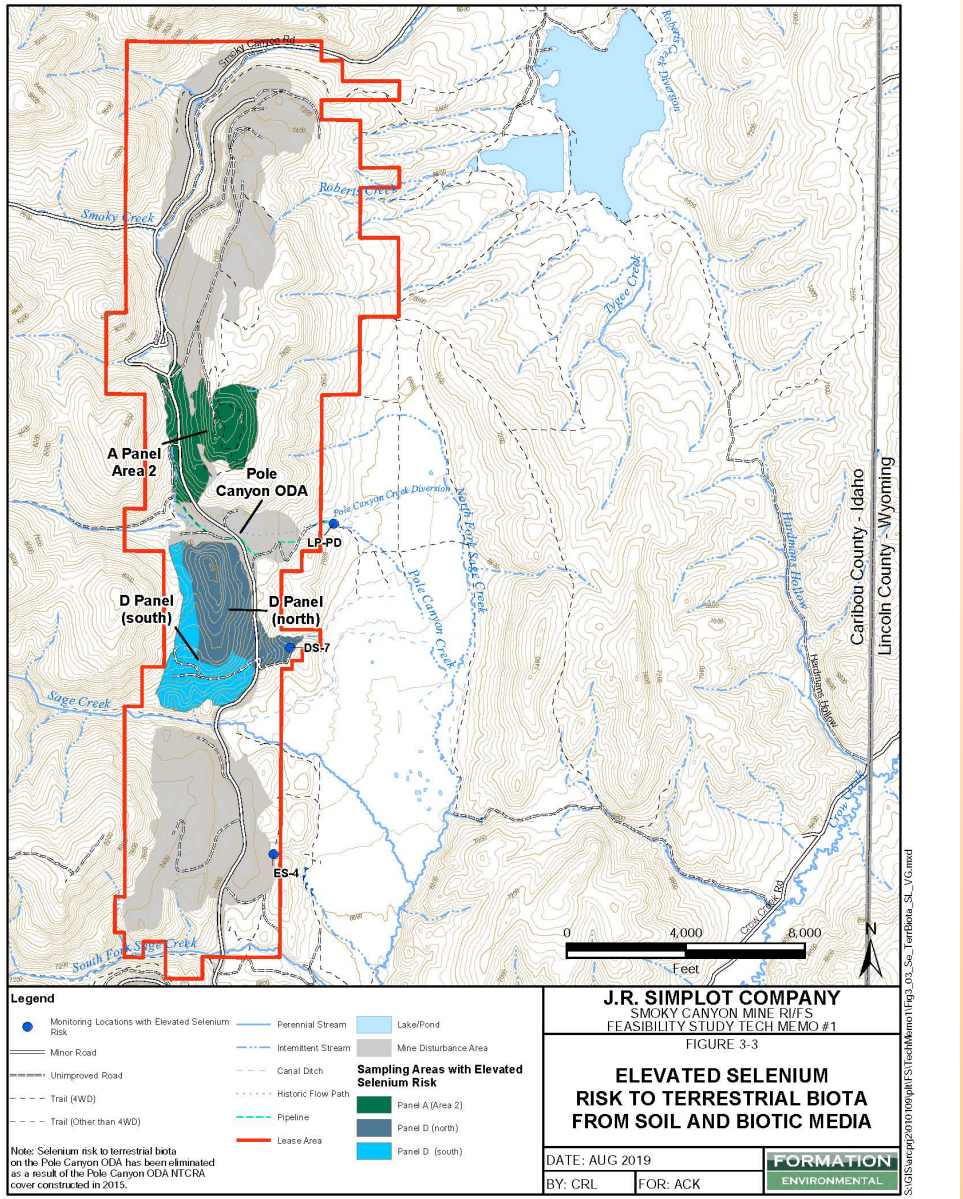


Remedial Investigation: Surface Water



Remedial Investigation: Aquatic

Remedial Investigation: Terrestrial



Feasibility Study

- Feasibility Study began in 2016; completed 2023
- Comprised of two parts
  - Technical Memorandum #1 summarized the results of the Remedial Investigation and Risk Assessments
    - Initial development of technologies to consider and initial screening of those technologies for further consideration based on feasibility, cost and effectiveness
  - Technical Memorandum #2 includes the detailed screening of alternatives against the nine remedy selection criteria outlined in CERCLA

Remedial Action Objectives

For Ground Water, the RAOs are:

- Prevent future use of alluvial or Wells Formation groundwater with selenium concentrations above the MCL as a drinking water source until cleanup levels are met.
- Reduce or eliminate concentrations of selenium in contaminated alluvial or Wells Formation groundwater to below the MCL within a reasonable time frame given the circumstances of the Site.
- Reduce or eliminate loading of selenium from groundwater to surface water so that it does not result in concentrations that represent an unacceptable risk to aquatic life and complies with ARARs (IDAPA 58.01.02 – Water Quality Standards) in the lower Sage Creek and Crow Creek watersheds.

For Surface Water, the RAOs are:

- Reduce or eliminate unacceptable risks to Recreational Campers or Native Americans from ingestion of non-regulated surface water (seeps and detention ponds) due to arsenic and cadmium.
- Reduce selenium concentrations in lower Sage Creek and Crow Creek watersheds to below levels that pose unacceptable risks for aquatic life and comply with ARARs (IDAPA 58.01.02 – Water Quality Standards).

For Soils, the RAO is:

- Reduce or eliminate unacceptable risks to birds from overburden with elevated selenium concentrations in soil on Panel A's ODAs.

Alternatives Analyzed

Surface Water

- Alternative 1 – No Further Action
- Alternative 2a – Water Treatment at the Hoopes WTP (2,000 gpm)
  - Chert/Limestone Covers on Seeps and Ponds
- Alternative 2b – Water Treatment at the Hoopes WTP (4,000 gpm)
  - Chert/Limestone Covers on Seeps and Ponds
- Alternative 2c – PRB Downgradient of Pole Canyon ODA

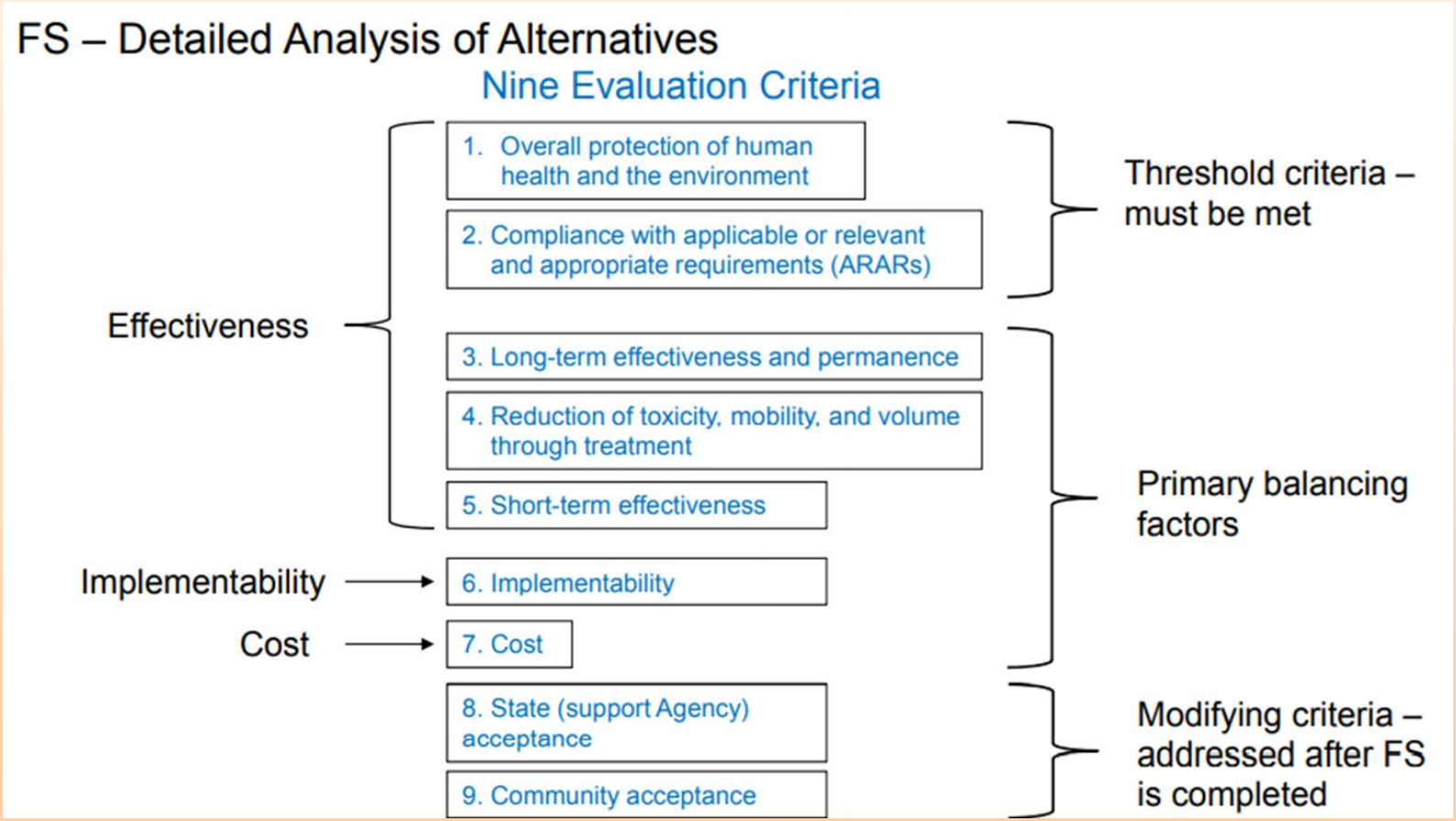
Alternatives Analyzed
Source Control

- Alternative 1 – No Further Action
- Alternative 3a – Dinwoody / Chert Covers Over Target Areas
- Alternative 3b – Capillary Covers Over Target Areas
- Alternative 3c – Enhanced Dinwoody Covers Over Target Areas
- Alternative 3d – Geomembrane Covers Over Target Areas
- Alternative 3e – Dinwoody Cover Over a Portion of Panel A

Elements Common to All Alternatives

- Institutional Controls
- Access Controls
- Revegetation
- Operations and Maintenance
- Monitored Natural Attenuation
- Long-Term Monitoring

CERCLA Nine Remedy Selection Criteria



Surface Water Alternatives Analysis

	Alternative 1 -- No Further Action	Alternative 2a- WTP Hoopes 2000 gpm	Alternative 2b - WTP Hoopes 4000 gpm	Alternative 2c- PRB Pole Canyon
CERCLA Criteria				
Protection of Human Health and the Environment	No	Yes	Yes	Yes
Compliance with ARARs	No	Yes	Yes	Yes
Long-Term Effectiveness and Permanence	Low	Moderate	High	Moderate
Reduction of TMV Through Treatment	Low	Moderate / High	High	Moderate
Short-Term Effectiveness	Moderate	Moderate / High	High	Moderate / High
Implementability	High	High	Moderate/High	Moderate
Cost	Low	Moderate / High	High	Low
State Acceptance	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period
Communtity Acceptance	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period

Source Control Alternatives Analysis

	Alternative 1 -- No Further Action	Alternative 3a- Dinwoody / Chert cover	Alternative 3b - Capillary Break Cover	Alternative 3c - Enhanced Dinwoody	Alternative 3d - Geomembrane Cover	Alternative 3e- Dinwoody Panel A (portion)
CERCLA Criteria						
Protection of Human Health and the Environment	No	Yes	Yes	Yes	Yes	Yes
Compliance with ARARs	No	Yes	Yes	Yes	Yes	Yes
Long-Term Effectiveness and Permanence	Low	Moderate	Moderate	Moderate	Moderate	Moderate
Reduction of TMV Through Treatment	Low	Low / Moderate	Low / Moderate	Moderate	Moderate	Low
Short-Term Effectiveness	Moderate	Moderate	Low / Moderate	Low / Moderate	Low / Moderate	Moderate
Implementability	High	High	Moderate / High	Moderate / High	High	High
Cost	Low	Low / Moderate	Low / Moderate	Moderate	High	Low
State Acceptance	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period
Communtity Acceptance	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period	TBD after Public Comment Period

Summary Results of Nine Criteria Analysis

- For surface water, Alternative 2b, increasing the capacity of the pilot water treatment plant is projected to meet water quality standards in Sage Creek and Crow Creek and provides the greatest level of treatment and long-term effectiveness, although at a higher cost.
- Of the four source control cover alternatives for Wells Formation groundwater and surface water, the Enhanced Dinwoody cover (Alternative 3c) provides the highest level of performance because it provides the greatest level of reduction of selenium concentrations in Wells Formation groundwater and surface water in Sage Creek and Crow Creek at a moderate cost compared to the geomembrane cover which provides a similar level of performance.
- For Panel A, potential risks to birds are marginal for current conditions and installation of a soil cover (Alternative 3e) may have negative impacts to habitat at the borrow area. However, further sampling will be conducted during remedial design.

Preferred Alternative

- The final remedy for the Site will be selected by the Forest Service in consultation with the Support Agencies based on an evaluation of the information.
- The elements of the recommended combined remedy, are:
  - Water Treatment Alternatives (Surface Water) Alternative 2b – Water Treatment at the Hoopes WTP (4,000 gpm), ICs, Chert/Limestone Covers on Seeps and Ponds, O&M, MNA, LTM
  - Water Treatment Alternatives (Alluvial Groundwater) Alternative 2c – PRB Downgradient of Pole Canyon ODA, ICs, O&M, MNA, LTM
  - Source Control Cover Alternatives (Wells Formation Groundwater and Surface Water) Alternative 3c – Enhanced Dinwoody Covers Over Target Areas, Revegetation, ICs, O&M, MNA, LTM
- The total present worth cost of the recommended Site-wide remedy is $139.9 Million

Next Steps

- Public Comment on Proposed Plan (2023) for 30 days (until May 26)
  - *15-day extension request granted (June 10, 2023)*
- Prepare Responsiveness Summary to Public Comments (Summer 2023)
- Record of Decision (Fall 2023)
- Negotiate Consent Decree with Simplot for remedial design and construction (2023-2024)
- Begin implementation (2025)

Questions or Comments

To submit comments on the Proposed Plan:

By Mail:

Attn: Smoky Canyon Mine Comments

Sherri Stumbo

USDA Forest Service

4350 Cliffs Drive

Pocatello, ID 83204

By E-mail: sherri.stumbo@usda.gov and sarah.wheeler2@usda.gov