UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
BURNS DISTRICT OFFICE

CATEGORICAL EXCLUSION ENVIRONMENTAL REVIEW AND APPROVAL

A. Background

Categorical Exclusion (CX) Number: DOI-BLM-OR-B050-2015-0030-CX
Date: March 11, 2015
Abandoned Mine Site Clean-up System (AMSCM) Case File: AML-10264 Glass Buttes #3 Adit
Preparer/Title: Rick Wells, Geologist
Applicant: Bureau of Land Management (BLM) and Contractor
Location: Willamette Meridian, T. 23 S., R. 23 E., sec. 34, NW1/4SE1/4.
Title of Proposed Action: Glass Buttes Adit #3 Closure

Description of Proposed Action and Project Design Elements (if applicable):

The Bureau of Land Management (BLM) proposes to close the Glass Buttes Adit #3 at Willamette Meridian (W.M.), T. 23 S., R. 23 E., sec. 34, NW1/4SE1/4 within the next 2–3 years. Historically, the Glass Buttes area had extensive cinnabar mining for the purpose of extracting mercury. The Glass Buttes abandoned mine complex has two remaining known mining adits (a mined horizontal opening leading into a hillside). The one in question extends back approximately 22 feet in length from the adit portal (opening); the timbers (wood) holding both the portal open and within the adit are collapsing and very unstable (photographs 1 through 5). The adit is located on a 45 degree slope with very loose rock cascading down around and on the timbers holding the adit open. This unstable and highly unsafe environment is compounded by the hanging wall (i.e. rock along the fault plane which makes up a wall on top of the opening) is not highly competent (i.e. not strong and slightly friable: see photograph 1). This unsafe environment is further compounded by a campsite nearby and a trail leading to the unsafe adit, which suggests that it is an attractive nuisance. Additionally, in a preliminary reconnaissance vapor screening of the site, the mercury vapor was recorded as one of the highest readings at that time, however, remains well within Environmental Protection Agency (EPA) (EPA region 9 Preliminary Remediation Goal (PRG)) and other mercury vapor risk levels for ambient air. The purpose and need is to remove the attractive nuisance to protect the lives of humans and possibly other animals as this physical hazard is extremely unsafe. The expected or known site conditions include 1) ground water depth is expected to be greater than 250 feet (from the land surface), 2) the proposed work is located within a mined area in which the current land surface is 5 to 10 feet below the pre-mined land surface and has had extensive blasting and heavy equipment work, and 3) the concentration of mercury within surface rock is within acceptable risk levels for dermal (human skin) contact at the site (based upon past laboratory soil sample results available in the administrative record).

The Glass Butte Adit #3 in question is located within a previously mined area on the side of a 45 degree slope. The basic object is to remove the hole on the side of the mined wall where there is little visible vegetation. Prior to Contractor operations the BLM may install a screen fence at the portal to assure that bats do not inhabit the mining feature. The work plan would be to have a compressor on the north side of the mined out draw and walk a handheld drill on top of the adit to drill sufficient blast holes approximately 9 feet in depth and roughly 1.5 to 2 inches in diameter (dependent upon amount of explosives needed for the rock type and determined by the contractor based upon the type of explosives utilized) on top of the adit's horizontal length for the purpose of placing explosives in the holes and blasting the rock. An alternate drill pattern would be to drill 15–18 foot holes adjacent to the adit opening. The blast sequence may start from the back side of the adit and end toward the portal side along the spine of the adit length. It would be expected that the blast would result in expansion of the rock by breaking it up to fill the adit void with relatively less than a 3 foot surface elevation change (i.e. expansion of rock volume from the blast would fill underlying void). Water would be sprayed onto the surface material prior to and\or during drilling and prior to blasting in an effort to control dust. During drilling and immediately after blasting, the mercury vapor would be monitored. If the ambient air concentrations of mercury (Hg) vapor reach 0.3 ug/m^3 (extreme danger level is considered 10 ug/m^3) as determined by a Jerome J505 field monitor, work would be halted until Hg levels in the ambient air in the work zone fell to within a safe level (less than 0.3 ug/m^3) as monitored by BLM personnel (or Contractor if monitored). On-site personnel would be required to move upwind to a designated location until vapor clearance has been provided by BLM personnel (or Contractor if monitored). Proper hygiene of workers would be strictly enforced during on-site activities (based upon a spill, emergency, and health and safety plan as well as specifications developed for the project; see attached). Prior to the blast,, the area would be cleared of humans (note: larger game animals are expected to move out of the area during the drilling activity). The blast would take place only after conditions are determined to be safe by the licensed contractor. Once the site has been cleared for mercury vapors and dust, the blast site would be checked by the contractor to make sure that no unexploded explosives remain. After blasting, the site may require smoothing of the land surface affected by the blast and checking to assure adit was collapsed and physical hazard mitigated. There are four scenarios of how the landscape could be affected: 1) There would be no need to smooth the soil\rock after the blast, 2) The blast impact would be broken up into small rock fragments with less than 2 cubic yards of material to be smoothed out and\or hand shoves could be used to finalize the landform smoothing, 3) Impacts from the blast may need heavy equipment (e.g. trackhoe\backhoe) to smooth and blend with the surrounding area, however would not be detrimental to the visual view and thus would not warrant moving in heavy equipment, or 4) Heavy equipment (e.g. trackhoe\backhoe) could be used to smooth out the larger rocks and volume left after the blast to blend in with the surrounding mining landscape. The heavy equipment

would require up to 100 feet in length and 15 feet in width (1,500 square feet) of temporary surface disturbance (within an area that has sparse vegetation: see photographs 2 and 3) along the current human-made trail (Figure 1) and within the mined out area. The temporary surface disturbance of the pathway for heavy equipment would be for the purpose of getting equipment closer to the blast area to recontour or blend the landform to the immediate surrounding area (and\or aid in closing openings not filled by the blast, if needed); the equipment would then reshape the access path to blend in with the immediately surrounding area as the equipment is removed from the area. The recontouring work with the heavy equipment would only take place if it was determined that the slope stability impacts in moving equipment across the slope and the ability to reshape after the equipment is removed is an overall benefit. It would take one operator and one spotter (two people) less than one day to enter, recontour, and remove the equipment. No seeding or vegetation rehabilitation is planned due to the project being located within the previously mined site in which reseeding likely will not be highly effective. Top soil has been removed by past mining actions resulting in a shifting and unconsolidated rock surface that has been blasted with explosives and ripped by heavy equipment.

Project Design Elements

- Follow established spill, emergency, and health and safety plans with stipulations (attached);
- If any cultural artifacts are found during the activity, work would cease until the Authorized Officer (after discussion with the Bureau Archeologist) approves resumption of work;
- All equipment would be washed and inspected for weed seeds before entering the site;
- Wildlife seasonal restrictions:
    - No drilling and blasting work would be performed between March 1 and August 1.

Legal Description (attach location map): Willamette Meridian, T. 23 S., R. 23 E., sec. 34, NW1/4SE1/4.
(43° 32' 0.70"N, 119° 56' 36.27"W).

B. Conformance with Land Use Plan (LUP): The proposed action is in conformance with the applicable LUP, even though it is not specifically provided for, because it is clearly consistent with the following:

LUP Name and Date Approved/Amended: Three Rivers Resource Management Plan (RMP) Record of Decision (ROD), 1992.

- Implementation is on a decision-by-decision basis (page iii): *"Monitoring and evaluations will be utilized to ensure that decisions and priorities conveyed by the Plan are being implemented, that progress toward identified resource objectives is occurring, that mitigation measures and standard operating procedures are effective in avoiding or reducing adverse environmental impacts, and that the plan is maintained and consistent with the ongoing development of national and State guidance."*

Ongoing National and State Guidance:

- The BLM holds paramount the safety, health, and welfare of its employees, volunteers, contractors, and the visiting public. It strives to eliminate or minimize physical or environmental conditions that are causing, or have the potential to cause harm, to persons, property, or the environment (page 11 of 2006 H-3720-1 handbook, "Abandoned Mine Land Program Policy Handbook").

- The BLM and MSHA (Mine Safety and Health Administration) support the "Stay Out! Stay Alive!" National public awareness campaign on the dangers of exploring and playing in abandoned mine sites initiated in 1999 (http://www.blm.gov/wo/st/en/prog/more/Abandoned_Mine_Lands/Safety_Education/stay_out-stay_alive.html).

- Program objective within the 2009 'Hazard Management and Resource Restoration' 1703 Manual is *"1. To protect public health and the environment by minimizing risks from hazards on public lands and from hazards at BLM-owned or operated facilities. Hazards are defined as any hazard not covered under hazardous substances and includes all **physical**, geologic, and biologic **hazards**."* (1703.02A).

C. Compliance with the National Environmental Policy Act (of 1969) (NEPA)

Bureau of Land Management (BLM) Categorical Exclusion (CX) Reference (516 Departmental Manual (DM) 11.9): J. (8) Installation of minor devices to protect human life (e.g. grates across mines); and J. (10) Removal of structures and materials of no historical value, such as abandoned automobiles, fences and buildings (including those built in trespass), and reclamation of the site when little or no surface disturbance is involved.

Screening for Exceptions: The following extraordinary circumstances (516 DM 2, Appendix 2) may apply to individual actions within the categorical exceptions. The indicated specialist recommends the proposed action does *not*:

CATEGORICAL EXCLUSION EXTRAORDINARY CIRCUMSTANCES DOCUMENTATION
2.1 Have significant impacts on public health or safety.
Specialist: John Petty, Safety Officer Signature and Date: 6/14/2015
Rationale: The proposed action would prevent public access to potentially dangerous conditions at the abandoned mine. This would be done by limiting public access during drilling operations, requiring appropriate personal protection equipment, using water during the drilling operations to control dust, blasting during favorable weather conditions (low wind), and clearing the area of humans and big game prior to blasting. Further, the dust would be required to settle and the air would be cleared for mercury levels (Hg vapor meter) prior to entry by any humans in the blast area. The contractor/blaster would clear the area of the blast of any remaining unexploded explosives prior to entry to the blast area by others. They would follow the attached health and safety plan.
2.2 Have significant impacts on such natural resources and unique geographic characteristics as historic or cultural resources; park, recreation or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands (Executive Order 11990); flood plains (Executive Order 11988); national monuments; migratory birds; and other ecologically significant or critical areas.
Migratory Birds Specialist: Matt Obradovich, District Biologist Signature and Date: 6/14/2015
Rationale: The dates for completing the work would be outside the time frame (March 1–August 1 of each year) for breeding/nesting/fledging for migratory birds so there would be no effects to migratory birds from this action.
Historic and Cultural Resources Specialist: Scott Thomas, District Archaeologist Signature and Date: 6/14/2015
Rationale: No historic or cultural resources would be affected by this proposed project because as it is entirely within a mined out area and at least five feet below the original land surface; the area around it is either solid rock or has been moved by heavy equipment and/or prior blasting.
Areas of Critical Environmental Concern (ACEC)/Research Natural Areas (RNA) Specialist: Caryn Burri, Natural Resource Specialist (NRS), Botany Signature and Date: 6/14/2015
Rationale: There are no ACECs/RNAs within the proposed project area.
Water Resources/Flood Plains Specialist: Lindsay Davies, Fish Biologist Signature and Date: 6/14/2015
Rationale: There would be no effects to water resources or floodplains as surface water is not present and depth to groundwater is estimated to be at least 250 feet below the ground surface.
Soils, Biological Soil Crust (BSC), Prime Farmlands Specialist: Caryn Burri, NRS, Botany Signature and Date: 6/14/2015
Rationale: No, disturbance to soils and BSCs would be immeasurable as the entire project area is located within a former active mine resulting in soils and BSCs having been permanently disturbed and/or removed within the lifetime of the mine. Additionally, if soils and BSCs have not been disturbed within the specific project area, the safety of the general public outweighs the need to preserve the current condition. There are no prime farmlands within the proposed project area.
Recreation/Visual Resources Specialist: Tom Wilcox, Wilderness Specialist Signature and Date: 6/14/2015
Rationale: There are no Wilderness Study Areas (WSA), Wild and Scenic Rivers (WSR), Wilderness, or Lands with Wilderness Characteristics in the project area.
Wilderness/Wild and Scenic River Resources Specialist: Tom Wilcox, Wilderness Specialist Signature and Date: 6/14/2015
Rationale: There are no WSAs, WSRs, Wilderness, or Lands with Wilderness Characteristics in the project area.

2.3 Have highly controversial environmental effects or involve unresolved conflicts concerning alternative uses of available resources (NEPA Section 102(2) (E)).

Specialist: Holly Orr, District Planning and Environmental Coordinator

Signature and Date: Holly Orr 6/14/2015

Rationale: The proposed action was chosen because the alternative action involved the use of heavy equipment or polyurethane foam to fill the adit which was both too unsafe for workers and required a land surface disturbance of 3–5 times that proposed. Further, the adit void would not be fully filled and would require future maintenance and a higher risk to humans. Further, the adit was determined that it would "cave-in" in 1998 (which was partially realized) and is now unsafe and needs to be closed. The project design elements that include a health and safety plan with stipulations would minimize environmental effects and risks.

2.4 Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks.

Specialist: Holly Orr, District Planning and Environmental Coordinator

Signature and Date: Holly Orr 6/14/2015

Rationale: The unsafe adit, limited visibility from a distance, and obvious signs of public use display the need to address closure for the purposes of health and safety. The blasting and methods used are normal practices for the BLM or its contractors and in addition there are a health and safety plan and a monitoring plan in place. There are no unique or unknown risks.

2.5 Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects.

Specialist: Holly Orr, District Planning and Environmental Coordinator

Signature and Date: Holly Orr 6/14/2015

Rationale: This project does not have a direct relationship with other actions that have individually or cumulatively significant impacts. The proposed action would provide a lasting and sustainable solution which would prevent unauthorized entry into the adit that could otherwise have health and safety impacts on humans and animals.

2.6 Have a direct relationship to other actions with individually insignificant but cumulatively significant environmental effects.

Specialist: Holly Orr, District Planning and Environmental Coordinator

Signature and Date: Holly Orr 6/14/2015

Rationale: There are no known individually insignificant but cumulatively significant environmental effects. The blasting and reclamation would be a temporary (less than 1 week) action and the ground disturbance from the proposed work would be within a previously disturbed area (in which the original surface soil has been removed) and would blend in with the surrounding mined out area.

2.7 Have significant impacts on properties listed, or eligible for listing, on the National Register of Historic Places as determined by either the bureau or office.

Specialist: Scott Thomas, District Archaeologist

Signature and Date: Scott Thomas 6/14/2015

Rationale: It has been determined that properties eligible or listed on the National Register of Historic Places do not exist in the immediate area of the proposed action.

2.8 Have significant impacts on species listed, or proposed to be listed, on the List of Endangered or Threatened Species, or have significant impacts on designated Critical Habitat for these species.

Endangered or Threatened Species - Fauna

Specialist: Matt Obradovich, District Biologist

Signature and Date: Matthew Obradovich 6/14/2015

Rationale: There are no known Federally listed threatened or endangered species, species proposed for listing, or designated Critical Habitat for listed species in the project area, so there would be no effects from the proposed project.

Endangered or Threatened Species - Aquatic

Specialist: Lindsay Davies, Fish Biologist

Signature and Date: L. Davies 6/14/2015

Rationale: There are no threatened and endangered (T&E) aquatic species or Critical Habitat within the watershed of this project. Therefore, this project would have no effect to T&E aquatic species.

Endangered or Threatened Species - Flora

Specialist: Caryn Burri, Natural Resource Specialist (NRS), Botany

Signature and Date: 6/14/2015

Rationale: There are no documented Federally listed T&E or BLM listed Special Status plant species, nor designated critical habitat, within the proposed project area.

2.9 Violate a Federal law, or a State, local, or tribal law or requirement imposed for the protection of the environment.
Specialist: Holly Orr, District Planning and Environmental Coordinator Signature and Date: Holly Orr 6/14/2015
Rationale: No known laws or requirements for protection of the environment would be violated. The blasting and reclamation would be a temporary action (less than one week) and the ground disturbance from the proposed work would be within a previously disturbed area (in which the original surface soil has been removed) and would blend in with the surrounding mined out area.
2.10 Have a disproportionately high and adverse effect on low income or minority populations (Executive Order 12898).
Specialist: Holly Orr, Planning and Environmental Coordinator Signature and Date: Holly Orr 6/14/2015
Rationale: Implementation of the proposal would not result in a disproportionately adverse effect on minority or economically disadvantaged populations as such populations do not occur in or near the project area.
2.11 Limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or significantly adversely affect the physical integrity of such sacred sites (Executive Order 13007).
Specialist: Scott Thomas, District Archaeologist Signature and Date: Scott Thomas 6/14/2015
Rationale: The project is located in the vicinity of Glass Buttes which is considered sacred by both the Confederated Tribes of the Klamath Indian Reservation and the Burns Paiute Tribe. The evidence of former mining detracts from the sacred nature of the area and removing it because of health and safety concerns does nothing to increase the detraction. Access to or integrity of American Indian sacred sites would not be affected by the proposed activity.
2.12 Contribute to the introduction, continued existence, or spread of noxious weeds or nonnative invasive species known to occur in the area or actions that may promote the introduction, growth, or expansion of the range of such species (Federal Noxious Weed Control Act and Executive Order 13112).
Specialist: Lesley Richman, District Weed Coordinator Signature and Date: 6/14/2015
Rationale: Noxious weeds are known to be present in or in close proximity to this area. Treatments are on-going. The weeds are not currently present in sufficient quantity to be considered an impact at this location.

D. Signatures

Additional review (As determined by the Authorized Officer)**:**

Specialist: Stacy Fenton, Geographic Information Specialist

Signature: _____ Date: 08/27/2015

RMP conformance and CX review confirmation:

Specialist: Holly Orr, Planning and Environmental Coordinator

Signature: Holly Orr Date: _____

Management Determination: Based upon review of this proposal, I have determined the proposed action is in conformance with the LUP, qualifies as a categorical exclusion, and does not require further NEPA analysis.

Authorized Officer: Richard Roy, Three Rivers Field Manager

Signature: Richard Roy Date: 8/27/15

E. Contact Person

For additional information concerning this CX review process, contact Holly Orr, Planning and Environmental Coordinator, BLM, Burns District Office, 28910 Highway 20 West, Hines, Oregon 97738, (541) 541-4400, or for technical questions contact Rick Wells, Geologist, BLM, Burns District Office, 28910 Highway 20 West, Hines, Oregon 97738, (541) 541-4400.

Decision: I have reviewed this plan's conformance and NEPA compliance record and have determined that the proposed project is in conformance with the approved LUP and that no other environmental analysis is required. Based on 43 CFR 3809, 3720, and 3830, it is my decision to allow for implementation of the project, as described, with the mitigation measures identified above and attached project design elements, health and safety plan, and monitoring plan.

Authority: The following primary laws authorize BLM to reduce environmental degradation, mitigate physical safety hazards, and reclaim abandoned mine lands as provided in BLM manual H-3720-1 (Abandoned Mine Land Program Policy, 2007, section 1.8).

1. Federal Land Policy and Management Act of 1976 (FLPMA) (43 U.S.C. 1701 *et seq.*).
2. Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (42 U.S.C. 9601 *et seq.*) and National Contingency Plan (NCP) (40 CFR Part 300).
3. Federal Watershed Restoration and Enhancement Agreements ("Wyden Amendment", 16 U.S.C. 1011).

BLM also relies on the following authorities applicable to the evaluation and cleanup of abandoned mine lands. These authorities present procedural and substantive standards and requirements which must be observed in the course of abandoned mine land cleanup and reclamation.

1. National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq.*).
2. Resource Conservation and Recovery Act of 1976 (RCRA) (42 U.S.C. 6962 *et seq.*).
3. Clean Water Act (CWA) of 1972 (33 U.S.C. 1251 *et seq.*).
4. Endangered Species Act (ESA) of 1973 (16 U.S.C. 1531).
5. National Historic Preservation Act of 1966 (NHPA), as amended (16 U.S.C. 470).
6. Surface Mining Control and Reclamation Act of 1977 (SMCRA) (30 U.S.C. 1201 *et seq.*).

Rationale: I have reviewed the proposed action and have determined that it is categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with United States Department of the Interior (DOI) DM 516 DM 11.9 J. (10) as well as J. (8). Section J. (10) allows for "removal of structures and materials of no historical value . . . when little or no surface disturbance is involved." The adit is a mining structure and the proposed impact is entirely within an area previously disturbed during past mining activities. Section J. (8) allows for "installation of minor devices to protect human life"; the intended goal of this project is to protect human life. I have also determined that the CX is appropriate in this situation because there are not extraordinary circumstances potentially having effects that may significantly affect the environment.

I considered all specialists' input and the factors and remarks described in the Extraordinary Circumstances Documentation in my decision to implement the action proposed in DOI-BLM-OR-B050-2015-0030-CX.

Implementing this decision is an important step in ensuring and improving the public safety on public lands within the Burns District. The project has been designed to ensure no impacts to the human environment. While there may be some short term impacts (discussed previously) the project would ultimately result in public health and safety benefits to the human environment. The project complies with all laws, regulations, and policies, and conforms to the Burns District Three Rivers RMP (1992).

Appeal Procedure: You have the right to appeal to the Interior Board of Land Appeals (IBLA), Office of the Secretary, within 30 days of receipt of this decision in accordance with regulations at 43 CFR 4.4. An appeal should be in writing and specify the reasons, clearly and concisely, why you think the decision is in error. A notice of appeal and/or request for stay electronically transmitted (e.g. email, facsimile, or social media) will not be accepted. A notice of appeal and/or request for stay must be on paper. If an appeal is taken, your notice of appeal must be filed with Richard Roy, Field Manager, Three Rivers Resource Area, Burns District Office, 28910 Highway 20 West, Hines, Oregon 97738. The appellant has the burden of showing that the decision is in error.

The notice of appeal must give the serial number or other identification of the case (following in **bold type**) and may include a statement of reasons for the appeal and a statement of standing (if required by § 4.412(b)).

CX#: DOI-BLM-OR-BO50-2015-0030-CX
Applicant: BLM and contractor
Project Title: Glass Buttes Adit #3 Closure FY2015

A copy of the appeal, statement of reasons, and all other supporting documents should also be sent to the Regional Solicitor, Pacific Northwest Region, U.S. Department of the Interior, 805 SW Broadway, Suite 600, Portland, Oregon 97205. If the notice of appeal did not include a statement of reasons for the appeal, it must be sent to the IBLA, Office of Hearings and Appeals, 801 North Quincy Street, Arlington, Virginia 22203. It is suggested appeals be sent certified mail, return receipt requested and give the serial number or other identification of the case (following in **bold type**) and may include a statement of reasons for the appeal and a statement of standing (if required by § 4.412(b)).

CX#: DOI-BLM-OR-BO50-2015-0030-CX
Applicant: BLM and contractor
Project Title: Glass Buttes Adit #3 Closure FY2015

The appellant may wish to file a petition for a stay (suspension) of this decision during the time that the appeal is being reviewed by the IBLA; pursuant to 43 CFR 4.21(b) the petition for a stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must be submitted to each party named in this decision and to the IBLA and to the appropriate Office of the Solicitor (43 CFR 4.413) at the

same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

Standards for Obtaining a Stay—except as otherwise provided by law or other pertinent regulation, a petition for a stay of decision pending appeal shall show sufficient justification based on the following standards (43 CFR 4.21(b)):

(1) The relative harm to the parties if the stay is granted or denied,
(2) The likelihood of the appellant's success on the merits,
(3) The likelihood of immediate and irreparable harm if the stay is not granted, and
(4) Whether the public interest favors granting the stay.

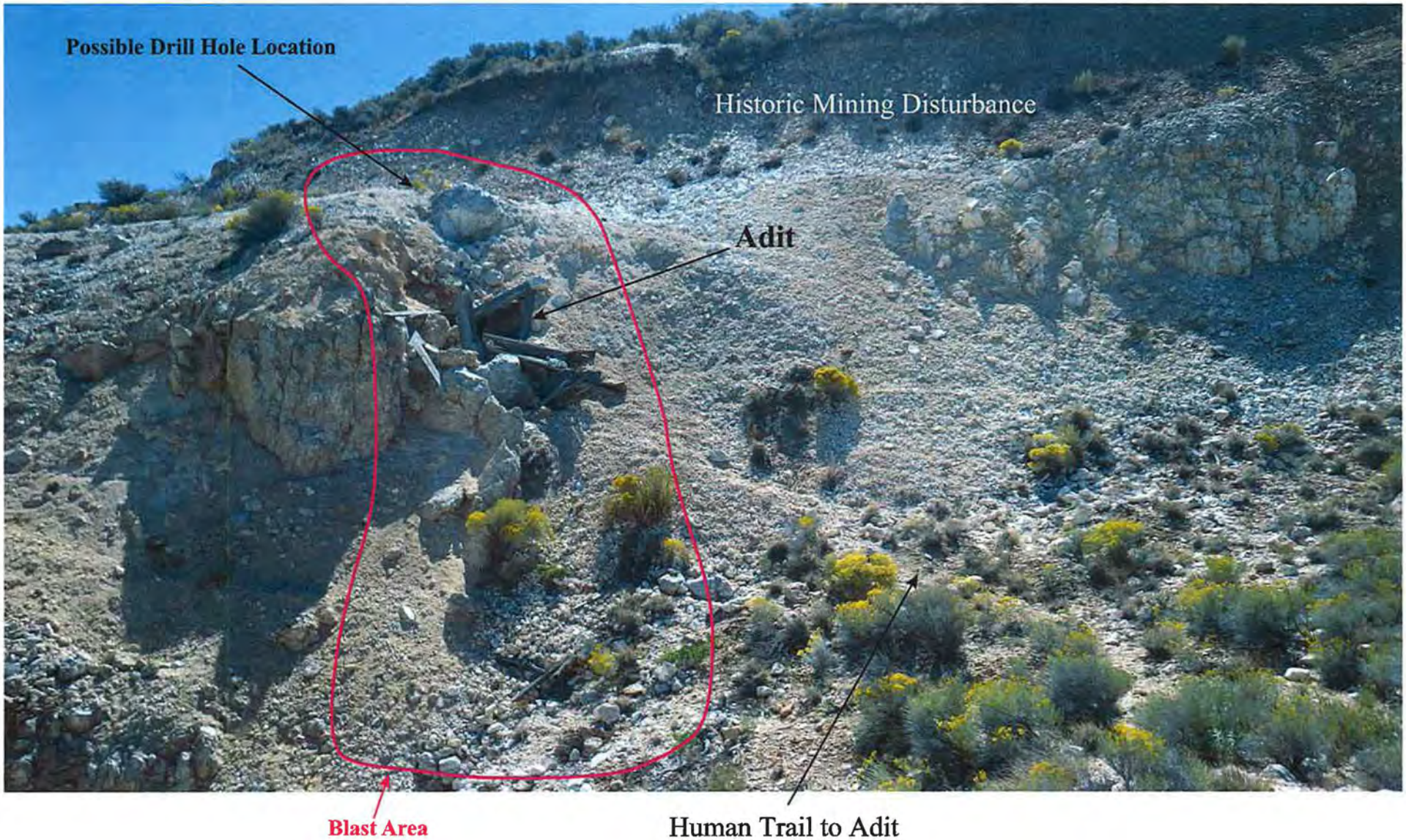
As noted above, the petition for stay must be filed in the office of the Authorized Officer. It must be printed or typed on paper and must be served in person or by certified mail.

Authorized Officer: Richard Roy, Three Rivers Field Manager

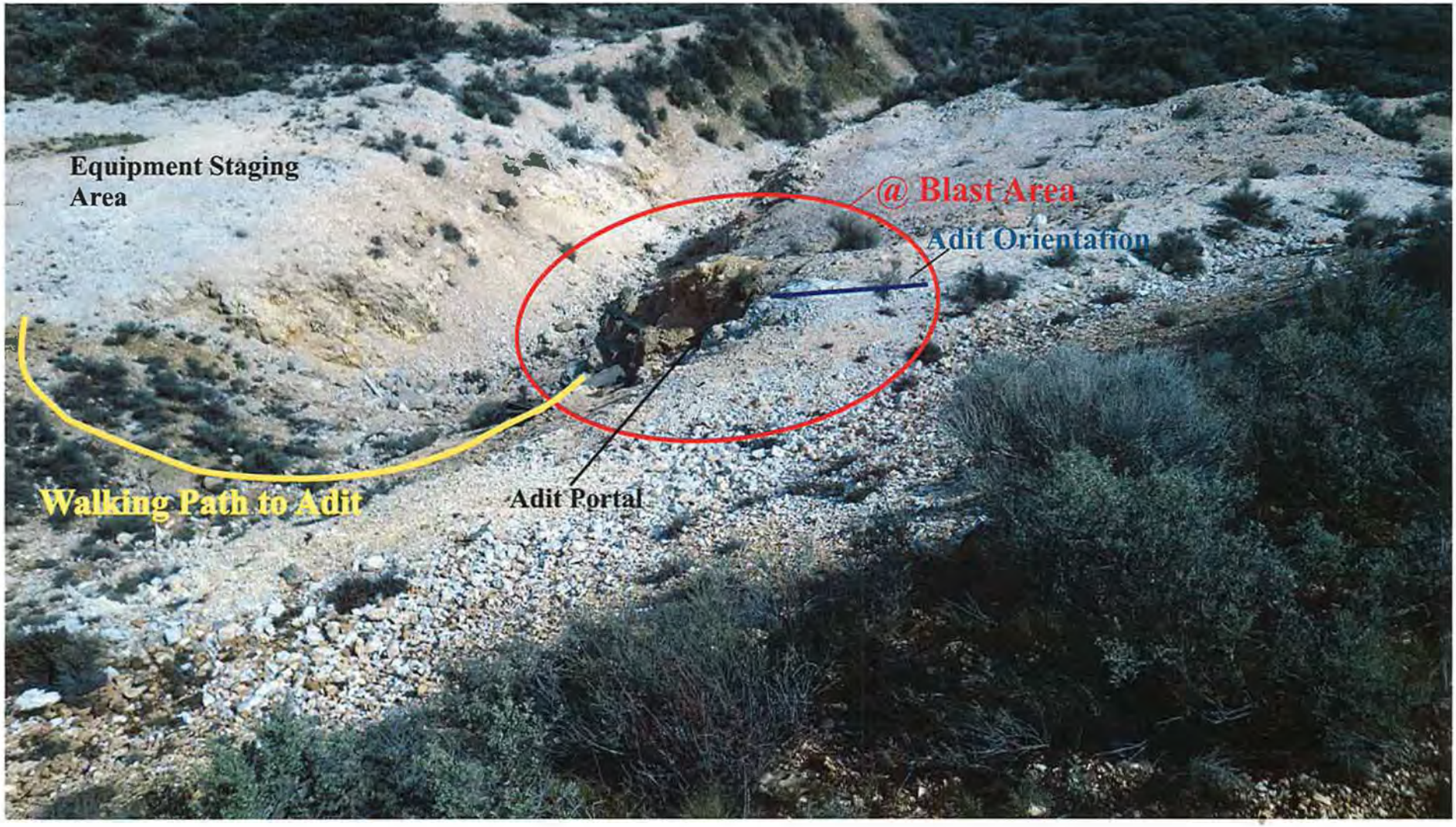
Signature: Richard Roy Date: 8/27/15

Photograph 1 Adit portal showing timbers and area of fault\hanging wall and rocks caving in portal, taken looking southerly.

Photograph 2 showing unsafe adit, taken looking southerly..



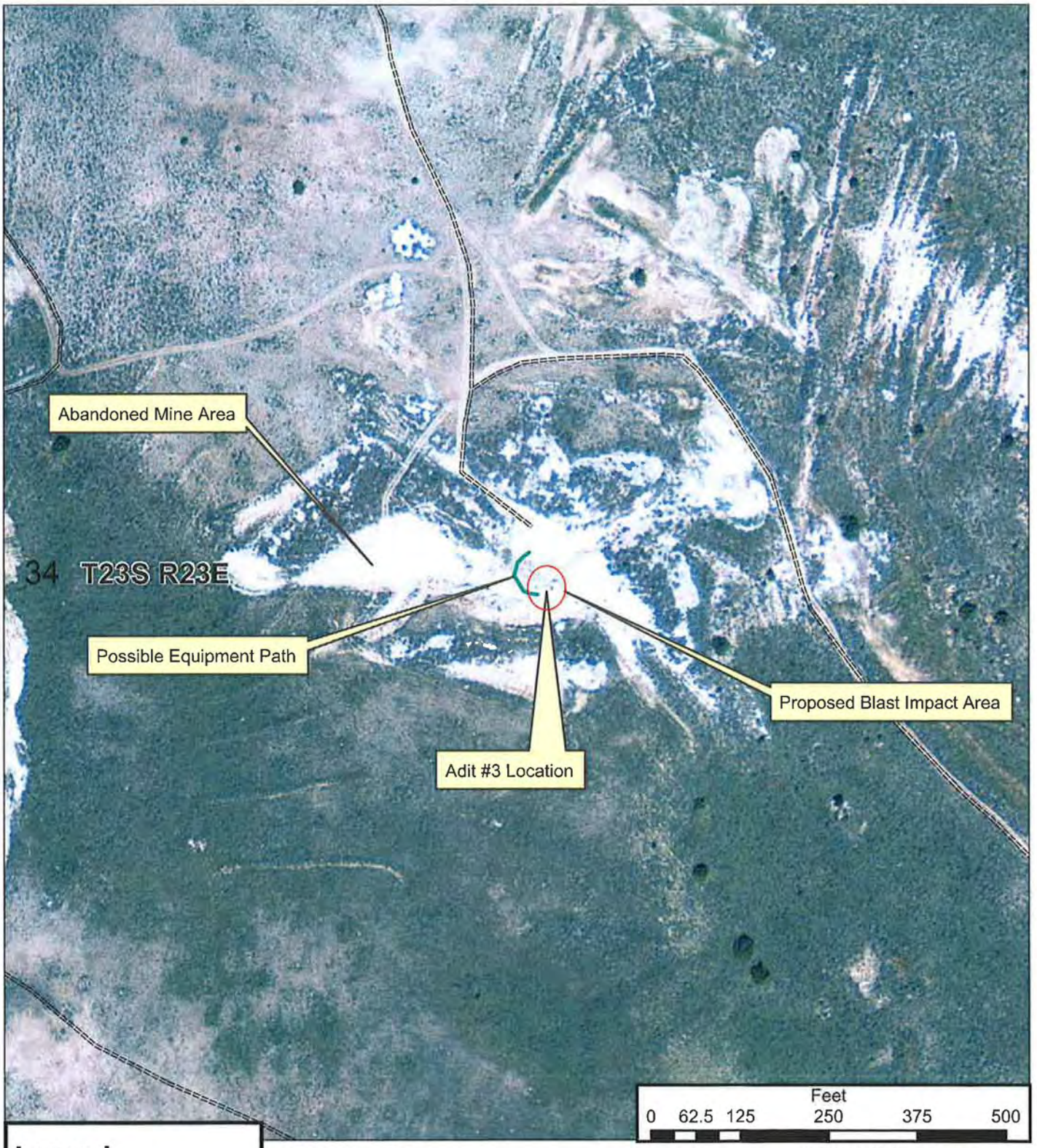
Photograph 3 Photograph of the Adit at Glass Buttes proposed to be closed by blasting, showing drilling, blast zone, and anticipated blast impact, human trail (possible path for heavy equipment for recontouring. Photograph taken looking southerly.



Photograph 4 Looking Northeast shoing topographic relief and Adit Blast Area. Note some fly rock will be outside of this area.

Adit #3 Closure at Glass Buttes AML Complex

Photograph 5

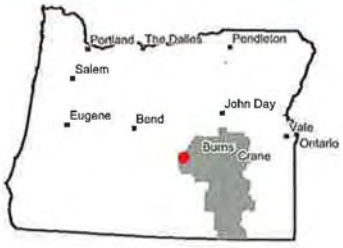


Legend

====== Primitive Surface

Proposed Impact Area

Possible equipment path



2009 NAIP Photobase

Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources and may be updated without notification.

US DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District, Oregon

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BLM Spill, Emergency, & Health and Safety Minimum Guidance

Glass Buttes AML Complex
Adit #3 Closure by blasting
Lake County, Oregon

EMERGENCY PLANS

1. **Injury Contingency Plan**

In the event injuries occur in connection with operations, specific and immediate attention will be given to proper transportation to a medical facility.

Ambulance (nearest is Harney County in Burns)
911 or (541) 573-6028 (Harney County) 541/947-2504 (Lakeview)

Harney District Hospital
557 W. Washington
Burns, OR
(541) 573-7281

Initiate appropriate control procedures.

1. Arrange for any injured persons to be taken by the fastest transportation available to the nearest medical facility.

2. If there is a threat to any local residents, the sheriff will be notified as soon as possible:

   Harney County Dispatch
   Burns, OR
   (541) 573-6028 or 911

3. Secure and maintain control of access roads to the area to eliminate entry of unauthorized personnel.

4. Contact the contractor and BLM project managers and advise of the situation.

5. Initiate any further or supplemental steps that may be necessary or advisable, site conditions and identified in the daily site safety tailgate briefings.

3. **Fire Contingency Plan**

1. Any small fires which occur around the work area should be able to be controlled;

2. The Fire Department will be notified of any fire, even if the available personnel can handle the situation or the fire poses no threat to the surrounding area;

3. A roster of emergency phone numbers will be available on-site so that the appropriate fire fighting agency can be contacted in case of a fire;

4. The BLM District Office would be notified immediately of any wildland fire, even if the available personnel can handle the situation or the fire poses no threat to the surrounding area;

5. All vehicles will carry at a minimum, a shovel, five gallons of water (preferably in a backpack pump), and a conventional fire extinguisher;

6. Vehicle catalytic converters would be inspected daily and cleaned of all flammable debris;

7. All cutting/welding torch use, electric-arc welding, and grinding operations would be conducted in an area free, or mostly free, from vegetation. An ample water supply should be available onsite and shovel to extinguish any fires created from sparks. At least one person in addition to the cutter/welder/grinder needs to be at the work site to promptly detect fires created by sparks;

8. The Contractor is responsible for being aware of and complying with the requirements of any fire restrictions or closures issued by the BLM District, as publicized in the local media or pasted at various sites throughout the field office district. The contractor is responsible for notifying personnel of these restrictions or closures;

9. Personnel would be allowed to smoke only in designated areas and would be required to follow applicable BLM regulations regarding smoking.

4. Spill or Discharge Contingency Plan

1. Potential Sources of accidental spills or discharges:

   a) A fluid discharge could likely be from equipment used in the field. Potential locations for accidental spills are:

      (1) Drilling equipment and machinery at and around the drilling location;

      (2) Other miscellaneous equipment and machinery in work area and roads.

2 Plan for cleanup and abatement

   If the spill is at or more than the Reportable Quantity (RQ) [see Oregon Administrative Rules Division 142 §340-142 it will require future action. The EPA RQ table is found in 40 CFR 302, Table 302.4] the Contractor will follow safety procedures and (if can be done safely) stop the release and contain the release to prevent further spread and impact and follow all procedures for notification and cleanup.

In the event of discharge of formation fluids, petroleum products or construction debris, the person responsible for the operation will make an immediate investigation, then contact the contractor and advise him\her of the release. The contractor will implement the necessary and required protocol to control, clean up and notify (if applicable):

i. Action - Small, Containable Spill

If the spill is less than the Reportable Quantity and easily containable without endangering the watershed, the contractor will direct and supervise complete cleanup and return to normal operations.

ii. Action - Large or Uncontainable Spill

If the spill is larger than the Reportable Quantity, or is not easily contained, or endangers, or has entered the watershed, the contractor will proceed to take necessary action to curtail, contain and clean-up the spill, as above, and notify personnel as listed below.

iii. Notification

(1) The Contractor will, as quickly as practicable:

- Notify the local law enforcement agencies, if the public safety is threatened.
- Call 911
- Call out contractor(s)\subcontractors, as required\needed.
- Follow OAR 340-142 for Oil and Hazardous Materials procedures.
- Notify BLM (see contact below) and applicable State agency as soon as practical.

Rick Wells
BLM Burns Office
28910 Highway 20 West
Hines, Oregon 97738
(541) 573-4484; Cell:

The Contractor will also advise local population and affected property owners as needed.

(2) Confirm telephone notification to agencies and regulatory bodies. Telephone notification shall be confirmed by the Contractor in writing within two weeks of telephone notification.

Written confirmation will contain:

1. Reason for the discharge or spillage;
2. Duration and volume of discharge or spillage;
3. Steps taken to correct problem;
4. Steps taken to prevent recurrence of problem.

E. Hazardous Gas Contingency Plan

1. There is a very limited possibility of encountering hazardous non-condensable gases while drilling and blasting, however, it is prudent to be prepared. As the area was mined for the production of mercury, it is considered prudent to monitor for Mercury (Hg) vapor. However, the oxygen (O_2) concentration will also be monitored by BLM for compliance. Contractor has the option of monitoring O_2 concentrations has their discretion;

2. The effectiveness of this plan is dependent upon the cooperation and effort of each person who enters the site during drilling or after blasting operations. Each person must know their responsibilities under stressful emergency operating conditions. All personnel must see that their safety equipment is stored and functional in addition to the location and operation of safety equipment;

3. All personnel will be trained in warning signs, signals, first aid, and responsibilities in case of hazard gases. The site will have two briefing areas identified so that one is upwind from the blast zone area at all times. Before drilling or blasting commences, all personnel will be advised of escape routes;

4. During blasting operations, all humans shall be located in an upwind safe zone which is identified during safety briefing.

Symptoms of high mercury exposures to inorganic mercury (*elemental* or *metallic mercury)* include: skin rashes and dermatitis; mood swings; memory loss; mental disturbances; and muscle weakness. High exposures to inorganic mercury may result in damage to the gastrointestinal tract, the nervous system, and the kidneys. Both inorganic and organic mercury compounds are absorbed through the gastrointestinal tract and affect other systems via this route. However, organic mercury compounds are more readily absorbed via ingestion than inorganic mercury compounds.

Inhalation of elemental mercury vapors is the main source of toxicity, as mercury is well-absorbed through the lungs. Problems from inhalation result either from a large one-time high exposure or a long-term exposure. Long-term exposure of inhaled vapors is generally more dangerous, with the nervous system being the primary target of mercury toxicity. Symptoms may occur within weeks but usually develop insidiously over a period of years. Elemental Mercury is not well-absorbed through the skin, so skin contact is not likely to cause mercury poisoning, however, proper hygiene prior to eating food is a must (http://www.coshnetwork.org/node/360).

Mercury vapor levels in the air believed to be unhealthy:

- NIOSH: at or above 0.05mg/m^3 (50 ug/m^3) as a 10 hour average.
- OSHA requires that mercury exposure be kept below 0.1mg/m^3 (100 ug/m^3) at all times.
- If airborne levels of elemental mercury reach 10 mg/M^3 then a self-contained breathing apparatus [SCBA] must be worn.

- EPA region 9 PRG threshold is 0.3 ug/m³

At normal air temperatures elemental mercury evaporates slowly. Mercury vapors are heavier than air and tend to remain near the floor or source, but as the temperature rises and as the mercury is disturbed, more vapors can become airborne. Outdoors, mercury vapors tend to go away quickly, but indoors (particularly with windows closed), mercury vapors will accumulate in the air.

Oxygen concentration levels in the air:

Oxygen (O2) Summary of effects		
Effects	Atmospheric O_2	
	%	Pressure mmHg
Optimal	19.5 - 23.5	
No symptoms	>17 - 20.9	122-159
Mental abilities impaired, increased heart and breathing rate, some loss of coordination, increased breathing volume, impaired attention and thinking	16	122
Abnormal fatigue upon exertion, emotional upset, faulty coordination, impaired judgment	14	106
Very poor judgment and coordination, impaired respiration that may cause permanent heart damage, nausea and vomiting	12	91
Nausea, vomiting, lethargic movements, perhaps unconsciousness, inability to perform vigorous movement or loss of all movement, unconsciousness followed by death	< 10	< 76
Convulsions, shortness of breath, cardiac standstill, spasmatic breathing, death in minutes	< 6	< 46
Unconsciousness after one or two breaths	< 4	< 30

Emergency Personnel and Telephone Numbers

Emergency Personnel and Telephone Numbers

Fire	**911**
Harney Count Dispatch --- Primary	(541) 573-6028
Lakeview Fire Department	(541) 947-2504
Lakeview District BLM Fire Dept.	(541) 947-2177

(Notify if fire originates from or threatens BLM land)

Law Enforcement		**911**
Harney County Dispatch	--- Primary	(541) 573-6028
Lake County Sheriff		(541) 947-6027
Oregon State Police		(541) 947-2267
Hospital		**911**
Harney District Hospital 557 W. Washington Burns, Oregon 97720	--- Primary	541-573-7281
Lake Health District 700 J Street Lakeview, OR		541-947-2114
Agency Representatives		
BLM Burns – Rick Wells rdwells@blm.gov 28910 Highway 20 West Hines, Oregon 97738		541-573-4484 (direct) 541-573-4400 (office) Provided verbally (cell)

Contractor Representatives

To be determined!