United States Department of Agriculture
Forest Service
Caribou-Targhee National Forest
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UNITED STATES FOREST SERVICE

REGION 4

INTERIM RECORD OF DECISION
NORTH MAYBE MINE
EAST MILL OPERABLE UNIT
EAST MILL DUMP SUB-OPERABLE UNIT
SODA SPRINGS, IDAHO

September 1, 2022

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ABBREVIATIONS AND ACRONYMS

ARARs	Applicable or Relevant and Appropriate Requirements
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CIP	Community Involvement Plan
COPC	Contaminant (chemical) of potential concern
CSM	Conceptual Site Model
yd3	Cubic Yard
EJ	Environmental Justice
ELCR	Excess lifetime cancer risk
EMOU	East Mill Operable Unit
EMDSOU	East Mill Dump Sub-Operable Unit
EPC	Exposure point concentration
ft2	Square foot
FR	Federal Register
FFS	Focused Feasibility Study
GCL	Geosynthetic Composite Liner
HI	Hazard Index
HQ	Hazard Quotient
IDEQ	Idaho Department of Environmental Quality
IEUBK	Integrated Exposure Uptake Biokinetic Model
IC	Institutional Control
kg	Kilogram
L/day	Liter per day
MCL	Maximum Contaminant Level
µg/L	Microgram per liter
mg	Milligram
mg/kg	Milligram per kilogram
mg/kg-day	Milligram per kilogram per day
mg/L	Milligram per liter
MNA	Monitored Natural Attenuation
MW	Monitoring Well
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
NMM	North Maybe Mine
OU	Operable Unit
O&M	Operations and Maintenance
PRP	Potentially Responsible Party
RAO	Remedial Action Objective
ROD	Record of Decision
RD	Reference Dose
RI	Remedial Investigation
RI/FFS	Remedial Investigation and Focused Feasibility Study
RME	Reasonable Maximum Exposure
SARA	Superfund Amendments and Reauthorization Act
SCS	Sediment Control Structure
SLERA	Screening Level Ecological Risk Assessment
TCLP	Toxicity Characteristic Leaching Procedure
USDA	United States Department of Agriculture
USFS	United States Forest Service
UAO	Unilateral Administrative Order
95% UCL	95% Upper confidence limit
WROU	West Ridge Operable Unit

PART 1: THE DECLARATION

1.0 SITE NAME AND LOCATION

The North Maybe Mine (NMM) Site (CERCLIS ID: IDN001002956) is located about 26 road miles northeast of Soda Springs, Idaho, in Caribou County.

To facilitate Site management, the Site is divided into two operable units: the West Ridge Operable Unit (WROU) and the East Mill Operable Unit (EMOU). The East Mill Operable Unit is further subdivided into three sub-operable units: the Open Pits Sub-Operable Unit (OPSOU), East Mill Dump Sub-Operable Unit (EMDSOU), and the Creeks Sub-Operable Unit (CSOU). This Interim Record of Decision is for the EMDSOU. The Records of Decision for CSOU and the OPSOU are expected to be issued in the future and will address remaining contamination at NMM EMOU.

2.0 STATEMENT OF BASIS AND PURPOSE

This decision document presents the "Selected Remedy" for the NMM EMDSOU Site (Figure 1). The Selected Remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), 42 United States Code §9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, as amended. The Selected Remedy is Alternative 7 (Geosynthetic Cap) which is described in detail in Section 19.0 (Selected Remedy) of this Interim Record of Decision (ROD).

This decision is based on the Administrative Record for NMM EMDSOU, which was developed in accordance with Section 113 (k) of CERCLA, 42 United States Code §9613(k). This Administrative Record file is available for review at the United States Forest Service (Forest Service) Soda Springs Ranger District office in Soda Springs, Idaho. The Administrative Record Index (Appendix D) identifies each of the items comprising the Administrative Record upon which the selection of the Remedial Action is based. The Idaho Department of Environmental Quality (DEQ), as a support agency, provided assistance during development of the remedial investigation (RI) and feasibility study (FS). The State of Idaho concurs with the Selected Remedy.

3.0 ASSESSMENT OF THE SITE

The response action selected in this Interim ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances,

pollutants, or contaminants into the environment. Such a release or threat of release may present an imminent and substantial endangerment to public health, welfare, or the environment.

4.0 DESCRIPTION OF THE SELECTED REMEDY

This Interim ROD selects an interim remedy for NMM EMDSOU. The Selected Remedy for the Site is a combination of engineered source controls and other approaches and components that will work together to achieve remedial action objectives (RAOs). A key element of the combined remedy is controlling the release of contaminants from the waste rock dump by grading, and shaping waste rock; and constructing an approximately 2-foot-thick engineered cover system. Isolating the waste rock by constructing the cover system addresses direct contact risk with contaminants and vegetative uptake, reduces infiltration of water, and minimizes release of contaminants to surface water and groundwater.

The combined remedy includes several other elements to evaluate and optimize the performance of source controls and treatment technologies and to ensure protectiveness. The combined remedy includes institutional controls (ICs), operation and maintenance (O&M) requirements, and long-term effectiveness monitoring (LTM) requirements.

The selected remedy is Alternative 7 (Geosynthetic Cap). The components of this alternative are described in detail in Section 19.0 (Selected Remedy) of this Interim ROD. Briefly, the major components of this alternative are:

- **Engineered Cover System.** EMDSOU will be graded and shaped to ensure geotechnical stability and to promote runoff. An infiltration-limiting and direct contact-limiting engineered geosynthetic cap system will be applied to the North Area of EMDSOU.

- **Sediment Control Structure.** During the construction phase, the sediment from the existing sediment control structure (SCS) will be placed within the North Area prior to cap construction. A new SCS will be constructed to control release of sediment to downstream waterbodies.

- **O&M.** An O&M plan will be developed and implemented to ensure the integrity, proper functioning and performance of all engineering controls (for example, geosynthetic cover system).

- **MNA.** Monitored Natural Attenuation (MNA) of residual Constituents of Potential Concern (COPCs) in groundwater.

- **LTM.** Monitoring will be conducted to assess the effectiveness of various components of the remedy and progress toward achieving RAOs.

- **ICs and Access Restrictions.** ICs will be applied to protect the remedy and prevent human exposure by limiting land and resource use. In addition, fences, gates, and physical barriers will be built to prevent damage to engineered and vegetated components of the remedy. ICs include access and use restrictions and informational signage.

The overall timeline for construction of Alternative 7 (Geosynthetic Cap) is estimated to be approximately three years. The cost of implementing the selected remedy is approximately $14,698,600.

The geosynthetic cap would limit exposure to EMDSOU materials and minimize COPC loading to underlying groundwater by reducing the amount of infiltration that percolates through the EMDSOU. Additionally, the clean soil on the cover would be re-seeded with vegetation that does not accumulate selenium. The geosynthetic cap would also reduce stormwater contact with EMDSOU materials on the North Area ground surface, thus reducing the COPC load in surface water that results from stormwater runoff.

5.0 STATUTORY DETERMINATIONS

The Selected Remedy attains the mandates of CERCLA §121, and the regulatory requirements of the NCP. This remedy is protective of human health and the environment, complies with Federal and State requirements that are applicable or relevant and appropriate to the remedial action, is cost- effective, and utilizes permanent solutions.

The remedy does not satisfy the statutory preference for treatment as a principal element of the remedy because wastes will be contained in place. The source materials, however, can be reliably contained by using engineering controls.

Land use and ground water restrictions are necessary because the Selected Remedy will result in hazardous substances remaining on-site in soils at depths below 1.5 feet and will initially result in hazardous substances in the ground water and surface water which are above levels that allow for unlimited use and unrestricted exposure. A statutory review will be conducted within five years after completion of the remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. This review will be conducted not less than every five years after the date of the completion of the remedial action.

6.0 DATA CERTIFICATION CHECKLIST

The following information is included in The Declaration (Part 1) and the Decision Summary (Part 2) of this Interim ROD, while additional information can be found in the Administrative Record file for this Site:

- Chemicals of Potential Concern (COPCs) (see Section 12.2 – Conceptual Site Model);
- Baseline risk represented by the COPCs (see Section 14.0 –Summary of Site Risks);
- Remediation goals (i.e., cleanup goals) established for the COPCs and the basis for the goals (see Section 15.0 – Remedial Action Objectives);
- How source materials constituting principal threats are addressed (18.0 - Principal Threat Wastes);
- Current and reasonably anticipated future land use assumptions and current and potential future beneficial uses of ground water used in the Baseline Human Health Risk Assessment and this Interim ROD (see Sections 13.1 - Current and Potential Future Land Uses, 13.2 - Current and Potential Future Ground Water Uses, 19.4.1 -Available Land Uses, and 19.4.2 -Available Ground Water Uses);
- Potential land and ground water use that will be available at the Site as a result of the Selected Remedy (see Sections 13.1 - Current and Potential Future Land Uses, 13.2 - Current and Potential Future Ground Water Uses, 19.4.1 - Available Land Uses, and 19.4.2 - Available Ground Water Uses);
- Estimated capital, lifetime operation and maintenance (O&M), and total present worth costs; discount rates; and the number of years over which the remedy cost estimates are projected (see Sections 16.2.7 - Alternative 7 [Geosythetic Cap], 19.3 - Cost Estimate for the Selected Remedy; and Appendix B - Cost Estimate Details for Alternative 7); and
- Key factor(s) that led to selecting the remedy (see Section 14.3 - Basis for Remedial Action).

7.0 AUTHORIZING SIGNATURE

This Interim ROD documents the Selected Interim Remedy for contaminated soil and ground water at the NMM EMDSOU Site. This remedy was selected by the Forest Service with the concurrence of the Idaho Department of Environmental Quality (Appendix A – Idaho Department of Environmental Quality Concurrence with the Selected Remedy). The

Regional Forester has been delegated the authority to approve and sign this Interim ROD.

MARY FARNSWORTH
Regional Forester
USDA Forest Service Intermountain Region

Date 9/19/22

PART 2: THE DECISION SUMMARY

This Decision Summary provides a description of the Site-specific factors and analysis that led to the selection of the soil and ground water remedies for the Site. It includes background information about the Site, the nature and extent of contamination found at the Site, the assessment of human health and environmental risks posed by the contaminants at the Site, and the identification and evaluation of remedial action alternatives for the Site.

This Site is divided into two operable units. The West Ridge Operable Unit (WROU) and the East Mill Operable Unit (EMOU) as follows:

- WROU - lies west of the NMM pit and consists of the West Mill Dump (Dump 2 and 4), Dump 5 North and South, Dump F, the El Paso Dump, Big Draw Dump, Dump 6, and Dumps 7 and 8.

- EMOU – consists of all portions of NMM not included in the WROU. NMM EMOU is subdivided into the following sub-operable units as follows:
  - Open Pit Sub-Operable Unit (OPSOU) – Area encompassing the open pit on NMM.
  - East Mill Dump Sub-Operable Unit (EMDSOU) – Area encompassing the extent of the East Mill Dump and the sediment control structure.
  - Creeks Sub-Operable Unit (CSOU) – The areal extent of contamination from the EMOU that is not located within OPSOU or EMDSOU including East Mill Creek.

8.0 SITE NAME, LOCATION, AND BRIEF DESCRIPTION

The North Maybe Mine (NMM), East Mill Operable Unit (EMOU), East Mill Dump Sub-Operable Unit (EMDSOU) is a former open-pit phosphate mine located in Soda Springs, Idaho (Caribou County, CERCLIS ID# IDN001002956). The Site is the location of a former phosphate ore mine. Operation of the mine generated waste rock enriched with various inorganic contaminants, including selenium, arsenic, uranium, and other elements. Contaminants were released in soils, surface water, groundwater, sediment, and vegetation. The Site is located about 26 road miles northeast of Soda Springs, Idaho, in Caribou County. NMM includes an open pit approximately 2.5 miles long and reclaimed haul roads, surrounded by 10 overburden piles, one of which is EMDSOU.

The Site is not listed on the National Priorities List (NPL). The RI/FS and remedy selection followed the structured process established by the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) and the National Oil Pollution and Hazardous Substances Contingency Plan (NCP) to guide the cleanup of contaminated sites. As discussed in the Proposed Plan for the Site (USFS, 2021), the process includes various steps

leading from discovery of a site through investigation, remedy selection, and implementation of a remedy. The NCP includes procedures, expectations, and program management principles to guide the process.

The Forest Service is the lead agency for the Site. The IDEQ, U.S. Fish and Wildlife Service (USFWS), and the Shoshone-Bannock Tribes are support agencies. The Potentially Responsible Parties (PRPs) identified for the Site did participate in the development of the RI/FFS for EMDSOU and are anticipated to participate in the remedial action described in this Interim ROD.

9.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

This section of the Interim ROD provides the history of the Site and a brief discussion of the Forest Service removal, remedial, and enforcement activities.

9.1 History of Site Activities

The mine operational history is summarized from A History of Phosphate Mining in Southeastern Idaho (Lee 2000) and other available historical documents, as follows:

1950: The North Maybe Mine is part of Federal Lease I-04 (Lease), which was originally issued by the United States to Western Fertilizer Association (WFA) in 1950.

1950 – 1959: WFA conducted exploration and underground mining. Underground mining was completed in 1951 at the bottom of Maybe Canyon. A tunnel was excavated nearly 200 feet to the north of the portal, from which more than 1,000 tons of phosphate rock were removed. Exploration across the lease continued until early 1959.

1959 to 1967: In 1959, WFA assigned the Lease to Central Farmers Fertilizer Company. Central Farmers Fertilizer Company assigned the Lease to El Paso Natural Gas Products Company in 1964. El Paso Natural Gas Products Company conducted mining operations beginning in 1965 and ending in 1967. Records indicate that Wells Cargo, Inc. was the mining contractor for El Paso Natural Gas Products Company.

1968 to 1969: The North Maybe Mine was idle.

1970 to 1971: El Paso Natural Gas Products Company assigned the Lease to a related entity, El Paso Products Service Company. The North Maybe Mine was idle during 1970 and 1971.

1972: El Paso Products Service Company conducted mining operations and assigned the Lease to Agricultural Products Corporation (APC).

1972 to 1977: APC operated the North Maybe Mine using Washington Construction as the mining contractor. APC merged into Beker Industries in 1974 and Beker Industries continued to mine the property through 1977. Reclamation of the south end of the North Maybe Mine began in 1976. Operations at North Maybe Mine ceased in 1977.

1978: Beker Industries assigned 50 percent of the lease to Western Co-Operative Fertilizer-U.S. Inc. (WCFL). Beker Industries and WCFL created the entity known as the Conda Partnership and each party assigned its 50 percent interest in the lease to the Conda Partnership. Beker served as the managing partner and WCFL was the sole non-operating partner.

1979 to 1984: Mining operations were conducted by the Conda Partnership using Washington Construction as the mining contractor. The Alternative 1982-84 Plan for Maybe Canyon Phosphate Lease I-04 (Conda Partnership 1981) proposed to complete mine operations from 1982 to 1984.

1985 to 1992: The North Maybe Mine was idle. In 1987, Nu-West purchased Beker's assets and obtained a 50 percent interest in the Conda Partnership. The new partnership returned North Maybe Mine to full production by 1988.

1992: Nu-West purchased all of the WCFL stock, which included the other 50 percent of Conda Partnership.

1993: The Conda Partnership mined the North Maybe Mine Open Pit to completion. Conda Mining, a subsidiary of Washington Construction, was the mining contractor.

1994 to 1995: In 1995, the Conda Partnership disbanded, and all mine properties were transferred to Nu-West, who completed the North Maybe Mine reclamation.

During the life of the North Maybe Mine, approximately 15 million wet tons of ore and 52 million bank cubic yards of overburden were mined.

The Maybe Canyon shop and office complex operated from 1964 to 1993 and was shared by the operations of both the North Maybe Mine and the South Maybe Canyon Mine. The facility was located off-lease on Nu-West property, just west of the North Maybe Mine (Figure 1) and has since been removed.

No ore processing occurred at the Site. Ore was hauled by rail to a processing plant near the town of Soda Springs. The key features of the Site are presented in Figure 2 (located at the

end of this document).

9.2 History of Enforcement and Investigation Actions

Investigations to assess the impacts of phosphate mining in southeastern Idaho on human health and the environment began after several horses were diagnosed with selenosis (i.e., selenium poisoning) in 1996 and were subsequently euthanized.

In 2001, DEQ assumed leadership of an area-wide investigation of contamination from phosphate mining, with participation by other state and federal agencies and the mining companies with operations in southeast Idaho. These area-wide investigations led the agencies to conclude that site-specific investigations were warranted on the larger historic and active open-pit mines located in the mining district, including the NMM and others.

These conclusions subsequently led to negotiations with Nu-West to conduct site-specific investigations at the historical mines, including the NMM. In October 2013, DEQ, U.S. Fish and Wildlife Service (USFWS), the Forest Service, the Shoshone-Bannock Tribes, and Nu-West (the latter as Respondent) entered into a mine-specific legal agreement calling for Nu-West to conduct investigations and develop a Remedial Investigation (RI) and Focused Feasibility Study (FFS) reports for the NMM EMDSOU Site. The Forest Service was designated the lead agency to oversee this work.

The majority of the area disturbed by mining is owned by United States and administered by the Forest Service. Nearby adjoining lands are privately owned ranching and farming properties and a small piece of State land.

10.0 COMMUNITY PARTICIPATION

This section of the Interim ROD describes the Forest Service community involvement activities. The Forest Service has been engaged in dialogue and collaboration with the affected community and strived to advocate and strengthen early and meaningful community participation during the remedial activities at the Site. These community participation activities during the remedy selection process meet the public participation requirements in CERCLA and the NCP.

10.1 Community Involvement Plan

The Community Involvement Plan (CIP) for the Site was updated in February 2021. This CIP specifies the community involvement activities that the Forest Service has undertaken, and will continue to undertake, during the remedial activities planned for the Site (USFS 2021).

10.2 Community Meeting for the Proposed Plan for NMM EMDSOU

An online community meeting was held on July 14, 2021, for approximately five community members. At this meeting, representatives from the Forest Service answered questions about the Preferred Alternative for the Site. The Preferred Alternative presented at the meeting was Alternative 7. The meeting was recorded and transcribed. The transcript is included in the Administrative Record file for the Site, which is maintained at the Information Repository located at the Soda Springs Ranger District office located at 410 E Hooper Ave, Soda Springs, Idaho.

Paid notices were placed in the Caribou County Sun (the Soda Springs newspaper) and the Idaho State Journal (the Pocatello newspaper) in July 2021 to announce issuance of the Proposed Plan and provide information on public involvement opportunities.

The RI/FFS Report (NuWest 2021), Screening-Level Human Health Risk Assessment (NuWest 2017), Screening-Level Ecological Risk Assessment (NuWest 2017a), and the Proposed Plan (USFS 2021a) for the Site were made available to the public during the public comment period for the EMDSOU Proposed Plan. These documents are currently located in the Administrative Record file for the Site. A public comment period was held from July 1, 2021 to July 31, 2021.Responses to the comments received during this period are included in the Responsiveness Summary (Part 3) of this Interim ROD.

10.3 Fact Sheets

Numerous fact sheets were prepared during the planning and implementation of the RI/FS. These fact sheets were placed at the Site's repository and distributed to those community members on the mailing list.

10.4 Local Site Repository

The purpose of the local Site Repository is to provide the public a location near the community to review and copy background and current information about the Site. The Site's repository is located near the Site at:

Soda Springs Ranger District
410 East Hooper Ave.
Soda Springs, ID 83276-1496
Telephone: (208) 547-4356

11.0 SCOPE AND ROLE OF THE OPERABLE UNIT

In 2013, Forest Service entered into a settlement agreement with Nu-West calling for the production of an RI/FS for NMM EMOU.

As with many Superfund sites, the problems at the NMM are complex. As a result, Forest Service has organized the Site into two operable units (OUs):

- West Ridge Operable Unit: WROU includes the dumps to the west of the NMM open pit and includes the former shop area, tipple, and haul roads. The RI and associated human health and ecological risk assessments are approved. The Feasibility Study (FS) is currently being drafted by a different PRP.

- EMOU comprises the open pit and areas east of the open pit. East Mill Operable Unit was further subdivided into three Sub-Operable Units:

  - Open Pits Sub-Operable Unit: Comprises the NMM open pit. The RI is complete and the RI Report and associated human health and ecological risk assessments are under review.

  - East Mill Dump Sub-Operable Unit: Comprises the East Mill Dump and its associated sediment control structure located east of the NMM open pit on the headwaters of the East Mill Creek. The RI/FFS is complete for EMDSOU and its remedy is the topic of this Interim ROD.

  - Creeks Sub-Operable Unit: Comprises all areas not associated with WROU, EMDSOU, and OPSOU including East Mill Creek. Remedial Investigation work is on hold pending construction of the EMDSOU Interim Remedy.

A map of the Site showing the location and size of the EMOU, WROU, and EMDSOU relative to each other is shown in Figure 1. The following sections describe the overall cleanup strategy for the Site.

11.1 RESPONSE ACTION FOR EMDSOU

This Interim ROD selects an Interim Remedy for the NMM EMOU EMDSOU. The Selected Remedy for NMM EMDSOU is a combination of engineered source controls, treatment technologies, and other approaches and components that will work together to achieve the remedial action objectives (RAOs). A key element of the remedy is controlling the release of contaminants from EMDSOU. This will be accomplished by consolidating, grading, and shaping the waste rock and constructing a two-foot-thick engineered cover system over approximately 70 acres of EMDSOU. Isolating the waste rock by constructing the cover system addresses direct

contact risks with contaminants and vegetative uptake, reduces deep infiltration of water, and minimizes release of contaminants to surface water and groundwater.

11.2 RESPONSE ACTION FOR EMOU OPSOU AND CSOU

A final remedy for EMOU OPSOU and CSOU is not being selected in this Interim ROD because the RI/FS is not complete for the remaining sub-operable units. The Human Health Risk Assessment is under review for OPSOU. The Remedial Investigation report and Ecological Risk Assessment are under review for OPSOU.

The Remedial Investigation for CSOU is still underway. The risk assessments and RI/FS will be developed once conditions in East Mill Creek have stabilized after the remedy is constructed for EMDSOU.

11.3 RESPONSE ACTION FOR WROU

A final remedy for WROU is not being selected in this Interim ROD. The Remedial Investigation Report, Human Health Risk Assessment, and Ecological Risk Assessment are complete for WROU. A Feasibility Study and Proposed Plan will be developed for this portion of the Site and a final remedy selected in a separate Interim ROD.

12.0 SITE CHARACTERISTICS

This section of the Interim ROD provides a brief comprehensive overview of the Site's soils, geology, surface water hydrology, and hydrogeology; the sampling strategy chosen for the Site; the Conceptual Site Model; and the nature and extent of contamination at the Site. Detailed information about the Site's characteristics can be found in the RI/FFS Report for NMM EMDSOU (Nu-West 2020).

12.1 Overview of the Site

NMM is subdivided into two Operable Units; EMOU and the WROU. NMM EMOU is further subdivided into three sub-operable units: OPSOU, EMDSOU, and the Creeks Sub-Operable Unit.

12.1.1 Site Geology and Hydrogeology

The Site is located on Dry Ridge, a prominent topographic feature associated with the upper Meade overthrust plate, formed during eastward tectonic compression occurring in the Cretaceous Period and Paleocene Epoch and resulting in an area of significant thrust compression,

faulting, and folding. These forces resulted in generally northwest- to southeast-trending anticlines and synclines that dominate the area. The resistant beds of the Rex Chert Member generally form the top of a secondary hogback ridge on which the North Maybe Mine is located. The summit of Dry Ridge is east of the North Maybe Mine and formed by Thaynes Formation and Dinwoody Formation bedrock.

The Site is underlain by colluvium, Dinwoody Formation, and Cherty Shale Member bedrock. Groundwater is present in each stratigraphic unit, although flow magnitude and direction vary widely among units as a function of recharge and discharge locations and magnitude, hydraulic conductivity, and geologic structure such as faulting, folding, and plunging. Bedrock groundwater flowing along bedding planes may move along strike to the north and down dip to the east. However, significant down-dip flow is not expected due to decreasing hydraulic conductivity that occurs at depth. Instead, groundwater flow through weathered bedrock and fractures, including fractures that enable flow across units, are likely the more significant flow paths.

12.1.2 Site Surface Water Hydrology

The sediment control structure (SCS), located at the toe of the EMDSOU, was constructed in 2008 to collect groundwater seepage and surface water runoff, and serves to minimize the release of sediment to East Mill Creek. An armored sediment control/spillway structure controls the outflow of water from the SCS to East Mill Creek. The SCS is a shallow impoundment basin (generally less than 10 feet deep) surrounded by transitional habitat characterized by sparse groundcover primarily composed of terrestrial grasses. While the SCS serves to minimize the release of sediment to East Mill Creek, the EMDSOU and East Mill Creek are interconnected. Potential exposure of contamination to aquatic life in East Mill Creek will be addressed by the CSOU RI/FS after implementation of the selected EMDSOU remedial alternative.

12.2 Conceptual Site Model

A hydrogeological conceptual Site model for NMM EMDSOU was developed to show the relationship between the sources of contaminants at the Site, mechanisms for release of contaminants, and surface water and groundwater transport pathways to various environmental media and receptors (Figure 3). The model provides a framework to assess relative risks from contaminants and develop more detailed Site investigations and cleanup strategies. The following information describes elements of the conceptual Site model.

12.2.1 Nature and Extent of Soil and Vegetation Contamination

Approximately 12.6 million cubic yards of surface material/waste rock are influenced and affected by mine waste and associated with contamination. Selenium is observed to have significant uptake into vegetation growing on waste rock dumps. Generally, this occurs through the uptake from soil or waste rock through the root system and into plant tissue.

The following metals were identified as COPC at NMM EMDSOU in soil, vegetation, and beef: aluminum, antimony, arsenic, cadmium, cobalt, iron, manganese, nickel, selenium, thallium, uranium, and vanadium.

12.2.2 Nature and Extent of Surface Water Contamination

East Mill Creek, sedimentation ponds, and seeps are influenced and affected by mine waste and associated with contamination. Dissolution or leaching (from contact with rain or snowmelt) of contaminants from center waste shales are present in source areas, and the subsequent migration (movement) of dissolved constituents in surface water (runoff and seeps).

The following metals were identified as COPC at NMM EMDSOU surface water: arsenic, hexavalent chromium, molybdenum, selenium, thallium, uranium, and vanadium.

12.2.3 Nature and Extent of Ground Water Contamination

The alluvial aquifer directly under EMDSOU is influenced and affected by mine waste and associated with groundwater contamination. Dissolution or leaching (from contact with rain or snowmelt) of contaminants from center waste shales is present in source areas, and the subsequent migration (movement) of dissolved constituents in groundwater has been observed.

The following metals were identified as COPC at NMM EMDSOU groundwater: aluminum, antimony, arsenic, cadmium, chromium, cobalt, iron, lead, manganese, molybdenum, nickel, selenium, thallium, uranium, and vanadium.

12.2.4 Nature and Extent of Sediment Contamination

Sediments in the EMDSOU SCS are influenced and affected by mine waste and associated with contaminants. Erosion of contaminated particles from waste rock dumps, transport off the dump(s), and subsequent deposition in ephemeral and intermittent streams, resulting in impacts to both stream sediment and riparian soil downgradient of source areas.

The following metals were identified as COPC at NMM EMDSOU sediment: aluminum, arsenic, cadmium, cobalt, iron, selenium, thallium, and vanadium.

13.0 CURRENT AND POTENTIAL FUTURE LAND AND WATER USES

This section of the Interim ROD discusses the current and reasonably anticipated future land uses, and current and potential ground water and surface water uses at the Site. This section also discusses the basis for future use assumptions.

13.1 Current and Potential Future Land Uses

The NMM Site is located in a rural and sparsely populated area. The nearest town is Soda Springs, located about 26 miles away. Seasonal ranching is the dominant land use in the vicinity of the Site. There are many active and inactive phosphate mines in the area. The surrounding area is also used for public recreation, including hunting on private and public lands, and fishing on the Upper Blackfoot River.

The NMM Site includes the former mine area and contaminated portions of adjacent properties. Currently, vehicular access is restricted to NMM EMDSOU. Current land uses of the adjoining private properties include seasonal ranching (grazing of sheep and cattle). There is likely some limited recreational and Tribal use (hunting, gathering, and ceremonial use) of the lands at the Site as well. There are no residences at, or near, the NMM EMDSOU.

The reasonably anticipated future uses of the land at the Site include seasonal ranching (grazing of sheep on EMDSOU), recreation, and Tribal use. Residential use of the land at the Site is unlikely because residential use is not allowed on Forest Service lands.

13.2 Current and Potential Future Use of Surface Water and Groundwater

EMDSOU is constructed on the headwaters of East Mill Creek. East Mill Creek flows approximately 2.5 miles to its confluence with the Blackfoot River.

Current uses of the surface water on and adjoining the Site include seasonal ranching (watering of sheep on adjacent East Mill Creek), recreation, and Tribal use of the surface water at the Site as well. No groundwater uses at or adjacent to EMDSOU are currently present.

The reasonably anticipated future uses of surface water at the Site include seasonal ranching (watering of sheep on East Mill Creek), recreation, and Tribal use. Residential use of the surface water and groundwater at the Site is unlikely because residential use is not allowed on National Forest System land.

14.0 SUMMARY OF SITE RISKS

This section of the Interim ROD provides a summary of the Site's human health and ecological risks. A Screening Level Human Health Risk Assessment (Nu-West 2017) for the Site was completed in 2017, which estimated the probability and magnitude of potential adverse human health and environmental effects from exposure to contaminants associated with the Site, assuming no remedial action will be taken. A Screening Level Ecological Risk Assessment (Nu-West 2017a) for the Site was completed in 2017.

14.1 Summary of Screening Level Human Health Risk Assessment

The risk assessment estimates what risks the Site poses if no action is taken. It provides the basis for taking action and identifies the contaminants and exposure pathways that need to be addressed by the remedial action. This section of the Interim ROD summarizes the results of the screening level risk assessment for this Site.

Human health risks were estimated for various exposure scenarios, based on current and reasonably anticipated future land uses, including current and future Native Americans (for example, elk hunting and harvesting vegetation by the Shoshone-Bannock Tribes), current and future maintenance or Forest Service workers, current and future recreational users, and current and future members of the general population. These scenarios evaluated the exposure to mining-related contaminants in environmental media (soil, sediment, vegetation, surface water, and groundwater) at the Site (Figure 4).

In addition, radiological risk from exposure to uranium decay products was evaluated.

The following chemicals exceeded their respective human health screening value for non-radionuclide contaminants (by media) at NMM EMDSOU:

- Surface water exceedances – arsenic, chromium VI, molybdenum, selenium, thallium, uranium, and vanadium

- Groundwater exceedances – aluminum, antimony, arsenic, cadmium, chromium, cobalt, iron, lead, manganese, molybdenum, nickel, selenium, thallium, uranium, and vanadium

- Sediment – aluminum, arsenic, cadmium, cobalt, iron, selenium, thallium and vanadium

- Soil, Vegetation, exceedances – aluminum, antimony, arsenic, cadmium, cobalt, iron, manganese, nickel, selenium, thallium, uranium, and vanadium

Radiological Risk Estimates

The following chemicals exceeded their respective human health screening value for radionuclide contaminants (by media):

- Soil exceedances – U-238 and Ra-226
- Sediment exceedances – U-238 and RA-226

14.2 Summary of Screening Level Ecological Risk Assessment

Ecological risk estimates were calculated for the most plausible ecological exposure pathways based on contaminant release and transport, available habitat, biota types present, and available food sources (Figure 5).

The following two exposure areas at the EMDSOU were identified and evaluated:

- EMDSOU Upland Area
- EMDSOU Sediment Control Structure

Risks were estimated for these exposure areas by calculating hazard quotients (HQs) for each receptor group. HQs are the ratio of the dose to a toxicity reference value appropriate for the assessment endpoint (AE). The HQ is not a predictor of risk. An HQ less than 1 suggests that there is little potential for ecological risk for a given constituent of potential ecological concern (COPEC) receptor combination, and it may be excluded from further consideration. If an HQ is equal to (unity) or greater than 1, then there is potential for ecological risk for the given receptor-AE.

EMDSOU Upland Area

This terrestrial exposure area includes the EMDSOU, which is a disturbed area that has undergone reclamation and is characterized as hillside/sloping terrain with grasses, herbaceous plants, and low shrubs as the predominant ground cover. Although habitat is somewhat limited relative to undisturbed native habitat in nearby areas, the presence of terrestrial ecological receptors is expected and was evaluated in the Screening Level Ecological Risk Assessment (SLERA). The SLERA concluded that ecological risk for terrestrial plants and soil invertebrates and amphibians in the EMDSOU upland area cannot be excluded. Further, the SLERA also concludes that risk to amphibians and wildlife receptors (terrestrial and aquatic birds and mammals) in the EMDSOU upland area cannot be excluded.

Risk to receptors at the EMDSOU upland area is due to 17 soil COPECs: antimony, arsenic, boron, cadmium, chromium (total), copper, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium, and zinc.

EMDSOU Sediment Control Structure

This perennial aquatic exposure area is located at the toe of the EMDSOU and collects surface runoff and groundwater seepage originating from the EMDSOU. The structure serves to control sediment release to areas downstream in East Mill Creek. The aquatic habitat in the Sediment Control Structure (SCS) is currently limited due to alterations to the control structure in 2008, but an aquatic community has been observed in the basin and is expected to develop over time. Fish are absent from the Sediment Control Structure, which is physically separated from East Mill Creek and not expected to be part of the Sediment Control Structure aquatic community. Current and expected receptors in the Sediment Control Structure are evaluated in the SLERA. The SLERA concludes that ecological risk for small to moderate ranging aquatic-feeding wildlife receptors using the Sediment Control Structure for food and water cannot be excluded.

Risks to receptors in the aquatic environment are possible from exposure to 10 surface water COPECs: aluminum, barium, boron, cadmium, chromium (total and hexavalent), selenium, silver, uranium, and vanadium.

Risks to receptors in the aquatic environment are possible from exposure to 14 sediment COPECs: aluminum, arsenic, barium, cadmium, chromium (total), copper, lead, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

As described above, the SLERA for the Site identified several COPECs in surface soil, sediment, and surface water. Therefore, the possibility of adverse risks for ecological receptors cannot be excluded under current conditions and remediation may be warranted.

14.3 Basis for Remedial Action

The response action selected in this Interim ROD is necessary to protect the public health or welfare or the environment from actual or threatened releases of hazardous substances, pollutants, or contaminants into the environment. Such a release or threat of release may present an imminent and substantial endangerment to the public health, welfare, or the environment. The response action is necessary for the Site because of the following:

- **Human Health Risk:** The concentration of chemicals exceeded their respective human health screening value for non-radionuclide contaminants in soil, sediment, vegetation,

surface water, and groundwater. Soil and sediment radionuclide concentrations also exceed their respective human health screening values.

- **Ecological Risk:** Soil individual receptor-specific HQ estimates greater than 1 were associated with terrestrial plans, terrestrial invertebrates, terrestrial birds, and small terrestrial mammals. Aquatic community individual receptor-specific HQ estimates greater than 1 were associated with aquatic organisms and amphibians in the SCS. Benthic community and wildlife individual receptor-specific HQ estimates greater than 1 were associated with benthic invertebrates, tree swallow, and raccoon.

15.0 REMEDIAL ACTION OBJECTIVES

The Remedial Action Objectives (RAOs) for NMM EMDSOU provide a general description of what the Superfund cleanup is designed to accomplish. These goals serve as the design basis for the Selected Remedy identified in this Interim ROD.

15.1 Remedial Action Objectives for the Site

For EMDSOU materials (overburden rock, soil, and sediment), the RAOs are:

•Prevent direct contact of EMDSOU materials to human and ecological receptors that would result in unacceptable risk.

• Reduce or eliminate erosion and transport of EMDSOU materials to East Mill Creek that would result in unacceptable risk to human and ecological receptors.

For vegetation, the RAOs are:

• Prevent exposure of human and ecological receptors to vegetation on the EMDSOU that would result in unacceptable risk.

For groundwater and surface water, the RAOs are:

•. Minimize COPC loading from EMDSOU materials to surface water and groundwater discharging to East Mill Creek.

• Minimize infiltration and associated COPC loading from EMDSOU materials to groundwater.

•. Minimize ingestion, direct contact, or food-chain exposure of EMDSOU COPC

impacted surface water by ecological receptors.

15.2 Basis and Rationale for Remedial Action Objectives

The basis for the RAOs for the soil, sediment, and vegetation is to clean up the Site to multiple use standards (the anticipated future land use for the Site). Multiple use includes: recreation, grazing, wildlife, and tribal uses.

The basis for the RAOs for the ground water and surface water is to prevent infiltration of water on the surface of the EMDSOU to reduce load of selenium and other hazardous substances into East Mill Creek.

15.3 Risks Addressed by the Remedial Action Objectives

Table 1 presents the cleanup levels for surface water and groundwater; these are based primarily on the Applicable or Relevant and Appropriate Requirements (ARARs). By setting cleanup levels for surface water and groundwater to ARARs, the remedy will reduce Site-related risks for selenium and other hazardous substances to levels acceptable for human and ecological receptors.

16.0 DESCRIPTION OF ALTERNATIVES

Initially, a broad range of alternatives were identified and screened, in accordance with the NCP. These alternatives included a variety of remedial technologies and process options that were potentially useful to address the RAOs for contaminated media. Cleanup methods and technologies were evaluated for each of the following media: soils and waste rock, vegetation, sediment, surface water, and groundwater.

A total of eight alternatives were developed for the Site (Nu-West 2020). Alternative 7 describes the Selected Remedy presented in this Interim ROD. Alternative 7 was the preferred alternative presented to the public in the Proposed Plan (USFS 2021). The Alternatives considered in the NMM EMDSOU RI/FFS were:

a. Alternative 1 - No Action;

b. Alternative 2 – Limited Action including institutional controls;

c. Alternative 3 – Simple soil cover, institutional controls, and excavation of sediment

in the SCS;

d. Alternative 4 – Simple soil cover combined with groundwater collection and treatment and institutional controls;

e. Alternative 5 – Evapotranspiration Cover, monitored natural attenuation (MNA) of COPCs in groundwater, and institutional controls;

f. Alternative 6 – Clay Cap, institutional controls, and MNA of COPCs in groundwater;

g. Alternative 7 – Geosynthetic Cap, institutional controls, and MNA of COPCs in groundwater;

h. Alternative 8 – Overburden Pile Material Excavation and Disposal

16.1 Common Elements of Each Remedial Alternative

Many of the remedial alternatives share basic remediation elements. While the No Further Action alternative does not include remediation and Alternative 8 involves removal of all EMDSOU materials, the remaining alternatives have a range of institutional controls in common, and the containment-based engineered cover system remedies have additional engineered elements in common.

Regrading

Specifically, before construction of any engineered cover system, the EMDSOU will require regrading to promote drainage and constructability. The grading and surface preparation requirements may be different for each of the various engineered cover systems, which could be a significant factor in the construction activities and overall cost. Details of Site grading and preparation will be established in the remedial design phase and are discussed in a qualitative manner for each alternative described below.

It is important to note that the stability analysis presented in the EMDSOU FFS indicates a potential for small scale sloughing of the high wall and the waste material perched above into the open pit. Given this potential, it may be necessary to move overburden away from the rim of the open pit to address highwall stability issues. Collection of additional geotechnical stability data in support of the remedial design may be necessary and would be undertaken in conjunction

with pre-design data collection activities. Details for any potential reconfigured rim and associated grading and/or removal of overburden, as well as any necessary road reconstruction or repair, will be developed in the remedial design. In addition, any engineered cover system (i.e., Alternatives 3-7) will eliminate the sediment exposure pathway. The design criteria for the development of the remedy design will require that the sediment in the existing SCS be consolidated under the engineered cover as noted in the EMDSOU RI/FFS and the footprint of the removed SCS be covered by the engineered cover system.

Institutional Controls

All alternatives will require institutional controls as a component of the remedy to ensure protection of human health and the environment is maintained. Institutional controls will also be important for protecting the integrity and performance of containment-based remedies during and after construction. Additionally, institutional controls will require preparation of an Institutional Controls Implementation and Assurance Plan. The specific institutional control measures required include access and use restrictions, communication and distribution of relevant information, and enforcement of the institutional control measures (Nu-West 2020).

Key ARARs

This section identifies ARARs that drive the RAOs and response options. These key ARARs are those that provide a basis for developing an alternative or that help distinguish between alternatives. Additional information on all ARARs is presented in Appendix E, including information on type (i.e., chemical-, location-, and action-specific) and status (i.e., applicable or relevant and appropriate), a synopsis of the requirement, and a summary of the action to be taken to attain requirements.

Key ARARs include the following:

- Idaho Water Quality Standards, including water quality criteria
- National Recommended Water Quality Criteria established under the Clean Water Act (CWA)
- National Primary Drinking Water Regulations, including MCLs, established under the Safe Drinking Water Act
- Idaho Ground Water Quality Rule
- Rules for the Control of Air Pollution in Idaho: Rules for Control of Fugitive Dust
- RCRA: Criteria for Municipal Solid Waste (MSW) Landfills
- RCRA: Criteria for Hazardous Waste TSD facilities
- Migratory Bird Treaty Act

- Archaeological Resources Protection Act
- Protection of Wetlands
- Caribou-Targhee Revised Forest Plan

Operation and Maintenance

Operation and Maintenance (O&M) is an integral component of all alternatives and ensures the proper functioning and integrity of engineering controls, such as the cover system and the proper functioning of treatment facilities, and sediment control best management practices (BMP). Each alternative includes a variety of O&M requirements. The specific O&M requirements vary depending on the cleanup method or technology and will be refined during remedial design.

Long-term Monitoring

Monitoring is also an integral component of all alternatives to assess the effectiveness of the remedy. The monitoring program will include periodic inspections of engineered facilities, and sampling and analysis of groundwater, surface, water, sediment, vegetation, and soil.

16.2 Distinguishing Features of Each Remedial Alternative

16.2.1 Alternative 1 - No Action

Alternative 1 (No Action), which is required by the NCP (§300.430(e)(6)), is the baseline alternative against which the effectiveness of all other remedial alternatives are judged. Principal threat wastes will continue to remain in the soils at the Site and no attempts will be made to monitor or control ground water contaminant migration from the Site. This alternative will not comply with the ARARs for the Site. The magnitude of risks at the Site is likely to remain the same since contaminated soils and ground water that pose a risk to human health will remain on the Site. There is no treatment, containment, MNA, or IC component for this alternative. Because contaminated soil and ground water will remain at the Site, a review of the effectiveness and protectiveness of this alternative will be conducted every 5 years as required by SARA.

16.2.2 Alternative 2 – Limited Action

Alternative 2 includes institutional controls, such as access and use restrictions for the EMDSOU and maintaining the institutional control restriction on groundwater well drilling and groundwater use. Human exposure to COPCs would be reduced by restricting human access to

the Site. Exposure of ecological receptors to COPCs in surface soil, vegetation, and surface water and would not be addressed by Alternative 2. Mobility of COPCs in surface water and groundwater and control of the source of COPCs to downstream and downgradient SOUs would not be addressed by Alternative 2.

16.2.3 Alternative 3 – Simple Soil Cover

Alternative 3 consists of a direct contact-limiting engineered simple soil cover system applied to the North Area, excavation of sediment from the SCS and placement within the North Area prior to constructing the cover, access and use restrictions, informational signage, and natural attenuation of residual COPCs in groundwater. Alternative 3 would cost more than Alternative 2 but less than Alternative 4. Alternative 3 would take approximately two years to construct.

The simple soil cover would replace existing vegetation within the North Area following placement of clean growth media, thus reducing the potential for COPC exposure from surface soil and new vegetation would grow on the clean soil cover. The simple soil cover would reduce stormwater contact with EMDSOU materials on the North Area ground surface, thus reducing the COPC load in surface water that results from stormwater runoff. Snowmelt and stormwater that infiltrate into the simple soil cover may evapotranspire before reaching underlying EMDSOU materials or infiltrate into EMDSOU materials and continue to act as a migration mechanism for COPCs into underlying groundwater.

16.2.4 Alternative 4 – Simple Soil Cover Combined with Groundwater Collection and Treatment

Alternative 4 consists of a direct contact-limiting engineered simple soil cover system applied to the North Area, excavation of sediment from the SCS and placement within the North Area prior to cover construction, groundwater pumping, treatment of extracted groundwater, discharge of treated groundwater, access and use restrictions, and informational signage. Alternative 4 would cost more than Alternatives 3 & 6, but less than Alternatives 5 & 7. Alternative 4 would take approximately two years for construction and an additional three years to calibrate the groundwater collection and treatment system.

Groundwater underlying the North Area would be hydraulically captured from a network of extraction wells, impounded in a storage tank, and treated through an onsite water treatment system consisting of media filtration and RO.

The simple soil cover would replace existing vegetation within the North Area following placement of clean growth media, thus reducing the potential for COPC exposure from surface soil and new vegetation would grow on the clean soil cover. The simple soil cover would reduce stormwater contact with EMDSOU materials on the North Area ground surface, thus reducing the COPC load in surface water that results from stormwater runoff. Snowmelt and stormwater that infiltrate into the simple soil cover may evapotranspire before reaching underlying EMDSOU materials or infiltrate into the EMDSOU. Groundwater impacted by COPCs underlying the North Area would be treated indefinitely.

16.2.5 Alternative 5 – Evapotranspiration Cover (ET)

Alternative 5 consists of an infiltration-limiting and direct contact-limiting engineered ET cover system applied to the North Area, excavation of sediment from the SCS and placement within the North Area prior to cap construction, access and use restrictions, informational signage, and natural attenuation of residual COPCs in groundwater. Alternative 5 would take approximately three years to construct.

The ET cover would limit exposure to EMDSOU materials, replace vegetation so that new vegetation would grow on the clean soil cover, and minimize COPC loading to underlying groundwater. The ET cover would also reduce stormwater contact with EMDSOU materials on the North Area ground surface, Alternative 5 will reduce more COPC load in surface water than Alternatives 3 & 4, however, it will allow some infiltration and COPC loading to occur.

16.2.6 Alternative 6 – Clay Cap

Alternative 6 consists of an infiltration-limiting and direct contact-limiting engineered natural clay cap system applied to the North Area, excavation of sediment from the SCS and placement within the North Area prior to cap construction, access and use restrictions, informational signage, and natural attenuation of residual COPCs in groundwater. Alternative 6 would cost more than Alternative 3 but less than Alternative 5. Alternative 6 would take approximately two years to construct.

The clay cap would limit exposure to EMDSOU materials, replace vegetation so that new vegetation would grow on the clean soil cover, and minimize COPC loading to underlying groundwater by reducing the amount of infiltration that percolates through the EMDSOU materials. The clay cap would also reduce stormwater contact with EMDSOU materials on the North Area ground surface, thus reducing the COPC load in surface water that results from stormwater runoff.

16.2.7 Alternative 7 - Geosynthetic Cap

Alternative 7 consists of an infiltration-limiting and direct contact-limiting engineered geosynthetic cap system applied to the North Area, excavation of sediment from the SCS and placement within the North Area prior to cap construction, access and use restrictions, informational signage, and monitored natural attenuation (MNA) of residual COPCs in groundwater. Alternative 7 would take approximately three years to construct.

The geosynthetic cap would limit exposure to EMDSOU materials, replace vegetation so that new vegetation would grow on the clean soil cover, and minimize COPC loading to underlying groundwater by reducing the amount of infiltration that percolates through the EMDSOU. The geosynthetic cap would also reduce stormwater contact with EMDSOU materials on the North Area ground surface, thus reducing the COPC load in surface water that results from stormwater runoff.

16.2.8 Alternative 8 – Overburden Pile Material Excavation and Disposal

Alternative 8 consists of excavation and off-site disposal of all EMDSOU materials and vegetation, excavation and disposal of sediment from the SCS, and natural attenuation of residual COPCs in groundwater. Alternative 8 would take approximately five years to construct.

Alternative 8 would result in the removal of EMDSOU materials and vegetation and would eliminate the surface water contact that results in COPC leaching. In addition, with the removal of the COPC source materials, it is anticipated that groundwater COPCs would attenuate within a predictable timeframe following source removal.

17.0 COMPARATIVE ANALYSIS OF ALTERNATIVES

Initial screening of each of the eight alternatives was completed to refine and reduce the number of alternatives that were analyzed in detail. The initial screening of alternatives is generally based on three criteria: (1) effectiveness; (2) implementability; and (3) cost. Based on the initial screening, alternatives that have a low or moderate effectiveness (except Alternative 1) are eliminated because these alternatives are known to be incapable of achieving some or all of the RAOs, and therefore, may not be protective of human health or the environment. Alternatives with low, moderate, and high implementability screening results were retained if coupled with high effectiveness screening results. This process eliminated Alternatives 2 through 6 from further consideration.

Alternatives 7 and 8 were retained for detailed analysis based on their effectiveness at

achieving RAOs for all Site media. In addition, Alternative 1 does not protect human health or the environment, but was retained per the NCP requirement to include No Further Action in the detailed analysis for reference.

The Forest Service used the nine remedy selection criteria outlined in the NCP to evaluate remedial alternatives for the cleanup of a release. These nine criteria are categorized into three groups: threshold, balancing, and modifying. The threshold criteria must be met in order for an alternative to be eligible for selection. The threshold criteria are: overall protection of human health and the environment and compliance with ARARs. The balancing criteria are used to weigh major tradeoffs among alternatives. The five balancing criteria are: long-term effectiveness and permanence; reduction of toxicity, mobility or volume through treatment; short-term effectiveness; implementability; and cost. The modifying criteria are: state acceptance and community acceptance. Table 2 (Evaluation Criteria for Superfund Remedial Alternatives) briefly describes the nine evaluation criteria.

After the initial screening of technologies and evaluation of alternatives, three remedial alternatives remained in the FS (Nu-West 2020). Table 3 (Comparison of Remedial Alternatives) summarizes how these alternatives comply with the nine evaluation criteria specified in the NCP §300.430(t)(5)(i). Following is a comparative analysis of the remedial alternatives.

17.1 Overall Protection of Human Health and the Environment – Threshold Criterion

Overall protection of human health and the environment addresses whether each alternative provides adequate protection of human health and the environment and describes how risks posed through each exposure pathway are eliminated, reduced, or controlled, through treatment, engineering controls, and/or ICs.

Alternative 1 is required by the NCP to provide an environmental baseline against which the effects of the remedial alternatives can be compared. Alternative 1 leaves the Site in its current condition. As such, Alternative 1 does not address migration of COPCs from the EMDSOU or otherwise mitigate the associated risks to human health and the environment, and the potential risks identified in the SLHHRA and SLERA (Nu-West 2017 and 2017a) would not be addressed. EMDSOU materials in the head-waters of East Mill Creek would continue to leach COPCs through contact with precipitation and in-filtration waters and migration of COPCs would not be addressed. The EMDSOU surface materials would continue to erode and potential for direct exposure to COPC impacted surface soils and vegetation would persist. Based on this analysis, Alternative 1 is not protective of human health or the environment. As a result, Alternative 1 does not meet the threshold. As concluded in the SLHHRA and SLERA (Nu-West 2017 and 2017a) the possibility of risks to human health and various ecological receptors cannot

be excluded. Based on these findings, an active remedy is indicated to provide protection of human health and the environment. Detailed comparative analysis and scoring of each of the retained alternatives relative to this criterion are presented in the EMDSOU RI/FFS.

Alternative 7 achieves human health and ecological risk reductions by reducing exposure to COPCs in the North Area by preventing contact with contaminated soils and vegetation. Placing a low-permeability geosynthetic cap on the North Area would also limit the amount of precipitation that contacts COPC-containing EMDSOU materials that may runoff or infiltrate.

Alternative 8 removes the overburden piles, thus reducing human and ecological receptor exposure to COPC-impacted soils and vegetation. Furthermore, Alternative 8 removes the source of COPCs and reduces the further transport of COPCs to surface water and groundwater.

17.2 Compliance with ARARs – Threshold Criterion

Section 12l(d) of CERCLA and the NCP §300.430(t)(l)(ii)(B) require that remedial actions at CERCLA sites at least attain legally applicable or relevant and appropriate Federal and State requirements, standards, criteria, and limitations which are collectively referred to as "ARARs," unless such ARARs are waived under CERCLA §12l(d)(4).

Applicable requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Only those State standards that are identified by a state in a timely manner and that are more stringent than Federal requirements may be applicable. Relevant and appropriate requirements are those cleanup standards, standards of control, and other substantive requirements, criteria, or limitations promulgated under Federal environmental or State environmental or facility siting laws that, while not "applicable" to a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance at a CERCLA site address problems or situations sufficiently similar to those encountered at the CERCLA site that their use is well-suited to the particular site.

Although chemical-specific ARAR waivers would be implemented for groundwater and surface water within the EMDSOU, Alternatives 7 and 8 would act as source control measures and are important for protecting downstream and down gradient media. Alternative 7 would reduce infiltration in the North Area; therefore, long-term loading of COPCs that have historically been leaching from the EMDSOU, migrating downgradient, and discharging to East Mill Creek would be reduced. Alternative 8 would remove EMDSOU materials, the source of COPCs, from the Site, which would also reduce COPC loading downgradient of the Site. Alternatives 7 and 8

are capable of complying with the action- and location-specific ARARs. As a result, Alternatives 7 and 8 meet this threshold criterion.

17.3 Long-Term Effectiveness and Permanence – Balancing Criterion

Long-term effectiveness and permanence refers to expected residual risk and the ability of a remedy to maintain reliable protection of human health and the environment over time, once cleanup levels have been met. This criterion includes the consideration of residual risk that will remain on-site following remediation and the adequacy and reliability of controls.

Comparison of the long-term effectiveness and performance of Alternatives 7 and 8 is important to evaluate the protectiveness of human health and the environment by the preferred alternative. The reduction in exposure to COPC-impacted media and reliability of controls are the basis for the long-term effectiveness and performance evaluation. This includes evaluation of two components: the risks remaining from untreated waste or treatment residuals following the conclusion of remedial activities; and the degree of post-remedial Site control activities that may be required to monitor the Site following construction of the remedial alternative to sustain the integrity of the action. Detailed comparative analysis of the retained alternatives relative to this criterion are presented in Table 17-2 of the EMDSOU RI/FFS.

Because Alternative 8 results in the removal of COPC source materials from the Site, Alternative 8 achieves the highest degree of long-term effectiveness and permanence relative to the other retained alternatives.

Alternative 7 provides source control by preventing infiltration with a geosynthetic cap; however, it is susceptible to erosion of cover materials during significant storm events. Long-term maintenance and repairs of the caps can mitigate damage and degradation of the caps. Performance of geosynthetic barriers relies on installation quality and proper Site maintenance. In cases of isolated damage (e.g., from deep-rooting trees, vandalism, burrowing animals), repairs may be necessary and can be costly.

Alternatives 7 and 8 both provide a reduction in erosion and transport of COPC-impacted EMDSOU materials to East Mill Creek by capping the North Area. Potential remedies for contaminants that exceed acceptable risks in East Mill Creek beyond the SCS will be evaluated after implementation of the selected EMDSOU remedial alternative.

As a result, Alternative 7 is considered highly effective at achieving this criterion, reflecting the relatively high long-term effectiveness and performance associated with a capping remedy.

17.4 Reduction in Toxicity, Mobility, and Volume through Treatment – Balancing Criterion

Reduction of toxicity, mobility, or volume through treatment refers to the anticipated performance of the treatment technologies that may be included as part of a remedy.

Alternative 8 provides the maximum reduction in mobility and volume of COPCs relative to the other alternatives. Alternative 8 eliminates the COPC leaching pathway by removing the COPC source materials. The reduction in COPC concentrations in groundwater occurs through natural attenuation, which is similar for Alternatives 7 and 8.

Alternative 7 addresses the mobility and volume of COPCs that may be transported from the Site using a low-permeability geosynthetic cap. Alternative 7 achieves reduction to the volume of impacted surface water runoff and groundwater contacting the North Area by reducing the amount of precipitation and infiltration contacting EMDSOU materials, which would similarly reduce COPC mobility through surface water and groundwater. Alternative 7 is considered to be moderately effective in achieving the elements of the criterion.

Neither Alternative 7 or 8 reduces toxicity, mobility, or volume through treatment.

17.5 Short-Term Effectiveness – Balancing Criterion

Short-term effectiveness addresses the period of time needed to implement the remedy and any adverse impacts that may be posed to workers, the community, and the environment during construction and operation of the remedy until cleanup levels are achieved. The following factors are considered for each alternative:

- Protection of the Community. Because the EMDSOU is located outside of a community, the potential short-term impacts on the community would primarily be related to additional traffic and roadway use in regional roads during the construction phase. The construction-related traffic for Alternative 7 would result in disruption to the community. The most disruptive alternative is Alternative 8, which includes transporting more than 700,000 truckloads of material to a disposal location, which has the potential to create more disruption to the community than the other alternatives.

- Protection of Workers. Alternatives 7 and 8 include significant earth work, and the potential hazards associated with implementing these remedies are related to operation of heavy equipment, working on steep slopes, safety concerns associated with limited slope stability, and dust exposure. Alternatives 7 and 8 have risks associated with construction

activities (Site grading and excavation activities) that would disturb the existing soil and could result in dust exposure for Site workers. Dust monitoring can be effective in identifying potential exposure and assessing the effectiveness of control measures during construction. Increases in equipment size, quantity of heavy equipment operating, and duration of heavy equipment operation are all factors in risks associated with construction using heavy equipment. These factors are directly related to the area of the remedial footprint in Alternative 7 and the volume of material to be excavated in Alternative 8, with the result being that Alternative 7 is the active remedy most protective of workers. Alternative 8 is further complicated by the significant increase in truck traffic and extended duration associated with the transport and disposal of excavated materials; this alternative presents the most hazards for workers, and therefore, is the least protective of workers.

- Environmental Impacts. Comparison of the potential for adverse environmental impacts that may result from implementation of the alternatives are considered. Alternatives 7 and 8 have increasingly significant short-term environmental impacts relative to each other that are associated with operation of heavy equipment for Site grading, cap construction, and/or excavation activities. Additionally, the adverse environmental impacts associated with excavation of borrow material at the borrow source, trucking of borrow material to the Site, and/or hauling of EMDSOU materials offsite would increase between Alternatives 7 and 8. Additionally, because Alternative 8 includes transport and disposal of COPC-containing materials to a new location, the potential would exist for COPC impacts to occur at the new location if proper disposal controls are not established. The potential for accidental spills of COPC-containing material during transport would also exist for Alternative 8. Alternative 8 has the highest potential for environmental impacts relative to the other alternatives.

- Time Until RAOs are Achieved. Alternatives 7 and 8 have similar timeframes for achieving the RAOs following the end of active construction activities for each remedy, but the active durations would increase with the level of effort included in each successive alternative. For both alternatives, the time would be contingent upon the duration required to implement the active portion of the remedial action (cap construction or material removal), estimated to range between approximately two to five construction seasons, and the time required for groundwater COPCs to attenuate through MNA following source control achieved by the active portion of the remedy.

17.6 Implementability – Balancing Criterion

Implementability addresses the technical and administrative feasibility of a remedy from design through construction and operation. Factors such as availability of services and materials, administrative feasibility, and coordination with other governmental entities are also considered. These implementability considerations for Alternatives 7and 8 are discussed below.

- Technical Feasibility. The technical feasibility of Alternative 7 is high. The major components of the alternative (site grading, geosynthetic liner construction, cover placement, MNA, and institutional controls) are frequently implemented at other regional sites. The recent successful implementation of a geosynthetic cap and soil cover at the South Maybe Canyon Mine (SMCM) Cross Valley Fill (CVF) indicates that the necessary equipment and experienced workers are available to undertake such a project, including contractors to construct geosynthetic liners. Borrow sources have been identified in the region and are sufficient for Alternative 7. Alternatives 7 and 8 would not interfere with further actions, should they be needed. While the technical feasibility for Alternative 7 is high, the technical feasibility for Alternative 8 is low relative to the other alternatives. Alternative 8 is less implementable due to excessive transport needs and limitations of nearby disposal facilities.

- Administrative Feasibility. Because the Site lies on public (Forest Service-administered) property, the administrative feasibility of Alternatives 7 and 8 depends on the approval of the Forest Service and adherence to conditions established in the Revised Forest Plan (Forest Service 2003a). Alternatives 7 and 8 must meet the substantive requirements of applicable permits. Alternative 7 is likely to be administratively feasible as most operations will be conducted onsite; however, Alternative 8 includes additional impacts to the community (haul trucks traveling to an offsite disposal facility), as well as the offsite disposal locations if offsite disposal is selected, and may have additional concerns with respect to administrative approvals for hauling and disposal; therefore, Alternative 8 is less administratively feasible than Alternative 7.

The technical and administrative feasibility is moderately high for Alternative 7. Alternative 8 requires excessive transport needs and includes potential impacts to the community as well as the offsite receiving locations and is considered not as effective at achieving the implementability criterion.

17.7 Cost – Balancing Criterion

Total present worth of capital and maintenance and repair (M&R) and construction cost were calculated for each remedial alternative (Appendix H of the EMDSOU RI/FFS). The projected cost estimates include capital, construction, and M&R costs.

- The total cost for Alternative 7 is estimated to be $14,698, 600. This represents the lowest cost alternative for an active remedy.

- The total cost for Alternative 8 was estimated for onsite activities only (e.g., excavation) and does not include transport and offsite disposal costs. Excavation costs alone estimated for Alternative 8 exceed $100,000,000. The additional transport costs for either onsite or

offsite disposal and any disposal costs would add to this estimated baseline cost, which is more than an order of magnitude higher than Alternative 7.

17.8 State and Tribal Acceptance – Modifying Criterion

The State of Idaho, represented by the IDEQ, agrees with the Forest Service's decision to implement Alternative 7 (Geosynthetic Cap). The IDEQ acknowledged their support for this decision by letter to the Forest Service dated June 2022 (Appendix A). The IDEQ provided technical support to the Forest Service during the implementation of the RI/FFS, Proposed Plan, and this Interim ROD. Further, the Forest Service received a letter from the Idaho Department of Fish and Game dated July 21, 2021which also provided support for Alternative 7.

The Forest Service offered to meet with the Shoshone-Bannock Tribes after they were provided a copy of the Proposed Plan for NMM EMDSOU. No meeting was requested and no objections were provided by the Tribes.

17.9 Community Acceptance – Modifying Criterion

The Forest Service conducted a public meeting on July 14, 2021, to present the Proposed Plan (USFS 2021b) to the public. The Forest Service presented Alternative 7 (Geosynthetic Cap) as the preferred alternative for the Site. The Forest Service received a letter from the City of Soda Springs, dated July 15, 2021, which provided support for Alternative 7.

The Forest Service received one set of comments from a coalition of environmental groups, dated July 30, 2021, requesting rejection of all Alternatives and cleanup of EMDSOU to background levels. After thorough review, the Forest Service largely disagreed with this set of comments. Responses to the comments are provided in the Responsiveness Summary.

18.0 PRINCIPAL THREAT WASTES

The NCP establishes an expectation that NMM EMDSOU will use treatment to address the principal threats posed by a site wherever practicable (NCP §300.430(a)(l)(iii)(A)). Identifying principal threat wastes combines concepts of both hazard and risk. In general, principal threat wastes are those source materials considered to be highly toxic or highly mobile which generally cannot be contained in a reliable manner or would present a significant risk to human health or the environment should exposure occur. Conversely, non-principal threat wastes are those source materials that generally can be reliably contained and that would present only a low risk in the event of exposure. The manner in which principal threats are addressed generally will determine whether the statutory preference for treatment as a principal element is satisfied.

The soils contaminated with metals at EMDSOU are not considered to be "principal threat wastes" because metals concentrations do not pose a significant risk to human health or the environment and can be reliably contained.

19.0 SELECTED REMEDY

The Forest Service's Selected Remedy for this Site is Alternative 7 (Geosynthetic Cap). Under this alternative, soils above action levels are regraded and capped with a geosynthetic liner system (to prevent infiltration of water) with a cover of soil and revegetated. The ground water will be addressed by MNA.

19.1 Summary of the Rationale for the Selected Remedy

Alternative 7 is protective of human health and the environment, meets Federal and State ARARs for soil, vegetation, and sediment. Alternative 7 also meets the RAOs through attainment of cleanup levels for soil, vegetation, and sediment as well. Since this is an Interim Remedy ARARs are waived for surface water and groundwater. ARARs will be achieved in a final remedy for EMOU. This alternative was selected over the other alternatives because the methods are proven, easily implemented, and it is expected to achieve long- term permanence and risk reduction through prevention of infiltration, with an anticipated reduction in selenium concentration by 95% and is expected to allow the property to be used for the reasonably anticipated future land use, which is recreational, wildlife, grazing, and tribal. Because the waste material will remain on-site with a waiver for ARARs, O&M activities and five-year reviews of the remedy be required.

Construction and maintenance of a stable cover system will prevent exposure of human and ecological receptors to hazardous substances in vegetation on the surface of the EMDSOU.

Segregation of EMDSOU cover runoff from emergent flows emanating from within the EMDSOU will be completed by capturing and isolating precipitation runoff from the EMDSOU surface to reduce flow from within the fill. Smaller emergent flows will be easier to manage if further treatment is determined to be necessary.

Minimize infiltration on the surface of the EMDSOU to reduce the load (concentration multiplied by volume) of selenium and other hazardous substances into East Mill Creek. During spring flow the selected remedy is expected to reduce selenium loads downstream of the North Slope toe to less 5 pounds per day.

This remedial action at the EMDSOU represents an interim measure of the North Maybe Mine Site as a whole. As such, waivers of chemical ARARs for groundwater and surface water

will be necessary until remedial actions are undertaken and compliance points are established for the North Maybe Mine Site.

19.2 Description of the Selected Remedy

Following is a description of each component of the Selected Remedy. Although the Forest Service does not expect significant changes to this remedy, it may change slightly as a result of the remedial design and construction processes. Any changes to the remedy described in this Interim ROD would be documented using a technical memorandum in the Administrative Record, an Explanation of Significant Differences, or a ROD Amendment, as appropriate and consistent with the applicable regulations.

19.2.1 Cap and Cover of EMDSOU

Site preparation will include the following:

- conducting a Site survey,
- set up of Site trailers,
- clearing and grubbing of borrow sources and affected areas on and around NMM EMDSOU,
- developing a water source for soil conditioning,
- maintenance of access roads to EMDSOU,
- installation of erosional controls,
- dust control,
- security/access control,
- and project signage.

Site preparation will be followed by subgrade preparation of EMDSOU where approximately a cut of 42,000 yd^3 and fill of approximately 17,000 yd3 of EMDSOU waste rock on the Top Deck will be regraded to promote surface water drainage to the North Slope toe. Another cut of approximately 149,090 yd^3 and fill of approximately 127,000 to regrade the slopes of EMDSOU to promote surface water drainage to the North Slope Toe of EMDSOU.

A Geosynthetic cover system will be constructed on the North Slope and Top Deck of EMDSOU (approximately 70 acres). This will include the following activities:

- Production and placement of approximately 4-inch-thick sub-cushion layer using existing waste rock. Includes subgrade preparation prior to geosynthetic liner placement.
- Purchase and placement of geosynthetic drainage composite over approximately 70 acres.

- Excavation, haul, and placement of an 18-inch-thick general fill layer over the geosynthetic drainage composite. Approximately 170,000 yd^3 of general fill would be excavated from an adjacent borrow area.
- Excavation, haul, and placement of a six-inch-thick topsoil layer over the general fill. Approximately 57,000 of topsoil would be excavated from an adjacent borrow area.
- Cover terminations would be constructed around the perimeter of EMDSOU capping area, including transition to native soil.

An estimated 7,700 linear feet of new access roads would be constructed with North slope drainage features including: underdrains, toe drains (to support geosynthetic stability), and approximately 12 benches/swales along the North Slope with a large collection down-chute (lined with riprap). Top Deck drainage features would include: underdrains to support geosynthetic stability, two swales, and two 400 linear foot collection channels with periodic check dams lined with riprap.

EMDSOU (approximately 70 acres) and the soil borrow area (approximately 24 acres) will be reclaimed with a Forest Service approved native vegetation mix.

19.2.2 Monitored Natural Attenuation of the Ground Water

MNA will be applied as part of the Selected Remedy for EMDSOU. MNA will be discontinued when the concentration of metals in the surface water and ground water at the EMDSOU toe is less than the federal MCL.

Monitoring Program

The monitoring program developed for the Site, during the remedial design and remedial action, will specify the location, frequency, and type of samples and measurements necessary to evaluate whether the remedy is performing as expected and is capable of attaining remediation objectives. The monitoring program will be designed to accomplish the following:

a. Demonstrate that natural attenuation is occurring according to expectations,

b. Detect changes in environmental conditions that may reduce the efficacy of any of the natural attenuation processes,

c. Identify any potentially toxic and/or mobile transformation products,

d. Verify that the plume(s) is not expanding (either downgradient, laterally, or vertically),

e. Verify no unacceptable impact to downgradient receptors,

t: Detect new releases of contaminants to the environment that could impact the effectiveness of the natural attenuation remedy,

g. Demonstrate the efficacy of the ICs that were put in place to protect potential receptors, and

h. Verify attainment of remediation objectives.

19.2.3 Operations and Maintenance

O&M activities, for MNA, will only involve the ground water remedy portion of the Selected Remedy. O&M activities for the cover will involve annual inspections of the cover system and monitoring of surface water. An O&M Plan will be developed for MNA and the cover system.

19.2.4 Institutional Controls for the Soils and Ground Water

ICs such as grazing restrictions will also be implemented to ensure that ground water from beneath the Site is not used as a source of drinking water during the implementation of MNA for the Site. The Forest Service will be responsible for enforcing these ICs.

19.3 Cost Estimate for the Selected Remedy

Appendix B (Cost Estimate Details for Alternative 7) details the estimated costs to implement and construct Alternative 7. The estimated total cost to implement and construct the Selected Remedy presented in this Interim ROD is $14,698,600. The information in this cost estimate for the Selected Remedy is based on the best available information regarding the anticipated scope of the remedial alternative.

Changes in the cost elements are likely to occur as a result of new information and data collected duringthe engineering design of the remedial alternative. Major changes may be documented in the form of a technical memorandum in the Administrative Record file, an Explanation of Significant Differences, or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost.

19.4 Expected Outcomes of the Selected Remedy

Following are the expected outcomes of the Selected Remedy in terms of resulting land, surface water, vegetation, and ground water uses, the cleanup levels and the risk reduction achieved as a result of the response action, andthe anticipated community impacts.

19.4.1 Available Land Uses

An expected outcome of the Selected Remedy is that the soils at the Site will no longer present an unacceptable risk to ecological receptors because all of the metals contaminated soils will be covered by a cap and cover system within two years and revegetated with native vegetation. NMM EMDSOU will continue to be unavailable for recreation in the short term as it is within the Husky 1/North Dry Ridge phosphate mining lease. NMM EMDSOU will continue to be unavailable for livestock grazing to protect the integrity of the cap and cover system.

19.4.2 Available Surface Water and Ground Water Uses

The remedy will also be protective of ground water because all of the source areas will be covered with a cap and cover system preventing infiltration of water into mining waste at NMM EMDSOU. MNA will reduce the remaining ground water concentrations after construction is complete. Since this is an Interim Remedy a waiver will be necessary for surface water and groundwater as cleanup levels will not be met at EMDSOU. It is not likely that the EMDSOU will be used as a potable source of surface water or groundwater in the future.

19.4.3 Final Cleanup Levels

Table 1 (Cleanup Levels by Media) shows the risk at the cleanup levels forsurface water and ground water.

Reduction of contaminant concentrations in the surface water and ground water to below the drinking water MCL will return the surface water and ground water to beneficial use and will reduce the cancer risk level of 1.0 x 10-3 to below the acceptable risk level of 1 x 10-4. As this is an Interim Remedy it is not anticipated that surface water and groundwater ARARs will be met at EMDSOU. CERCLA §12l(d) states that remedial actions must attain or exceed ARARs. Therefore, waivers will be necessary for surface water and groundwater until the RI is complete for NMM CSOU and OPSOU when a site-wide remedy will be selected that will meet all surface water and groundwater ARARs.

Cleanup levels for soil, sediment, and vegetation were not selected as these media will be encapsulated by the cap and cover system utilizing uncontaminated fill, topsoil, and rock from approved borrow sources.

19.4.4 Anticipated Community Impacts

The Selected Remedy will provide community revitalization impacts because it will allow the Site to be returned to multiple use within 2 years after the start of the remedial action and reduce surface water impacts to downstream receptors. Additionally, the Selected Remedy is the remedy preferred by the public.

20.0 STATUTORY DETERMINATIONS

Under CERCLA §121 and the NCP §300.430, the Forest Service must select remedies that are protective of human health and the environment, comply with ARARs (unless a statutory waiver is justified), are cost-effective, and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In addition, CERCLA includes a preference for remedies that employ treatment that permanently and significantly reduces the volume,toxicity, or mobility of hazardous wastes as a principal element and a bias against off-site disposal of untreated wastes. The following sections discuss how the Selected Remedy meets these statutory requirements.

20.1 Protection of Human Health and the Environment

The Selected Remedy will prevent infiltration of water into EMDSOU thus significantly reducing surface water and groundwater contamination at the Site. It is anticipated that this action will reduce selenium surface water and groundwater contamination by 95% within two years after the start of construction.

The Selected Remedy for the soil and vegetation at this Site will also be protective of human health and the environment within two years after the start of construction. The cap and cover system will prevent contact with impacted soil and vegetation at EMDSOU for humans and wildlife.

ICs will be implemented to protect the integrity of the remedy.

There are no short-term threats associated with the Selected Remedy that cannot be controlled. In addition, no adverse cross-media impacts are expected from the Selected Remedy.

20.2 Compliance with ARARs

The NCP §§300.430(f)(5)(ii)(B) and (C) require that a ROD describe the Federal and State ARARs that the Selected Remedy will attain or provide justification for any waivers. ARARs include substantive provisions of any promulgated Federal or more stringent State environmental standards, requirements, criteria, or limitations that are determined to be legally ARARs for a CERCLA site or action. Applicable requirements are those cleanup standards, standards of control, and other substantive environmental protection requirements, criteria, or limitations promulgated under Federal or State law that specifically address a hazardous substance, pollutant, contaminant, remedial action, location, or other circumstance found at a CERCLA site. Relevant and appropriate requirements are requirements that, while not legally "applicable" to circumstances at a particular CERCLA site, address problems or situations sufficiently similar to those encountered at the Site that their use is well-suited.

The Selected Remedy of a cap and cover system for metals contaminated soils, and the MNA for the ground water will comply with all Federal and any more stringent State ARARs that are applicable to soils and vegetation at the Site. As this is an Interim Remedy it is not anticipated that surface water and groundwater ARARs will be met at EMDSOU. CERCLA §121(d) states that remedial actions must attain or exceed ARARs. Therefore, waivers will be necessary for surface water and groundwater until the RI is complete for NMM CSOU and OPSOU when a site wide remedy will be selected that will meet all surface water and groundwater ARARs. The location-specific, chemical-specific, and activity-specific ARARs applicable to the Site are presented in Appendix E (Summary of ARARs) and summarize how Alternative 3 will comply with ARARs and where waivers will be necessary.

20.3 Cost-Effectiveness

The Selected Remedy is cost-effective because the remedy's costs are proportional to its overall effectiveness (see 40 CFR §300.430(f)(l)(ii)(D)). This determination was made by evaluating the "overall effectiveness" of those alternatives that satisfied the threshold criteria (i.e., that are protective of human health and the environment and comply with all Federal and any more stringent State ARARs, or as appropriate, waive ARARs). Overall effectiveness was evaluated by assessing three of the five balancing criteria in combination (long-term effectiveness and permanence; reduction in toxicity, mobility, and volume through treatment; and short-term effectiveness). The overall effectiveness of each alternative was then compared to each alternative's costs to determine cost-effectiveness. The relationship of the overall effectiveness of this remedial alternative was determined to be proportional to its costs and hence represents a reasonable value for the money to be spent.

The estimated present worth cost of the Selected Remedy is $14,698,600. Alternative 8 is an order of magnitude higher in costs than all of the other alternatives evaluated in the FFS and results in a much higher degree of protectiveness. However, the Selected Remedy offers a significant degree of protectiveness and overall effectiveness at a much lower cost. The benefits of the Selected Remedy compared to the other alternatives are much higher than the increase in costs.

20.4 Utilization of Permanent Solutions to the Maximum Extent Practicable

The Forest Service has determined that the Selected Remedy represents the maximum extent to which permanent solutions and treatment technologies can be utilized in a practicable manner at the Site. Of those alternatives that are protective of human health and the environment and comply with ARARs, the Forest Service has determined that the Selected Remedy provides the best balance of trade-offs in terms of the five balancing criteria, while also considering the statutory preference for treatment as a principal element, bias against off-Site treatment and disposal, and considering State and community acceptance.

The Selected Remedy prevents contact to metals contaminated soils and vegetation at EMDSOU. The Selected Remedy satisfies the criteria for long-term effectiveness by reducing selenium in surface water and groundwater by 95%. The Selected Remedy does not present short-term risks different from the other treatment alternatives. There are no special implementability issues that sets the Selected Remedy apart from any of the other alternatives evaluated.

20.5 Preference for Treatment as a Principal Element

The Forest Service has determined that the cap and cover system of metals contaminated soils will not meet the statutory preference for the selection of a remedy that involves treatment as a principal element. The cap and cover system will contain metals contaminated waste by preventing infiltration of water, thereby reducing the volume and toxicity of surface water and groundwater.

20.6 Five-Year Review Requirements

Section 121(c) of CERCLA and the NCP §300.430(f)(5)(iii)(C) provide the statutory and legal bases for conducting five-year reviews. Because this remedy will result in hazardous substances remaining on-site in the ground water and in the soils (below 2 feet bgs) above levels that allow for unlimited use and unrestricted exposure, a statutory review will be

conducted within five years after completion of the remedial action to ensure that the remedy is, or will continue to be, protective of human health and the environment.

21.0 STATE ROLE

The Idaho Department of Environmental Quality, on behalf of the State of Idaho, has reviewed the various alternatives and has indicated its support for the Selected Remedy. The State has also reviewed the NMM EMDSOU RI/FFS (NuWest 2021), SLHHRA (NuWest 2017), and SLERA (NuWest 2017a), to determine if the Selected Remedy is in compliance with applicable or relevant and appropriate State environmental and facility siting laws and regulations. No Comments from the State of Idaho were received during the public comment period. The State of Idaho concurs with the Selected Remedy for the Site (Appendix A- IDEQ Concurrence with the Selected Remedy).

PART 3: RESPONSIVENESS SUMMARY

22.0 RESPONSIVENESS SUMMARY

The Responsiveness Summary (Appendix C) summarizes information about the views of the public and the support agency regarding both the remedial alternatives and general concerns about the Site submitted during the public comment period. This summary also documents, in the record, how public comments were integrated into the decision-making process.

The Administrative Record file for the Site, located at the Soda Springs Ranger District office, contains all of the information and documents supporting this Interim ROD. This Administrative Record file includes a transcript of the public meeting held by the Forest Service on July 14, 2021, to describe the preferred alternative (USFS 2021b).

The Forest Service received one letter of opposition and two letters of support during the public meeting and public comment period of the preferred alternative (Alternative 7) presented in the Proposed Plan. The concerns of the community have been considered in the selection of Alternative 7 as the Selected Remedy for the Site. The Responsiveness Summary (Appendix C) summarizes the comments received and the Forest Service's responses to these comments.

23.0 REFERENCES

Key Guidance Documents:

The Revised Forest Plan for the Caribou National Forest (February 2003)

The National Contingency Plan regulations, found at 40 CFR Section 300, and the statutory requirements of CERCLA—especially Section 121 of CERCLA, 42 U.S.C. Section 9621—are the mandatory requirements that the Forest Service must follow in selecting a remedy.

"Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA," Interim Final, OSWER No. 9355.3-01 (EPA October 1988)

"A Guide to Selecting Remedial Superfund Actions," OSWER No. 9355.0-27FS (EPA April 1990)

"A Guide to Principal Threat and Low Level Threat Wastes," OSWER No. 9380.3-06FS
(EPA November 1991)

"Rules of Thumb for Superfund Remedy Selection," OSWER No. 9355.0-69 (EPA August 1997)

"Incorporating Citizen Concerns into Superfund Decision Making," OSWER No. 9230.0-18 (EPA January 1991)

"The Role of Cost in the Superfund Remedy Selection Process," OSWER No. 9200.3-23FS (EPA September 1996)

NMM EMDSOU investigation activities and reports include:

Forest Service, 2021. Community Involvement Plan, North Maybe Mine. Prepared by U.S. Forest Service.

Forest Service 2021a. Proposed Plan, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by U.S. Forest Service.

Forest Service 2021b. Public Meeting, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by the U.S. Forest Service

Nu-West. 2021. Final Remedial Investigation/ Focused Feasibility Study (RI/FFS) Report, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by Arcadis.

NuWest 2017. Final Screening Level Human Health Risk Assessment, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by Arcadis.

NuWest 2017a. Final Screening Level Ecological Risk Assessment, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by Arcadis.

TABLES

Table 1 – Cleanup Levels by Media

Contaminant	Surface Water Cleanup Level (mg/L)	Groundwater Cleanup Level (ug/L)
Antimony	0.006	0.006
Arsenic	0.01	0.05
Cadmium	0.005	0.005
Chromium (total)	0.1	0.1
Copper	1.3	1.3
Lead	0.015	0.015
Mercury	0.002	0.002
Selenium	0.05	0.05
Thallium	0.002	0.002

Notes:
Surface Water Cleanup Values: US Safe Drinking Water Act - Maximum Contaminant Levels
Groundwater Cleanup Values: IDAPA 58.01.11 – Ground water Quality Rule

Table 2 - Evaluation Criteria for Superfund Remedial Alternatives

Category		Criteria	General Description	Factors to Consider
Threshold Criteria	1	Overall Protection of Human Health and the Environment	Evaluates how the alternative, as a whole, achieves and maintains protection of human health and the environment.	Effectiveness for elimination, reduction, or control of site risks posed through each exposure pathway. Consider whether unacceptable short-term or cross-media impacts would occur.
	2	Compliance with ARARs	Evaluates how the alternative complies with ARARs, or if a waiver is required and how it is justified	Compliance with action-specific, location-specific, and chemical-specific ARARs. Compliance with other criteria, advisories, and guidance.
Balancing Criteria	3	Long-Term Effectiveness & Permanence	Evaluates the long-term effectiveness of alternatives in maintaining protection of human health and the environment after the response objectives have been met.	Magnitude of residual risk. Adequacy and reliability of controls.
	4	Reduction of Toxicity, Mobility, and Volume through Treatment	Evaluates the anticipated performance of the specific treatment technologies than an alternative may incorporate.	-Treatment process used and materials treated. -Amount of hazardous materials destroyed or treated. -Degree of expected reductions in toxicity, mobility, and volume. -Degree to which treatment is irreversible. -Type and quantity of residuals remaining after treatment. -Degree to which treatment reduces principal threats.
	5	Short-Term Effectiveness	Examines the effectiveness of alternatives in protecting human health and the environment during construction and implementation of a remedy until the response objectives have been achieved.	-Protection of the local community during remedial actions. -Protection of workers during remedial actions. -Environmental impacts of remedial action activities. -Time until remedial action objectives are achieved.
	6	Implementability	Evaluates the technical and administrative feasibility of alternatives and the availability of services, equipment, and skilled manpower	-Ability to construct and operate the technology. -Reliability of the technology. -Ease of undertaking additional remedial actions if necessary. -Ability to monitor effectiveness of remedy. -Coordination with other agencies. -Availability of offsite treatment, storage , and disposal services and capacity. -Availability of necessary equipment and specialists. -Availability of prospective technologies.
	7	Cost	Assesses the capital, maintenance, and repair costs of each alternative.	-Capital costs -Maintenance and repair costs -Present worth costs -Accuracy of cost estimates: +50% to -30% -Performance period: 30 years
Modifying Criteria	8	State Acceptance	Assesses the state's or support agency's preferences among or concerns about the alternatives	Sought from the regulatory stakeholders.
	9	Community Acceptance	Assesses the community's preferences among or concerns about the alternatives	Sought through the public review period for the EMDSOU Proposed Plan

Acronyms and Abbreviations:

ARAR – Applicable or Relevant and Appropriate Requirements
CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act

Sources:

- NCP 300.430;
- 55FR 8849;
- USEPA. Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA. EPA/540/G-89/004. October 1988.

Table 3 - Comparison of Remedial Alternatives

	Evaluation Criteria			Alternative 7: Geosynthetic Cap	Alternative 8: EMD Material Excavation and Disposal
Threshold Criteria					
1	**Overall Protection of Human Health and the Environment**	**Human Health Protection**	Reduce direct contact with and/or ingestion of impacted environmental media (i.e., overburden rock, soil, sediment, vegetation, and surface water) by human receptors.	Generally protective of human receptors. Reduces risk of direct contact with impacted environmental media. Conditions in the South Area do not pose risk to human receptors.	Overburden pile removal eliminates EMD materials from the Site and prevents human contact with or ingestion of COPC impacted environmental media.
		Environmental Protection	Reduce direct contact with and/or ingestion of impacted environmental media (i.e. overburden rock, soil, sediment, vegetation, and surface water) by ecological receptors.	Generally protective of ecological receptors. Reduces risk of direct contact with impacted environmental media. Conditions in the South Area do not pose risk to ecological receptors.	Overburden pile removal eliminates COPC-impacted source material from the Site and prevents ecological receptor contact with or ingestion of COPC impacted environmental media.
			Reduce COPC transport through erosion and/or loading to surface water and/or groundwater.	Reduces the potential for COPC transport through erosion and loading to surface water. Reduces COPC loading to groundwater by reducing infiltration into overburden pile. Conditions in the South Area do not contribute to COPC loading to surface water and/or groundwater.	Removes EMD materials from the Site and prevents transport of COPCs.
	Yes/No			**Yes**	**Yes**
2	**Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)**		Chemical-Specific ARARs	Requires ARAR waivers. Waivers of chemical ARARs for groundwater and surface water will be necessary until remedial actions are undertaken and compliance points are established for the North Maybe Mine.	Requires ARAR waivers. Waivers of chemical ARARs for groundwater and surface water will be necessary until remedial actions are undertaken and compliance points are established for the North Maybe Mine.
			Location-Specific ARARs	Complies with ARARs.	Complies with ARARs.
			Action-Specific ARARs	Complies with ARARs.	Complies with ARARs.
	Yes/No			**Yes**	**Yes**
Balancing Criteria					
3	**Long-term Effectiveness and Permanence**	**Magnitude of Residual Risk**	Reduction of risk to human and ecological receptors due to direct contact with and/or ingestion of impacted environmental media (i.e., overburden rock, soil, sediment, vegetation, and surface water)	Effective in reducing human exposure to impacted media. Evaluation of residual conditions indicates acceptable human health exposure will be established following placement of the geosynthetic cap on the North Area and no action on the South Area.	Source materials removed from Site leaving minimal residual risk.
			Reduction of risk due to COPC transport	Effective at reducing infiltration and COPC loading to groundwater.	Risk of COPC transport eliminated by removal of COPC source from the Site.
		Adequacy and Reliability of Controls	Demonstrable and reliable performance.	Geosynthetic cap performance less susceptible than natural material caps to environmental degradation and defect formation over time.	Removal of source materials would reliably remove COPC impacts from the Site.
	Effectiveness at Achieving Criterion			**Moderate**	**High**
4	**Reduction of Toxicity, Mobility or Volume Through Treatment**		Treatment process used.	None.	None.
			Reduction of toxicity, mobility, or volume through treatment.	Reduction of mobility of COPCs achieved by preventing stormwater contact with North Area and by preventing infiltration to EMD materials. Contact with COPC-impacted media (i.e., soil, vegetation) prevented by North Area cap. Reduction in the toxicity, mobility, and volume of COPC-impacted groundwater achieved by reducing volume of precipitation infiltrating into EMD materials.	COPC source removed from the Site.
	Effectiveness at Achieving Criterion			**Moderate**	**High**
5	**Short-Term Effectiveness**		Protection of community during remedial action.	Construction-related traffic on regional roads during North Area cap placement activities may affect local communities.	Heavy traffic on regional roads and potentially through communities with loads of impacted soils. Potential for accidental spills or releases of overburden material during transport.
			Protection of workers during remedial action.	Monitoring of dust during soil cover placement in North Area would be necessary to protect workers. Safety controls on heavy equipment would be important for protection of workers.	Extensive use of heavy machinery and labor could be hazardous. Potential for destabilization of overburden pile during excavation would require careful planning and monitoring.
			Environmental impacts.	Disturbances at soil borrow locations. Emissions from trucking and heavy equipment used for grading and soil cover placement.	Potential for impacts at disposal location.
			Time until RAOs are achieved.	Liner can be installed relatively quickly with lower risk to infiltration while vegetation is being established.	Excavation, transport, and disposal of overburden material likely to take several years. Restoration of the Site following overburden pile removal likely to be established within a year following overburden pile removal.
	Effectiveness at Achieving Criterion			**Moderate**	**Not Effective**

Table 3 continued

	Evaluation Criteria		Alternative 7: Geosynthetic Cap	Alternative 8: EMD Material Excavation and Disposal
Balancing Criteria (con't)				
6	**Implementability**	Ability to construct and operate	Requires moderate regrading of North Area to construct. Placement of liner is readily implementable using standard methods. Placement of liner will require a high level of CQA	Requires significant equipment to haul large quantities of material to disposal location. Requires identification of suitable disposal location that can accommodate disposal of the materials
		Ease of doing more if needed	Would not limit further actions	Would not limit further actions
		Ability to monitor effectiveness	Effectiveness monitored by periodic cover inspections, ongoing groundwater and surface water monitoring, and 5-year review of current site status	Effectiveness monitored by ongoing groundwater and surface water monitoring, and 5-year review of current site status
		Ability to obtain approvals and coordinate with other agencies	Coordination among appropriate legal services, regulatory stakeholders, and property owner would be required	Same as Alternative 7
		Availability of equipment, materials specialists, and offsite support services	Equipment, materials, specialists, and offsite support services required to implement all components of this alternative are readily available. Proper placement and construction of geosynthetic liner is critical and will require careful quality assurance during construction	Equipment, materials, specialists, and offsite support services required to implement all components of this alternative area readily available, however, this alternative requires identification of a suitable disposal location.
		Availability of technologies	Soil grading and geosynthetic cap placement is a common technique that is readily implemented	Soil excavation and disposal are common technologies that are readily available, however, disposal quantities are likely to exceed landfill capacity and there are no suitable landfills in close proximity to the Site. Onsite disposal may be considered as disposal option.
	Effectiveness at Achieving Criterion		**Moderately high**	**Not Effective**
7	**Cost**	Total present worth of capital and maintenance and repair focused feasibility study-level construction costs	Total present-worth cost **$14,698,600**	Total present-worth cost **>$100,000,000**
	Relative Cost		**Moderate Cost**	**High Cost**
Modifying Criteria				
8	**State Acceptance**		The U.S. Forest Service will seek regulatory stakeholder input on the Proposed Plan	Same as Alternative 7
9	**Community Acceptance**		Comments received during the public comment period will be incorporated into the Record of Decision in a responsiveness summary	Same as Alternative 7
Alternative Comparative Ranking				
	Summary and Identification of Preferred Alternative		**Preferred Alternative**	**Implementability and cost prohibitions**

Acronyms and Abbreviations:
ARAR = applicable or relevant and appropriate requirements
COPC = constituent of potential concern
EMD - East Mill Dump
RAO = remedial action objective

FIGURES

Figure 1 Site Location

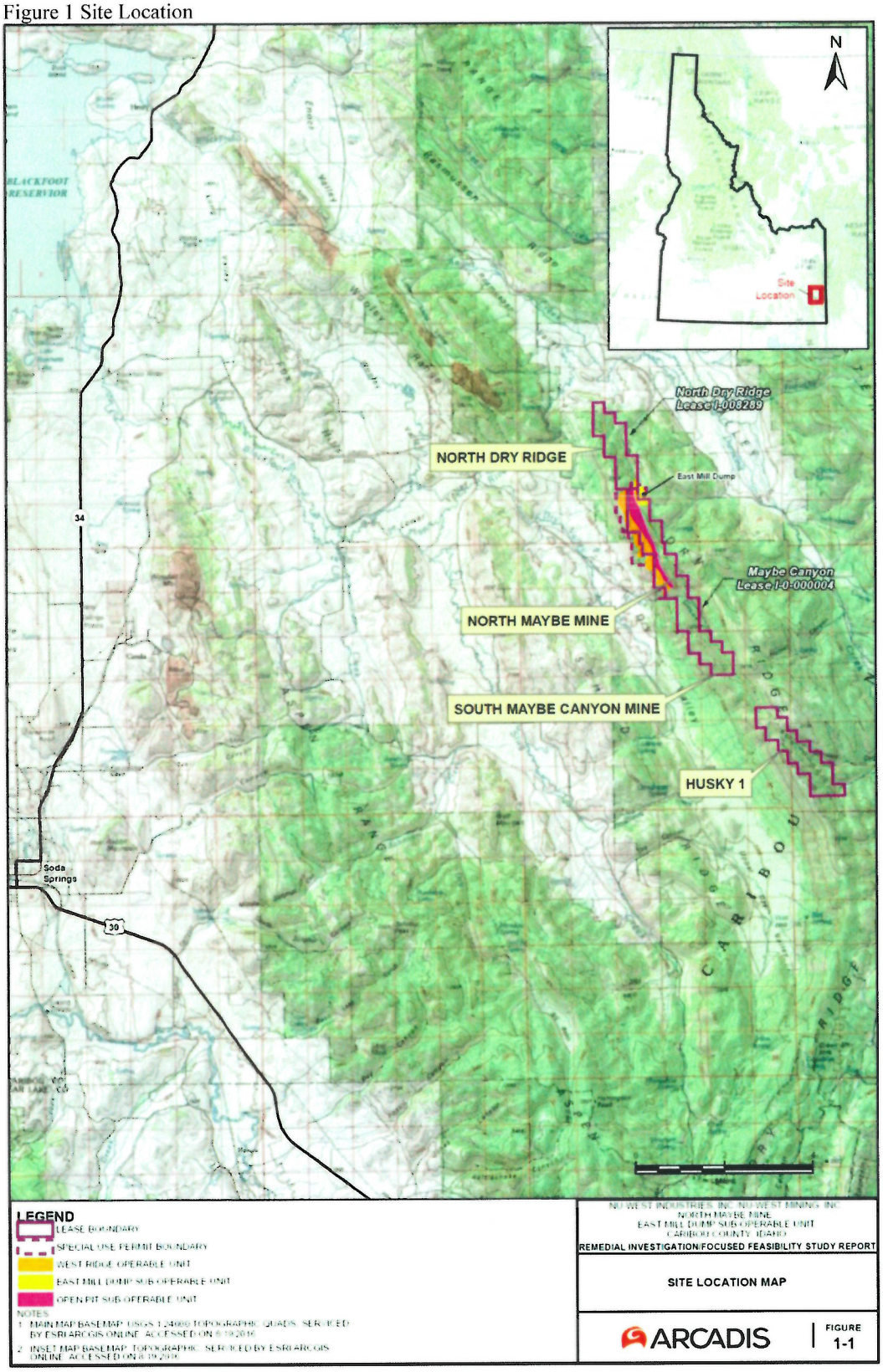


Figure 2 Site Features

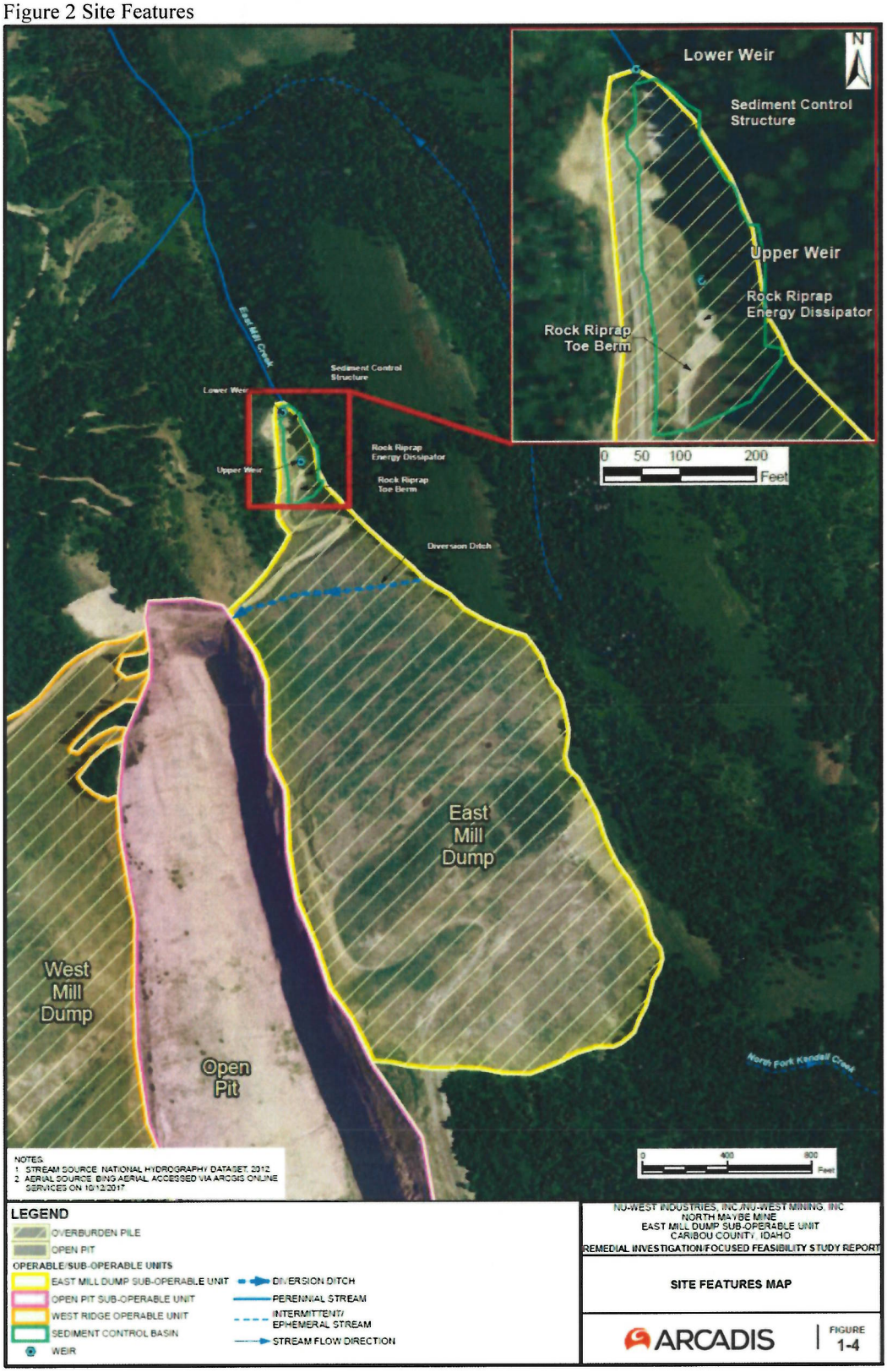
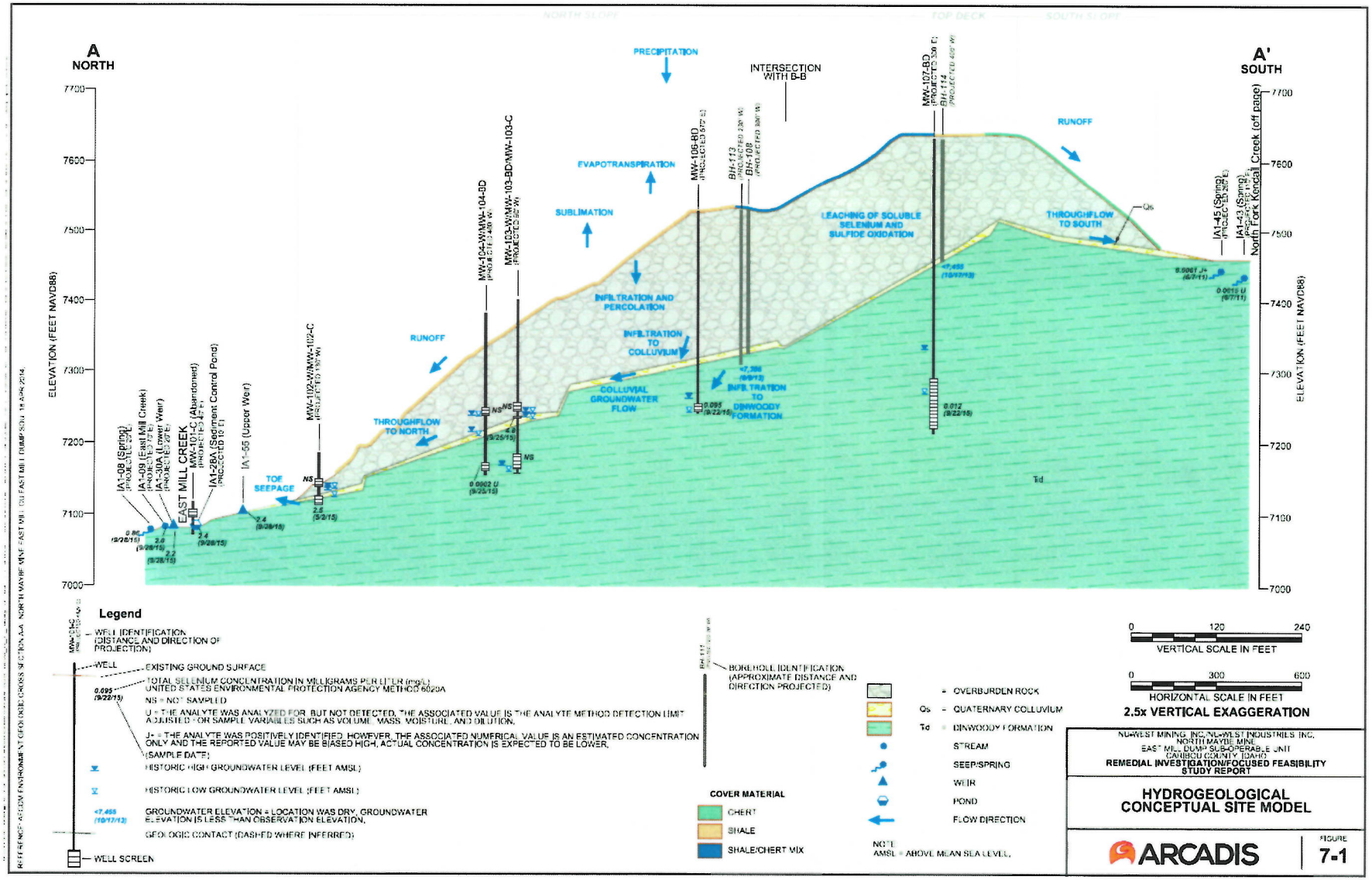


Figure 3 Hydrogeological Conceptual Site Model



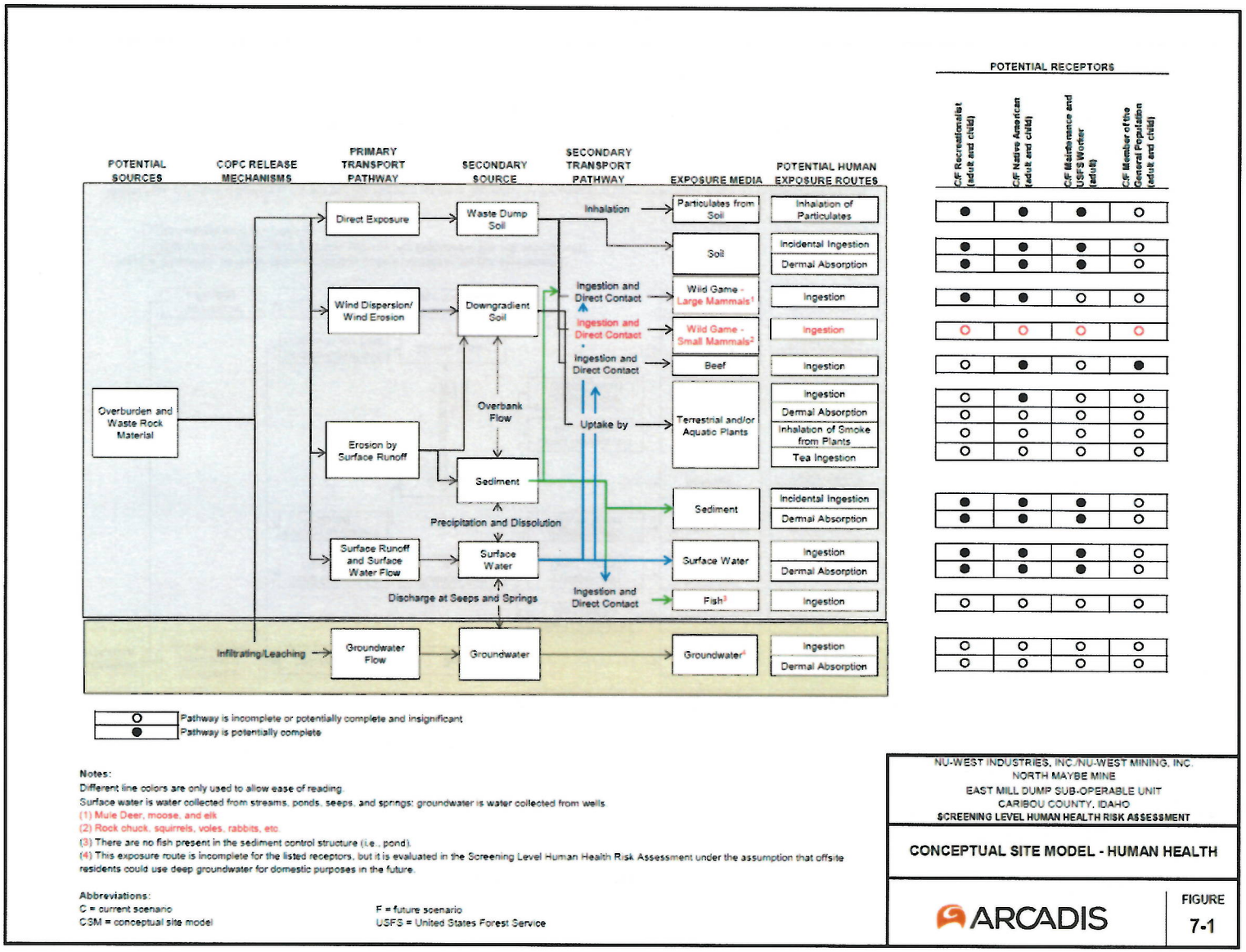


Figure 4 Screening Level Human Health Risk Assessment Conceptual Site Model

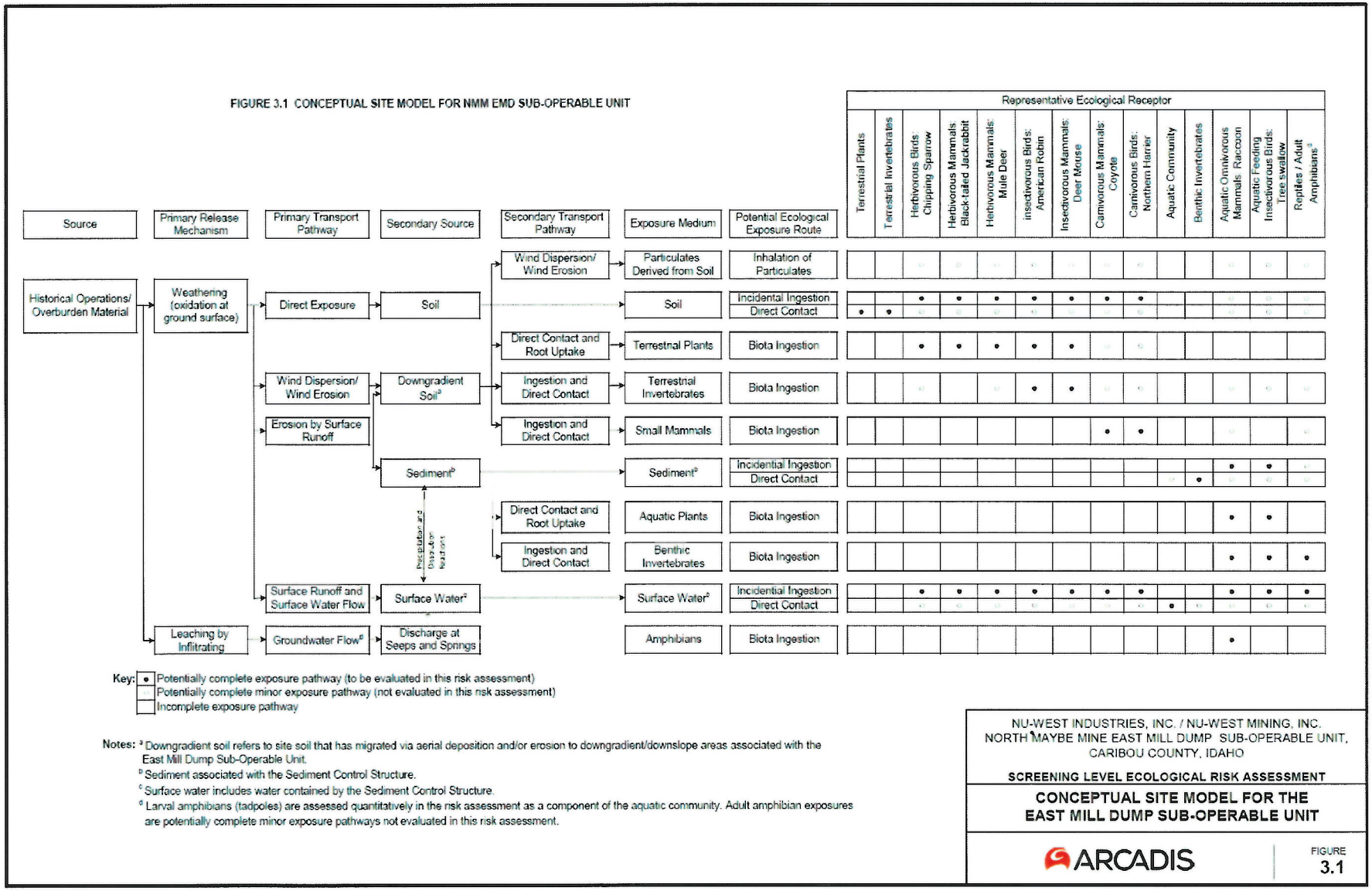


Figure 5 Screening Level Ecological Risk Assessment Conceptual Site Model

APPENDIX A

Idaho Department of Environmental Quality Concurrence with the Selected Remedy

Brad Little, Governor
Jess Byrne, Director

1410 N Hilton Street, Boise, ID 83706
(208) 373-0502

August 11, 2022

Electronic Delivery: Brian.Deeken@usda.gov

Mary Farnsworth
Regional Forester
US Forest Service, Intermountain Region
324 25th Street
Ogden, UT 84401

RE: Concurrence with the Interim Record of Decision, North Maybe Mine, East Mill Operable Unit, East Mill Dump Sub-Operable Unit, Soda Springs Idaho, July 20, 2022

Dear Ms. Farnsworth,

The Idaho Department of Environmental Quality (DEQ) has reviewed the Interim Record of Decision, North Maybe Mine, East Mill Operable Unit, East Mill Dump Sub-Operable Unit, Soda Springs Idaho, July 20, 2022, issued by the United States Forest Service, Region 4 representing the selected remedy for the North Maybe Mine East Mill Dump Sub-Operable Unit.

The Idaho Department of Environmental Quality, on behalf of the State of Idaho, has reviewed the various alternatives and supports the Selected Remedy, Alternative 7, Geosynthetic Cap.

The State has also reviewed the NMM EMDSOU RIFFS (NuWest 2020), SLHHRA (NuWest 2017), and SLERA (NuWest 2017a), to determine if the Selected Remedy complies with applicable or relevant and appropriate State environmental and facility siting laws and regulations. The State of Idaho concurs with the Selected Remedy (Alternative 7, Geosynthetic Cap) for the Site.

Sincerely,

Jess Byrne
Director

SC

c: Michael McCurdy, DEQ State Office
Dana Swift, DEQ State Office
Katy Bergholm, DEQ Pocatello Regional Office
Douglas Tanner, DEQ Pocatello Regional Office

Sam Heinrich, Deputy Attorney General
Mel Boling, Forest Supervisor, USFS
Chris Campbell, Regional Director for Engineering, USFS

APPENDIX B

Cost Estimate Details for Alternative 7

ARCADIS Design & Consultancy for natural and built assets

COMPARISON OF COSTS AND GENERAL NOTES
FFS-LEVEL ESTIMATED CONTRUCTION COST
EAST MILL DUMP

Alternative	Cover for North Area (Top Deck and North Slope; 70 acres)	Cover for South Area (South Slope; 11 acres)	Estimated Cost
1	No Cover	No Cover	$0
7	Geosynthetic Cap	No Cover	$14,698,600

Alternative	Complete Removal	Estimated Cost
8	On-Site Material Handling - ROM	> $100MM

General Notes:

1. Cost estimate is based on Arcadis U.S.'s (Arcadis') past experience and contractor bids from similar projects in Idaho. Contractor bids are from 2014 estimates, and have been escalacted by 5.2% to 2018 dollars using the Construction Cost Index data.
2. This estimate has been prepared for the purposes of comparing potential remedial alternatives. The information in this cost estimate is based on the available information regarding the site investigation and the anticipated scope of the remedial alternative. Changes in cost elements are likely to occur as a result of new information and data collected during the engineering design of the remedial alternative. This cost estimate is expected to be within -30% to +50% of the actual projected cost. Utilization of this cost estimate information beyond the stated purpose is not recommended. Arcadis is not licensed to provide financial or legal consulting services; as such; this cost estimate information is not intended to be utilized for complying with financial reporting requirements associated with liability services.
3. All costs assume field work to be conducted by non-union labor.
4. All costs presented are based on the current understanding of site-specific conditions and stated remediation goals. Design details are limited to conceptual approaches to remediation and include a number of assumptions that are subject to change. Actual construction specifications and technologies will be determined during the design phase, and as a result, actual construction costs may vary from the costs presented here.
5. For the purposes of this cost estimate, geosynthetic barrier system is assumed to be 60-mil flexible membrane liner and geosynthetic drainage composite. If this alternative is selected, other geosynethic barriers (e.g., geosynthetic clay liner) would be evaluated during design phase.
6. For the purposes of this cost estimate, a reasonable quantity of surface water drainage features was assumed. During design, surface water drainage features will be designed as needed for the existing landform at East Mill Dump.
7. Unit pricing is based on planimetric quantities; therefore, areas and lengths calculated are also planimetric.

ARCADIS

ALTERNATIVE 7: GEOSYNTHETIC CAP
FFS-LEVEL ESTIMATED CONTRUCTION COST
EAST MILL DUMP

Item	Description	Quantity	Units	Unit Cost	Capital Cost	M&R Cost	Present Worth Cost	Comment
1.0	General Requirements and Mobilization							
	Site Preparation and Mobilization				$ 873,000			Includes set up of site trailers, clearing and grubbing, developing water source for soil conditioning, and project signage.
	Maintenance of Access Roads and Management of Erosion Controls during Contruction				$ 578,000			Includes maintenance of access roads to EMD, installation of erosion controls, dust control and security/access control.
	Site Survey				$ 306,000			Includes site survey prior to construction and ongoing landform surveying during regrading and cover placement activities.
2.0	Subgrade Preparation							
	Subgrade Regrading Top Deck, Cut and Fill				$ 137,000			Subgrade will need regrading to promote surface water drainage to North Slope toe. Assumes cut of 42,000 CY and fill of 17,000 CY.
	Subgrade Regrading Slopes: Cut and Fill				$ 645,000			Subgrade will need regrading to promote surface water drainage to North Slope toe. Assumes cut of 149,000 CY and fill of 127,000 CY.
3.0	Geosynthetic Cover Systems (North Slope and Top Deck, 70 acres)							
	Subcushion Production and Placement				$ 681,000			Production and placement of approximately 4-inch-thick subcushion layer using existing waste rock. Includes subgrade preparation prior to geosynthetic placement.
	60 mil Textured Flexible Membrane Liner				$ 1,861,000			Purchase and placement of 60-mil flexible membrane liner over 70 acres. Placement includes welding seams and testing.
	Geosynthetic Drainage Composite				$ 2,350,000			Purchase and placement of geosynthetic drainage composite over 70 acres.
	Excavate, Haul, and Place General Fill for Cover (On-Site Borrow)				$ 849,000			Assumes 18-inch-thick general fill layer over the clay. Approximately 170,000 CY of general fill would be excavated from an adjacent borrow area.
	Excavate, Haul, and Place Topsoil (Off-Site Borrow)				$ 743,000			Assumes 6-inch-thick topsoil over the general fill. Approximately 57,000 CY of topsoil would be excavated from an adjacent borrow area.
	Cover Terminations				$ 66,000			Includes geosynthetics terminations around perimeter of proposed capping area, including transition to soil cover.
4.0	Access Roads and and Surface Water Drainage							
	Access Roads				$ 282,000			Includes site-wide access roads (estimated at 7,700 LF); although less access may be suitable.
	North Slope Drainage Features (Underdrains, Toe Drains, Swales, Downchute)				$ 813,000			Includes underdrains and toe drains to support geosynthetic stability. Assumes approximately 12 benches/swales along the North Slope with a large collection downchute. Drainage features would be lined with riprap.
	Top Deck Drainage Features (Underdrains, Swales, Collection Channel and Check Dams)				$ 169,000			Includes underdrains to support geosynthetic stability. Assumes two swales and two 400 LF collection channel with periodic chock dams on the Top Deck. Drainage features would be lined with riprap.
6.0	Site Reclamation							
	Revegetation				$ 251,000			Assumes revegetation of 70 acres.
	Borrow Pit Revegetation				$ 94,000			Assumes revegetation of 24 acres.
8.0	Long Term Monitoring and Reporting							
	Groundwater and Surface Water Monitoring - First Five Years	5	Event	$ 30,000	$ -	$ 150,000	$123,000	Sampling and analysis for the first five years following cap placement, engineering estimate.
	Biannual Goundwater and Surface Water Monitoring - Years 6-30	12	Event	$ 30,000	$ -	$ 360,000	$238,300	Sampling and analysis once every two years for years 6-30, engineering estimate.
	Annual Site Control Report	30	Event	$ 4,000	$ -	$ 120,000	$49,600	Engineering estimate to prepare annual report to describe completed inspectionand maintenace activities for the corresponding year.
	Annual Data Evaluation Report	17	Event	$ 8,000	$ -	$ 136,000	$78,100	Engineering estimate to prepare annual report to summarize surface and groundwater monitoring events.
	Annual Site Control Report Addenda	29	Event	$ 4,000	$ -	$ 116,000	$49,100	Engineering estimate to prepare addenda to Site Control Report prior to each subsequent field season to propose changes based on current conditions.
	Five Year Review	6	Event	$ 15,000	$ -	$ 90,000	$71,500	Engineering estimate to compile the Five Year Review.
9.0	Demobilization and Project Closeout							
	Demobilization and Project Closeout	1	LS	$ 139,000	$ 139,000	$ -		
				Subtotal Capital Costs	$ 10,837,000			
				Administration & Engineering (15%)	$ 1,626,000			
				Construction Management (15%)	$ 1,626,000			
				Subtotal	$ 14,089,000			
				Total Present Worth M&R (7% Discount)	$ 609,600			
				Total Present Worth of Capital and M&R FFS-Level Construction Costs	$ 14,698,600			

LF = linear feet, CY = cubic yards, M&R = Monitoring and Reporting

APPENDIX C

Responsiveness Summary

Record of Decision
North Maybe Mine
East Mill Dump Sub-Operable Unit

Responsiveness Summary

A summary of written comments received and the U.S. Forest Service's responses regarding the Proposed Plan with respect to the North Maybe Canyon Mine (NMM) East Mill Dump Sub-Operable Unit (EMDSOU) are provided below. As required by the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the Forest Service prepared a written response to significant comments received pursuant to 40 C.F.R 300.815(b). Some commenters provided opinions that do not relate to the technical aspects of the preferred removal action alternative identified in the July 2021 Proposed Plan. The Forest Service did not consider these significant comments. The Forest Service did not address them in the response to comments.

The Forest Service received one set of comments during the public comment period from one group comprised of Yellowstone to Uintas Connection, Alliance for the Wild Rockies, Native Ecosystems Council, Snake River Waterkeeper, and Wildlands Defense (collectively referred to as Y2U). Since these comments were received as one 33-page letter, the Forest Service separated the letter into individual comments.

The Forest Service also received two letters of support during the public comment period from the city of Soda Springs and the Idaho Department of Fish and Game, which are included in this Responsiveness Summary.

NMM EMDSOU Response to Comments

	Commenter	Comment	Response
1	Y2U	As advocates for clean water, clean air, and wildlife, we are deeply disturbed by this Proposed Plan. The phosphate industry came to this area, has been mining the phosphate ore while bringing in billions of dollars in revenue, then offers an Alternative 7 to leave the problem in place while only spending an estimated $14,698,600 for reclamation. With this proposed reclamation, the industry is leaving pollution and damaged or destroyed habitat that will not recover for decades to centuries, if ever. The public is expected to accept this pollution, loss of access and wildlife habitat that is not only occurring at the Maybe Mine but at over a dozen other SE Idaho mines that are now CERCLA sites due to this chemical pollution. How is this acceptable? Yet the Caribou Targhee NF, Bureau of Land Management and the State of Idaho continue to allow this ongoing disaster to proceed by permitting new mines, one after the other.	Alternative 7 remediates the contamination problem by controlling the source of the contamination to the environment. Selection and acceptability of Alternative 7 is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
2	Y2U	It is unclear how the Caribou Targhee Forest Plan, BLM Resource Management Plan, NEPA, NFMA, APA and other laws and regulations apply here. This is a decision to be issued by the Forest Service based on analysis by the mining company consultants. While CERCLA is cited, there must be other mandates to be met. The public needs to fully understand the legal environment applicable here and it is the duty of the agency to provide that context and additional opportunities for input. Since this is a Forest Service current action, all the rules of NEPA, NFMA, FLPMA, CWA, ESA apply. The public must be given a comprehensive analysis under these laws in addition to that provided under CERCLA.	The response actions proposed for the North Maybe Mine East Mill Dump are guided by CERCLA. NEPA does not apply to CERCLA response actions. Also, this is not a proposal to permit a new mine. Under CERCLA, remedial alternatives and evaluated to determine whether they attain applicable or relevant and appropriate requirements (ARARs) under other environmental laws or whether an ARAR waiver applies. Key ARARs for this Proposed Plan are in Attachment E of the Proposed Plan. The complete listing of ARARs and how they were considered in remedy selection are contained in the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
3	Y2U	This entire Plan needs to be withdrawn and a new plan provided that addresses the true nature of the problem, does not allow continued pollution exceeding background levels in any environmental medium, restores wildlife habitat and connectivity, streams and springs and pays the piper to do what is right. As the old saying goes, "You broke it, you fix it!"	The Proposed Plan addresses the source of the contamination. Selection and acceptability of Alternative 7 is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
4	Y2U	As Trustees, the Tribes have developed a Waste Management Act and Standards for lands within Fort Hall reservation boundaries. They believe "resources must be essentially clean and free of contaminants" as the presence of contamination may "decrease and degrade traditional foods and may preclude the use of the streams/rivers in the Mine Site for fishing, swimming, and other recreational uses." (PAS p5). This Proposed Plan does nothing of this nature as contamination and threats to people and ecosystems will continue indefinitely.	As stated in the comment the Waste Management Act and Standards only applies to lands within the Fort Hall Reservation. The North Maybe Mine is not located on the Fort Hall Reservation.
5	Y2U	Due to the open spaces and accompanying air currents, wind erosion and subsequent deposition also serves as a mechanism of chemical transport at the Mine Site (IDEQ 2002). Wind erosion of surface soils may transport and deposit	Soil, vegetation, surface water and groundwater samples were taken on and adjacent to NMM EMDSOU to ascertain fate and transport of

		selenium contaminated soils some distance from its source, dependent on wind speed and other factors. These wind-deposited soils may be directly taken up by vegetation, may be deposited in aquatic or riparian systems, and/or may be incidentally ingested by wildlife feeding in the depositional areas. Other pathways include infiltration of water thru waste dumps and pits, erosion from waste rock dumps to surface soils, runoff from spring snowmelt and snow events, uptake of selenium in soil placed as caps on waste rock dumps. (PAS p28). Was this addressed across the potential area affected by NMM? There was no evidence of this in the Proposed Plan.	contaminants (wind/water erosion, infiltration, and vegetation uptake). This information was summarized in the NMM EMDSOU RIFFS.
6	Y2U	Animals feeding or grazing on vegetation, animals living in or on waste rock dumps, aquatic organisms are affected. Selenium and other hazardous substances have been documented in surface water, ground water, soils, sediment, vegetation, and animal tissues in the Mine Site resulting in fish consumption advisory, elk liver consumption advisory. (PAS p29). The Proposed Plan did not report on the species using these features nor did it provide results of testing in each of these ecosystem components across the region of potential contamination from NMM.	A Screening Level Ecological Risk Assessment (SLERA) was conducted to ascertain contaminant risks to animals grazing at NMM EMDSOU. This document contains what species were evaluated and their resultant risks at NMM EMDSOU.
7	Y2U	Surface water concentrations documented at the Mine Site for selenium for streams exceeding the aquatic life chronic criteria of 0.005 mg/l for 16 locations in the Blackfoot River and various other streams ranged from the standard up to 6.89 mg/l or over 1000 times the standard. (Table 3 PAS p33). The Proposed Plan did not provide results for the suite of COPCs in all streams and springs potentially affected by its operation, meaning all waste dumps and the open pit and secondary sources from wind deposition of contaminants. There was no data for water quality in the NMM open pit lake shown in the Proposed Plan.	Surface water results are summarized in the Proposed Plan. As stated in the Proposed Plan, surface water sampling results are documented in the NMM EMDSOU RIFFS.
8	Y2U	Example groundwater selenium concentrations for 11 locations in the Mine Site that were above the 0.05 mg/l criterion ranged up to 12 mg/l or 240 times the criterion. (Table 4 PAS p34). The Proposed Plan did not provide results of ground water monitoring across the potential area affected and from all primary and secondary source areas generated by NMM.	Groundwater results are summarized in the Proposed Plan. As stated in the Proposed Plan surface groundwater results are documented in the NMM EMDSOU RIFFS.
9	Y2U	Example sediment concentrations compared to the removal action level of 2.6 mg/kg or the screening benchmark of 2.0 mg/kg in 8 locations representing the most contaminated sites ranged up to 1300 mg/kg or 500 times the removal action level for Idaho. (Table 5 PAS p36). The Proposed Plan did not provide sediment results for the potential area affected by NMM. Soils and vegetation concentrations compared to action levels at locations with most elevated concentrations were provided. The soils removal action level for Idaho is 5.2 mg/kg dry wt. and the EPA screening level is 0.52 mg/kg dw. Soils ranged up to 318 mg/kg. The vegetation removal action level in Idaho is 5 mg/kg dw. Concentrations ranged up to 1010 mg/kg. (Tables 6 and 7 PAS p38). The Proposed Plan did not provide results of sampling in soil and vegetation across the potential area of effect from NMM.	Sediment results are summarized in the Proposed Plan. As stated in the Proposed Plan, sediment sampling results are documented in the NMM EMDSOU RIFFS.
10	Y2U	Response actions were unknown as of the PAS, but "given the geographic extent of the Mine Site, it is unlikely that the remedial actions will sufficiently remedy	There is an ongoing Natural Resource Damage Assessment process conducted by the Trustee Council. Comments 4 through 9 cite to or

		injury to trust resources (including past injury from historic mining activities), and it is expected that additional restoration actions will be required." (PAS 48). As expected, there is no intent to ever return environmental media or aquatic and terrestrial habitats to background levels. What is the future cost of this philosophy across the Mine Site for all mines and for the NMM itself?	refer to the preassessment screen (PAS) for the Southeast Idaho Phosphate Mine Site. The PAS is part of the natural resource damage (NRD) assessment conducted by the NRD trustees. Response actions taken under CERCLA, such as this proposed plan, are separate from the NRD assessment and any restoration activities.
11	Y2U	What is the history of this project area? What Forest actions or permitted activities play a role in the current state of aspen, wildlife habitat, watershed health and other ecosystem attributes? What is the current nature and extent of contamination across the entire Mine Site? What was promised in permitting documents? How do current conditions compare to those commitments? Or were all commitments hedged to avoid future accountability? There should be an analysis of: • Validity of assumptions from previous decisions, permit requirements, and NEPA processes; • Accuracy of predictions from these same processes; • Adequacy of Forest Service, BLM, and mining company implementation of previous decisions; and, • Effectiveness of actions taken in previous decisions, including an analysis of the design criteria, BMPs, EMPs, and models.	Only a general history of NMM EMDSOU was provided in the Proposed Plan. A detailed history of NMM EMDSOU can be found in the RIFFS and is contained in the Administrative Record. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mine permitting commitments in these evaluations.
12	Y2U	The above items are critical for effective decisions and outcomes and for the public to be informed. After all, there have been assurances to the public regarding controlling pollution, doing reclamation, and not damaging habitats to a significant degree. We return to the example of the Smoky Canyon mine and its Pole Canyon Creek pollution issue. This is not a seventy-year-old mine constructed and operated before NEPA and other current environmental laws, yet it is a CERCLA site for selenium contamination. A full and robust explanation of this situation is needed otherwise how can current designs be trusted? This must be done across all the remediation and reclamation projects to date. Without this analysis the validity of the current assumptions cannot be determined. Without analyzing the accuracy and validity of the assumptions used in previous NEPA processes and projects, one has no way to judge the accuracy and effectiveness of the current analysis and proposals. The predictions made in previous NEPA and permitting processes also need to be disclosed and analyzed because if these were not accurate, and the agency is making similar decisions, then the process will lead to failure. For instance, if in previous processes the agency or permittee said they were going to perform a certain monitoring plan or implement a certain type of management, meet certain goals and objectives, and these were never effectively implemented or attained, it is important for the reader and the decision maker to know. If there have been problems with implementation in the past, it is not logical to assume that implementation will now be appropriate. If prior projects have not been monitored to document and compare post project initiation	The Remedial Investigation and Feasibility Study conducted at this site evaluated current site conditions and identified a preferred alternative to address the source of the contamination. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations.

		conditions to baseline data, then there is no proof that models, design criteria, BMPs, and EPMs are accurate, effective, or can be relied upon. What commitments have been made in the Forest Plan and subsequent project plans? Have these been realized?	
13	Y2U	The Proposed Plan outlines that waste rock, surface water, sediment, groundwater, soil, vegetation, and beef were potentially contaminated. It is uncertain whether this was based on the review of Site information (Plan p4) or actual sampling and analysis throughout the region of contamination.	Summaries of waste rock, surface water, sediment, groundwater, soil, and vegetation results are included in the Proposed Plan. As stated in the Proposed Plan waste rock, surface water, sediment, groundwater, soil, and vegetation sampling results are documented in the NMM EMDSOU RIFFS.
14	Y2U	What is needed is a description/analysis of the regional and local scale contamination resulting from the North Maybe Mine and in combination with the other mines for cumulative effects. This should describe the extent of contamination from deposition by wind and water. The position of the EMD and mine on top of a ridge means that regional winds can carry the particulates and associated contaminants long distances in each direction. The deposited particulates and associated contaminants can then move downgradient throughout the watershed with surface flows. They will be carried downgradient in ground water after leaching or percolating into lower soil layers and can re-emerge in streams long distances from the source.6 It is not clear from the Proposed Plan what the extent of actual sampling was, or if a sampling and analysis plan was designed and carried out, or whether these "potential contaminants of concern" were arrived at from knowledge of the characteristics of the overburden or mined material.	Soil sampling during the Remedial Investigation (RI) found that windblown and erosional contamination only moved soil contamination a short distance from the dump (less than 50 – 100 feet). As stated in the Proposed Plan, surface water and groundwater emanating from NMM EMDSOU and flowing down East Mill Creek are monitored currently) and will be monitored post construction to see if further remedial action(s) are necessary.
15	Y2U	Our personal experience from working on the first Natural Resource Damage Assessments in the nation in the 1980's in Colorado showed that wind deposited metals and radiological elements traveled miles from the point of origin, that they moved in the surface and ground water and could also be documented in soils, vegetation, fish, invertebrate, and sediment components of the system. The question is whether the Forest Service and Nu-West completed an adequate sampling and analysis program to document the extent of the contamination in all ecosystem components. The Proposed Plan does not describe the monitoring or its results and does not illustrate these results using maps, analysis, and interpretations. This leaves the public in the dark about the nature and extent of the contamination and the effects on the ecosystem.	Summaries of waste rock, surface water, sediment, groundwater, soil, and vegetation results are included in the Proposed Plan. As stated in the Proposed Plan waste rock, surface water, sediment, groundwater, soil, and vegetation sampling results as well as the nature and extent of contamination are documented in the NMM EMDSOU RIFFS.
16	Y2U	The Proposed Plan presents an overview of human health and ecological risks. (Plan p6 - 8). These were presented as non-Radiological and Radiological risk estimates using modeled or "screening level" scenarios at the NMM EMD. It is not clear if all the subunits of NMM were included or only the EMD was considered. It is not clear over what area or extent from the EMD the analysis was conducted or if it was based on actual data collected from the different environmental media.	For this action, only NMM EMDSOU was considered in the Human Health and Ecological Risk Assessments (HHRA). Risk Assessments will be conducted at the other NMM subunits as required under CERCLA.
17	Y2U	The metals, non-metals and radionuclides listed above all exceeded their respective human health screening values for all media listed. Risk estimates were "calculated" for the most plausible ecological exposure pathways. The areas	Metals, non-metals, and radionuclides were sampled and the sampling results were all utilized in the NMM EMDSOU Human Health and Ecological Risk Assessments. As stated in the Proposed Plan waste

		evaluated included the EMD Upland Area and the EMD Sediment Control Structure. Apparently, no actual sampling or measurement of the actual levels of contaminants in environmental media downgradient from the Source Areas (including these two subunits plus the open pit and other subunits) was used to make this determination or validate model results. The Proposed Plan does not present the actual concentrations throughout the region affected by these sources, so the public has no idea of what, where and how much. These risks were evaluated in the Screening Level Ecological Risk Assessment (SLERA) which concluded: EMD Upland Area, "The SLERA concluded that ecological risk for terrestrial plants and soil invertebrates and amphibians in the EMD upland area cannot be excluded. Further, the SLERA also concludes that risk to amphibians and wildlife receptors (terrestrial and aquatic birds and mammals) in the EMD upland area cannot be excluded. Risk to receptors at the EMD upland area is due to 17 soil COPECs: antimony, arsenic, boron, cadmium, chromium (total), copper, lead, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, uranium, vanadium, and zinc." EMD Sediment Control Structure, "The SLERA concludes that ecological risk for small to moderate ranging aquatic-feeding wildlife receptors using the Sediment Control Structure for food and water cannot be excluded. Risks to receptors in the aquatic environment are possible from exposure to 10 surface water COPECs: aluminum, barium, boron, cadmium, chromium (total and hexavalent), selenium, silver, uranium, and vanadium. Risks to receptors in the aquatic environment are possible from exposure to 14 sediment COPECs: aluminum, arsenic, barium, cadmium, chromium (total), copper, lead, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc." "As described above, the SLERA for the Site identified several COPECs in surface soil, sediment, and surface water. Therefore, the possibility of adverse risks for ecological receptors cannot be excluded under current conditions and remediation may be warranted." It appears these models were not validated by actual sampling of all media at and downgradient of the Site. As discussed above in Section 2 of these comments, BMPs and agency EPMs need validation so that the assumptions used in making these determinations and their outcomes can be proven. In addition, the meaning of reclamation and remediation is not made clear for either contaminated media or habitats.	rock, surface water, sediment, groundwater, soil, and vegetation sampling results as well as the Human Health and Ecological Risk Assessment results are summarized in the NMM EMDSOU RIFFS, SLHHRA, and SLERA.
18	Y2U	The Proposed Plan briefly describes the habitat of the EMD Upland area as being limited "relative to undisturbed native habitat in nearby areas" and having	Vegetation, sediment control structure, and wildlife sampling results are summarized in the NMM EMDSOU RIFFS.

		undergone reclamation. It is sloping terrain with grasses, herbaceous plants, and low shrubs. There was no mention of surveys of wildlife in the area documenting what species are present in the EMD and in these "nearby areas" of native habitat. Nor is the native habitat described. The aquatic habitat in the Sediment Control Structure is limited, but an aquatic community has been observed. Fish are absent due to the separation of the SCS from East Mill Creek. No discussion of the aquatic community or contamination levels in the open pit pond or East Mill Creek, or other aquatic environments (springs, seeps, ponds, streams) was presented.	
19	Y2U	"Watershed protection and ecological restoration have been given a high priority in the Forest Service in decision-making processes, including budget and program planning, land management planning, project implementation, and watershed assessments for forest and interagency plans." (Caribou Revised Forest Plan) Other than reclamation of the mine footprint to some early seral plant community, habitat structure and ecological restoration were not addressed. The Proposed Plan merely posits, but does not commit to remediation for contamination, let alone the full extent of contamination in all media, nor does it commit to watershed and habitat restoration.	Watershed restoration is outside the scope of CERCLA remediation for NMM EMDSOU. Limited habitat restoration will be considered during design of the NMM EMDSOU remedy. Commitment to remediation for contamination will be contained in the Record of Decision for NMM EMDSOU.
20	Y2U	"The Revised Forest Plan addresses minerals operations, reclamation and hazardous substance management by requiring the mine operators to use the most current science and research as it becomes available." (p2-11). We saw no studies of successful reclamation or covers, and no data from other projects in the mining area to validate the practices proposed or models used. This also applies to BMPs or EPMs.	The Proposed Plan cited the recent Removal Action at South Maybe Canyon Mine (SMCM) Cross Valley Fill (CVF). This action is very similar to the Proposed Plan for NMM EMDSOU.
21	Y2U	"Sustain site productivity by providing the following minimum amounts of woody residue = 3 inches in diameter dispersed on the site as outlined in Table 3.1." (p3-7). The Proposed Plan did not discuss the actual habitat needs of the wildlife potentially present, which would include woody residue.	During the SMCM CVF construction woody material was re-deposited as available in borrow areas. Similar actions are anticipated to be utilized during design and construction of NMM EMDSOU.
22	Y2U	"Adequate bonds or other security instruments shall be required for special use authorizations if it is determined that the use has potential for disturbance that may require rehabilitation or when needed to ensure other performance." (p3-10). The reclamation bond and its provisions were not discussed in the Proposed Plan. What we have seen is the bond is for the actual mine footprint with nothing provided to ensure that long term damage is corrected, pollution eliminated, or habitats restored.	Reclamation bonds for the North Maybe Mine are administered by BLM. Financial assurance under CERCLA will be provided by the mining company for the remedial action.
23	Y2U	"Mineral resources are available for development, consistent with other resource uses. Paleontological resources are properly managed to provide for preservation and use of these resources for current and future generations. Drastically disturbed sites are reclaimed so that natural recovery to pre-disturbed conditions is most likely. Reclamation emphasizes: 1) suitable topsoil preservation; 2) use of native plant species; and 3) stabilizing lands to a topographic relief (landform) that conforms to natural surroundings. Drastically disturbed lands are reclaimed to prescribed post-disturbance land uses as soon after disturbance as is practical. On mined lands and other drastically disturbed lands, maintain or reestablish	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities.

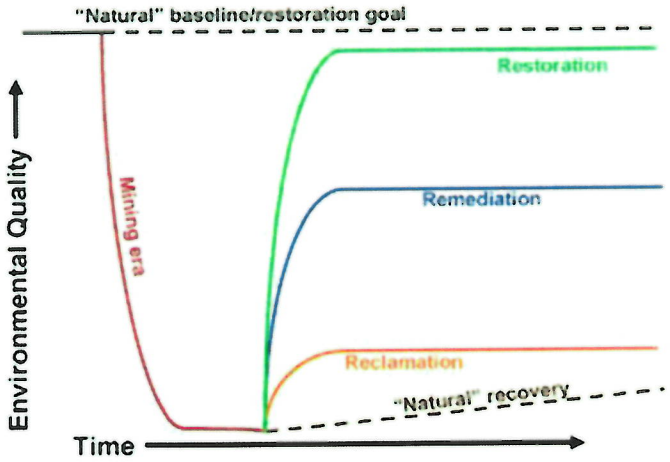
		hydrologic function, integrity, quality, and other surface resource values within the capability of affected lands. Provide for mineral resource development using state of the art practices for surface resource protection and reclamation, and with consideration of social and economic resources. Mining activities are administered to prevent the release of hazardous substances in excess of established state and/or federal standards. Reclamation is designed to eliminate or minimize wildlife, livestock, and/or human exposure to hazardous substances." (p3-11). This sums it up in a nutshell. We see no evidence in the Proposed Plan that the intent of this RFP passage has been met. In fact, the presence of such massive contamination by such a long list of dangerous pollutants is prima facie evidence this provision was ignored. Likewise, there is no restoration of the streams, springs, topography, hydrology, and other natural attributes. No science or studies from other mines or reclaimed areas was provided to show the success of reclaiming these areas, the plant communities and wildlife populations developed over time, the status of COPCs in soils, vegetation, fish, and wildlife.	
24	Y2U	"Conduct annual reviews of Best Management Practices (BMPs) and make appropriate adjustments to ensure that hazardous substance releases do not exceed state and/or federal standards." (p3-12). The Proposed Plan did not provide any summary of these reviews or any studies documenting the effectiveness of BMPs or EPMs. Apparently, at NMM given the list of contaminants expected in the ecosystem, they were not effective.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations. Under CERCLA §121(c), EPA (or the delegated agency) is required to review the remedies at Superfund sites where hazardous substances remain on site. Such reviews must be conducted every five years or may be conducted more frequently if necessary to ensure the protectiveness of the remedy.
25	Y2U	"Lessee/ operator shall conduct pre-mining, concurrent, and/or post-mining water quality and aquatic habitat monitoring (both surface and groundwater) on all phosphate-mining sites where bond release has not occurred, using most current sampling procedures and protocols." (p3-12). The Proposed Plan did not present the results of sampling and analysis of all media throughout the extent of the contaminated region. Were there baseline studies? Was ongoing monitoring conducted? Was monitoring conducted for the Proposed Plan? What are the results and how do they compare?	Water quality monitoring (surface water and groundwater) has been ongoing at NMM EMDSOU since 2009. Water quality monitoring will continue to monitor the effectiveness of the remedy into the future.
26	Y2U	"Reclamation vegetation shall be monitored for bio-accumulation of hazardous substances prior to release for multiple use management." (p3-13). We have seen no studies or summaries of past projects' reclamation or affected areas other than the PAS. Are mining companies collecting data on reclamation areas and soils adjacent to the mine footprint and haul roads to ascertain the concentration of COPCs in soils and vegetation? What has been done on the North Maybe Mine and its subunits?	Vegetation sample data was collected for NMM EMDSOU and summarized in the RIFFS and utilized in the SLERA to document unacceptable risks at the site.
27	Y2U	"The lessee/operator shall monitor reclamation work annually and report to the Forest Service until reclamation is accepted and the bond released." (p3-13). There was no summary of this annual monitoring provided. According to the	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger.

		PAS, some reclamation covers remain very sparse and the PAS reported high concentrations of contaminants in soil and vegetation.	It is not necessary to consider the status of mining reclamation in these evaluations.
28	Y2U	"Loss of available surface water sources for uses such as wildlife or grazing, as a consequence of mining operations shall be replaced or mitigated by the mine operator. This includes the loss of water quality sufficient to maintain post-mining uses." (p3-13). The Proposed Plan did not provide for any monitoring, mitigation or restoration of water sources for post mining water quality and habitat.	An Operations and Maintenance (O&M) plan will be approved for the NMM EMDSOU remedy that will provide for monitoring of water quality and ensure the remedy operates as designed.
29	Y2U	"Ground cover should be assessed prior to release of the reclamation bond to assure: 1) minimum ground cover exists to attain long-term soil productivity requirements; 2) ground cover should persist at minimum cover needs without artificial assistance (e.g. watering, fertilizers, etc.); and 3) meet or trend towards post-mining land use goals." (p3-14). Same comments as above. There is no reported data for the various mines showing the status of revegetation.	The BLM is the Agency that ascertains the adequacy of reclamation and effectiveness of actions taken in connection with mining at NMM EMDSOU. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations.
30	Y2U	"In reclaimed areas, vegetation should include species that meet wildlife habitat needs. Wildlife structures (slash piles, logs, rock piles) using native vegetation and materials are designed to provide cover for wildlife movements in created openings." (p3-14). There was no provision for these features in the Proposed Plan.	A native vegetation seed mix will be approved for use in revegetation of the NMM EMDSOU remedy and prevent erosion. The exact mix and use of wildlife structures will be evaluated and approved during the design of the NMM EMDSOU remedy.
31	Y2U	"Maintain the dead and down woody material guidelines for wildlife. (See Wildlife Standards and Guidelines for Dead and Down material)." (p3-19). There was no mention of how this is to be achieved in the Proposed Plan for Source Areas (all subunits and haul roads) or in areas outside the mine footprint.	During the SMCM CVF construction woody material was re-deposited as available in borrow areas. Similar actions are anticipated to be utilized during design and construction of NMM EMDSOU. Please note that habitat restoration will be addressed during design and construction of NMM EMDSOU as appropriate.
32	Y2U	"Not more than 30 percent of any of the principal watershed and/or their sub-watersheds (6th order HUC) should be in a hydrologically disturbed condition at any one time." (p3-16). Note hydrologically disturbed applies to changes in natural canopy and surface soil characteristics that may alter natural streamflow quantities and character. It is presumed that 30% of a watershed can be dug up and destroyed by mining alone, yet other activities also hydrologically disturb watersheds. These include timber harvest or sagebrush treatment, roads and other activities which also remove canopy, and livestock grazing that denudes and compacts soils and accelerates erosion	Investigations into the rest of the watershed are outside the site boundaries.
33	Y2U	"ME-1 reclamation plans for minerals development operations will be designed to meet applicable Idaho Standards for Rangeland Health (BLM 1997), reclamation complete when these standards have been met." The Proposed Plan made no reference to these RH standards and whether these were met or how reclamation is to be monitored.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations. Comments 108 through 109 cite to or refer to the BLM approved resource management plan (ARMP). The ARMP is developed by BLM to guide management of those lands and mineral interests administered

			by BLM and under its jurisdiction. The ARMP does not apply to Forest Service response actions taken under CERCLA.
34	Y2U	"ME-2 Final reclamation will meet applicable standards for watersheds, riparian areas and wetlands, stream channels and floodplains, seedings, exotic plant communities, and water quality with future site management directed towards attaining standards for native plant communities and threatened and endangered plants and animals (BLM 1997). • The lessee/operator will monitor reclamation and report to the Authorized Officer annually until reclamation is accepted as adequate. • Mineral operations will replace or mitigate any loss of available surface water sources for uses such as wildlife or grazing. • Plan selection for reclamation will reflect the surrounding ecosystem and post development land use. • Site specific mitigation measures will be developed through the NEPA process and applied to ensure that operations comply with applicable laws, land use plan guidance and do not result in unnecessary degradation." There was no mention of these attributes or how the Proposed Plan intends to address them. No mitigation or replacement of contaminated water sources for wildlife was included.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations. As this is not an active mine, BLM regulations on National Forest System lands do not apply.
35	Y2U	"GE-1 use inventories and surveys to document the condition and extent of resources/uses to monitor and respond to changes in conditions. Mitigate potential adverse effects." The Proposed Plan only addresses contamination, not habitat and mitigating the adverse effects on habitat.	The BLM is the Agency that ascertains the adequacy of reclamation and effectiveness of actions taken in connection with mining at NMM EMDSOU. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations.
36	Y2U	"GE-2 consistent with multiple use and sustained yield, achieve desired conditions while providing an ecologically healthy environment. Reduce impacts from management actions and maintain or improve resource conditions." The Proposed Plan leaves a polluted and degraded landscape without the attributes or contours that existed prior to mining and does not propose restoration.	The BLM is the Agency that ascertains the adequacy of reclamation and effectiveness of actions taken in connection with mining at NMM EMDSOU. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations. CERCLA focuses on remediation of hazardous substances, not restoration.
37	Y2U	"GE-3 provide proper nutrient cycling, hydrological cycling, restore or improve public lands adversely affected by major surface disturbance. Employ Idaho Standards for Rangeland Health (1997) to determine success of reclamation,	The BLM is the Agency that ascertains the adequacy of reclamation and effectiveness of actions taken in connection with mining at NMM EMDSOU.

		rehabilitation, or restoration activities." The Proposed Plan did not report on the conditions of prior reclamation activities on the NMM or other mines in the affected area and did not propose any restoration.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations.
38	Y2U	"SW-2 manage activities to maintain or contribute to the long-term improvement of surface and ground water quality; prioritize stream management and restoration by presence of sensitive species, amount of stream on BLM lands, condition, and importance for achieving multiple use objectives." Instead of improving water quality, the Proposed Plan intends to leave polluted groundwater and surface water, soils, and vegetation, and consequently, poisoned wildlife, pollinators, and other insects/invertebrates, and destroyed habitats, all to the detriment of their populations.	As stated in the Proposed Plan this is an interim action for source control. A final remedy for the rest of the site that will address all media will be selected in the future.
39	Y2U	"FW-2 maintain connectivity among habitats, use opportunities to improve habitat connectivity and reduce fragmentation of upland and riparian habitats by land actions, habitat improvement projects, wildlife, fire ES&R and restoration projects." The Proposed Plan omits any reference to wildlife connectivity and how this mine and the proposed reclamation does not destroy connectivity, or how connectivity is to be restored.	Habitat connectivity analysis is not required under a Screening Level Ecological Risk Assessment (SLERA). Sufficient risks were identified under the SLERA for NMM EMDSOU to document adverse risk to wildlife and justify an FS for a remedy at NMM EMDSOU.
40	Y2U	These excerpts illustrate the nature of the problem. The phosphate industry is creating pollution and environmental damage that will never be corrected under the current philosophy represented by the Proposed Plan. The Fact Sheet and PAS have described numerous mines with these issues. The public does not have a clue as to the extent of the problem in SE Idaho and it is incumbent on the Trustees to provide an analysis of all the mines and the current nature and extent of this contamination and habitat loss. This should be done under a NEPA process with an EIS that addresses the full extent of not only the contamination problem, but the alterations and fragmentation of habitats and the resulting effects on special status and other species. The analysis should not be fragmented into over a dozen RI/FS and other voluminous documents for up to 18 or more mines that the public can't access or easily understand. The analysis should also show the intent of the reclamation and remedial actions, the extent of pollution to remain, the extent to which Institutional Controls are to be applied and thereby the extent of the public and private lands that will be off limits or dangerous (exceeding background and all criteria) to people and wildlife.	This comment appears to be directed to the NRD trustees, and the NRD process. The Proposed Plan was issued by the Forest Service under CERCLA. NEPA does not apply to CERCLA response actions. The administrative record for the NMM EMDSOU is located at Soda Springs, ID and is made available to the public, consistent with the NCP.
41	Y2U	The State of Idaho statutes include relevant provisions. These are Title 47 Mines and Mining Chapter 15 Mined Land Reclamation and Title 39 Health and Safety Chapter 36 Water Quality. There are numerous provisions in these Statutes that must be addressed. Some of these are: • 47-1509 (4). Manage water as necessary to meet the requirements authorized under chapter 1, title 39, Idaho Code. (This includes meeting water quality criteria, antidegradation and beneficial use intent.)	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations. Financial assurance under CERCLA will be provided by the mining company for the remedial action.

		• 47-1510. VEGETATION PLANTING. (a) Except as otherwise provided in this act, an operator shall plant on affected lands, vegetation species that can be expected to result in vegetation comparable to the vegetation that was growing on the area occupied by the affected lands prior to the exploration and mining operations. • 47-1511. RECLAMATION ACTIVITIES — TIME LIMITATIONS. (a) All reclamation activities required to be conducted under this act shall be performed in a good and workmanlike manner, with all reasonable diligence, and as to a given exploration drill hole, road, or trench, within one (1) year after abandonment thereof. (b) The reclamation activity as to a given mine panel shall be commenced within one (1) year after mining operations have permanently ceased as to such mine panel, provided, however, that in the event that during the course of mining operations on a given mine panel, the operator permanently ceases disposing of overburden on a given overburden pile, or permanently ceases removing minerals from a given pit, or permanently ceases using a given road or other affected land, then the reclamation activities to be conducted hereunder as to such pit, road, overburden pile, or other affected land shall be commenced within one (1) year after such termination, despite the fact that all operations as to the mine panel, which includes such pit, road, overburden pile, or other affected land, have not permanently ceased. • 47-1512. FINANCIAL ASSURANCE — REQUISITES. (a) Prior to conducting any mining operations on a mine panel covered by an approved reclamation plan or operating a cyanidation facility covered by an approved permanent closure plan, an operator shall submit to the board financial assurance meeting the requirements of this section. (1) The initial reclamation financial assurance filed prior to conducting any mining operations on a mine panel shall be in an amount determined by the board to be the estimated reasonable costs of reclamation required in this chapter The Proposed Plan does not propose to meet these criteria. Nothing is revealed regarding the amount of the reclamation bond set aside for the NMM and whether any of that bond has been released or what remains and whether it is adequate for reclamation of the entire NMM. If not, the Bond should be increased to cover restoration to original contours, filling the open pit and restoring habitat that existed prior to mining.	
42	Y2U	The terms remediation and reclamation are used in the Proposed Plan, but the distinction is not made clear. The Proposed Plan made no mention of restoration. Yet the intent of the Forest Plan and ARMP includes restoration. The Forest Service should clearly distinguish these from each other and demonstrate where its Proposed Plan outcome fits in a continuum to total restoration of background	The BLM is the Agency that ascertains the adequacy of reclamation and effectiveness of actions taken in connection with mining at NMM EMDSOU.

		conditions prior to mining. We found an example in a website that provides information on the remediation and restoration taking place in the Clarks Fork River Basin.7 That site provides this narrative describing the relationship between reclamation, remediation, and restoration. Reclamation is a blanket term often used, for example, by mining engineers when they rehabilitate a disturbed site for some useful purpose. Remediation is a legally and technically specific term for treating hazardous material to reduce or eliminate harm to human or environmental health. And restoration is a legally and technically specific term for returning a disturbed site to a more-or-less natural condition. A diagram illustrating the distinctions is also provided and reproduced below: **Environmental Quality and the "3 R's"**  According to this diagram, the reclamation described in the Proposed Plan is at the bottom when compared to the other "R's" and far below baseline conditions pre-mining. We argue that the intent of the laws, regulations and land use plans are for restoration.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation in these evaluations. A remedial action is contemplated in the Proposed Plan to control the source of contamination. Remedial actions under CERCLA are typically considered remediation and the Proposed Plan is consistent with the commenter's definition of remediation. The Natural Resource Damage and Restoration process will ascertain whether additional actions are necessary for restoration.
43	Y2U	The Proposed Plan presents 8 alternatives from No Action to Removal and Disposal of the overburden material from the EMD. The Preferred Alternative 7 would consist of an "infiltration-limiting and direct contact-limiting engineered geosynthetic cap system applied to the North Area, excavation of sediment from the SCS and placement within the North Area prior to cap construction, access and use restrictions, informational signage, and monitored natural attenuation (MNA) of residual COPCs in groundwater." (Plan p13). This is expected to take 3	As stated earlier the proposed remedy is anticipated to achieve a 95% reduction in contamination flowing into E Mill Creek. As stated in the Proposed Plan a final remedy will be selected that will address any remaining contamination in East Mill Creek. Other NMM Operable Units are outside the scope of the NMM EMDSOU Proposed Plan.

		years to construct and cost $14,698,600 with the resulting decline in contamination taking place over an undefined period or space. A "reduction in erosion and transport of COPCs to East Mill Creek is to be achieved by capping the North Area. Potential remedies for contaminants that exceed acceptable risks in East Mill Creek beyond the SCS will be evaluated after implementation of the selected EMD remedial alternative." (Plan p17). (This is a clear demonstration that this reclamation Plan is trial and error using the natural environment and wildlife as guinea pigs.)	
44	Y2U	It is difficult to even know where to start on this situation. As the PAS shows, this mine has likely been sending COPCs into the environment since the early 1960's and that is added to the numerous other Nu-West mines in the area along with mines under other ownerships. This Proposed Plan addresses only one of the "subunits" at the NMM. According to the PAS there is the 2.5-mile-long open pit surrounded by 12 external rock dumps. Now, this Proposed Plan addresses only one of these features and will admittedly allow continued contamination of environmental media. There is no schedule or analysis of the pit or these remaining rock dumps, no schedule for remediation to meet the intent of the Forest Plan, ARMP, or water quality criteria. This Plan merely kicks the can down the road with an indefinite outcome.	As stated earlier the proposed remedy is anticipated to achieve a 95% reduction in contamination flowing into E Mill Creek. As stated in the Proposed Plan a final remedy will be selected that will address any remaining contamination in East Mill Creek. Other NMM Operable Units are outside the scope of the NMM EMDSOU Proposed Plan.
45	Y2U	As the Plan describes, the ARARs are to be waived for an indefinite period and then when any further remediation occurs, these will be evaluated at points of compliance (POCs). As we have pointed out earlier in these comments, those POCs are at the standard or criteria levels, not background. In addition, this will allow those criteria to be exceeded in the region upgradient of the POC which can be many miles and with MNA, this process can proceed indefinitely. We have seen estimates of hundreds of years for other mines such as Rasmussen Valley. We know from our reviews of these other mine EIS that cutthroat trout in the Blackfoot River system are declining with some streams lacking reports of their presence in recent years and with levels of selenium greatly exceeding levels that allow reproduction. It is not documented what the combined effects of the entire suite of metals, non-metals and radiological isotopes released in this Blackfoot watershed are on cutthroat trout and other species, especially when combined with the effects of the other environmentally degrading activities such as roads, livestock grazing and timber harvest.	Evaluation of the entire Blackfoot River watershed is outside the site boundaries of the NMM EMDSOU site. While background levels can be an important consideration at a CERCLA site, selection of a CERCLA remedy is based upon evaluation criteria in the NCP, as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
46	Y2U	Protections include Institutional Controls which basically prohibits access over an area considered to be contaminated to some modeled risk level. For this Proposed Plan that is unknown. For the entire NMM the extent of contamination is unknown, therefore a wide area of water, soil, vegetation, and wildlife contamination could exist. Then combine this with the other mines. Is the entirety of SE Idaho to become off-limits as mine after mine continues to be approved in the face of this overwhelming evidence of contamination and failures of BMPs and EPMs, and even remediation, to control the contamination?	This proposed plan only considers NMM EMDSOU with known contamination for water, soil, vegetation, and wildlife. Consideration of impacts from other sites is outside the scope of the NMM EMDSOU Proposed Plan.

47	Y2U	Then we come to the issue of stability of the Proposed Remedy. As described in the Plan, erosion is to be minimized. The Plan (p10) notes that sloughing of the waste material into the open pit can occur. Even if moved away from the open pit, the EMD remains in a hilltop or ridge position and as we have pointed out in our referenced comments above, SE Idaho is in a seismically active area. This has not been analyzed and the Plan (p10) indicates that "it may be necessary to move overburden away from the rim of the open pit to address highwall stability issues. Collection of additional geotechnical stability data in support of the remedial design may be necessary and would be undertaken in conjunction with pre-design data collection activities. Details for any potential reconfigured rim and associated grading and/or removal of overburden, as well as any necessary road reconstruction or repair, will be developed in the remedial design." This implies many years and a speculated scenario that might or might not occur at just one of 13 subunits at NMM. In the meantime, COPCs will continue to be released and habitat lost.	Geotechnical investigations and slope stability investigations will be conducted as part of the remedial design for the selected NMM EMDSOU remedy.
48	Y2U	Monitored Natural Attenuation is another problem. Despite the Tribes' dedication to no contamination as suggested in the PAS, and the CTNF RFP objectives cited, we have ongoing contamination with no end in sight. As we write these comments other mines such as Husky are undergoing environmental analysis as if all this past contamination is somehow not expected or never occurred and once again, promises of BMPs, EPMs and flawed models will be used to explain away the problems. EPA published guidance on MNA in April 1999, "Use of Monitored Natural Attenuation at Superfund, RCRA Corrective Action, and Underground Storage Tank Sites". A look at that guidance document is instructive. In the Purpose, EPA states, "EPA remains fully committed to its goals of protecting human health and the environment by remediating contaminated soils, restoring contaminated groundwaters to their beneficial uses, preventing migration of contaminant plumes, and protecting groundwaters and other environmental resources." EPA goes on to qualify the use of MNA as to whether it is the most "appropriate" technology; will meet site remediation objectives within a timeframe that, "is reasonable compared to that offered by other methods"; incorporate "contingency measures" into the remedy; and "EPA expects that source control and long-term performance monitoring will be fundamental components of any MNA remedy."	The preferred remedy (Alternative 7) is a long-term source control measure that meets the EPA guidance for use of monitored natural attenuation (MNA).
49	Y2U	In the Background section, EPA states, "When relying on natural attenuation processes for site remediation, EPA prefers those processes that degrade or destroy contaminants. Also, EPA generally expects that MNA will only be appropriate for sites that have a low potential for contaminant migration." In the first statement, we have seen that a cover and limiting infiltration is the principal mechanism at work to control and retain pollutants in the Source Area indefinitely, but it will continue to allow contaminant migration - recall the 5 pounds of selenium per day. The contaminants will not be destroyed. Regarding the second statement, NMM has extreme topographic relief with its Source Areas	Contaminant migration at NMM EMDSOU is proportional to the amount of infiltration. Therefore, if infiltration is prevented, migration will be eliminated as well. As stated in comment 47 geotechnical investigations will be conducted to ensure the stability of the dump and its remedy prior to construction.

		on top of the ridge. The potential for migration to Non-Source Areas is great and as we have seen, continues despite any (not known) remedial or control measures taken to date.	
50	Y2U	The Directive discusses MNA applied to inorganics as well. Since the Proposed Plan Preferred Alternative is to leave the current contamination in place where it will gradually leak outward and downward across the region, it is important to see what EPA has to say. "Changes in a contaminant's concentration, pH, redox potential, and chemical speciation may reduce a contaminant's stability at a site and release it into the environment. Determining the existence, and demonstrating the irreversibility, of these mechanisms is important to show that a MNA remedy is sufficiently protective." EPA further summarizes by saying, "Therefore, natural attenuation of inorganic contaminants is most applicable to sites where immobilization or radioactive decay is demonstrated to be in effect and the process/mechanism is irreversible. If the Forest Service and Nu-West determine to leave in place the COPCs they have the burden of showing that the COPCs currently at and surrounding the site will remain there and not, through physical, chemical, or biological means, migrate further, change states, or become accessible for human or animal consumption or exposure. On this steep slope, which has stability and seismic risks, where animals or insects, or plant roots can access the contaminated material there can be no assurance the Preferred Alternative will provide long term protection and as we point out, it is a leaky system by design.	After the remedy is constructed, an Operations and Maintenance Plan will be produced that will ensure the remedy operates as designed for the life of the remedy. Further, per CERCLA, the remedy will be reviewed every five years to ensure the remedy operates as designed. Should the remedy fail to meet the cleanup goals, then action(s) will be taken to bring the remedy into compliance.
51	Y2U	Based on the magnitude of the problem, i.e. the legacy these phosphate mines are leaving, the only appropriate alternative is to remove the contaminated materials in efforts similar to that which occurred in other places, such as the Atlas Uranium Mill in Moab, Utah. While expensive, it must be balanced against the centuries long or longer time until MNA documents contamination has returned to background levels, not just ARARs which can exceed toxic and chronic thresholds for people, fish and other wildlife, vegetation, insects, and microorganisms. Much of this is not addressed in the Proposed Plan.	Removal of the entire dump was considered in Alternative 8.
52	Y2U	Why has this happened? The NMM has been around since the early 1960's, but as the PAS describes has gone thru several active phases up until 1993 when the final ore was removed. Environmental laws such as the Federal Water Pollution Control Act (1948 and 1972), Clean Water Act (1972), Multiple Use and Sustained Yield Act (1960), National Forest Management Act (1976), Federal Land Policy and Management Act (1976), Comprehensive Environmental Response, Compensation, and Liability Act (1980) have been in place during this process. Either the Acts themselves are inadequate, or the agencies tasked with implementing these laws have failed to implement their intent such as in the case of the SE Idaho phosphate industry. Costs of remediation of NMM are raised as a concern, but there is no analysis of the costs of lost ecosystem values, polluted water, wildlife, and human health	Analysis and cost of lost ecosystem values is being investigated under the Natural Resource Damage and Restoration (NRD) effort conducted by the Trustees.

		effects. It is especially troubling that the CTNF and BLM continue to approve these mines in an area deemed a Superfund Site subject to Natural Resource Damages from past and/or ongoing mining pollution. In past comments we have questioned whether the economic benefit outweighs the environmental costs of mining phosphate in this region. According to the recent Smoky Canyon DEIS, this region produces 15% of the phosphate rock in the US while Florida and North Carolina produce 85%. There is no evaluation of the value of the Public Lands to present and future generations for its inherent benefits of water supply, fish and wildlife and recreation. The American People are left with a permanent burden of water pollution, degraded water supplies, polluted and destroyed fish and wildlife habitat, reduced productivity of ecosystems, and reduced or eliminated species.	
53	Y2U	Groundwater impacts are minimally described at best. Models used depend on numerous parameters, each of which has a wide range of variability. Cover systems and reclamation are described, but no test plot data for revegetation, lysimeter tests for leachates have been provided, or perhaps they have not been conducted. We conclude that these mining projects are an experiment but with universal outcomes of destroyed habitat and polluted environments.	Groundwater impacts are fully described in the NMM EMDSOU RI/FFS. AS stated in the Proposed Plan, the SMCM CVF with a similar remedy has achieved a 95% reduction in selenium concentrations in surface water and groundwater.
54	Y2U	That the Smoky Canyon mine became a Superfund Site discredits the permitting and analysis process. What models and BMPs were used? What did they predict? What was or were the outcomes? How can the public be assured that Dairy Syncline, Caldwell, Husky, or other mines undergoing NEPA review or recently permitted will not suffer the same or similar outcome, leaving the public burdened with cleanup, restoration, and loss of public resources for many generations, effectively permanently? Reclamation Bonds appear to be only for reclamation. When does it expire? What tools or resources are available to correct ongoing pollution and habitat loss extending past the Mine life or past the Bonding period?	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances or pollutants or contaminants which may present an imminent and substantial danger. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations.
55	Y2U	"Develops and uses scientifically credible strategies for the protection of species and ecosystems." (p1-2). Migration corridors, linkages, peripheral habitat were not analyzed.	Evaluation of Migration Corridors, linkages, and peripheral habitat are outside the site boundaries of NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
56	Y2U	"Monitoring and evaluation is an essential feature of the Plan." (p1-4). No Forest Service monitoring of DFC, habitat and populations presented.	As stated in the Proposed Plan, an evaluation of risk to the was conducted during the NMM EMDSOU SLERA as required by CERCLA. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service

			CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
57	Y2U	"The NFMA diversity provision and the fish and wildlife resource regulation establish a goal to provide habitat for the continued existence of vertebrate species in the planning area. The goal is met by following the provisions of 36 CFR 219.19(a)(1) through (a)(7). The bottom line is that the Forest Service may not adopt a plan that it knows or believes would, through possible future Forest Service actions, extirpate a vertebrate species from the planning area." (p1-4). The destruction of habitat from mining, roads and other activities is effectively extirpating most species from the mine footprint and project areas during mining and for some species, permanently. There was no analysis of population data from Forest Service monitoring of population trends and no analysis of project and cumulative effects on habitats and species other than broad general assertions.	Wildlife population monitoring is not required under a SLERA. Sufficient risks were identified under the SLERA for NMM EMDSOU to document adverse risk to wildlife and identify a preferred remedial action at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
58	Y2U	"Watershed protection and ecological restoration have been given a high priority in the Forest Service in decision-making processes, including budget and program planning, land management planning, project implementation, and watershed assessments for forest and interagency plans." (p2-1). Other than reclamation of the mine footprint to some early seral plant community, habitat structure and ecological restoration were not addressed.	Habitat structure and ecological restoration are conducted under the NRDAR process Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
59	Y2U	"New scientific information indicates that 60 percent of the healthiest aquatic habitats occur in roadless or very low road density areas on federal land, specifically in the Columbia River Basin (ICBEMP, 2000)." (p2-2). Our analysis for Dairy Syncline showed the HBIRA in already degraded condition with the project eliminating all security habitat. What is the status or IRAs and security habitat in the area affected by NMM. This has not been analyzed.	Aquatic habitat downstream from NMM EMDSOU is outside the site boundaries and was not analyzed under CERCLA. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
60	Y2U	Only 10% of watersheds are in good condition, 80% need restoration and improvement. Only about 30% of riparian areas are in pfc. (p2-3). Aspen are in a high departure from HRV and a 40% decline in aspen acres on the Forest. (p2-4). Sagebrush habitats have more bare ground and suffer increasing soil loss. (p2-5). In comments on other mines, we have recommended the steps needed to analyze, document and restore habitat. Clearly at NMM these are non-existent and there is no intent to restore or improve habitats as the intent of the regulations, Forest Plan and other rules provide.	Habitat structure and ecological restoration are conducted under the NRDAR process. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).

61	Y2U	"Due to changes in and loss of historic habitat, big game animals are pioneering new winter ranges on and adjacent to the Forest. The most recent impact is urban residential development on historic winter ranges." (p2-6). Winter range is not analyzed, but clearly could not exist under the Proposed Plan.	Big Game animals were included in the SLERA for NMM EMDSOU. This includes the overall anticipated range of big game animals present at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
62	Y2U	"The Revised Forest Plan addresses minerals operations, reclamation and hazardous substance management by requiring the mine operators to use the most current science and research as it becomes available." (p2-11). We saw no studies of successful reclamation or covers, no data from other projects in the mining area to validate the practices proposed. This also applies to BMPs or EMPs. How are we left with this massive contaminated landscape if these supposed protections were adequate?	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
63	Y2U	"In six of the seven ecological subsections on the Forest, Yellowstone and Bonneville cutthroat trout stronghold restoration and protection will be emphasized." (p2-12). We see no restoration effort to restore flows and habitat. Restoration mechanisms and locations should have been identified and proposed as part of the Proposed Plan.	The NMM EMDSOU remedy includes construction of a sediment control structure to ensure contaminants and erosional material does not impact downstream aquatic species and habitat. Restoration of downstream locations is outside the NMM EMDSOU site boundaries. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
64	Y2U	"The National Forest Management Act (NFMA) regulations require National Forests to provide habitat in order 'to maintain viable populations of existing native and desired non-native vertebrate species in the planning area.'" (p2-13). There was no population analysis for species at risk, nor was the habitat fragmentation affecting big game, sage grouse, lynx, wolverine, and raptors such as Northern goshawk analyzed.	Population monitoring is not required under a SLERA. Sufficient risks were identified under the SLERA for NMM EMDSOU to document adverse risk to wildlife and identify a preferred remedial action at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).

65	Y2U	"The Plan addresses big game issues important to the Idaho Department of Fish and Game by designating winter ranges and prescription areas which emphasize big game security. It will maintain habitat for threatened, endangered, and sensitive species, where they exist." (p2-13). There was no analysis of the current state of wildlife habitat, connectivity and security areas.	Wildlife habitat, connectivity, and security analysis are not required under a (SLERA). Sufficient risks were identified under the SLERA for NMM EMDSOU to document adverse risk to wildlife and identify a preferred remedial action at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
66	Y2U	DFCs and Vision for the CNF: "Landscapes display a balance of physical landscape components, including upland terrestrial habitats, riparian areas, wetlands, and clean water. Both aquatic and terrestrial habitats are becoming less fragmented and more connected." (p3-2). Once again there was no analysis showing that habitats are becoming less, not more, fragmented and water quality is definitely not "clean" per the intent of the CWA.	Habitat fragmentation analysis is not required under a SLERA. Surface water and groundwater were included in the SLERA. Sufficient risks were identified under the SLERA for NMM EMDSOU to document adverse risk to wildlife and identify a preferred remedial action at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
67	Y2U	"Within 10 years of signing of the Record of Decision (ROD), reassess composition and structure and other indicators used in the Caribou Sub-regional Properly Functioning Condition Assessment. This should include the Caribou and adjacent areas to determine changes achieved." (p3-3). No information on PFC of the habitats pre-mining, in adjacent areas, and the currently disturbed area was provided.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
68	Y2U	"Soil quality, productivity, and hydrologic function are maintained and restored where needed. Long term soil productivity is sustained and meets future land needs. Soils have adequate protective cover, adequate levels of soil organic matter (litter), and coarse woody material. Physical, chemical and biological processes in most soils function to sustain the site. Microbiotic crusts and their importance to soil stability are recognized. Management practices are designed to retain these soil components." (p3-5). There was nothing in the Proposed Plan describing how these processes and components are to be restored.	This will be addressed during the remedial design for the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).

69	Y2U	"Long-term soil productivity is sustained by limiting detrimental soil disturbances and by retaining ground cover, microbiotic crusts, fine organic matter and, where applicable, woody residue on activity areas." (p3-6). All woody residue was lost from the forested and shrub habitats, and soil organic matter, microbes were disrupted by excavation, storage and mixing. This was not addressed in the Proposed Plan.	This will be addressed during the remedial design for the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
70	Y2U	"For ground-disturbing activities where detrimental soil disturbances (defined in FSH 2509.18) occur on areas of 10 acres or greater, plan and implement rehabilitation to meet desired future conditions." (p3-6). The Proposed Plan did not address DFC for the disturbed areas.	This will be addressed during the remedial design of the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
71	Y2U	"Detrimental soil disturbance such as compaction, erosion, puddling, displacement, and severely burned soils caused by management practices should be limited or mitigated to meet long-term soil productivity goals." (p3-6). No data or research was provided to demonstrate that reclaimed areas will meet this.	This will be addressed during the remedial design phase for of the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
72	Y2U	"Sustain site productivity by providing the following minimum amounts of woody residue =3 inches in diameter dispersed on the site as outlined in Table 3.1." (p3-7). Reclamation description did not provide for woody residue.	This will be addressed during the remedial design phase of the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
73	Y2U	"Adequate bonds or other security instruments shall be required for special use authorizations if it is determined that the use has potential for disturbance that may require rehabilitation or when needed to ensure other performance." (p3-10). Only a reclamation bond for the mine footprint was provided. No information was provided to indicate that the bone will ensure that long term damage is corrected or habitats restored.	Financial assurance under CERCLA will be provided by the mining company for the remedial action. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria

			in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
74	Y2U	"Mineral resources are available for development, consistent with other resource uses. Paleontological resources are properly managed to provide for preservation and use of these resources for current and future generations. Drastically disturbed sites are reclaimed so that natural recovery to pre-disturbed conditions is most likely. Reclamation emphasizes: 1) suitable topsoil preservation; 2) use of native plant species; and 3) stabilizing lands to a topographic relief (landform) that conforms to natural surroundings. Drastically disturbed lands are reclaimed to prescribed post-disturbance land uses as soon after disturbance as is practical. On mined lands and other drastically disturbed lands, maintain or reestablish hydrologic function, integrity, quality and other surface resource values within the capability of affected lands. Provide for mineral resource development using state of the art practices for surface resource protection and reclamation, and with consideration of social and economic resources. Mining activities are administered to prevent the release of hazardous substances in excess of established state and/or federal standards. Reclamation is designed to eliminate or minimize wildlife, livestock, and/or human exposure to hazardous substances." (p3-11). These provisions were not addressed in the Proposed Plan. The topography appears to be permanently altered with an unnatural relief, a huge open pit and no forested habitats provided. There was no evidence provided or studies from reclaimed areas in the phosphate mining area to show the success of reclaiming these areas, the plant communities developed over time, the status of COPCs in soils and vegetation. The Proposed Plan did not address restoration of hydrologic function, particularly for streams and springs and their associated riparian or wetland areas.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
75	Y2U	"Conduct annual reviews of Best Management Practices (BMPs) and make appropriate adjustments to ensure that hazardous substance releases do not exceed state and/or federal standards." (p3-12). There was no summary of these reviews or any studies documenting the effectiveness of BMPs or EPMs. Clearly, given the status of pollution described in the Proposed Plan, they were not effective.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
76	Y2U	"Lessee/ operator shall conduct pre-mining, concurrent, and/or post-mining water quality and aquatic habitat monitoring (both surface and groundwater) on all phosphate-mining sites where bond release has not occurred, using most current sampling procedures and protocols." (p3-12). There was no reporting of this monitoring data in the Proposed Plan.	Water quality monitoring has been conducted at NMM EMDSOU since 2009. Water quality monitoring will be conducted at NMM EMDSOU post construction to ensure the remedy operates as designed. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities.

			As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
77	Y2U	"Best Management Practices shall continue to be developed, refined and implemented to ensure that no release of hazardous substances into the environment exceeding established state and/or federal standards occurs." (p3-12). We have commented in detail on the past failures of covers and BMPs. The existence of COPC contamination at Smoky Canyon Mine and the other mines indicates the technology and models are still experimental and cannot be relied upon.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
78	Y2U	"When surface disturbing activities are proposed within geologic units having a moderate or high potential for the occurrence of vertebrate fossils (other than fish or sharks), a field survey of the area shall be made prior to, and if possible, during the proposed activities." (p3-12). We did not find any reference to this in the Proposed Plan.	This will be addressed during the remedial design for the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
79	Y2U	"Reclamation vegetation shall be monitored for bio-accumulation of hazardous substances prior to release for multiple use management." (p3-13). We have seen no studies or summaries of past projects reclamation or affected areas other than the summary in the PAS. Are mining companies collecting data on reclamation areas and soils adjacent to the mine footprint and haul roads to ascertain the concentration of COPCs in soils and vegetation? We can't tell from the Proposed Plan what, if any, monitoring was done at NMM.	COPC concentrations in soil and vegetation are summarized in the NMM EMDSOU RIFFS. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
80	Y2U	"The lessee/operator shall monitor reclamation work annually and report to the Forest Service until reclamation is accepted and the bond released." (p3-13). According to the PAS, some reclamation covers remains very sparse with high concentrations in soil and vegetation.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).

81	Y2U	"Loss of available surface water sources for uses such as wildlife or grazing, as a consequence of mining operations shall be replaced or mitigated by the mine operator. This includes the loss of water quality sufficient to maintain post-mining uses." (p3-13). No mitigation was described for loss of these nor any monitoring and mitigation plan for post mining water quality, spring and stream restoration.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
82	Y2U	"Ground cover should be assessed prior to release of the reclamation bond to assure: 1) minimum ground cover exists to attain long-term soil productivity requirements; 2) ground cover should persist at minimum cover needs without artificial assistance (e.g. watering, fertilizers, etc.); and 3) meet or trend towards post-mining land use goals." (p3-14). Same comments as above. No reported data for the various mines showing the status of revegetation.	Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
83	Y2U	"In reclaimed areas, vegetation should include species that meet wildlife habitat needs. Wildlife structures (slash piles, logs, rock piles) using native vegetation and materials are designed to provide cover for wildlife movements in created openings." (p3-14). No provision for these features were seen in the Proposed Plan reclamation description.	This will be addressed during the remedial design for the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
84	Y2U	"Watersheds provide infiltration, retention, and release of water appropriate to soil type, vegetation, climate, and landform. Watersheds provide a well-distributed pattern of nutrients and energy as well as diverse age-classes of vegetation that contribute to watershed health. Restoration strategies promote recovery of watershed, riparian, water quality and aquatic conditions characteristic of the geoclimatic setting." (p3-15). No restoration strategy was described to restore these structural and functional characteristics.	Watershed restoration is outside the site boundaries of NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
85	Y2U	"Each year, complete at least one Watershed Assessment for a 5th HUC watershed. Incorporate Hydrologic Condition Inventories using A Framework for Analyzing the Hydrologic Condition of Watersheds or current equivalent Regional or National guidance." (p3-16). Nothing was provided in the Proposed	Watershed Assessment for a 5th HUC is outside the site boundaries of NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be

		Plan regarding watershed functions and hydrologic alteration of stream flows, spring flows, groundwater.	investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
86	Y2U	"Not more than 30 percent of any of the principal watershed and/or their subwatersheds (6th HUC) should be in a hydrologically disturbed condition at any one time." Note hydrologically disturbed applies to changes in natural canopy, surface soil characteristics that may alter natural streamflow quantities and character. (p3-16).	Watershed restoration is outside the site boundaries of NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
87	Y2U	"Proposed actions analyzed under NEPA should adhere to the State Nonpoint Source Management Plan to best achieve consistency with both Sections 313 and 319 of the Federal Water Pollution Control Act." (p3-16). IDAPA provides for practices such as livestock exclusion and buffer zones for riparian areas to address sediment and e. coli pollution. There was no plan to relieve stress on the streams and springs in the project area (undefined) by reducing livestock impacts, water diversions and other measures to restore water quality and stream flows.	Livestock grazing at NMM EMDSOU is already curtailed to protect human health and the environment. This will continue post construction to protect the integrity of the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
88	Y2U	"Diverse forested and non-forested ecosystems are maintained within their historic range of variability and/or restored through time with emphasis on aspen, aspen-conifer, mixed conifer, big sagebrush, mountain brush and tall forbs." (p3-17). Reclaimed ODAs and mine pit do not provide this HRV.	A USFS approved seed mix will be part of the remedial design for the NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
89	Y2U	"In each 5th code HUC which has the ecological capability to produce forested vegetation, the combination of mature and old age classes (including old growth) shall be at least 20 percent of the forested acres. At least 15 percent of all the forested acres in the HUC are to meet or be actively managed to attain old growth characteristics." (p3-19). There was no discussion or analysis of the current state of forested vegetation, the amount removed, the percentage of mature and old age classes to compare with this criterion.	Assessment for a 5th HUC is outside the site boundaries of NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).

90	Y2U	"Maintain the dead and down woody material guidelines for wildlife. (See Wildlife Standards and Guidelines for Dead and Down material)." (p3-19). No mention of how this is to be achieved in the reclamation plan or in areas inside and outside the mine footprint in the Project Area.	This will be addressed during the remedial design for the remedy for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
91	Y2U	"The Forest provides habitat that contributes to state wildlife management plans. Forest management contributes to the recovery of federally listed threatened, endangered, and proposed species and provides for conditions, which help preclude sensitive species from being proposed for federal listing." (p3-24). In our comments on various mines and other Forest projects, we have discussed the displacement of wildlife and fragmentation of habitats, loss of security areas and blocking of migration corridors for lynx and other species by roads, mines, transmission lines. Part of reclamation should be restoring these functions for special status species. This is not addressed in the Proposed Plan.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. The proposed remedy will improve aquatic habitat by reducing metals contamination by up to 95%. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
92	Y2U	"Maintain, and where necessary and feasible, provide for habitat connectivity across forested and non-forested landscapes." (p3-24). Nothing was provided in the Proposed Plan to mitigate fragmentation or restore connectivity.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
93	Y2U	Wolverine Habitat: "Within two years of signing the ROD, complete a GIS analysis to identify potential wolverine natal den sites. Within four years of the ROD, survey potential wolverine natal den sites to document wolverine presence and assess suitability as natal denning habitat." (p3-24). The FEIS for the Caribou NF RFP provided information on wolverines, but there was no mention of these studies and potential wolverine habitat in the Proposed Plan.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under

			CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
94	Y2U	Canada Lynx Habitat: "Within three years of signing the ROD, complete surveys on the Soda Springs and Montpelier Ranger Districts." (p3-24). No evidence in the Proposed Plan that effects of the NMM and reclamation plan on lynx were considered.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
95	Y2U	Sage Grouse: "Within five years of signing the ROD, map functional and degraded sage grouse nesting and winter habitat within 5 miles of known leks. Identify opportunities to increase quality or quantity of that habitat." (p3-25). Was this done for the NMM? What leks were in the area and what is there status today. How will reclamation restore sage and sharptail grouse habitat?	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
96	Y2U	Migratory Landbirds: "Within five years of signing the ROD, establish breeding bird trend plots to monitor changes in breeding birds in relation to structure or shrub riparian habitats. Once established, reread plots every three years." (p3-25). There was no discussion of these trend plots and the resulting data if they were ever established and monitored, how the NMM affected these birds and how the Proposed Plan will restore their habitat.	A Screening Level Ecological Risk Assessment (SLERA) was conducted to ascertain contaminant risks to birds at the Site. This document contains what species were evaluated and their resultant risks at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
97	Y2U	Amphibians: Repeat amphibian surveys at 10 year intervals to determine habitat and population trends." Survey potential habitat. (p3-25). The Proposed Plan mentioned amphibians in the Sediment Pond, but there was nothing about the effects on their natural habitat or the chemical effects on potential populations, or restoring their habitats.	A SLERA was conducted to ascertain contaminant risks to representative animals present at NMM EMDSOU. The SLERA document contains what species were evaluated and their resultant risks at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be

			investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
98	Y2U	In project analyses affecting grassland, sagebrush, mature and old forest habitats, assess impacts to habitat and populations for MIS Columbian sharp-tailed grouse, sage grouse and northern goshawk. (p3-25). No data provided for the cover and vegetation community characteristics needed for these MIS. No population trends provided. No information on the status of their habitats and populations pre-mining and how the Proposed Plan will restore their habitats.	A SLERA was conducted to ascertain contaminant risks to representative animals present at NMM EMDSOU. Population risks were not evaluated in the SLERA for NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
99	Y2U	Snag/cavity nesting habitat not characterized. Table 3.3 lists biological potentials by forested vegetation type. (p3-28). There was no analysis of these characteristics and how reclamation will restore this habitat feature.	A SLERA was conducted to ascertain contaminant risks to representative animals present at NMM EMDSOU. Habitat assessment is not part of the SLERA. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
100	Y2U	"Management direction which will maintain linkages for Canada lynx on the Forest is located in the following places: Vegetation Desired Future Conditions; Vegetation Goals 1-4; Vegetation Standard 2; Wildlife Goals 2, 3, and 5; Vegetation Goal 7; Lands Objective 1; and Lands Standard 1." (p3-28). There was no analysis of the status of these attributes or measures needed to maintain or restore the linkages.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
101	Y2U	Northern goshawk standards and guidelines are provided in Table 3.5. "Open roads in goshawk territories shall be given priority for closure to meet management prescription road density standards. First priority shall be to close roads in nest areas; second priority in post-fledging family areas; third priority in foraging areas. Where possible, open road density should be zero in the nest areas and the post-fledging family areas." (p3-30). Road density was not addressed,	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan

		goshawk home ranges were not mapped and analyzed for the habitat characteristics, security and road densities in the Project Area, what habitats were destroyed by mining and how these will be restored.	specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
102	Y2U	Habitat guidelines for Flammulated, Boreal and Great Gray owls include limiting timber harvest and maintaining mature and old forest age classes. (p3-31). Same comment as above for goshawk.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
103	Y2U	Big game guidelines provide for buffers for sight distance around big game concentration areas and provide for security or travel corridors near created opening. (p3-31). These were not identified by location and there was no mapping or analysis of travel corridors functionality pre-mining and how they will be restored.	A SLERA was conducted to ascertain contaminant risks to representative animals present at NMM EMDSOU. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
104	Y2U	For Sage grouse, "Management activities should consider proximity to active lek locations during site-specific project planning. Those within 10 miles of an active sage grouse lek and 2 miles of active sharp-tailed grouse leks should be considered further for suitability as grouse habitat." (p3-32). The Proposed Plan did not provide data or analysis of the current condition of habitats for sage grouse within 10 miles of the NMM and its Project Area.	Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).

105	Y2U	Amphibian guidelines include "Maintain amphibian habitats when developing and modifying springs and wetlands." (p3-32). Habitats were be reduced or destroyed at the NMM. The Proposed Plan did not discuss restoring or mitigating these habitats.	As stated in the RI/FFS no wetland habitats were noted within the NMM EMDSOU site boundary. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
106	Y2U	Landbird guidelines include: "Stands of mature trees (including snags and dead-topped trees) should be maintained next to wet meadows. Where feasible, maintain 30 to 50 percent of the sagebrush habitat in a 5th code HUC in contiguous blocks greater than 320 acres to support sagebrush obligate species. (Page and Ritter, 1999). Practices which stabilize or increase native grass and forbs cover in sagebrush habitats with 5% to 25% sagebrush canopy cover should be implemented. (Page and Ritter, 1999). In sagebrush habitats, manage herbaceous cover to conceal nests through the first incubation period for ground and low shrub-nesting birds. It is assumed that proper use of rest-rotation or deferred-rotation grazing should meet these conditions, although not every year on every area (Idaho Partners in Flight 2000)." (p3-33). These attributes, their condition pre-mining and current status. Their management and restoration were not addressed.	A Screening Level Ecological Risk Assessment (SLERA) was conducted to ascertain contaminant risks to representative animals present at NMM EMDSOU. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
107	Y2U	Transportation goals, standards, guidelines and objectives include: "Roads and trails not needed for long-term objectives are decommissioned, stabilized, and restored to a more natural state. Within three years of signing the ROD, initiate site-specific travel planning to incorporate Revised Forest Plan direction on access management. Roads identified as unneeded in a roads analysis should be decommissioned, stabilized and returned to production. " (p3-36). This was not addressed. All temporary and illegal roads and trails should be mapped and, as we suggest, the mining companies could do this as a mitigation.	The BLM is the Agency that ascertains the adequacy of previous decisions and effectiveness of actions taken in connection with mining at NMM EMDSOU. Site investigations under CERCLA evaluate current site conditions for the release or threat of release of hazardous substances. It is not necessary to consider the status of mining reclamation or past NEPA analyses in these evaluations. Comments 55 through 107 cite to or refer to the Revised Forest Plan for the Caribou National Forest. The Revised Forest Plan specifically states that previously mined areas will be investigated and evaluated pursuant to the NCP and addressed using Forest Service CERCLA authorities. As noted above, selection of a remedy under CERCLA is based on the alternatives evaluation criteria in the NCP as explained in the Proposed Plan and the NMM EMDSOU Remedial Investigation/Focused Feasibility Study (RIFFS).
108	Y2U	A review of the April 2012 Record of Decision and Pocatello Field Office Approved Resource Management Plan provides a picture of management that states, through its Planning Criteria, Goals, Objectives and Actions, an intent to provide for wildlife and watershed values, and native American values. Our reviews of the EIS for the Caldwell Canyon Mine, Dairy Syncline Mine, Smoky Canyon Mine, Rasmussen Valley Mine and their Reclamation Plans present a very different picture. It is a picture of a single use, phosphate mining, that	Comments 108 and 109 cite to or refer to the BLM approved resource management plan (ARMP). The ARMP is developed by BLM to guide management of those lands and mineral interests administered by BLM and under its jurisdiction. The ARMP does not apply to Forest Service response actions taken under CERCLA.

		literally bulldozes all other considerations aside and is given priority over all other uses. Despite the length of these EIS, and the numerous technical reports referenced, we cannot say that the multiple use values espoused by FLPMA (or NFMA for that matter) are supported. Nor can we say that the intent of the ARMP is carried out. In the following paragraphs we summarize some, but not all, of the provisions of the ARMP that are not met in the Proposed Plan. We have not commented on them individually, but the Proposed Plan must meet the intent of the ARMP. ARMP Selected Planning Criteria (ARMP Table 5) • The principles of multiple use and sustained yield, as set forth in FLPMA, will be applied in the RMP. • Recognize Idaho Non-Point Source Management Program Plans and relevant state water quality standards. • Maintain, improve, or restore natural functions to benefit water storage, groundwater recharge, water quality, and fish and wildlife values. • Provide for multiple use and sustained yield of forage for wildlife and domestic livestock. In consultation with the Idaho Department of Fish and Game (IDFG), ensure that wildlife habitat is sustained. • Incorporate management actions that do not jeopardize the continued existence of federally listed threatened or endangered plant or animal species or that result in the destruction or modification of critical habitat. • Incorporate management actions that protect sensitive species and do not contribute to the listing of species proposed for federal listing (candidate species). • Protect and maintain the intrinsic and recreational values associated with native and appropriate nonnative species. • Protect critical deer and elk winter range and big game habitat. • Consider need to minimize harassment of wildlife or significant disruption of wildlife habitats. • Identify areas that are managed specifically to protect nonmineral resource values but may conflict with mineral resource development. • Manage to retain values that make cultural resources and areas significant to tribal members. Protect cultural use areas, in cooperation with tribal governments. Recognize Fort Bridger Treaty rights with all associated management activities and uses. The ARMP (p10) notes that BLM planning regulations require its plans to be consistent with those adopted by other federal, state, local and tribal governments. The 2003 Caribou National Forest Revised Forest Plan and EIS was among those listed.	As stated earlier the proposed remedy is anticipated to achieve a 95% reduction in contamination flowing into E Mill Creek. As stated in the Proposed Plan, a final remedy will be selected that will address any remaining contamination in East Mill Creek. Other NMM Operable Units are outside the scope of the NMM EMDSOU Proposed Plan. Water quality monitoring (surface water and groundwater) has been ongoing at NMM EMDSOU since 2009. Surface Water storage, recharge will be considered during remedial design. Water quality monitoring will continue to monitor the effectiveness of the remedy into the future. A native vegetation seed mix will be approved for use in revegetation of the NMM EMDSOU remedy and prevent erosion. The exact mix and use of wildlife structures will be evaluated and approved during the design of the NMM EMDSOU remedy. Based on communication with the USFWS and the Idaho Department of Fish and Game (for state-listed species) and site-specific assessment of potential habitat, no state or federally listed Threatened or Endangered species are expected to occur at or in association with the EMDSOU. Wildlife and nesting bird surveys will be completed as part of design to ensure that wildlife is not taken or harassed as part of construction. As part of design a cultural survey will be completed for all proposed disturbed areas to ensure that cultural resources are identified and preserved (if any).
109	Y2U	The ARMP includes Goals, Objectives and Management Actions. These bullets below reflect these. • GE-1 use inventories and surveys to document the condition and extent of resources/uses to monitor and respond to changes in conditions. Mitigate potential adverse effects.	This comment cites to and refers to the BLM approved resource management plan (ARMP). The ARMP is developed by BLM to guide management of those lands and mineral interests administered by BLM and under its jurisdiction. The ARMP, including the goals, objectives,

			• GE-2 consistent with multiple use and sustained yield, achieve desired conditions while providing an ecologically healthy environment. Reduce impacts from management actions and maintain or improve resource conditions. • GE-3 provide proper nutrient cycling, hydrological cycling, restore or improve public lands adversely affected by major surface disturbance. Employ Idaho Standards for Rangeland Health (1997) to determine success of reclamation, rehabilitation, or restoration activities. • CR-1 ensure scientific and socio-cultural values are maintained and available for appropriate uses by present and future generations. Traditional uses have long term preservation. • TR-1 maintain traditional/cultural use values and the health of land and water resources so treaty rights and interests can be fulfilled. • SW-1 provide for soil quality, productivity and hydrological function within naturally sustainable limits. • SW-2 manage activities to maintain or contribute to the long-term improvement of surface and ground water quality; prioritize stream management and restoration by presence of sensitive species, amount of stream on BLM lands, condition and importance for achieving multiple use objectives. • VE-1 mitigation measures to reduce visual contrasts with rehabilitation/restoration areas • VE-4 maintain or increase Land Health Condition-A acres; prioritize treatment and restoration in Greater sage- and Columbian sharp-tailed grouse Source and Key habitat. habitats for conservation and recovery of special status species; in aspen/aspen conifer and dry conifer types maintain or increase LHC-A and B acres. • FW-1 manage habitats for vegetation composition and structure assures continued presence of fish and wildlife as part of an ecologically healthy system; manage riparian areas for habitat and population linkage, restore degraded riparian areas, use seasonal restrictions for winter range, fawning and calving habitats, during planning reduce number of designated routes/roads in big game habitats; manage livestock season of use, stocking rates to provide sufficient shrub forage for wildlife. Big game winter range shown in Figure 2. • FW-2 maintain connectivity among habitats, use opportunities to improve habitat connectivity and reduce fragmentation of upland and riparian habitats by land actions, habitat improvement projects, wildlife, fire ES&R and restoration projects. • SS-1 manage special status species and habitats to provide for their continued presence and conservation. Conserve, inventory and monitor special status species. Maintain or improve the quality of listed species habitat by managing public land activities to support species recovery and the benefit of those species.	and management actions referred to in this comment, does not apply to Forest Service response actions taken under CERCLA.

			o Bald eagle - determine distribution of populations and suitable habitats; cooperate in conducting nest surveys and monitoring; cooperate in maintenance and improvement of habitat in key foraging areas such as deer winter range, aquatic and riparian habitats. o Gray wolf - determine distribution of wolves and key gray wolf habitat areas such as dens, rendezvous sites, and crucial big game winter ranges; cooperate in improving gray wolf habitat by improving big game winter range. o Utah Valvata Snail - gather existing information to understand the distribution of known populations, ensure Federal actions support or do not preclude species recovery. o Maintain or improve the quality of sensitive species habitat by managing to support recovery and benefit those species o Pygmy rabbits - survey potential habitats, manage sagebrush habitats for suitable pygmy rabbit conditions, suitable and potential habitat should be managed to allow for expansion of populations. o Boreal toads and Northern leopard frogs - identify and inventory populations, manage riparian areas towards PFC, increase pool habitat, mitigate activities having adverse effects on habitats, manage Lane and Lander Creeks as priority areas. o Sage Grouse - Protect and maintain suitable habitats and reconnect separated populations, manage key habitat for sagebrush, grass and forb cover, monitor progress and adjust activities to make progress towards Greater sage grouse goals and objectives, evaluate future actions for threats and restore shrub-steppe habitats in source areas, restoration areas and areas that link populations. o Cutthroat trout - monitor populations, habitat quantity and quality, enhance channel integrity, water quality, and habitat connectivity, fence streams with these species to exclude livestock, eliminate or reduce threats to present or potential cutthroat trout distribution and to habitat quality and quantity, strive to achieve highest quality trout habitats o Migratory birds - improve canopy cover and understory health of sagebrush, maintain 30 - 50% of sagebrush habitat in 5th HUC in contiguous blocks greater than 320 acres, stabilize or increase native grass and forb cover in sagebrush, restore shrub-steppe habitats in restoration or corridor areas. o Special status plants - meet or make significant progress towards meeting Idaho Standards for Rangeland Health (BLM 1997) for special status plant habitat.	

		o Where special status species can be conserved and habitat connectivity improved, lands will be acquired through land tenure adjustments, easements, and interagency cooperation. • LR-4 assure land classifications and withdrawals of public lands are appropriate to protect important resource values. • LR-5 maintain overall public land base, protect significant resource values, high value parcels may not be suitable for disposal except through exchange for equal or higher resource value lands. • LR-6 balance development with protection of natural resources and public enjoyment and recreation. • ME-1 reclamation plans for minerals development operations will be designed to meet applicable Idaho Standards for Rangeland Health (BLM 1997), reclamation complete when these standards have been met. • ME-2 o On split estate lands approval of any operations plan will be coordinated with the surface owner to mitigate impacts; stipulations, mitigation and reclamation requirements will be the same as on public lands and/or equivalent to State standards. o Final reclamation will meet applicable standards for watersheds, riparian areas and wetlands, stream channels and floodplains, seedings, exotic plant communities, and water quality with future site management directed towards attaining standards for native plant communities and threatened and endangered plants and animals (BLM 1997). o The lessee/operator will monitor reclamation and report to the Authorized Officer annually until reclamation is accepted as adequate. o Mineral operations will replace or mitigate any loss of available surface water sources for uses such as wildlife or grazing. o Plan selection for reclamation will reflect the surrounding ecosystem and post development land use. o Before bond release, the site will be assessed to assure: minimum ground cover exists to attain long-term soil productivity, ground cover persists, impacted lands meet or trend towards meeting applicable standards and post development land use objectives. In reclaimed areas, vegetation will include species that meet wildlife habitat needs. Cover for wildlife will be incorporated into design plans (e.g. slash piles, logs, rock piles, etc.). o Prevent or control sediment and the release of contaminants into the environment. o Monitor hydrologic function and watershed health with adjustments to operations and reclamation as necessary to	

			achieve PFC of watersheds, revegetation objectives and protection of resources. o Mine site plans designed to protect SE Idaho surface water resources, wildlife habitat and ecological resources, multiple beneficial uses, ground water resources. o Meet ARMP Appendix F and (p101) action levels for selenium, cadmium, chromium, nickel, vanadium and zinc for vegetation, ground water, surface water, and CWA. o Appropriate site specific mitigation measures will be implemented as conditions of approval. o Site specific mitigation measures will be developed through the NEPA process and applied to ensure that operations comply with applicable laws, land use plan guidance and do not result in unnecessary degradation.	

City of Soda Springs
9 West Second South
Soda Springs, ID 83276
208-547-2600

Mitchell J. Hart, Council President

15 July 2021

SENT VIA E-MAIL -- brian.deeken@usda.gov

Caribou – Targhee National Forest
Attn: NMM EMD Comments
Brian Deeken
USDA Forest Service
4350 Cliffs Drive
Pocatello, Idaho 83204

Re: North Maybe Mine, East Mill Dump
Proposed Plan for the Selection of a Remedial Action

Mr. Deeken:

I support the Proposed Plan (e.g. Preferred Remedial Alternative 7 – Geosynthetic Cap) for the selection of a Remedial Action (RA) at the East Mill Dump (EMD) of the North Maybe Mine (NMM) located in Caribou County, Idaho.

It has now been 25 years since the selenium issue appeared (circa 1996). It is puzzling that the largest contributor of selenium (e.g. NMM EMD) impacting the Upper Blackfoot River Basin has taken this long to be meaningfully addressed.

My understanding is that the NMM operated from 1964 through 1968, 1972 through 1986 and in 1993. An initial Administrative Order on Consent (AOC or Consent Order) was issued in 2004. In 2008, the regulatory agencies requested renegotiation of the AOC to transition from an SI/EECA (Site Investigation/Economic Evaluation Cost Analysis) to an RI/FS (Remedial Investigation/Feasibility Study) process. In early 2013, an RI/FS based AOC [consisting of a Remedial Investigation (RI) and Focused Feasibility Study (FFS)] was agreed to and motivated by the 2012 settlement of a lawsuit filed in 2009 by Nu-West (Nu-West Industries, Inc. and Nu-West Mining, Inc.) against the United States.

The selection and installation of the proposed (Preferred Remedial Alternative 7) geosynthetic cap system [like what was placed on the Cross Valley Fill (CVF) of the South Maybe Canyon Mine (SMCM)] on the North Area of EMD is prudent and should establish the same success criteria and provide similar positive results. Supporting the proposed remedial action plan includes -- the removal of sediments

from a sediment control structure and placement on the North Area prior to cap construction, access and use restrictions and monitored natural attenuation of residual contaminants in groundwater.

It has been represented that the planned schedule of the Proposed Plan for NMM EMD is:

- July 2021 Public Comment Period
- Winter 2021 Record of Decision (ROD)
- 2022 Remedial Design and Site Preparation
- 2023 and 2024 Construction of Remedial Action

I encourage the USDA Forest Service (USFS), as Lead Agency, to promptly grant final approvals of the Proposed Action, to complete project design and allow commencement of system construction without further delay.

Best Regards,

s/ *Mitch*

Mitchell J. Hart
Council President

IDAHO DEPARTMENT OF FISH AND GAME
SOUTHEAST REGION
1345 Barton Road
Pocatello, Idaho 83204

Brad Little / Governor
Ed Schriever / Director

July 21, 2021

NMM EMD Comments
Brian Deeken
USDA Forest Service
4350 Cliffs Drive
Pocatello, ID 83204

Re: IDFG Review of the Proposed Plan for the North Maybe Mine East Mill Dump

Dear Mr. Deeken,

Idaho Department of Fish and Game has reviewed the plan for the cleanup of the North Maybe Mine East Mill Dump (Site) in Caribou County, Idaho. It is our understanding that the agency-preferred alternative, Alternative 7, will consist of a geosynthetic cap system, access and use restrictions, informational signage, and monitored natural attenuation of residual contaminants (COPCs) in groundwater.

Based on our knowledge of issues impacting wildlife, fish, and habitats at North Maybe Mine, actions outlined in Alternative 7 seem reasonable for reducing contaminant loads in groundwater and reducing wildlife exposure to contaminants, including Selenium, in vegetation at the Site.

Thank you for the opportunity to review the Proposed Plan for the North Maybe Mine East Mill Dump. Please feel free to contact Becky Johnson, Environmental Staff Biologist, if you have additional questions at becky.johnson@idfg.idaho.gov or 208-236-1258.

Sincerely,

Dan Garren
Regional Supervisor

DG/bj

APPENDIX D

Administrative Record Index

Administrative Record

North Maybe Mine

East Mill Dump Sub-Operable Unit

1. NuWest 2020. Final Remedial Investigation/ Focused Feasibility Study (RI/FFS) Report, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by Arcadis.

2. NuWest 2017. Final Screening Level Ecological Risk Assessment, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by Arcadis.

3. NuWest 2017a. Final Screening Level Human Health Risk Assessment, North Maybe Mine, East Mill Dump Sub-Operable Unit. Prepared by Arcadis.

APPENDIX E

Applicable Relevant
and
Appropriate Requirements

Appendix G-1
Summary of Potential ARARs
Remedial Investigation/Focused Feasibility Study
North Maybe Mine East Mill Dump Sub-Operable Unit

ARCADIS Design & Consultancy for natural and built assets

	Standard, Limitation, or Requirement Criteria	Citation	Description of Law or Regulation	Applicability Determination	Description of Applicability
Federal					
Chemical	CWA: Water Quality Standards	33 U.S.C. 1342 - 1344 40 CFR 131	Establishes water quality criteria for surface water.	Potentially Applicable	SWQ standards are potentially applicable to actions associated with discharge of stormwater to waters of the United States. The proposed interim actions may not meet the WQS in the short-term and a waiver is requested.
	RCRA: List of Hazardous Wastes	40 CFR 261, Subpart C and D	Defines those solid wastes which are subject to regulations as hazardous wastes under 40 CFR Parts 262-265 and Parts 124, 270, and 271. The Bevill Exclusion at 40 CFR 261.4(b)(7) excludes solid wastes from the extraction, beneficiation and processing of ores and minerals, including phosphate rock, from the definition of hazardous waste.	Potentially Relevant and Appropriate	RCRA hazardous waste regulations are not applicable to this remedy. However, certain RCRA regulations may potentially be relevant and appropriate and are discussed under locations and action specific requirements.
	Safe Drinking Water Act (SDWA): National Primary Drinking Water Regulations	42 U.S.C. 300f et. seq.; 40 CFR Part 141	Establishes health-based standards (MCLs) for public water systems.	Potentially Relevant and Appropriate	MCLs are potentially relevant and appropriate to groundwater. Institutional controls will address COCs above MCLs.

Appendix G-1
Summary of Potential ARARs
Remedial Investigation/Focused Feasibility Study
North Maybe Mine East Mill Dump Sub-Operable Unit

	Standard, Limitation, or Requirement Criteria	Citation	Description of Law or Regulation	Applicability Determination	Description of Applicability
	CWA: Section 404	33 U.S.C. 1344.33, 40 CFR Parts 320 - 330, 40 CFR 230	Specifies dredge or fill requirements.	Potentially Applicable	Substantive requirements of the dredge and fill requirements are potentially applicable to alternatives that include excavation of sediment.
	American Indian Religious Freedom Act	42 USC 1996 et seq.	To protect and preserve for American Indians their inherent right of freedom to believe, express, and exercise the traditional religious, including but not limited to, access to sites, use and possession of sacred objects, and the freedom to worship through ceremonials and traditional rites.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Archaeological and Historical Preservation Act	40 CFR 6.301© 16 USC 469 et seq.	Data recovery and preservation activities.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Archaeological Resources Protection Action	16 USC 470(aa-ii) 43 CFR 7	Steps must be taken to protect archaeological resource and sites that are on public and Indian lands and to preserve data.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Bald Eagle Protection Act	16 U.S.C. §§ 668 et seq. 50 CFR Part 22	Prohibits any person from knowingly, or with wanton disregard, selling, offering to sell, taking, purchasing, transferring, bartering, exporting, importing, or possessing or harming a bald or golden eagle, or any part, nest, or egg thereof without obtaining a permit.	Potentially Relevant and Appropriate	Remedial actions must be designed and implemented to avoid harm to bald or golden eagles, their nests or eggs. The occurrence of these birds and nesting features within the Site will be determined during the remedial design to comply with these requirements.
	Caribou-Targhee Land Use Management Plan (National Forest Management Act)	16 USC 1601 - 1614 36 CFR 219	Establishes multiple use goals and objectives, forest-wide management requirements, and monitoring and evaluation requirements. Establishes direction so that future decisions affecting the Forest will include an interdisciplinary approach to achieve integrated consideration of physical, biological, economic and other sciences.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Endangered Species Act	16 U.S.C. §§ 1531 et seq. 50 CFR Part 17 50 CFR Part 402	Statute and implementing regulations require that federal activities not jeopardize the continued existence of any threatened or endangered species. Section 7 of the ESA requires consultation with the USFWS to identify the possible presence of protected species and mitigate potential impacts on such species.	Potentially Relevant and Appropriate	Potentially relevant and appropriate if remedial action activities jeopardize threatened or endangered species or adversely modify their habitat.
Location	Fish and Wildlife Coordination Act	16 U.S.C. §§ 661 to 667e	Fish and wildlife protection: requires federal agencies involved in actions that will result in the control or modification of any natural stream or body of water for any purpose to protect fish and wildlife resources that may be affected by the action. Requires consultation with the USFWS before impounding, diverting, or controlling waters or before impoundment of diversion waters in order to maintain wildlife resources	Potentially Relevant and Appropriate	The substantive requirements of the Fish and Wildlife Coordination Act that are applicable to the selected remedy would be identified and complied with through the remedial design process. Consultation with the USFWS would be conducted during the design phase. Impacts to water or the stream channel would be monitored during implementation.
	Hazardous and Solid Waste Regulations: Treatment, Storage and Disposal (TSD) facilities	40 CFR 264.18	Location standards and restrictions for hazardous waste TSD facilities.	Potentially relevant and appropriate	Potentially relevant and appropriate to alternatives that involve siting a new disposal facility.
	Hazardous and Solid Waste Regulations: Solid Waste Facilities	40 CFR 257.3(1-4)	Location standards and restrictions for solid waste disposal facilities and for determining the probability of adverse effects on human health and the environment.	Potentially relevant and appropriate	Potentially relevant and appropriate to alternatives that involve siting a new disposal facility.
	Hazardous and Solid Waste Regulations: Municipal Solid Waste Facilities	40 CFR 258.10-15	Location standards and restrictions for municipal solid waste disposal facilities.	Potentially relevant and appropriate	Potentially relevant and appropriate to alternatives that involve siting a new disposal facility.
	National Historic Preservation Act National Historic Landmarks Act	16 USC 470 et seq. 36 CFR 60, 63, 65, & 800 40 CFR 6.301(b & c)	Section 106 of the NHPA process, balances needs of Federal undertaking with the effects the undertaking may have on historic properties. If historic properties or landmarks are eligible for, or included in the National Register of Historic Places exists within remediation areas, remediation activities must be design to minimize the effect on such properties.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions. Previous cultural resources surveys completed of the area do not indicate that historic features are present.
	Native American Graves Protection and Repatriation Act	25 USC 3001 et seq. 43 CFR 10	This pertains to the identification and appropriate disposition of human remains, funerary objects, sacred objects, or objects of cultural patrimonial found on Federally controlled lands.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Protection of Floodplains	40 CFR 6.301(b) 40 CFR 6 Appendix A, implementing Executive Order 11988	Requires federal agencies to evaluate the potential effects of actions they may take in a floodplain to avoid adverse impacts associated with direct and indirect development of a floodplain.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Protection of Wetlands	40 CFR 6.301(b) 40 CFR 6 Appendix A, implementing Executive Order 11988	Wetlands protection: Agencies conducting certain activities are required to avoid, to the extent possible, the adverse impacts associated with the destruction or loss of wetlands and to not support construction in wetlands if a practical alternative exists.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Migratory Bird Treaty Act	16 U.S.C. §§ 703 et seq. 50 CFR § 10.13	The Act makes it unlawful to hunt, take, capture, kill, or take other various actions, migratory birds and migratory game birds.	Potentially Relevant and Appropriate	The Selection Remedy, through careful remedial design, will be implemented in a manner to avoid taking or killing of protected migratory bird species, including individual birds, their nests, or eggs.

	Standard, Limitation, or Requirement Criteria	Citation	Description of Law or Regulation	Applicability Determination	Description of Applicability
Action	CWA: Storm Water Discharges	40 CFR 122.26	Regulates erosion and sediment control and stormwater management during construction activities greater than 5 acres.	Potentially Applicable	Substantive requirements are potentially applicable to onsite discharges of construction-related stormwater.
	RCRA: Criteria for Municipal Solid Waste Landfills	40 CFR 258.50-56	Groundwater monitoring requirements for engineered disposal facilities to ensure appropriate assessment, monitoring, and protection of groundwater.	Potentially Relevant and Appropriate	Substantive requirements may be appropriate to the groundwater monitoring program to be developed for the site.
	RCRA: Hazardous Waste Facilities	40 CFR 264.97-99	Groundwater monitoring requirements for hazardous waste disposal facilities to ensure appropriate assessment, monitoring, and protection of groundwater	Potentially Relevant and Appropriate	Substantive requirements may be appropriate to the groundwater monitoring program to be developed for the site.
	RCRA: Criteria for Municipal Solid Waste (MSW) Landfills	40 CFR 258.60(a)(1-3)	Closure criteria for capping MSW facilities.	Potentially Relevant and Appropriate	Substantive requirements may be relevant and appropriate to the design of a cap and run-on/run-off control systems.
	RCRA: Criteria for Hazardous Waste TSD facilities	40 CFR 264.117 and 264.228(b)	Closure and post-closure care (maintenance and monitoring) criteria for hazardous waste disposal facilities.	Potentially Relevant and Appropriate	Substantive requirements may be relevant and appropriate to the design of a cap and run-on/run-off control systems.
	Surface Mining Control and Reclamation Act (SMCRA)	30 USC 1201-1326 30 CFR 816.43, 45-47, and 111 30 CFR 784	Governs activities associated with coal exploration and mining.	Potentially relevant and appropriate	Certain requirements may be relevant and appropriate to the design of the cap and run-on/run-off control systems.
State					
Chemical	WQS	IDAPA 58.01.02	Safeguards the quality of state waters and designates uses that are to be protected.	Potentially Applicable	WQS, as promulgated by the state, are potentially applicable to the site. However, the RA alone may not result in compliance with WQS in East Mill Creek downgradient from EMD. Interim measures waiver may be requested.
	WQS: General Surface Water Quality Criteria	IDAPA 58.01.02.200	Establishes narrative water quality criteria for hazardous, deleterious, and radioactive materials; floating, suspended, or submerged matter; excess nutrients; oxygen-demanding materials; and sediment.	Potentially Applicable	Substantive requirements may be potentially applicable to onsite discharges of point-source water (e.g., run-off diversion discharges). However, the recommended alternative alone may not result in compliance with water quality standards in East Mill Creek downgradient from EMD. Interim measures waiver may be requested.
	WQS: Surface Water Quality Criteria for Use Classifications	IDAPA 58.01.02.250 to .253	Establishes numerical surface water quality criteria for beneficial use classifications.	Potentially Applicable	WQS, as promulgated by the state, are potentially applicable to the site. However, this recommended alternative alone may not result in compliance with water quality standards in East Mill Creek downgradient from EMD. Interim measures waiver may be requested.
	WQS: Site Specific Surface Water Quality Criteria	IDAPA 58.01.02.287	Establishes site-specific selenium criteria for the for the Blackfoot River. Applied criteria are fish tissue based.	Potentially Applicable	Site-specific water quality standards for selenium are potentially applicable to jurisdictional waters at the site.
	Ground Water Quality Rule: Ground Water Quality Standards	IDAPA 58.01.11.200	Protects groundwater for beneficial uses, including potable water supplies, establishes use classifications, and establishes water quality criteria for groundwater.	Potentially Applicable	WQS, as promulgated by the state, are potentially applicable to the site.

	Standard, Limitation, or Requirement Criteria	Citation	Description of Law or Regulation	Applicability Determination	Description of Applicability
	Endangered Species	Idaho Code 36-201	Authorizes the Idaho Department of Fish and Game authority to classify threatened or endangered wildlife and protected non-game species.	Potentially Applicable	Potentially applicable. Any state-identified threatened or endangered species not already Federally identified will be protected to the extent practicable.
	Protection of Animals and Birds	Idaho Code 36-1101 to 1103	Prohibits taking of wildlife, birds (including destruction of eggs and nests), and fur-bearing animals except as provided by Idaho Department of Fish and Game hunting regulations.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Surface Mining	Idaho Code 47-1501 to 1519 and IDAPA 20.03.02.140	Establishes standards and authorizes rules implemented by the Idaho Department of Lands for reclaiming lands affected by surface exploration and mining, including recontouring, erosion control and revegetation. Requires implementation of best management practices that prevent the release of hazardous or deleterious constituents, and protect surface water quality.	Potentially Relevant and Appropriate	Substantive requirements may be relevant and appropriate to the design of the remedy.
	Water Quality Standards: Violation of Water Quality Standards	IDAPA 58.01.02.080	Prohibits discharges that violate water quality standards or injure beneficial uses. Allows the agency to authorize short-term exemptions.	Potentially Applicable	Substantive requirements are potentially applicable to on-site actions.
	Hazardous Substance Emergency Response Act	Idaho Code 39-7101 to 7115	Requires notification of hazardous substances release. Requires development and implementation of the Hazardous Material incident Command and Response Plan. Establishes liability for costs arising from a hazardous substance incident.	Potentially Relevant and Appropriate	Potentially relevant and appropriate if any spills occur during the remedial action.
	Hazardous Waste Management Act of 1983	1993 Session Law Ch. 291, Section 1-8	Revises the definition of restricted hazardous waste. Deletes exemptions for certain mining wastes. Changes the process for the Board to identify hazardous wastes. Allows release of confidential information to safe guard public health and safety.	Potentially Relevant and Appropriate	Sections pertaining to closure and post-closure care may be relevant and appropriate.
	Hazardous Waste Generation	IDAPA 58.01.05.006	Rules for generators of hazardous waste. Purge water from any groundwater sampling should be containerized and labeled as purge water until sampling results are received. Then appropriate disposal pathway can be determined.	Potentially Relevant and Appropriate	Substantive requirements may be relevant and appropriate for consideration during development of a groundwater monitoring program for the site.
Action	Hazardous Waste Management Act of 1983	Idaho Code 36-4401	Authorizes rules for generation, collection, treatment, storage, disposal, and transport of hazardous waste consistent with RCRA. Requires a permit for treatment, storage, discharge, incineration, release, spilling, placement, or disposal of hazardous wastes. Establishes treatment requirements for certain wastes prior to disposal into or on land. Requires that manifested waste be treated, stored, or disposed of in a permitted facility.	Potentially Relevant and Appropriate	Certain substantive requirements pertaining to closure and post-closure care may be relevant and appropriate.
	Idaho Department of Water Resources (IDWR)	Idaho Code 42-3801-3813 and IDAPA 37.03.07	Requires a permit or compliance with "minimum stand" for alteration of stream channel to protect fish and wildlife habitat, aquatic life, recreation, aesthetic beauty, or water quality. Authorizes the Board to adopt rules to set standards.	Potentially Applicable	Substantive requirements are potentially applicable.
	Rules for the Control of Air Pollution in Idaho: Ambient Air Quality	IDAPA 58.01.01.577	Provides regulatory standards for PM 10 and several other air pollutants.	Potentially Relevant and Appropriate	Substantive requirements are potentially relative and appropriate during remedy construction.
	Water Quality Standards (WQS): Administrative Policy, Protection of Waters of the State	IDAPA 58.01.02.050.02	Protects surface water for beneficial uses.	Potentially Applicable	Water quality standards are promulgated by the state to protect the beneficial uses, and are potentially applicable to the site. This remedial action alone is not likely to result in achieving these standards.
	WQS: Antidegradation Policy	IDAPA 58.01.02.051	Requires that existing water uses and water quality, high quality water and ORWs be maintained and protected.	Potentially Applicable	Antidegradation requirements are potentially applicable.
	Rules for the Control of Air Pollution in Idaho: Rules for Control of Fugitive Dust	IDAPA 58.01.01.650 -.651	Requires that all reasonable precautions be taken to prevent the generation of fugitive dust.	Potentially Applicable	Substantive requirements are potentially applicable to alternatives involving movement of materials.
	WQS: Analytical Procedures	IDAPA 58.01.02.090	Establishes analytical procedures to be used to for compliance with WQS.	Potentially Applicable	Substantive requirements are potentially applicable to all alternatives.

Appendix G-1
Summary of Potential ARARs
Remedial Investigation/Focused Feasibility Study
North Maybe Mine East Mill Dump Sub-Operable Unit

	Standard, Limitation, or Requirement Criteria	Citation	Description of Law or Regulation	Applicability Determination	Description of Applicability
	WQS: General Surface Water Use Designations	IDAPA 58.01.02.100, .101, and .150-160	Establishes surface water use designations for waters not otherwise classified. Cold water aquatic and secondary contact recreational are designated beneficial uses for Maybe and Dry Creeks.	Potentially Applicable	WQS are potentially applicable to all alternatives.
	Water Pollution Abatement	1995 Session Law Ch. 352, Section 1 39-3601 to 39-3639	Creates a new Chapter 36 regarding water quality, which protects surface water quality and establishes and environmental remediation fund.	Potentially Relevant and Appropriate	Substantive requirements are potentially relative and appropriate during remedy construction.
	Well Construction Standard Rules	IDAPA 37.03.09	Specifies requirements for well construction and abandonment.	Potentially Applicable	Substantive requirements are potentially applicable to alternatives that involve well construction or abandonment.

Acronyms and Abbreviations:
ARAR = Potentially Applicable or Potentially Relevant and Appropriate Requirement
CFR = Code of Federal Regulations
COC = constituents of concern
CWA = Clean Water Act
EMD = East Mill Dump
IDAPA = Idaho Administrative Procedures Act
IDWR = Idaho Department of Water Resources
MCL = maximum contaminant level
MSW = Municipal Solid Waste
RA = remedial action
RCRA = Resource Conservation and Recovery Act
SWQ = surface water quality
TSD = Treatment, Storage, and Disposal
U.S.C. = United States Code
WQS = water quality standards