

Lisbon Valley Mining District (B818)

ERRS Operations Plan and Work Order

Operational Period: 07 November 21 – 27, 2022

Activity: Removal

Open and honest team discussions that involve EVERYONE are critical to understanding hazards, mitigating risks, preventing accidents, and insuring a successful response.

Site Safety and Security is the Top Priority

- Always watch out for yourself and the coworkers/public around you.
- Always protect yourself, coworkers and public from exposure to radiation and dust.
- Prevent contamination from spreading beyond footprints of waste piles.
- Conduct daily safety checks on equipment and general site conditions.
- Remove, mark or remedy hazards when you see them. Notify crew of all hazards.

Emergency Contacts:

- San Juan County Sheriff Dispatch - 435-587-2237 (911 if it is an emergency).
- San Juan County Fire Department - 435-587-3225 (911 if it is an emergency).
- Moab Regional Hospital - 435-719-3500 (450 Williams Way, Moab, Utah 84532)

Deliverables

Operations Periods are Mondays-Sundays.

OSC will issue weekly Work Orders before the beginning of each Operations Period. Work Orders shall include activities and resources authorized by the OSC.

ER shall provide a 1900-55 RCMS Report and a Progress Report at the end of each Operations Period. Progress Reports shall include

- a) a summary of activities accomplished;
- b) deviations from the authorized activities and resources; and
- c) a summary of equipment/personnel utilized. The equipment utilization summary should include equipment that is working/available for use on each day.

Site Objectives

Radon Mine

1. **Regrade Pile / Control Erosion:** The waste pile will be regraded to control erosion. Certain areas of the pile, especially along its west edge will not be accessible. A temporary access ramp for heavy equipment will be constructed down to the ephemeral drainage. Waste that is removed from the pile will be deposited along several benches that were constructed at the abandoned facility. Erosion control features will be constructed on the regraded waste and the pile will be revegetated.
2. **Secure the Toe of Pile:** The toe of the waste pile will be pulled back from the ephemeral drainage and secured with rip rap to the extent practical and as necessary.
3. **Remove Metal Debris:** Metal and other debris from the former facility that was dumped down the face of the waste pile will be removed from the slope and buried in the waste pile. **(COMPLETED)**
4. **Restrict Access:** The historic mine access road to the waste pile will be closed with a gate at its intersection with the County Road. Large boulders, ditches and/or berms will be used to prevent access around the gate. Warning and information signs will be placed around the Site.

Columbia Shaft

1. **Regrade Pile / Control Erosion:** The waste pile will be regraded to control erosion. A series of terraces or benches will be created to capture runoff and direct it to a natural drainage that is west of the

pile. Waste that is removed from the face will be deposited on top of the pile. Erosion control features will be constructed on the regraded waste and an attempt will be made to revegetate the pile.

2. ***Restrict Camping on Waste Pile:*** The access to the top of the pile will be closed with large boulders, ditches and/or berms. Warning signs will be placed around the Site.

Authorized Activities

Radon Mine

- The crew will demobilize the response infrastructure and Site set-up features that were established during Ops Period 1.
- The waste pile will be regraded to create a more suitable slope for erosion control.
 - The stockpiled topsoil will be spread over the regraded pile prior to reseeding.
- The regraded waste pile will be reseeded. At a minimum, the area will be hand-seeded. Depending on conditions, revegetation efforts may include hydroseeding.
- The historic access road to the mine will be closed with a gate as well as large boulders, ditches, and berms. Boulders and non-contaminated soil for this activity will be obtained from nearby sources.
- All PPE waste with high levels of radiation will be buried on-Site. Used PPE that is not contaminated will be disposed of at a landfill.
- Upon completion of tasks and an EPA inspection, equipment will be decontaminated and transported to the Columbia Shaft.

Columbia Shaft

- The site will be set-up prior to excavation.
 - The exclusion zone will be set-up using safety fence to delineate the zone along the upper area. The drainage/road acts as a natural barrier on the downhill side of the zone and will not require safety fence.
 - The decon trailer will be established as the contamination reduction zone.
 - EPA will provide a comms trailer. It will be set-up upwind of the site.
 - Dust trackers (provided by EPA) will be set-up near the comms trailer and potentially another location (near decon, a look-out spot along the top of the crest, or other).
- The waste pile will be terraced at a greater than 2:1 slope. The toe will be left in place. Waste material will be removed from the drainage on the NW side of the pile and the drainage may be armored. Waste will be transported to the top of the pile and compacted by tracking with heavy machinery.
 - ERRS will utilize a large excavator, a bulldozer, and an off-road haul truck for this task. Truck loads will be counted to establish a production rate.
 - The top layer of soil will be removed and stockpiled in the area where the waste rock will be staged.
 - Waste rock removed from the pile will be placed between the near the rock face above the pile. The material will be compacted and graded with a bulldozer.
 - Some loads of waste rock will be used to cover the entrance to the open mine above the site.
 - ERRS will start the waste rock removal at the crest of the slope, building the first terrace in the first 55 feet from the crest. Terraces will then be constructed with dimensions of roughly 25 feet on the horizontal and 12 feet on the vertical.
 - The terraces will be graded so that water flows toward the drainage on the NW side. Rock bars will be installed if directed by the OSC.
 - After excavation, the corners of the terraces will be graded to a 1:1 slope or less.
 - ERRS will construct a road along the side of the waste rock pile. The road should be built down as needed to gain access to each terrace.

- The drainage on the NW of the pile may excavated to facilitate proper drainage and may be armored with riprap.
- The toe of the slope may be armored with riprap/rock generated on-site.
- The stockpiled topsoil will be spread over the disturbed area. Other revegetation efforts may be considered.
- Rock needed to rip-rap the waste pile toe and the drainage will be generated on-site.
- The historic access road to the top of the waste rock pile will be permanently closed with large boulders, ditches, and berms.
- Signage will be installed at the site as directed by EPA.
- All waste with low levels of radiation will be disposed of.

Goals/Schedule

Radon Mine

Day #	Date	Goals	Status
Day 1	10/10/2022	Mobilization	Complete
Day 2 & 3	10/11/22 -10/12/22	Set-up and orientation	Complete
Day 4 - 18	10/13/22 - 10/29/22	Remove material from the top	Complete
Day 19 - 20	10/31/22 - 11/1/22	Build ramp down into drainage	Complete
Day 21 - 33	11/2/22 - 11/16/22	Remove material from the lower slope; install riprap	Complete
Day 34 - 38	11/17/22 - 11/21/22	Clean-up, road closure, other tasks	
Day 39	11/22/2022	Demobilization	

Authorized Resources

PERSONNEL	QUANTITY	COMMENTS
Response Manager	1	
Equipment Operator	3	
Truck Driver	1	May be used as Equipment Operator as necessary.
Laborer	1	May be used as Equipment Operator as necessary.
Field Accountant	1	Off-site
EQUIPMENT	QUANTITY	COMMENTS
Truck, P/U	3	Includes transportation costs. Track as pending costs through December 25 and draw down as appropriate.
Water Buffalo	1	
Decontamination Trailer	1	
40kW Generator	1	
2" Water Pump	1	
Water Truck	1	
Excavator w/bucket	2	
Bulldozer	1	
Off-road haul truck	1	
Loader	1	
Fuel Tank	1	
Hoe Ram excavator attachment	1	

Data Collection

- ERRS will conduct UAV flights for site aerial photographs and topography.

- ERRS will deliver daily photos documenting progress and Site conditions to mccomb.martin@epa.gov.

Health and Safety Monitoring

- Decontamination activities will be tested with the Ludlum device to determine level of radioactive dust in coveralls, boots, street clothes, respirator cartridges, etc.
- Dust levels in the air will be monitored with Dust Trackers provided by EPA. Locations will be determined on-site and will likely include the area around the comms trailer and the area outside the decontamination area.

Approvals:

EPA On Scene Coordinator

ERRS Response Manager