

Lisbon Valley Mining District (B818)

ERRS Operations Plan and Work Order

Operational Period: 08 November 28 – December 4, 2022

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

Top Priority is Site Safety and Security

- Always watch out and protect yourself and the people around you from physical hazards and exposure to radioactive 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)

Site Objectives

Radon Mine

1. Remove radioactive metal debris found on surface of waste pile.
2. Regrade the waste pile and install erosion control features.
3. Pull toe of the waste pile out of the ephemeral drainage.
4. Restrict visitor access until new vegetation is established.

Columbia Shaft

1. Regrade the waste pile and install erosion control features.
2. Restrict camping and access to the waste pile.

Deliverables

Operations Periods are Mondays-Sundays. OSC will issue weekly Work Orders before the beginning of each Operations Period to include authorized activities and resources.

- ER will conduct pre and post UAV flights that provide site topography and 30-second videos for public information.
- ER will deliver daily photos documenting progress and Site conditions to mccomb.martin@epa.gov.
- ER shall provide a Progress Report at the end of each Operations Period including:
 - a) summary of activities accomplished.
 - b) deviations from the authorized activities and resources.
 - c) summary of equipment/personnel utilized. The equipment utilization summary should include equipment that is working/available for use on each day.
- ER shall submit a 1900-55 RCMS Report at the end of each Operations Period.

Authorized Activities

Radon Mine

- The access road to the mine will be kept secure 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.

Columbia Shaft

- The site will be set-up prior to excavation.
 - The Exclusion Zone will include the waste pile past the pinch point / rock outcrop as you are driving up to the pile along its access road. The Exclusion Zone will be established far enough past the pinch point to allow for safe parking and a decon trailer. Safety fence will delineate the Exclusion Zone on either side of the access road on top of the pile. Drainages, rock bands and steep slopes act as natural barriers along the other edges of the Exclusion Zone and will not require safety fence.
 - The Contaminant Reduction Zone will include a decon trailer parked in a flat area adjacent to the Exclusion Zone.
 - The Work Zone will include safe parking for operators adjacent to the decon trailer and an area on the other side of the rock outcrop along the access road that is large enough EPA's Mobile Emergency Command Post and 3 designated parking spots.
 - Existing vegetation will be protected to the extent practical especially in the Work Zone and along the access road.
 - Dust trackers (provided by EPA) will be initially set-up near the Command Post and at the parking area for operators. These dust trackers will then be moved as conditions demand.
- The top few inches of vegetation and soil will be scraped with a bulldozer and stockpiled for future use.
- The toe of the waste pile will be left in place may be armored with rock generated on-site.
- Mine waste will be removed from the natural drainage on the NW side of the waste pile. This drainage will be lined and armored with rock generated on-site. The pile will be regraded to largely drain to this point.
- The waste pile will be regraded.
 - ERRS will utilize a large excavator, a bulldozer, and an off-road haul truck to regrade the perform this task. Truck loads will be counted to establish a production rate.
 - Mine waste that is excavated during this process will be transported to the top of the pile.
 - ERRS will use a bulldozer to grade and compact the material against the rock outcrop that was quarried when the mine was developed.
 - 6-8 additional truckloads of material will be used to complete the attempted closure of a mine entrance on the periphery of the waste pile.
- The stockpiled topsoil will be spread over the disturbed area. Other revegetation efforts may be considered.
- The 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.

Columbia Shaft Operations Option 1

- The waste pile will be terraced at a greater than 2:1 slope.
 - 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 as needed.
- 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.
- After excavation, the corners of the terraces will be graded to a 1:1 slope or less.

Columbia Shaft Operations Option 2

- The waste pile will be regraded at a greater than 3:1 slope.
 - ERRS will start the waste rock removal at the crest of the slope, building several broad and shallow benches that bulldozers can regraded into a uniform slope.

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	Complete
Day 39	11/22/2022	Demobilization	Complete

Columbia Shaft

TBD after selection of Operations Option.

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	

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