



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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Ref: 8SEM-EMR

ACTION MEMORANDUM

SUBJECT: Approval and Funding for a Removal Action at the Lisbon Valley Mining District Site in San Juan County, Utah

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Federal On-Scene Coordinator

THRU: Kerry Guy
Supervisor, Response Section

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Kent Hoffman,
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TO: Betsy Smidinger, Director
Superfund and Emergency Management Division

Gregory Sheehan,
State Director, BLM Utah State Office

Site ID# B818

I. PURPOSE

The purpose of this Action Memorandum is to request and document approval of the removal action described herein for the Lisbon Valley Mining District Site (Site) in San Juan County, Utah. This time-critical removal action involves the closure of historic access roads and construction of erosion control features at the historic Columbia Shaft and Radon Mine. Conditions existing at the Site present a threat to public health or welfare or the environment and meet the criteria for initiating a removal action under 40 CFR § 300.415(b)(2) of the National Contingency Plan (NCP).

This removal action involves no nationally-significant or precedent-setting issues. This time-critical removal action will not establish any precedent for how future response actions will be taken and will not commit the U.S. Environmental Protection Agency (EPA) or the

Bureau of Land Management (BLM) to a course of action that could have a significant impact on future responses or resources.

This time-critical removal action will be conducted on public lands managed by BLM. The BLM Utah State Director exercises authority under Section 104 of the Comprehensive Environmental Response, Compensation, and Liability Act for lands under the jurisdiction, custody, or control of BLM. EPA, in coordination with BLM and the State of Utah, has agreed to use its Kerr McGee/Tronox Settlement Funds at this Site that otherwise would not be directed to BLM or the State for use at this Site. This approach supports and is consistent with the federal governments' and State's long-standing partnership at contaminated sites.

With BLM's agreement, EPA will designate the On-Scene Coordinator for this Removal Action.

II. SITE CONDITIONS AND BACKGROUND

Site Name:	Lisbon Valley Mining District
Superfund Site ID (SSID):	B818
NRC Case Number:	Not Applicable
CERCLIS Number:	UTN000820978
Site Location:	San Juan County, Utah
Lat/Long:	Columbia Shaft: 38.2324 / -109.2757 Radon Mine: 38.2485 / -109.2880
Potentially Responsible Party (PRP):	Not Applicable
NPL Status:	Non NPL
Removal Start Date:	09/06/2022

A. Site Description

1. Removal Site Evaluation

The historic Lisbon Valley Mining District is located southeast of La Sal in San Juan County, Utah. Copper was discovered in the area in 1892 and mining activities were rejuvenated in the late 1920's after the additional discovery of uranium and vanadium. Kerr McGee (later known as Tronox) operated in the Mining District and the area was a major producer of both uranium and copper. Mining activity continues in the district but slowed considerably in the late 1980's.

Waste from historic mining operations is found at the soil surface in recreation areas and in several ephemeral drainages and arroyos. Visitors to the historic mines may be exposed to hazardous substances and contaminated mine waste may be eroded and released downstream during seasonal storms and large run-off events.

In 2021, EPA accessed funds from the national Kerr McGee/Tronox settlement agreement and performed a joint *CERCLA Site Assessment and Removal Evaluation* with the State of Utah and BLM in the historic Lisbon Valley Mining District. The locations of mines and mining activity from historical

records were mapped along with creeks and ephemeral drainages. Locations near drainages were further assessed for scale of operations and potential downstream impacts using historic satellite imagery and field reconnaissance.

Seven locations were identified for further investigation:

- Far West Mine (BLM Land)
- La Sal No 2 (BLM Land)
- Velvet Mine (BLM Land)
- McCormick and Standard (Private Land)
- Small Fry (BLM Land)
- Radon Mine (BLM Land)
- Columbia Shaft (BLM Land)

EPA, BLM, and the State of Utah visited the seven locations of interest to collect additional information. The Team looked for visible signs of previous remediation, recreational human exposure and off-site migration of mine waste. There are two locations where a) no apparent remediation has occurred, b) there appears to be recreational human exposure to mine waste, and c) the downstream migration of mine waste appears significant. These locations are the Radon Mine and the Columbia Shaft.

Location	Previous Remediation?	Recreational Exposure?	Waste Migration?
Far West Mine	None	Not Apparent	Minimal
La Sal No 2	Limited	Not Apparent	Minimal
Velvet Mine	Extensive	Apparent	Minimal
McCormick & Standard	Extensive	Not Apparent	Minimal
Small Fry	None	Not Apparent	Significant
Radon Mine	None	Apparent	Significant
Columbia Shaft	None	Apparent	Significant

2. Physical Location

The Site consists of two historic mining locations in San Juan County, Utah. The first and larger of the two is the Radon Mine located at latitude 38.2485 and longitude -109.2880. The second is the Columbia Shaft located at latitude 38.2324 and longitude -109.2757.

There is no human population residing nor working within a one-mile radius of either location.

Neither location is found on a State and/or National Historical Registry. However cultural or historic resources may be present at the Site.

Neither location is within a U.S. Fish and Wildlife final or proposed Critical Habitat but there is an occupied golden eagle nest approximately 0.42 miles of

the Radon Mine site. Response activities are not planned to occur during the nesting season for the golden eagle.

The Lisbon Valley is an arid desert environment. Water for dust suppression will need to be trucked to the Site.

3. Site Characteristics

The historic Lisbon Valley Mining District is located southeast of La Sal in San Juan County, Utah. Copper was discovered and mining began in the area in late 1890's. Mining activities increased between in the late 1920's and 1950's after the additional discovery of uranium and vanadium. Although there are several active mines still operating in the area, many facilities were abandoned by the late 1980's.

The Columbia Shaft was in operation from 1957 to 1974. The shaft was reportedly 550 feet deep and used to extract ore from multiple mining claims.

The Radon Mine was in operation from 1955 to 1964 and utilized to extract ore via a 690 feet deep shaft.

4. Release or Threatened Release into the Environment of a Hazardous Substance, Pollutant, or Contaminant

Concentrations of heavy metals were screened in-situ utilizing an XRF instrument. The screened material was collected for ex-situ analysis. These samples were later dried, sieved and re-analyzed using an XRF. A subset of the XRF ex-situ samples were sent to a laboratory for analysis to calculate correlation curves.

Uranium (with a correlation curve of 0.98) is the contaminant of concern. Uranium is listed hazardous substances in 40 CFR § 302.4 and Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

At the Columbia Shaft, 4 of the 7 locations that were tested exceeded the RSL Industrial Soil levels of 23.3 parts per million. These exceedance readings in parts per million were 23.6, 61.9, 144.1, and 149.7.

At the Radon Mine, 4 of the 11 locations that were tested exceeded the RSL Industrial Soil levels of 23.3 parts per million. These exceedance readings in parts per million were 112.9, 435.0, 477.2, and 700.7.

Uranium is a heavy metal. Its main target is the kidneys. Kidney damage has been seen in humans and animals after inhaling or ingesting uranium compounds. Ingesting water-soluble uranium compounds will result in kidney effects at lower doses than following exposure to insoluble uranium compounds. Inhaled insoluble uranium compounds can also damage the respiratory tract (Source: ATSDR).

5. NPL Status

This Site is neither on nor currently being considered for inclusion on the NPL.

6. Maps, Pictures, Other Geographic Representations

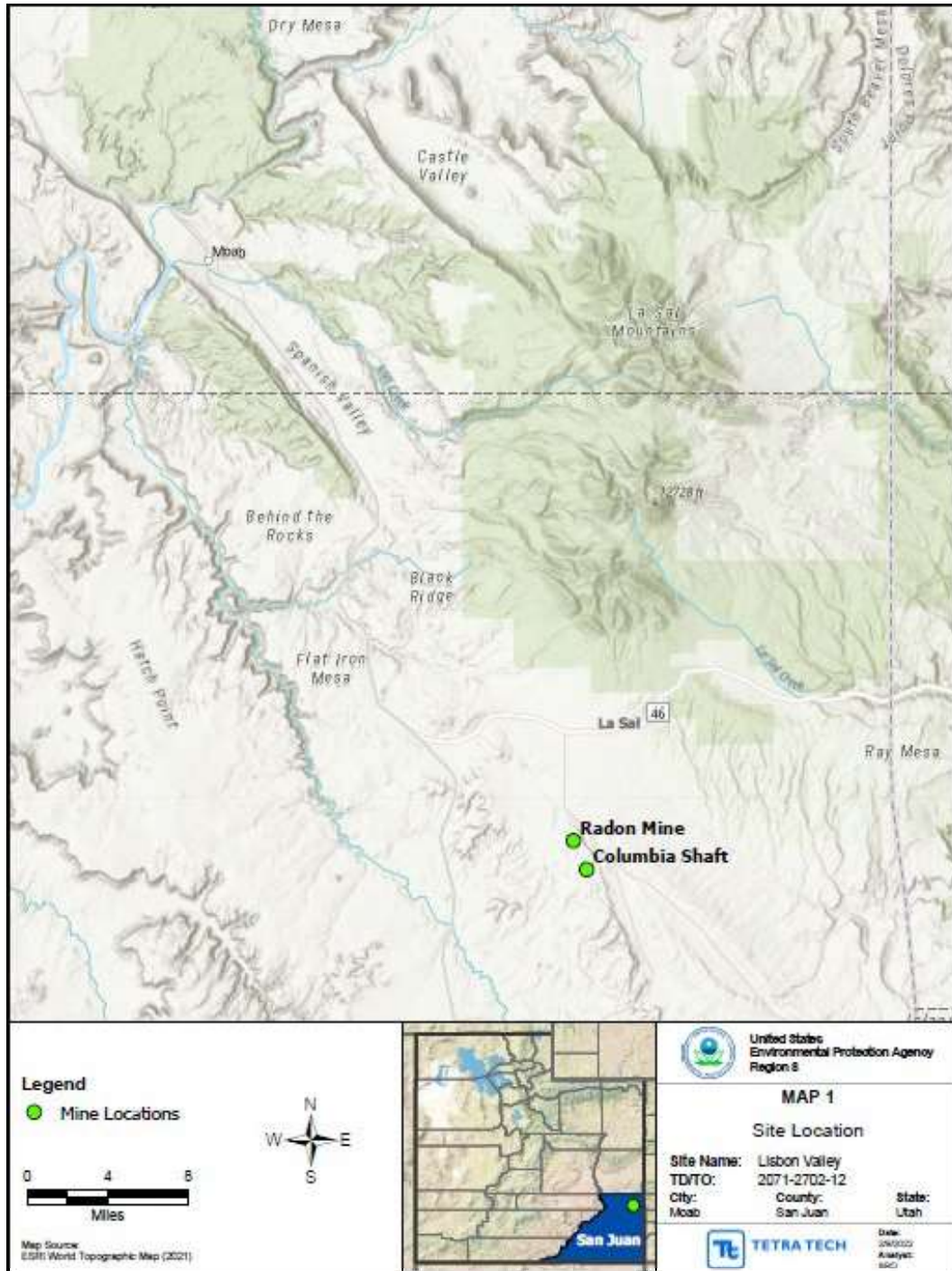


Photo 1: Erosion of the Radon Mine Waste Pile



Photo 2: Mine Waste in Ephemeral Drainage at the Radon Mine



Photo 3: Mine Debris Dumped in Drainage at the Radon Mine



Photos 4: Evidence of Camping at the Columbia Shaft



Photos 5: Evidence of Camping at the Columbia Shaft



Photo 6: Erosion at the Columbia Shaft



B. Other Actions to Date

1. Previous Actions

There have been no previous Removal Actions at the Site.

2. Current Actions

There are no current Removal Actions at the Site.

C. State and Local Authorities' Role

1. State and Local Actions to date

State and BLM authorities toured the mining district and assisted EPA's assessment and prioritization efforts.

2. Potential for Continued State/Local Response

This Removal Action will be funded with Kerr McGee/Tronox Settlement Funds that have been set aside for this area. These specific funds are not directly available to the State and BLM. Because settlement funds will be used, the reimbursement provisions of section 9(i) of Executive Order 12580 will not be triggered.

III. THREATS TO PUBLIC HEALTH OR WELFARE OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

Conditions at the Site present a threat to public health and the environment and meet the criteria for initiating a removal action under 40 CFR § 300.415(b)(2) of the NCP.

EPA and BLM have considered all the factors described in 40 CFR § 300.415(b)(2) of the NCP and determined that the following factors apply at the Site.

(i) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

There are historic access roads that remain open to both the Columbia Shaft and the Radon Mine. People frequently camp atop the Columbia Shaft waste deposits where there are expansive views of south Canyonlands National Park and space for navigation of large camp trailers. The Radon Mine is less attractive to campers but a road closure to that Mine was recently removed and there is evidence of off-road activity and visitors to that location.

(iv) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate;

Both the Radon Mine and Columbia Shaft waste deposits are largely unvegetated. Although uranium is the primary contaminant of concern, EPA has also detected values for arsenic,

chromium, cobalt, lead, mercury, tungsten, vanadium, and zirconium in excess of industrial screening levels for toxicity.

(v) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

Signs of erosion at both the Radon Mine and the Columbia Shaft are significant. Moderate rainfall in this desert landscape often results in significant runoff down the piles and into the drainages at the toe of each waste pile. Mine waste is found in both drainage channels at the toe of each waste pile.

IV. PROPOSED ACTIONS AND ESTIMATED COSTS

A. Proposed Actions

1. Proposed Action Description

Columbia Shaft

The historic access road to the top of the waste pile will be permanently closed with large boulders, ditches, and/or berms. Boulders and non-contaminated soil will be obtained from nearby sources.

A run-on or interception trench will be constructed across the top of the waste pile to divert water away from the face of the pile and towards a natural drainage at the western periphery of the pile.

Radon Mine

The historic access road to the mine will be permanently closed with large boulders, ditches and berms. Boulders and non-contaminated soil for this activity will be obtained from nearby sources.

The toe of the waste pile will be pulled back from the ephemeral drainage and fortified with rip rap. The face of the waste pile may be regraded in areas to support this task.

Metal and the debris that was dumped in the ephemeral drainage will be removed and buried in a hole within the existing deposit of the mine waste away from surface drainages. The disturbed area will be regraded and protected from future erosion.

The natural drainage that was once diverted into a culvert which ends in the middle of the waste pile's face will be diverted around the waste deposits using a rocked channel to the extent practical. The culvert's intake will be closed and buried.

Rock needed to rip-rap the waste pile toe and create the rocked drainage channel will be collected from along the historic access road leading to the mine site.

2. Contribution to Remedial Performance

This effort will, to the extent practical, contribute to any future remedial effort at the Site. However, no further EPA or BLM action is anticipated at this time.

3. Engineering Evaluation/Cost Analysis (EE/CA)

An EE/CA is not required for a time-critical removal action.

4. Applicable or Relevant and Appropriate Requirements (ARARs)

This Action Memorandum addresses the proposed time-critical removal action at the Lisbon Valley Mining District Site. Uranium is the principal contaminant of concern. Removal actions conducted under CERCLA are required, to the extent practicable considering the exigencies of the situation, to attain ARARs. In determining whether compliance with an ARAR is practicable, the lead agency may consider appropriate factors, including the urgency of the situation and the scope of the removal action to be conducted. A table containing potential Site-specific ARARs is provided as an Attachment to this Action Memorandum. EPA and BLM worked cooperatively to determine how to incorporate BLM's statutorily mandated federal land management requirements and resource management plan into the time-critical removal action at the Site.

5. Project Schedule

This removal action is proposed to start September 6, 2022 and is anticipated to last six-eight weeks.

B. Estimated Costs*

	Estimated Costs
ERRS contractor	\$ 600,000
START contractor	\$ 40,000
SUBTOTAL	\$ 640,000
Contingency costs	\$ 60,000
Total Removal Project Ceiling	\$ 700,000

*EPA direct and indirect costs, although cost recoverable, do not count toward the Removal Ceiling for this removal action. Liable parties may be held financially responsible for costs incurred by the EPA and BLM as set forth in Section 107 of CERCLA.

V. **EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN**

A delay in action or no action at this Site would increase the actual or potential threats to the public health and/or the environment. In addition, a delay in action or no action at this Site would return the Kerr McGee/Tronox Settlement Funds that have been set aside for the Site to the general settlement funds.

VI. OUTSTANDING POLICY ISSUES

None.

VII. ENFORCEMENT

A separate Enforcement Addendum has been prepared providing a confidential summary of current and potential future enforcement activities.

VIII. RECOMMENDATIONS

This decision document represents the selected removal action for the Lisbon Valley Mining District in San Juan County, Utah, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision is based on the administrative record for the Site.

Conditions at the Site meet the NCP § 300.415(b)(2) criteria for a removal action, and I recommend your approval of the proposed removal action. The total project ceiling, if approved, will be \$700,000; this amount will be funded from Kerr McGee/Tronox Settlement Special Account Funds.

This decision document may be executed in counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

APPROVE

Betsy Smidinger
Director
Superfund and Emergency Management Division

Date

DISAPPROVE

Betsy Smidinger
Director
Superfund and Emergency Management Division

Date

APPROVE

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SHEEHAN**

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Gregory Sheehan
Bureau of Land Management
State Director, Utah

Date

DISAPPROVE

Gregory Sheehan
Bureau of Land Management
State Director, Utah

Date