

## ENVIRONMENTAL ASSESSMENT

EA Number: ID-420-2007-EA-3321  
Name/Title: Bear Lake Mining Company, LLC - Exploration Plan & Occupancy Request  
Project Number: IDI-35658  
Office: Bureau of Land Management, Idaho, Cottonwood Field Office (ID420)  
Date: March, 2008

### INTRODUCTION

#### Location and Background

On July 27, 2006, the Bureau of Land Management's (BLM) Cottonwood Field Office (CFO) received a Plan of Operations (Plan) from Bear Lake Mining Company, LLC (BL Mining). The Plan outlines exploration activities BL Mining wants to conduct on unpatented mining claims in Section 9 of Township 24 North, Range 5 East, Boise Meridian; also referred to as the Marshall Mountain township. A copy of the Master Title Plat for the Marshall Mountain township is provided on page 2. The subject mining claims cover federal lands under BLM administration approximately twenty-three air miles east of Riggins, Idaho County, Idaho. The BLM office with management oversight is the CFO located in Cottonwood, Idaho. The map on page 3 shows the general location for this proposal which has been assigned case file number IDI-35658.

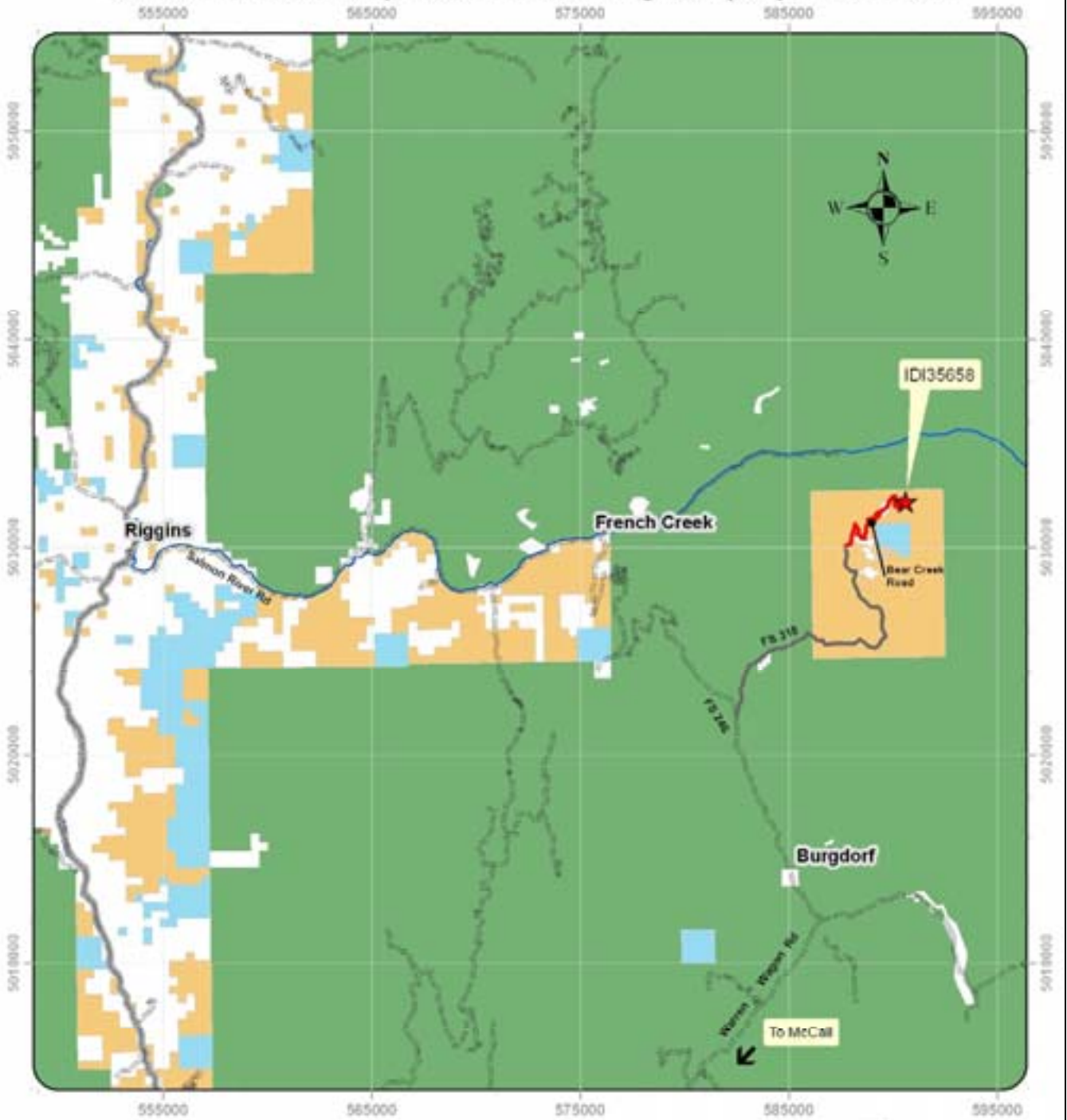
BL Mining's proposed activities are within central Idaho's historic Marshall Mountain Mining District. The Known Historical Mine Sites map on page 4 indicates approximate locations for old mine workings in the Marshall Mountain township, the majority of which were developed during the late-1800s to the 1940s. Private land in the area (indicated by cross hatching on the map) left federal ownership through the mineral patent process under the General Mining Law of 1872. The recent surge in market price for precious metals has generated renewed interest in Idaho's historic mining districts. About six months after BLM received this proposal, the Payette National Forest, McCall Ranger District received a Plan of Operations for an underground gold mine and mill at the old Walla Walla mine site. The general location for the Walla Walla site is indicated on the map on page 4 by the red "Other Sites" symbol along the right border of the map area. Although not in the same drainage as BL Mining's Plan, access to the Walla Walla site would require use of some of the same routes BL Mining would use.

Three of the five mining claims involved with BL Mining's Plan are the Humbug No. 1, Humbug No. 3, and Humbug No. 5. The BLM serial numbers for these claims are IMC186055, IMC186057, and IMC186059 respectively. The original Humbug claims (#1 through #5) were staked (located) in 1928 by Mr. Cliff Stock. When these claims were recorded with the BLM in 1979, as required by the Federal Land Policy and Management Act of 1976, the claimants of record were Shirley Johnson (Mr. Stock's granddaughter) and her husband Ardy. Prior to 1979, a cabin, a utility shed, and a storage shed/shop had been erected south of Bear Lake on the Humbug No. 5 claim. Also, an adit (mine) had been driven into the hillside on the Humbug No.3 claim, and a road to the mine had been constructed around the north end of Bear Lake.

An Aerial View of Bear Lake is provided on page 5 which shows the location of the Humbug claim boundaries (yellow lines), the shop and cabin site (orange triangle), the blocked mine entrance (red star), the Bear Creek Road (red line), and the Mine Access Road (white line).

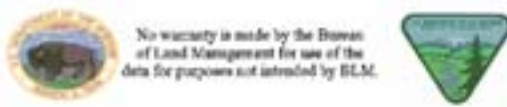


### General Location Map: Bear Lake Mining Company, LLC's Plan



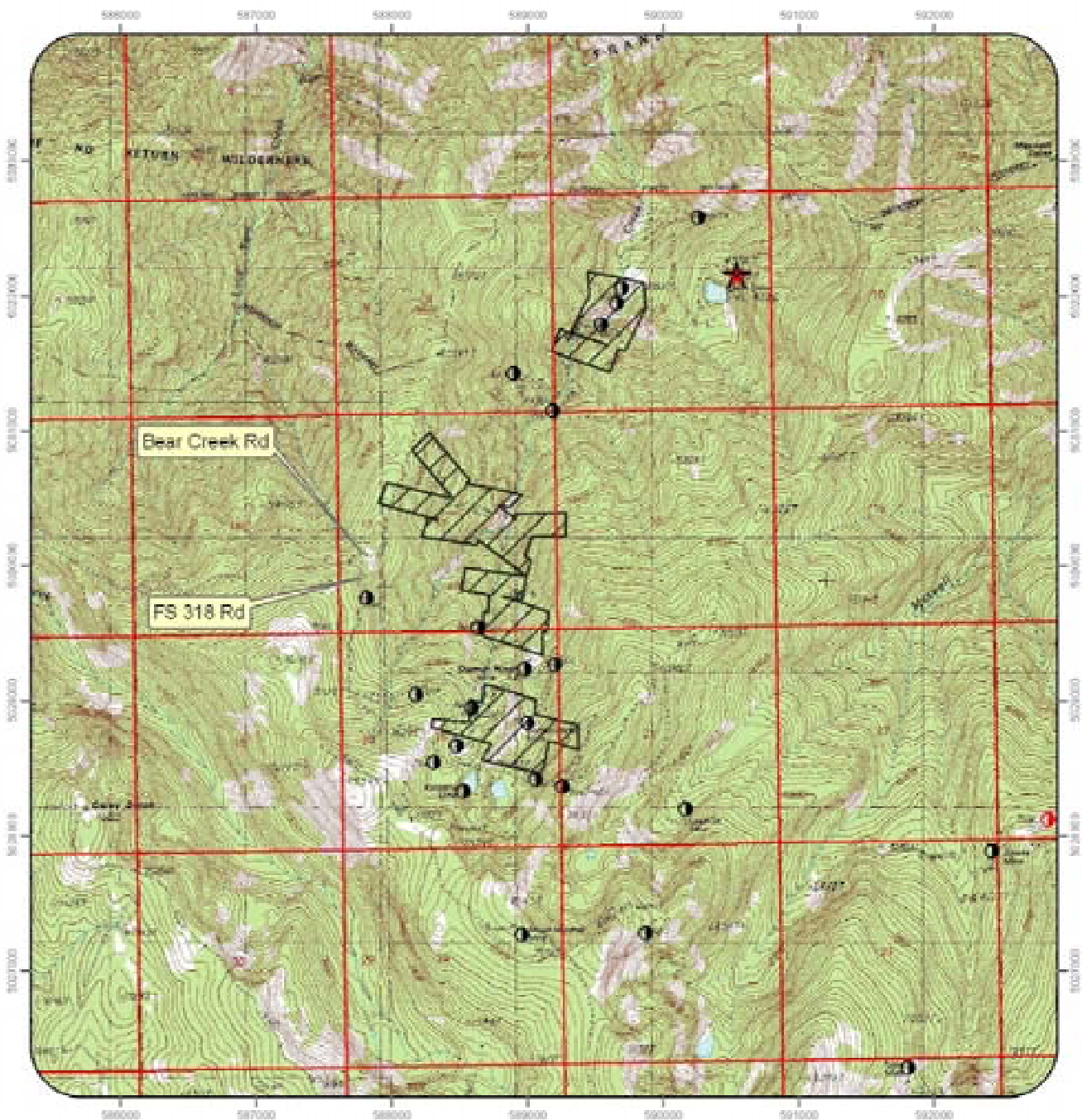
**Legend**

Transportation	Surface Mgmt
U.S. Hwy 95	BLM
Light Duty Rd	PRIVATE
Single Lane	STATE
River	USFS



Central Idaho - BLM Corporate Data - 2/29/2008

### Known Historical Mine Sites: Marshall Mountain Area

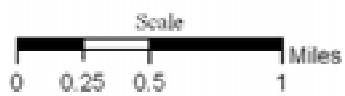


**Map Features**

- ★ Humbug Mine
- Other Sites
- Roads
- ▨ Private Land
- ▭ Section Lines

Generalized  
Based on Topo

T. 24 N., R. 5 E., Boise Meridian  
BLM Corporate Data - 1/29/07

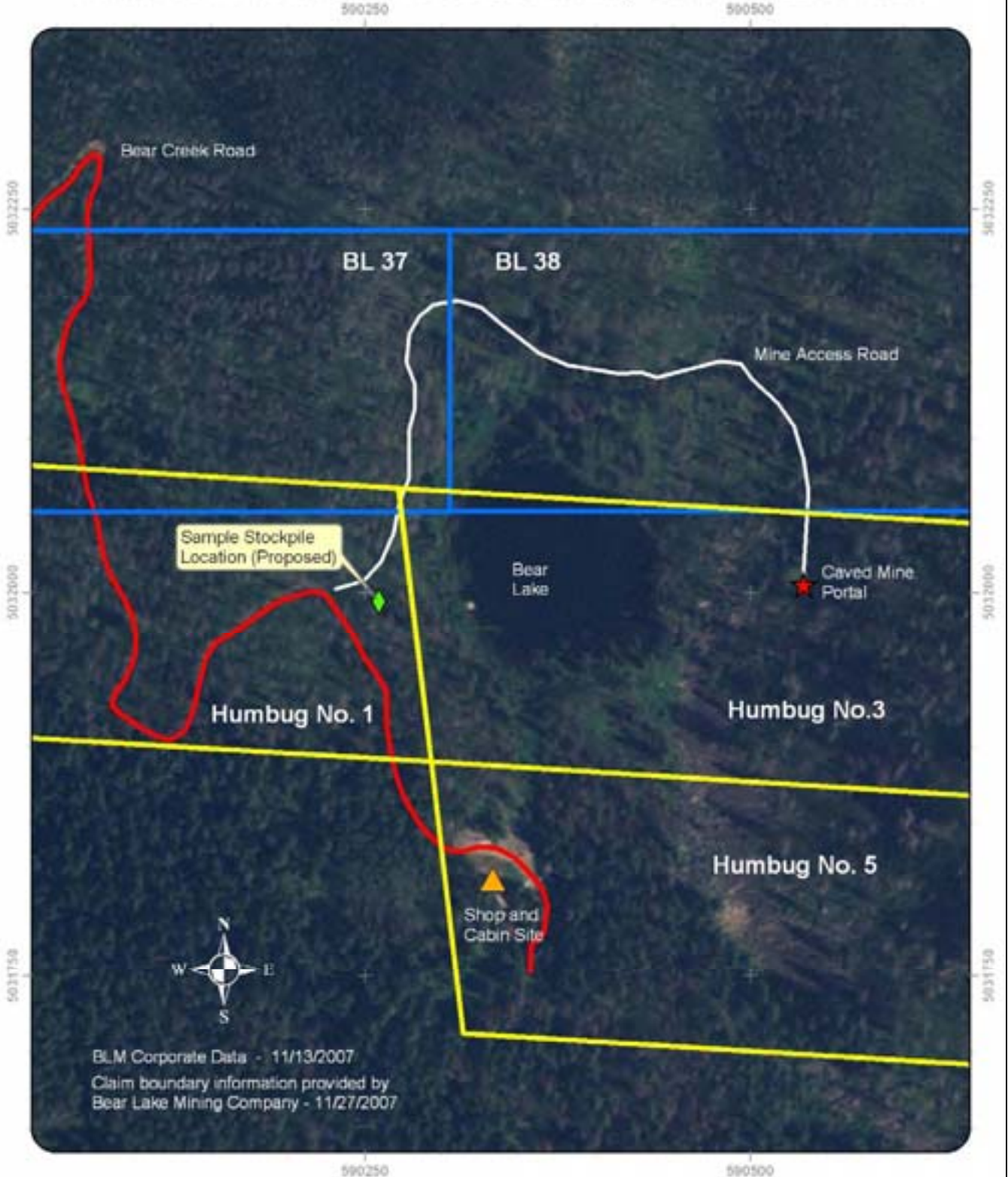


No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.

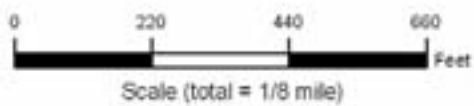




### Aerial View of Bear Lake: Bear Lake Mining Company, LLC's Plan



BLM Corporate Data - 11/13/2007  
Claim boundary information provided by  
Bear Lake Mining Company - 11/27/2007



No warranty is made by the Bureau of Land Management for use of the data for purposes not intended by BLM.





Picture 1. Humbug Mine Access Road bed (portion).



Picture 2. Blocked Humbug mine portal.



Picture 3. Cabin and utility shed on Humbug No. 5.



Picture 4. Shop and generator shed on Humbug No. 5.



Picture 5. Rock retaining wall north of Cabin.



Picture 6. Rock source site on Humbug No. 5.



The other two mining claims included with BL Mining's Plan are the BL 37 (IMC189699) and BL 38 (IMC189700). These claims were located by BL Mining on May 16, 2006. The blue lines on the Aerial View on page 5 indicate the boundaries for the BL claims.

From 1979 through the mid-1990s, the Mine Access Road and mine entrance (portal) were kept clear of debris and vegetation. After the mid-1990s, the road was no longer maintained and the portal eventually became covered by debris sloughing down from the hillside above it. Picture 1 on page 6 shows a portion of the Mine Access Road bed which is representative of the whole road. Picture 2 on page 6 shows the blocked portal.

In 2001, Mrs. Johnson, who was the sole claimant of record at that time, sold the original Humbug claims to Variety Excursions, Inc. (Variety). In the fall of 2002, BLM declared the Humbug claims null and void (closed) due to Variety's unintentional failure to file a Maintenance Fee Waiver Certification or pay the annual claim maintenance fee by September 1, 2002. Upon notification that the claims had been closed, Variety relocated the claims on November 20, 2002 because they did not want the claims to be considered abandoned. The relocated claims were recorded with the BLM on February 11, 2003. On February 17, 2003, Variety transferred their interest in the Humbug claims to BL Mining.

While Variety held the claims they fixed up the old cabin and utility shed (see Picture 3, page 6), removed the original storage shed/shop and constructed a new one in its place (see Picture 4, page 6) and replaced an old outhouse with a new one. They also built a metal shed behind (south) of the shop which houses a diesel powered generator that supplies electricity to all of the buildings on the Humbug No. 5 claim. This small shed is barely visible behind the trees to the right of the shop in Picture 4 on page 6. One of the last things Variety initiated during this period was construction of a rock retaining wall north of the cabin using material from the Humbug No. 5 claim. Fill material was then placed behind the rock wall to create a level parking area west of the cabin. The rock retaining wall and the rock source site are shown in Pictures 5 and 6 on page 6.

Although BL Mining was not the claimant of record when the majority of these improvements were made on the Humbug No. 5 claim, final reclamation of the site will include removal of all the buildings and rehabilitation of all surface disturbances associated with them. The estimated financial guarantee (bond) for this Plan, as required by Title 43, Code of Federal Regulations (43 CFR), §3809.500, will include this work along with any authorized new disturbances and structures.

#### Type of Action

Because there is no record of how much gold, if any, was recovered from about 200 feet of underground workings in the Humbug mine, BL Mining's Plan outlines exploration activities they wish to conduct on the subject lode mining claims. The holder (claimant) of a properly located mining claim has the statutory right, consistent with other laws and Departmental regulations, to perform mineral prospecting, exploration, development, and extraction on their claim. However, any mining related activity on BLM administered land exceeding the threshold of "casual use", as defined at 43 CFR, §3809.5, requires the claimant to notify the BLM Cottonwood Field Manager (authorized officer) of their intentions. Upon receipt of any proposal, the BLM will perform the necessary reviews and consultations required by federal regulations and laws, and inform the proponent of their findings and decisions.

BL Mining's Plan indicates that less than five (5) acres of surface disturbance would occur from their proposed exploration operations. In most cases this level of activity would only require filing a Notice under 43 CFR, §3809.300, "Operations Conducted Under Notices". However, BL Mining's Plan includes a request for *Occupancy* on the Humbug claims which is defined at 43 CFR, §3715.0-5 as "full or part-time residence". The occupancy request subjects their Plan to 43 CFR, §3715, "Use and Occupancy Under the Mining Laws", and the level of occupancy requested by BL Mining invokes the requirements outlined at §3809.400, "Operations Conducted Under Plans of Operations". Under 43 CFR, §3809.411, BLM must prepare an Environmental Assessment (EA) and conduct any necessary consultations prior to informing the proponent of its findings and decisions. Also, under §3715, the BLM must review the proposed occupancy to determine if it "conforms to the provisions of §§3715.2, 3715.2-1 and 3715.5". (The conformance determination is under separate cover.) Upon completion of this review, BLM will notify the operator of its "concurrence or non-concurrence" of the proposed occupancy. Because the occupancy request is an integral part of BL Mining's Plan, it will be assessed in conjunction with the EA and the concurrence/non-concurrence determination will be included with the decision that approves, modifies, or rejects the Plan.

#### Purpose and Need for Proposed Action

The logical steps in developing a mining claim typically start with prospecting, or searching for visible clues on the Earth's surface (expressions) that could indicate the presence of a desired mineral. In the case of the Humbug claims, a quartz vein was the surface expression prompting location of lode mining claims. Next, exploration of the surface expression is done to determine if it contains a desired resource (in this case gold) in sufficient quantities (reserves) to justify further expenditures toward the goal of developing a paying mine. One exploration method is the extraction of a measured volume of rock (a sample) believed to contain the gold which is then processed to remove any gold values in the sample. Next, the material recovered from sample processing is assayed by a lab to determine a grade which is typically reported as ounces of gold per ton of rock (1 ton equals 2000 pounds). In addition to determining a grade, metallurgical testing of the sample may be done to identify which separation method (gravity vs. chemical) would remove the gold from the rock in the most economically prudent manner. This information is important because it determines what equipment would be necessary to develop the claim, and what measures would be required to properly handle waste material. Using this information, the claimant can then perform an economic evaluation to determine whether or not they wish to proceed to the next step. BL Mining's Plan outlines the steps they deem necessary to extract a bulk sample for testing from the old Humbug mine. Based upon sample test results, BL Mining would then determine whether or not they believe additional exploration (sampling) in the Humbug mine is necessary; or they could decide to discontinue exploration and reclaim the site; or the test results could be encouraging enough to lead to the submittal of a Plan of Operations for further development of the mine.

#### Conformance with Applicable Land Use Plan

BL Mining's Plan is in conformance with the Chief Joseph Management Framework Plan (1981) and subsequent amendments and updates. All of the proposed activities would occur on federal lands that are open to the General Mining Law of 1872 and are not part of any Special Designation areas (Area of Critical Environmental Concern, Wilderness Area, etc.). All of BL Mining's proposed operations would be within that portion of Section 9, Township 24 North, Range 5 East, Boise Meridian that is not included in the Marshall Mountain Wilderness Study Area (WSA). The boundary for this WSA is indicated by the dashed line on the Master Title Plat provided on page 2.



### Relationship to Statutes, Regulations or Other Plans

BL Mining's Plan is subject to 43 CFR, Group 3700, "Multiple Use; Mining" and Group 3800, "Mining Claims Under the General Mining Laws". In addition to these federal regulations, the proposed operations must comply with all federal, state, and local laws, and plans and regulations; including national, state, and local fire restrictions.

### **PROPOSED ACTION AND ALTERNATIVE(S)**

#### Proposed Action - Bear Lake Mining, LLC's Proposed Plan of Operations

##### Site Preparation/Occupancy:

Initially, the segment of Bear Creek Road that leads from the bottom of the Bear Creek drainage up to the cabin/shop site (indicated by the red line on the Aerial View on page 5) would be inspected to ensure that existing drainage measures incorporated along the road are in functioning properly. If any improvements are required it would likely involve reconstructing existing water bars and/or rolling dips. A BL Mining representative(s), along with a qualified BLM representative(s), would examine the road to determine what, if any, work needs to be done to satisfy any drainage issues.

Next, BL Mining would initiate occupancy on public land which would include using the existing structures on the Humbug No. 5 claim for employee housing and storage of equipment and supplies. Also, BL Mining proposes to replace the existing generator shed with a larger building (16' x 24') that would double as a year-round fuel storage building and a secure parking garage for some of their equipment. Finally, they propose clearing an area (150' x 150') near the intersection of the Mine Access and Bear Creek roads that would be used as a stockpile area for the bulk samples they want to extract from the mine. The proposed location for the sample stockpile area is indicated by the green diamond on the Aerial View of Bear Lake on page 5.

If approved as submitted, BL Mining estimates it would require 6 to 8 weeks to construct the new building (generator shed replacement), re-construct the Mine Access Road, clear the stockpile area, and extract the sample. A five person crew consisting of two operators and three laborers would be on site during completion of these activities. In addition, a five person field crew consisting of two geologists and three soil samplers would be on site as long as weather permits (June-September) to oversee the sample gathering, prepare samples for shipment to an assay lab, and perform underground (if possible) and surface reconnaissance (geologic) mapping.

BL Mining's Plan proposes the use of the cabin as a mess hall for their workers. The small utility shed next to the cabin houses an electric hot water heater, a washer and dryer for laundry, and shower room for the workers while they are on-site. The shop (which has two levels) would be used for storage of sample preparation equipment and supplies on the ground floor, and the upper level (loft) would be a bunkhouse for the workers when on-site. The sample prep equipment would include company-owned crushing and grinding machines and various other items such as sample splitters, scales, and assorted containers necessary for measuring and mixing materials. Because the prepared samples would be shipped off-site to qualified labs for testing, no use or storage of chemicals is proposed.

BL Mining's Plan proposes replacing the existing generator shed with a 16 foot by 24 foot building that would house the generator and be used for storage of needed equipment fuels, oils, and lubricants. The proposed size is sufficient to hold the generator and six (6) one-thousand gallon fuel storage tanks in one-half of the building. The other half would be a bay area that would double as the fuel on-loading/off-loading area during operations (June-September), and as a secure parking garage for some of BL Mining's equipment during the off-season (October-May). The design would incorporate fuel containment for spills, with a capacity in excess of one and one-half (1.5) times the contained fuel. Spill containment material consisting of adsorbent mats, weirs and buckets, fire extinguishers, and shovels would also be kept in the building.

Other proposed ground disturbing work would include re-constructing the Mine Access Road. BL Mining would remove downed timber, rocks, and brush currently obstructing the old road bed, and smooth (or blade) rough spots in the road. The road does not show any signs of erosion, but if required, rolling dips or waterbars would be constructed to divert water that may flow down the road bed. Also, BL Mining would ensure that the Bear Lake stream outlet road crossing (which is currently filled with rubble material and logs) is functioning properly and adequate to handle their mining equipment. This could require replacing any old, rotting logs with newer ones.

Once the Mine Access Road is usable, BL Mining would clear the sloughed material and vegetation blocking the Humbug mine. The smaller sized material (mixture of soil/sand and cobble) would be used to make a level working area in front of the portal for their mining equipment. The bigger rocks (boulders) would be used to form a berm around the working area, and to help block the portal and Mine Access Road during inactive periods.

In conjunction with re-constructing the Mine Access Road and clearing the mine portal, BL Mining would clear and level the proposed sample stockpile area. All topsoil from this area would be placed in a separate pile with erosion control measures to ensure it is available for final reclamation. Some organic material and woody debris would be placed in a berm on the downslope side of the stockpile area to capture sediment and disperse the water flow. The berm would reduce water velocity and the potential for sediment migration. Additionally, a silt fence or other customary erosion control measures would be placed around the stockpile area to isolate it from surface run-off.

The estimated amount of surface disturbance from BL Mining's proposed activities would be less than one and one-quarter (1.25) acres. This estimate is based on a stockpile area measuring 150 feet long by 150 feet wide, the Mine Access Road being roughly 1,800 feet long by 15 feet wide, a 20 foot by 30 foot clearing for the new fuel storage building, and the level working area in front of the mine portal being approximately 50 feet by 50 feet.

BL Mining's mobile equipment on the claims would consist of:

- 1 - dozer (D4 or equivalent) with backhoe attachment;
- 1 - end-dump truck (10 yard capacity);
- 1 - compressor;
- 1 - portable generator;
- 1 - fire pump trailer;
- 1 - equipment transport trailer; and
- 2 to 4 - pickup trucks (depends on activity level).

For safety, all pieces of equipment would have fire extinguishers on them and be maintained in proper working condition at all times. If seasonal fire restrictions are deemed necessary by the authorized officer, then all phases of the operation would conform to the restrictions. All personal protective equipment required by law would be available and used by all employees during operations. For public safety and BL Mining's security purposes, proper signage will be placed at strategic points along the Bear Creek Road informing any visitors to the area that large equipment may be encountered. During the life of the Plan, the general public would not be allowed on the Mine Access Road, around the stockpile area, or around the cabin/shop area.

Also for safety and operational efficiencies, BL Mining's Plan requests that they be allowed to maintain a communication system they installed near the cabin. The system consists of three small satellite dishes set on metal poles placed along the top edge of the rock retaining wall. Buried lines run from the satellite dishes to a system in the cabin that provides constant, and reliable internet access and phone service. This system would maintain contact with BL Mining's head office, the assay lab, various suppliers, emergency services, and government agencies.

All fuel, oil, and lubricants required for completion of the work would be transported to the site in approved containers and remain in securely stored, approved containers while on site. A copy of the "**Bear Lake Mining Company Fuel Transport, Storage, and Spill Procedures**" that would be adhered to during the life of the Plan is provided in Appendix A. When the equipment is used for site preparation work and sample gathering, transportation of fuel from the fuel storage building to the equipment would be done using 100 or 150 gallon Department of Transportation approved slip tanks in the back of pickup trucks. When not in use, all equipment would be secured in or near the shop or fuel building.

All equipment needed to complete the proposed work would be cleaned, and any leaks repaired, prior to arriving at the project. Equipment would be inspected daily for leaks or accumulations of grease, and any identified problems would be fixed immediately. The furthest practical distance from live waters would be used for maintenance of equipment

#### Sampling:

Once the quartz vein and surrounding bedrock has been exposed at the Humbug mine portal and the stockpile area is ready, BL Mining would begin extracting the bulk sample using the backhoe attachment for the dozer. The sample material would be loaded into the end-dump truck and transported to the stockpile area. BL Mining estimates about 20 to 25 trips by the haul truck would be required to get an estimated 150 to 200 tons of sample material to the stockpile area. The following steps, which indicate approximate weights, would be completed during sampling:

- 1) Excavate 50 tons of hanging wall material and haul it to the stockpile area.
- 2) Then, excavate 70 tons of vein material and haul it to the stockpile area. This material would be placed in a separate pile.
- 3) Finally, excavate 50 tons of footwall material and haul it to the stockpile area, again being placed separate from the other two piles.

Upon completion of the initial sampling, the site would be secured by blocking the mine portal and Mine Access Road using a combination of boulders and logs.

#### Reclamation:

In the event the sampling program determines there is *not* a sufficient resource to justify further development of the Humbug claims (additional sampling or submission of a mine plan), then BL Mining's Plan proposes the following reclamation efforts to be completed during the first full operating season after they have made their determination:

- 1) Backfill (close) the mine with any remaining sample material and/or any material used for the working area and berms.
- 2) Partially obliterate the Mine Access Road and working area. This will be accomplished by ripping these areas to a depth of 12 to 16 inches.
- 3) Re-spread the stockpiled topsoil over the sample stockpile area.
- 4) Remove their equipment, all existing and new structures, and other associated facilities.
- 5) Apply a BLM approved seed mix and plant selection (native species) over the reclaimed areas. Mulch would be applied to the reclaimed areas after seeding.

BL Mining estimates it would take about 6 to 8 weeks during the June-September operating season to complete the reclamation work. Upon notification that the site was reclaimed, BLM would perform annual site evaluations until it was considered successfully reclaimed and deemed acceptable for bond release.

#### Alternative A

Proposed activities analyzed under this alternative are the same as the Proposed Action with the following exceptions (1-3):

- 1) No new building would be constructed for year-round fuel and equipment storage. Instead, BL Mining would be authorized to have two (2) five-hundred (500) gallon tanks for diesel and one (1) two-hundred and fifty (250) gallon tank for gas. These stationary tanks would be placed in the same vicinity as BL Mining's proposed new building site (behind the existing shop). Construction of a berm around the tanks would be required to provide a spill containment area sufficient to hold at least one and one-half (1.5) times the amount of possible fuel storage. Also, prior to placement of the stationary tanks, the containment area would be lined with polysynthetic material in order to contain any possible spills.
- 2) Because the three fuel tanks would not be covered and secured during the off-season, they would be drained of any remaining fuel at the end of the operating season. If BL Mining wished to store fuel on-site during the off-season they could use fifty-five (55) gallon drums (maximum of 10) secured in the existing shop with spill containment measures in place.
- 3) All equipment would be removed from the site at the end of the operating season unless BL Mining shows that the equipment can be safely stored in the existing shop.



Along with the above exceptions, Alternative A would include the following project design measures (1-8) that would be adhered to during the life of the Plan:

- 1) Final reclamation would include removal of the fill material from the Bear Lake stream outlet road crossing and re-contouring the channel. Natural stream gradient and substrate material would be maintained through the reclaimed road crossing. Red-osier dogwood and native willow shoots (collected on site) would be planted along the streambank.
- 2) Final reclamation would include placement of logs across the first 100 feet (west end) of the reclaimed Mine Access Road. Woody debris and slash would also be placed on approximately 50 percent (%) of the partially obliterated road bed.
- 3) To help with dust abatement during sample gathering, water would be applied to the Mine Access Road during sample haulage to the stockpile area.
- 4) All reclaimed areas would be re-seeded with BLM's approved seed mix as shown in **Table 1** (below). Mulch, made up of weed-free straw and woody debris, would be placed over 50% of all seeded areas.
- 5) To restrict infestation and spread of weedy plant species on public land, the action area would be inspected periodically for weed infestations and, if necessary, treated with appropriate weed control methods. Post-action monitoring would be done to continue tracking any weed infestation/expansion problems in the action area.
- 6) No work would take place during wet periods that would cause road rutting or cause erosion or sediment delivery to live waters.
- 7) If evidence of human use, artifacts, human skeletal remains, or paleontological specimens are encountered during the course of operations, BL Mining must cease work in that location and notify the Field Manager. Work must not begin again until the discoveries have been recorded and evaluated.
- 8) BL Mining would notify the BLM immediately after reclamation/rehabilitation actions have been completed.

**Table 1. Native Seed Mix for Bear Lake Mining's Reclamation Efforts**

Species	Rates Lbs./acre	Percentage of Seed Mix
Streambank wheatgrass "Sodar"	11.0	35%
Sheep fescue "Covar"	4.0	13%
Mountain brome "Bromar"	8.0	26%
Annual rye	4.0	13%
Western yarrow	2.0	6.5%
Pearly everlasting	2.0	6.5%
<b>TOTALS</b>	<b>31.0 lbs.</b>	<b>100%</b>

Alternative B

This alternative is designed to authorize activities that would qualify under 43 CFR, §3809.300, “Operations Conducted Under Notices”. (See discussion at second paragraph of the “Type of Action” section, top of page 8.) Proposed activities analyzed under this alternative would be the same as the proposed action with the following exceptions (1-5):

- 1) Occupancy of the existing buildings and the proposed new building for fuel storage or year-round parking would not be authorized. All members of the two crews, which is a total of ten individuals, would have to stay off-site and travel between the project site and where they stay each working day.
- 2) Because the use of the existing buildings for housing and storage would not be authorized under this alternative, *immediate removal* of all permanent structures (cabin, shop, sheds, and outhouse) and associated improvements (foundations, sidewalks, etc.) on the Humbug No. 5 claim would be required. For sanitary purposes, BL Mining would be authorized to have a portable toilet(s) that would be emptied at properly equipped facilities.
- 3) All surface disturbances resulting from the removal of the existing structures would have to be re-contoured, re-seeded with BLM’s approved seed mix (See Table 1, page 13), and mulched as described under Alternative A - Project Design Measure 5 to meet BLM’s approval.
- 4) BL Mining would be authorized to have on-site up to ten (10) fifty-five gallon drums for fuel storage. These drums would have to be secured in the same manner as that described for the proposed fuel tanks under Alternative A - Exception 1. The fuel storage area under this alternative would be in the same vicinity as the proposed stockpile area.
- 5) BL Mining’s mobile equipment, sample prep equipment, and fuel drums would have to be removed from federal land when activities requiring their use were completed; at a minimum, at the end of each operating season.

Along with the above exceptions, the project design measures described under Alternative A (1-8 on page 13) would be adhered to during the life of the Plan.

**AFFECTED ENVIRONMENT**General Setting

The General Topography map on page 15 provides a generic depiction of the “lay of the land” (contour intervals and surface water features) around Bear Lake. Elevations in the Marshall Mountain area vary from 8,400 to 3,600 feet above sea level. The generally rugged, mountainous terrain is incised by perennial streams that traverse through a mixed-conifer forest, portions of which have burned as a result of large fires occurring in the past 10 years. Scenic views, abundant wildlife, and reasonable access make the area a desirable destination for outdoor enthusiasts.

The Bear Creek watershed includes a total of approximately 4,000 acres, which is primarily BLM (57% - 2,555 acres), followed by Forest Service (19% - 767 acres), State (13% - 512 acres), and private (11% - 458 acres). The lower portion of the watershed is FS, while the middle and upper portions are BLM, State, and private lands.



CRITICAL ELEMENTS OF THE HUMAN ENVIRONMENT	
The following elements of the human environment are subject to requirements specified in statute, regulation, executive order, or policy and must be considered in all environmental assessments. All the following elements have been analyzed. However, elements denoted by an "X" are <i>not affected</i> by the proposed action or alternatives and will receive no further consideration.	
<input type="checkbox"/> Air Quality	<input checked="" type="checkbox"/> Threatened/Endangered Plants
<input checked="" type="checkbox"/> Areas of Critical Environmental Concern	<input checked="" type="checkbox"/> Threatened/Endangered Fish
<input type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Threatened/Endangered Animals
<input checked="" type="checkbox"/> Environmental Justice (EO 12989) (minority and low-income populations)	<input checked="" type="checkbox"/> Wastes, Hazardous or Solid
<input checked="" type="checkbox"/> Farm Lands (prime or unique)	<input type="checkbox"/> Water Quality - Surface & Ground
<input checked="" type="checkbox"/> Floodplains	<input checked="" type="checkbox"/> Wetlands/Riparian Zones (including uplands)
<input type="checkbox"/> Invasive, Non-native Species	<input type="checkbox"/> Wilderness
<input checked="" type="checkbox"/> Migratory Birds	<input checked="" type="checkbox"/> Wild & Scenic Rivers
<input checked="" type="checkbox"/> Native American Religious Concerns	

OTHER IMPORTANT ELEMENTS OF THE HUMAN ENVIRONMENT	
The elements of the environment listed below are not included on the "critical elements" list, but are important to consider in assessing all impacts of the proposal(s). All the following elements have been analyzed. However, elements denoted by an "X" are <i>not affected</i> by the proposed action or alternatives and will receive no further consideration.	
<input checked="" type="checkbox"/> Tribal Treaty Rights	<input type="checkbox"/> Fisheries
<input checked="" type="checkbox"/> Paleontological Resources	<input checked="" type="checkbox"/> Forest Resources
<input checked="" type="checkbox"/> Indian Trust Resources	<input type="checkbox"/> Soils
<input type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Wild Horse and Burro Designated Herd Management Areas
<input type="checkbox"/> Recreation Use, Existing and Potential	<input type="checkbox"/> Visual Resources
<input checked="" type="checkbox"/> Existing and Potential Land Uses	<input type="checkbox"/> Economic & Social Values
<input type="checkbox"/> Vegetation types, communities; Vegetative permits and sales; Rangeland resources	<input type="checkbox"/> Mineral Resources
<input type="checkbox"/> Availability of Access/Need to Reserve Access	

(revised 6/1/04)



## Affected Resources/Values

### Air Quality

Air quality in the Marshall Mountain area is generally in the “good” category of the Air Quality Index. (BLM, 2007) Potential sources for air quality degradation include smoke, dust, and exhaust created by fires, construction operations, motorized travel on the dirt roads, and natural storm events. Long-term monitoring data indicates that air quality is generally poorest from August through September due primarily to wildfires and the typically dryer conditions during this period which increases the amount of dust created from motorized travel on area roads.

### Cultural Resources

A cultural resource inventory was conducted for the Area of Potential Effect. All areas for potential disturbance were examined. One cultural site was recorded which reflects the mining activities that were ongoing through the 1990s. The cultural property eligibility and effects were evaluated in consultation with the Idaho State Historic Preservation Office (SHPO). This consultation was completed under a state protocol agreement between the BLM and the Idaho SHPO regarding the manner in which the BLM will meet its responsibilities under the National Historic Preservation Act, as provided for in the National Programmatic Agreement with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers. The SHPO agreed with our findings that the cultural property “*Not Eligible*” to the National Register of Historic Places.

### Invasive, Non-native Species

Non-native species are more prone to invade plant communities that have recent soil and vegetation disturbance, which may be from natural events or human-caused disturbances. The natural landscape in the Marshall Mountain area has been disrupted by both nature and humans. Natural events such as forest fires and landslides are common occurrences. Human caused disturbances from mining, logging, road construction and maintenance, recreation, and residential construction have occurred over the past century. The potential exists for disturbed lands to become infested with undesirable non-native plant species. Within the general project area the following non-native invasive species were documented; goatweed, bull thistle, Canada thistle, chicory, houndstongue, and burdock.

### Water Quality - Surface & Ground

Visible water resources in the project area include Bear Lake and its small outlet on the north side of the lake. Surface and ground water in the immediate vicinity of the proposed operations drains primarily into Bear Lake. Bear Lake drains into Bear Creek about one-half mile downstream through its outlet (as well as subsurface flow) and ultimately into the Salmon River which is about two miles downstream. Bear Lake is a relatively shallow glacial lake with a watershed area of about 330 acres and a surface area of approximately three acres. Bear Creek has a contributing drainage area of about 6.2 square miles (approximately 4,000 acres) at its confluence with the Salmon River. Bear Creek is not a listed stream under section 303(d) of the Clean Water Act.

## Wilderness

The BLM's Marshall Mountain Wilderness Study Area (WSA) surrounds BL Mining's area of proposed activities in Section 9 of the Marshall Mountain township. Forest Service Road 318 (FS 318) is part of the WSA's west boundary line in Sections 28 and 33 of this same township, and the Bear Creek Road is the WSA's east boundary line in Sections 8 and 17. (See Master Title Plat, page 2.) The Marshall Mountain WSA was inventoried and studied in the early 1980's, and was included with the Idaho Wilderness Study Report signed by the Secretary of Interior and forwarded to the President on August 19, 1991. The Marshall Mountain WSA was recommended as non-suitable for wilderness and is currently being managed under BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review. In 2007, the BLM had some of the roads in the Marshall Mountain area re-surveyed which will help refine the WSA's boundary. An updated MTP is expected to be completed in the near future.

## Wildlife

The area around Bear Lake provides wildlife habitat to a variety of species. These habitats include a mixed conifer habitat (early seral and mid-age/mature timber stands) and riparian/wetland habitats associated with Bear Lake and its small outlet stream. Vegetation on a portions of the project area at the north end of Bear Lake (Mine Access Road and mine portal) burned in a 2000 wildfire. The current habitat in the burned area is early seral, dominated by dead and/or dying trees (snags), conifer seedlings, shrubs, and forbs. The areas that did not burn are dominated by mid-age to mature timber stands. Common tree species found in the area include Douglas-fir, lodgepole pine, and grand fir. Other conifers include larch, ponderosa pine, and Engelmann spruce.

The area provides seasonal or year-round habitat for numerous game and non-game species (mammals, birds, amphibians, and reptiles). Big game species utilizing the area include elk, mule deer, white-tailed deer, black bear, and mountain lion. Less common big game species which may utilize the area include moose and bighorn sheep. Common upland game includes ruffed grouse and spruce grouse. And the Idaho Department of Fish and Game's 1996 fish sampling efforts in Bear Creek documented the occurrence of tailed frogs.

## Special Status Wildlife

### *BLM Sensitive Species*

BLM sensitive wildlife species which potentially may occur within the analysis area, along with species specific preferred habitats, are identified in **Table 2** on page 19.

The black backed woodpecker is a BLM "watch list" species, which potentially occurs in the project area. Suitable habitats may be found in lodgepole pine, ponderosa pine, Douglas-fir, and mixed conifer forest, especially those experiencing wildfire or insect infestations. Optimal habitat is provided by sites experiencing destructive insect infestation, such as bark beetle or recent (less than 5 years old) burned-over forests.

**Table 2. BLM Sensitive Mammals, Birds, Reptiles, and Amphibians Which May Potentially Occur in the Project Area**

<b>Common Name</b> <i>Scientific Name</i>	<b>Preferred Habitat</b>
<b>Mammals</b>	
Wolverine <i>Gulo gulo luscus</i>	Forested areas with minimal human intrusions at higher elevations provide preferred habitats.
Fisher <i>Martes pennanti</i>	Forested areas with minimal human intrusions at higher elevations provide preferred habitats.
<b>Birds</b>	
Northern goshawk <i>Accipiter gentilis</i>	Forests, forest edge, open woodlands. Most common in ponderosa pine, lodgepole pine and Douglas-fir forests. Riparian habitats in winter. Nests are masses of twigs in tall conifers. Foods are tree squirrels, jackrabbits, ground squirrels, small birds, and occasionally grouse.
Flammulated owl <i>Otus flammeolus</i>	Montane forests, open stands of fire-climax ponderosa pine or Douglas-fir forests. Nests in abandoned woodpecker holes. Primarily insectivorous.
Lewis woodpecker <i>Melanerpes lewis</i>	Open or logged forests, river groves in mountains. Nest is a hole in a tree. Foods are insects, berries, and fruits.
White-headed woodpecker <i>Picoides albolarvatus</i>	Montane coniferous forests, primarily dry open forests with ponderosa pine and Douglas-fir. Nest is a hole in tree or stump, often close to ground. Food is primarily insects.
Williamson's sapsucker <i>Sphyrapicus thryoideus</i>	Coniferous forests and burns at higher elevations in mountains. Nest is hole in tree. Foods are sap, insects, and inner bark.
Olive-sided flycatcher <i>Contopus borealis</i>	Open timber at meadow margins in sparse timber, burns, partially logged areas. Nest is woven twigs near end of a horizontal limb of a conifer. Food are insects caught while flying.
Hammond's flycatcher <i>Empidonax hammondii</i>	Found in coniferous forests and woodlands. Uses mature to over-mature forests; they are found in areas with large, tall trees and nest in mature trees. Prefer old-growth to mature stands of ponderosa pine and Douglas-fir. Nest is woven cup of vegetation in deciduous tree. Eats such insects as beetles, moths, flies, bees, and wasps.
Calliope hummingbird <i>Stellula calliope</i>	Foothills and forested mountains. Nests in conifers. Foods are nectar and insects.
<b>Reptiles</b>	
Common garter snake <i>Thamnophis sirtalis</i>	Inhabits wet or moist habitats. Preys primarily on earthworms, frogs, toads, salamanders, and fish.
<b>Amphibians</b>	
Idaho giant salamander <i>Dicamptodon aterrimus</i>	Larvae usually inhabit clear cold streams but are also found in mountain lakes and ponds. Adults are found under rocks and logs in humid forests, near mountain streams, or on rocky shores of mountain lakes. Larvae feed on wide variety of aquatic invertebrates as well as some small vertebrates (e.g., fishes, tadpoles, or other larval salamanders). Adults eat terrestrial invertebrates, small snakes, shrews, and salamanders.
Western toad <i>Bufo boreas</i>	Streams, springs, grasslands, woodlands, mountain meadows. Usually in or near ponds, lakes, reservoirs, rivers, streams. Insectivorous.

### *Federally Listed*

#### Gray Wolf -

Gray wolves historically occurred within the analysis area. By the 1930's however, the species had been largely eliminated from all of north-central Idaho. In 1995 and 1996, gray wolves were reintroduced into north-central Idaho. Wolf sightings have been documented in the analysis area; however, no known den or rendezvous site is located within one mile of the project area. The U.S. Fish and Wildlife Service removed the distinct population segment of the gray wolf in the Northern Rocky Mountains from the list of endangered and threatened wildlife (FR, Vol. 73, No. 39, 10514 – 10560, February 27, 2008). The delisting of the Northern Rocky Mountains gray wolf population will become effective March 28, 2008.

#### Canada Lynx -

The Marshall Mountain township contains suitable habitat for the federally listed threatened lynx, and the project area occurs within a Lynx Analysis Unit (LAU). Lynx typically occupy Idaho habitats occurring above 4,000 feet of elevation. They utilize Engelmann spruce, subalpine fir, or lodgepole pine habitats that provide a mixture of forest age classes. Lynx require cover for stalking and security, and usually do not cross openings wider than 300 feet (Koehler and Brittell, 1990). Forests that are about six years or older in 20 to 25 acre patches provide lynx foraging habitat. Forest wildfires and timber harvesting help create lynx foraging habitat. A portion of the project area recently burned in 2000 and is in an early seral condition.

### Recreation Use, Existing and Potential

Recreational opportunities at and around Bear Lake are similar to those available in the Bear Creek and neighboring drainages. The area primarily provides a setting for dispersed semi-primitive, motorized and non-motorized recreating (hunting, fishing, hiking, camping, etc.). Historic mining structures in the upper portion of the drainage are the sole man-made interests for sightseers. No developed recreation facilities exist in the drainage and the only established trails are associated with a licensed outfitter that has a base camp on the ridge between Bear Creek and the drainage east of it, Maxwell Creek. Several miles of trail (non-motorized) are maintained by the outfitter; however, none occur in the project area. Outfitter use is primarily associated with early season archery and the general rifle season (August through early November).

### Vegetation Communities

Vegetation in the Bear Creek drainage is dominated by grand fir, Douglas-fir, subalpine fir, lodgepole pine, huckleberry, Rocky Mountain maple, oceanspray, and various herbaceous species. Past and present road-building, maintenance, and continued use; mining and logging operations; fire activity (especially recent, larger-scale wildfires); and the development of private land holdings have impacted vegetation within the Bear Creek drainage. As a result of these disturbances, a mosaic of plant communities in various stages of ecological succession is present.

Vegetation in the project area has been disturbed by the existing structures on the Humbug No. 5 claim, the previous work done on the Mine Access Road and at the Humbug Mine entrance, and a recent wildfire.



With regard to Special Status Plant Species, no MacFarlane's four-o'clock (threatened), Spalding's catchfly (threatened), chatterbox orchid (Sensitive) or puzzling halimolobos (Watch) individuals, populations, or potential habitat occur in the action area. And, no candidate plant species occur in the action area.

#### Availability of Access/Need to Reserve Access

The General Location Map on page 3 shows that Bear Lake can be accessed from either McCall or Riggins, Idaho. No matter which route one chooses to access the site from, a four-wheel drive vehicle with good ground clearance is highly recommended. Travel time from either point of origin is between two to three hours if the roads are good; the shortest being from McCall.

From McCall, head north to Burgdorf Hot Springs on the Warren Wagon Road which is paved to the Burgdorf turnoff. Turn left onto Forest Service Road 246 (FS 246) which is a light duty, gravel road. Proceed north past Burgdorf about five miles and then turn right onto the Lake Creek Road (FS 318) which is a single lane, dirt/gravel road leading to the Marshall Mountain area. Remain on FS 318 for about eight miles and then turn right onto the Bear Creek Road. This road is a steep, winding, single lane, dirt/gravel road descending down the west slope of the Bear Creek drainage to the bottom and then back up the east slope a short distance to Bear Lake. On the General Location Map (page 3), FS 318 is indicated by a solid grey line and the Bear Creek Road is indicated by a solid red line.

From Riggins, head east on the Salmon River Road (light duty, paved) to the mouth of French Creek, then turn south (right) and head to Burgdorf on FS 246. The road will become a single lane, light duty, gravel road which has some steep and winding portions. The Lake Creek Road turnoff (FS 318) will be a left hand turn prior to reaching Burgdorf.

Use of the identified roads by the general public to access Bear Lake is available under the following determinations. The Warren Wagon and Salmon River roads are part of the State Highway system. The Forest Service roads (FS 246 and FS 318) are part of the Payette National Forest's system of roads and therefore open to public use. Those portions of the Bear Creek Road crossing BLM administered land were reserved for public use under BLM Right-Of-Way Reservation IDI-31407. Those portions of the Bear Creek Road crossing private land are open to the general public through Idaho County's assertion that it is an RS 2477 public road.

#### Fisheries

The project area is adjacent to Bear Lake which is approximately three acres in size. The average depth of the lake is approximately 20 feet, with the deepest part estimated between 30 and 35 feet. Bear Lake is surrounded by riparian/wetland vegetation and, at its north end, is a small outlet stream flowing north-northwest. The water in this outlet flows overland, and at times subsurface, ultimately finding its way into Bear Creek, which is approximately one-half mile from Bear Lake, and then flows approximately two more miles to the Salmon River. The existing primitive Mine Access Road crosses the small outlet stream for Bear Lake. The crossing is currently filled in with rubble material/logs and the stream flows subsurface through the material.

Bear Lake provides suitable fish habitat and is occupied by westslope cutthroat trout. The small inlet and outlet streams provide no, or very sub-optimal, spawning habitat potential for fish,

consequently, fish populations in the lakes are dependent on stocking efforts. The lake is currently scheduled to be stocked every three years with approximately 1,000 fingerling westslope cutthroat trout. The last survey efforts (gill nets and fishing tackle) for the lake were conducted in 1996 and the only fish caught were westslope cutthroat trout (2008 personnel communication with Paul Janssen, Idaho Fish and Game). Fish passage barriers, low stream flows, and a steep gradient prevent fish access from Bear Creek to Bear Lake.

Bear Creek is occupied by native and non-native fish; however, natural fish barriers are present in the drainage due to steep gradients and small water falls. Past fish sampling within the drainage has documented rainbow and steelhead trout. A fish passage barrier occurs at approximately stream mile 2, which consists of steep gradient/small falls and debris jams. The potential also exists for additional partial/full barriers in the lower portion of the drainage. The lower reach of Bear Creek is accessible from the Salmon River during high spring flow periods, consequently steelhead trout have access to the drainage.

Federally listed threatened fish species which may potentially be found in the Bear Creek drainage includes steelhead trout, spring/summer chinook salmon, and bull trout. Bear Creek provides spawning and rearing habitat for steelhead trout in its lower reaches. Spring/summer chinook salmon may use the mouth area for juvenile rearing, although no documented occurrence exists for this species in the drainage. Bull trout may use the mouth area for subadult/adult rearing, although no documented occurrence exists for this species in the drainage.

Bear Creek is a steep gradient stream. The main channel length is 3.4 miles, and the lower two miles provide habitat for rainbow and steelhead trout. The stream is comprised primarily of Rosgen A-type channels, with A3 and A3+ channel types commonly found. The stream's fish bearing reaches have gradients that range from 5 to 15 percent (%). Low summer flows range from 2 to 4 cubic feet per second (cfs). The stream's lower reach flows through a very confined, steep-sloped canyon. Sediment production within the Bear Creek watershed has been accelerated through human-related activities such as road construction, timber harvests, mining, and private land development (construction). The road paralleling Bear Creek encroaches on riparian habitats and the stream channel, and is a chronic source of sediment. The primary limiting factor for fish production in the drainage is deposited sediment and lack of good quality pools.

Two other small glacial lakes occur in the upper portion of the Bear Creek watershed; Lower Kimberly Lake and Upper Kimberly Lake. These lakes have been stocked in the past with non-native fish (i.e., rainbow trout, brook trout) and more recently with westslope cutthroat trout. A brook trout removal project (i.e., gill nets) was conducted in Upper Kimberly Lake in 1998. Upper and Lower Kimberly Lakes occur above the fish passage barriers, consequently, fish stocked in these lakes may provide some recruitment potential to downstream habitats but not for Bear Lake.

## Soils

The two major soil associations in the Marshall Mountain area are the Jughandle-Suttler and Nazaton-Suttler. (BLM, 1986) The Jughandle is a deep and excessively drained soil with moderately rapid permeability. The Nazaton is very deep and well drained. Both types have a moderate water capacity, can experience very rapid run-off, and thus the erosion hazard is considered to be very high.

## Visual Resources

The BLM land in the Marshall Mountain township outside of the Marshall Mountain Wilderness Study Area (WSA) have a Class II Visual Resource Management (VRM) rating. (BLM, 2007) The Marshall Mountain WSA has a Class I VRM rating. All of BL Mining's proposed exploration activities would be on non-WSA land. Under VRM Class II, all reasonable attempts should be made to keep proposed activities from attracting attention, and the level of change should be low. Once approved activities have been completed, disturbed site(s) must be reclaimed to a condition as near original as feasible.

## Economic and Social Values

The community most likely to see effects from BL Mining's proposed operations would be McCall, Idaho. The economic and social values of McCall are dominated mainly by recreation/tourism (hiking, biking, boating, fishing, skiing, etc.) and the lumber and forestry industries/institutions.

Mining for precious metals in the Marshall Mountain area has been depressed for a long time due to a high cost of production relative to market value. However, recent years have seen more interest in revisiting old mining districts due to increasing precious metals prices. Currently, gold is over \$950 per ounce which is a significant increase from an average of \$400 per ounce in 2004.

## Mineral Resources

The Marshall Mountain Mining District saw production from underground development of lode deposits, mainly gold, during the early to mid-1900s. At least five mills were operating in the Bear Creek drainage during the active years; however, none were in the vicinity of Bear Lake. Old buildings, waste rock piles, tailing piles, and old mining equipment dot the landscape, mainly in the upper reaches of the Bear Creek drainage. At present, no active mining is occurring in the Bear Creek drainage.

Sand and gravel or building stone (salable minerals) may exist in the area, but there is no available information suggesting the presence of a valuable deposit. No known leasable mineral deposits or geothermal resources have been identified in the Bear Creek drainage.

## **ENVIRONMENTAL IMPACTS**

### Air Quality

#### Proposed Action:

A minimal amount of dust is expected to be generated as a result of the seasonal, project-related activities. Transporting employees and equipment to and from the site on dirt roads, re-constructing the Mine Access Road, clearing the mine portal, clearing the sample storage area, collecting the sample, clearing an area behind the existing shop for the proposed fuel storage building, and ultimate reclamation of the site would be short term and localized.

**Alternative A:**

Impacts under this alternative are expected to be similar to the Proposed Action; however, under this alternative a project design measure has been included so that water would be applied to the Mine Access Road during sample haulage to the stockpile area. This would reduce the amount of dust generated during mining activities.

**Alternative B:**

Impacts under this alternative are expected to be similar to Alternative A; however, there may be a slight increase in the amount of dust and exhaust if travel distances are increased because this alternative would not authorize occupancy on public land. This would require BL Mining's employees to travel to and from the mining site from their off-site camp/residence each working day as opposed to about once per week, or less, under the other two alternatives.

**Cultural Resources**

No impacts to cultural resources are expected under any of the alternatives.

**Invasive, Non-native Species****Proposed Action:**

The plant communities and soils disturbed by the proposed operations would be more vulnerable to noxious weed infestation. Direct impacts may include weeds out-competing and displacing desirable, native vegetation, altering plant community composition, structure, and function both in the present and future within the area of disturbance. Disturbed areas would remain vulnerable until final reclamation efforts were completed.

Indirect impacts would include the possible spread of weeds beyond the areas disturbed under each alternative. Project design measures have been incorporated under each alternative to help prevent the spread of weeds by BL Mining activities. The design measure common to each alternatives is the washing of all vehicles/equipment before traveling to the site. Seeding and reclamation measures would reduce invasive species encroachment into disturbed areas.

**Alternative A:**

Impacts under this alternative would be the same as the Proposed Action; however, this alternative includes an additional design measure of periodically inspecting authorized disturbances for weeds. Infested areas would be treated using appropriate weed control methods, and post-action monitoring would be done to continue tracking and treating any weed infestation/expansion problems in the action area.

**Alternative B:**

Impacts under this alternative would be the same as Alternative A; however, there may be more potential for spreading weeds along the travel routes as BL Mining's employees travel to and from the mining site from their camp/residence each working day as opposed to living on public land during completion of authorized activities.

## Water Quality - Surface & Ground

### Proposed Action:

Direct impacts from the proposed exploration and reclamation activities may include a slight increase in sediment load from surface run-off water into Bear Lake and its outlet due to the road clearing and stockpile area construction. This would continue until the disturbed areas are reclaimed and the vegetative cover is re-established. Sediment delivery from the disturbed areas to Bear Lake would be minimal due to the relatively small area of disturbance, about 1.25 acres, and the erosion control measures required for Plan approval. In addition, drainage towards Bear Lake is dispersed as overland flow and the minimum vegetated buffer width is over 100 feet.

Indirect impacts could include a future reduction in soil compaction and run-off within the proposed project area due to the partial obliteration (ripping, re-seeding, and mulching) of the Mine Access Road. Ultimate reclamation of the site which includes the re-establishment of a desired plant community on all disturbed areas, existing and newly authorized, would decrease sediment load in surface run-off water.

### Alternative A and Alternative B:

Impacts under these two alternatives would be the same as the Proposed Action; however, they include the project design measure of re-constructing the Bear Lake stream outlet crossing during final reclamation efforts. The re-establishment of a properly functioning stream channel and desired wetlands plant community along the channel would lower the future likelihood of sediment load in surface run-off water.

## Wilderness

### Proposed Action and Alternative A:

The Marshall Mountain Wilderness Study Area (WSA) surrounds and is immediately adjacent to the travel route and project area. During periods of operation, the proposed activities would increase human presence, activity, and noise levels that would be noticeable to those people who may be recreating in the WSA. Due to the high elevation, limited seasonal access and interspersed private land, human intrusions have been present in this area for over 100 years. Most activities will occur during the summer season and are considered to be short-term. The increased noise and human activity, as a result of BL Mining activities, would only minimally affect the solitude and naturalness in the general area. The existing buildings on the Humbug No. 5 claim and the proposed fuel storage area would indicate a year-round human presence near Bear Lake.

Beneficial effects to the wilderness characteristics would occur when the mining activities cease and after final reclamation efforts are completed. Once the buildings are removed from the Humbug No. 5 claim and reclamation is completed, the area would return to its more natural condition.

## Alternative B:

Direct impacts under this alternative would be similar to the Proposed Action and Alternative A; however, this alternative may increase uses along the travel route as no occupancy would be allowed on-site. BL Mining's employees may be required to travel farther between their camp/residence and the mining site.

In addition, this alternative would require the immediate removal of the existing buildings on the Humbug No. 5 claim and reclamation of the disturbed areas associated with these buildings. The other alternatives would require this work at a future date. This would temporarily increase the noise levels and human intrusion in the area but would decrease the visual intrusions in the area.

## Wildlife

### Proposed Action and Alternative A:

Direct impacts to wildlife would include habitat reduction (forage and shelter) on about 1.25 acres. Wildlife may be disturbed and avoid the area around the mining activities and along the travel corridors. This disruption would be sporadic, seasonal, and short-term while the habitat reduction would remain until the mining reclamation is completed.

Overall, there is a negligible potential for impacts to game, non-game, BLM sensitive and BLM watch list species as a result of the mining activities. Primary effects are attributed to disturbance of less than two acres of habitat. With the exception of the common garter snake, Idaho giant salamander, and western toad, discountable or negligible effects are expected to occur to other BLM sensitive species listed in Table 2 (page 19) and the black-backed woodpecker, a BLM watch list species. A "*may affect individuals but not likely to cause a trend toward federal listing or loss of viability*" was concluded for the common garter snake, Idaho giant salamander, and western toad.

### *Threatened and Endangered Species*

There would be no impacts to federally listed Canada lynx and experimental populations of gray wolves.

### *Wildlife and BLM Sensitive Species*

Short term insignificant disturbance and displacement of wildlife species would occur during periods of operation. The estimated one and one-quarter (1.25) acres of surface disturbance would have negligible effects to wildlife species and preferred habitats. A few dead trees (snags) would be cut in the stockpile area; however, snags are abundant within the analysis area.

Because of the close proximity to Bear Lake and small streams, some riparian/aquatic dependent BLM sensitive species may potentially be injured or killed during implementation of the proposed operations. These species include the common garter snake, Idaho giant salamander, and western toad. No documentation of occurrence in the project area exists for these species; however, the area does provide suitable habitats.



### Alternative B:

Impacts under this alternative would be similar to the Proposed Action and Alternative A; however, the impacts to wildlife because of increased travel would be greatest under Alternative B because occupancy would not be authorized and BL Mining's employees may have to travel farther and more often to and from the mining site.

### Recreation Use, Existing and Potential

#### Proposed Action:

The recreation experience may be affected by the mining activities, similar to the description of impacts discussed under "Wilderness" (pages 25 to 26). During completion of proposed operations (6 to 8 weeks over two seasons), the recreating public would encounter more traffic and human activity when visiting the Marshall Mountain and surrounding areas.

Indirect impacts could include the re-construction and subsequent partial obliteration of the Mine Access Road which would result in a viable route for future motorized and non-motorized access to the east side of Bear Lake. Also, ultimate reclamation efforts include removal of the existing buildings on the Humbug No. 5 claim and reclaiming the associated disturbances to a natural state. The reclaimed site could in time become a desirable picnic/camping area.

#### Alternative A:

Impacts under this alternative would be the same as the Proposed Action; however, this alternative includes the re-establishment of the Bear Lake stream outlet channel where the Mine Access Road crosses it, and blocking the first 100 feet (west end) of the obliterated road with logs. These project design measures have been included to discourage future motorized use of the road.

#### Alternative B:

Impacts under this alternative would be the same as Alternative A; however, the chance of encountering traffic when recreating in the Marshall Mountain area may increase under Alternative B because occupancy would not be authorized and could require BL Mining's employees to travel farther to and from the site each working day as opposed to maybe once per week, or less, under the other two alternatives. Conversely, the use of the existing building site as a picnic/camping area could occur sooner under this alternative because Alternative B would require the immediate removal of the existing buildings and reclamation of the disturbed areas associated with these buildings. The other alternatives would require this work at a future date.

### Vegetation Communities

#### Proposed Action and Alternative A:

A small amount of vegetation would be removed from the Mine Access Road, the proposed stockpile site, and behind the existing shop for a fuel storage area. These areas would remain cleared until final reclamation of the site is completed.

## Alternative B:

Impacts under this alternative would be similar to the Proposed Action and Alternative A; however, re-vegetation would occur sooner because this alternative would require the immediate removal of the existing buildings and reclamation of the disturbed areas associated with these buildings. The other alternatives would require this work at a future date. The fuel storage area under this alternative would be located near the proposed stockpile.

## Availability of Access/Need to Reserve Access

### Proposed Action:

Public access in the vicinity of the mining activities would be limited for safety reasons during the proposed operations. BL Mining reclamation activities include partial obliteration of the Mine Access Road, re-seeding the disturbed area, and applying mulch. These efforts would somewhat limit motorized use of the road in the future.

### Alternative A and Alternative B:

Impacts under these two alternatives would be the same as the Proposed Action; however, they includes the re-establishment of the Bear Lake stream outlet channel where the Mine Access Road crosses it, and blocking the first 100 feet (west end) of the obliterated road with logs. These project design measures have been included to discourage future motorized use of the road.

## Fisheries

### Proposed Action, Alternative A, and Alternative B:

Impacts would include vegetation and soil disturbance on about 1.25 acres, most of which are moderately sloped. The only area not in the moderate category is the mine portal which is at the toe of a steeply sloped hillside. Erosion and water quality measures are included that, when implemented, should result in discountable effects to water quality and fish habitat in Bear Lake and Bear Creek. The majority of soil/vegetation disturbance is associated with the area near Bear Lake which does not provide habitat for native fish species. Negligible, short-term erosion of sediments would occur. Effects from this erosion are expected to be un-measurable in Bear Creek. Long-term reclamation actions would be expected to reduce the effects of the proposed and past mining activities adjacent to Bear Lake. Implementation of the Bear Lake Mining Company Fuel Transport, Storage, and Spill Procedures (Appendix A) would reduce risks from fuel transportation, storage, and accidental spills.

A “*no effect*” determination has been made for the federally listed steelhead, spring/summer chinook salmon, and bull trout, and critical habitat for spring/summer chinook salmon and steelhead trout. In addition to the Federally listed fish species, a “*no effect*” was also concluded for the sockeye salmon and fall chinook salmon which occur in the Salmon River.

## Soils

### Proposed Action and Alternative A:

Direct impacts would include the disturbance of any topsoil present during re-construction of the Mine Access Road, excavation at the mine portal, clearing of the sample stockpile area, and clearing the proposed fuel storage area behind the existing shop. Any stockpiled topsoil from the 1.25 acres of proposed disturbance would not be re-spread until final reclamation efforts are undertaken. Project design measures have been developed to ensure any stockpiled topsoil is available when needed.

Indirect impacts would include the re-establishment of a soil profile on the land that is currently occupied by the existing buildings. Ultimate reclamation of the site requires these buildings to be removed and the associated disturbances would be re-seeded and mulched.

#### Alternative B:

Impacts under this alternative would be the same as the Proposed Action and Alternative A; however the indirect impacts would occur sooner under Alternative B as it requires the immediate removal of the buildings and reclamation of the disturbed areas associated with these buildings. The other two alternatives would require this work at a future date.

### Visual Resources

#### Proposed Action and Alternative A:

Direct impacts to visual resources near Bear Lake would include the obvious signs of human activity versus a natural setting due to the presence of the existing buildings and the completion of proposed exploration and reclamation activities. Along the travel route, an increase in the amount of traffic would be seen during the two periods of operations. These effects are consistent with the Class II Visual Resource Management (VRM) rating and would remain until the proposed operations were completed and final reclamation efforts had matured.

Indirect impacts include the eventual return of the natural environment in the immediate vicinity of Bear Lake. The pre-human disturbance environment, at least as close as reasonably possible, would eventually emerge as final reclamation efforts matured.

#### Alternative B:

Impacts under this alternative would be the same as the Proposed Action and Alternative A; however, Alternative B would have the least impact near Bear Lake because the existing buildings would not be authorized to remain during completion of authorized activities.

### Economic and Social Values

#### Proposed Action and Alternative A:

During completion of authorized exploration and reclamation efforts, direct impacts during each operating season would be the economic benefit of 6 to 8 weeks of wages for five of BL Mining's employees. Two to three months of wages could be seen for the other five BL Mining employees doing geological reconnaissance working during the exploration season. Also, additional business from BL Mining and its employees may occur for various merchants in the surrounding communities (most likely McCall, Idaho) during the two active seasons.

## Alternative B:

Impacts under this alternative would be the same as the Proposed Action and Alternative A; however, Alternative B would not authorize occupancy which would likely increase the amount of money spent in the surrounding communities for housing (hotels, campgrounds, etc.), meals, and gas for personal vehicles than under the other two alternatives.

## Mineral Resources

### Proposed Action, Alternative A, and Alternative B:

Impacts from authorized exploration activities would be the gathering of geologic information for the Humbug mine. This would include a determination of whether or not there exists a mineral resource, and the current condition of the old mine workings.

## **CUMULATIVE IMPACTS**

The analysis of cumulative impacts focuses on the completion of BL Mining's currently proposed exploration and reclamation work involving 1.25 acres along with past, on-going, and foreseeable future activities within the Bear Creek drainage.

Changes to the landscape began as early as the late-1800's when mineral exploration began in the area. Mining activity was hampered due to the area's remoteness and limited access, however, wildfires; private, residential land development; private and public timber harvesting; and mining activities continue on public land. In the Bear Creek drainage, historic activities have included the following:

- Road construction, use and maintenance to access mining claims on public land and to access private land.
- Mining on and occupancy of the same property as BL Mining's proposal (1928 through 1980's).
- Wildfires in 1949, 1966, and 1994 burned 391 acres (USDA-FS 2000).
- The 1994 Corral Fire burned the upper portion of the watershed.
- The largest documented fire in the Bear Creek watershed is the Burgdorf Junction Fire which occurred in 2000 and burned a total of 1,356 acres, or 47% of the watershed (USDA-FS 2000).
- Timber sale, fire salvage, by BLM in 2001 on 12 acres in the Bear Creek watershed (T.24N., R.5E., Section 17).
- Private logging activity on approximately 80 acres of private land (T.24N., R.5E., Sections 17 and 20) in the early 2000s, included less than one mile of new road construction.
- Variety Excursions, Inc., construction of a private residence on adjacent private land (west half of Section 9, see map on page 15.) Variety was granted a BLM road right-of-way in 2003 to authorize upgrades to and maintenance of the Bear Creek Road to facilitate transportation of construction supplies and equipment to the construction site. Private land development included clearing vegetation and leveling soil for the residence (approximately 2 acres), maintenance, culvert replacement, and reconstruction of segments of road. Road maintenance and improvement work was conducted on approximately 5.5 miles of road crossing BLM and private land within the watershed.

Many of these activities have had very localized or short-term low to moderate effects on resources including air quality, invasive non-native species, vegetation, soils, water quality, fish and wildlife habitat, recreational uses and potential uses, access, economic and social values, and mineral resources. Natural re-vegetation after the wildfires continues and current ground cover is considered adequate to prevent soil erosion and sediment delivery to streams.

Noise and visual intrusions from human activities, primarily road use and residential development, have and are expected to continue to interrupt the solitude and the natural character of the landscape adjacent to the Marshall Mountain Wilderness Study Area. These uses, which were occurring long before the wilderness inventory was conducted, were considered when making the non-suitable wilderness recommendation for the WSA.

#### Reasonably Foreseeable and Future Planned Actions:

In addition to those historic or on-going actions identified above, the only planned future action includes:

- The Walla Walla underground mine project in the Maxwell Creek drainage is located east of the Bear Creek drainage but would require use of a portion of the same roads as the BL Mining project proposal. The map on page 4 shows the location of this mine (Section 23 of the Marshall Mountain township indicated by the red “Other Sites” symbol along the right border of the map). The Payette National Forest recently issued a Decision Notice for this project which is expected to last into 2015. Other than stipulating no fuel haulage to the Walla Walla site on weekends and holidays, the Forest Service did not include design features or mitigation on those portions of the access road common to both proposals.
- Variety Excursions, Inc. will continue to maintain the Bear Creek Road under their right-of-way grant.

Project design measures developed for BL Mining’s currently proposed exploration and reclamation work would ensure minimal effects to the 1.25 acres of disturbed land, and erosion control measures are expected to trap or filter out any sediment before reaching live waters and fish habitat. The reclamation design measures which include decommissioning the Mine Access Road, rehabilitation of Bear Lakes’ small outlet channel where the Mine Access Road crosses it, and re-vegetation of disturbed areas (both previously and proposed) would minimize potential for future adverse effects. Therefore, based on the available data and findings of this analysis, it is concluded that this project is not expected to have any significant cumulative effects to water quality, fish habitat, wildlife habitat, or the spread of invasive, non-native vegetation.

Disclosure and review of the anticipated environmental effects from BL Mining’s proposed activities has shown that implementation of such would not cause a significant increase in impacts to any of the identified individual resources when added to past, on-going, and reasonably foreseeable future activities in the Bear Creek drainage. This determination is based on the small amount of surface disturbance (1.25 acres), the short duration of authorized operations (total of 12 to 16 weeks spread over two separate seasons), the project design measures required for Plan approval, and the required ultimate reclamation design measures.

## Summary

No significant individual or cumulative impacts are anticipated as a result of implementing either of the identified alternatives. However, **Alternative A** is considered to exhibit the lowest potential for individual or cumulative impacts therefore will be the preferred alternative. Under this alternative, the identified effects are local in nature and are not likely to significantly affect regional or national resources. This alternative should not contribute to the need to list Sensitive plant species as Threatened or Endangered, therefore, the BLM will not ask for technical assistance from the U.S. Fish and Wildlife Service. The overall effects to BLM game, non-game, BLM sensitive species, and BLM watch list species is considered short term and negligible potential for adverse effects. A “no effect” determination has been made for the federally listed steelhead, spring/summer chinook salmon, and bull trout, and critical habitat for spring/summer chinook salmon and steelhead trout. All federal, state, and local laws are expected to be followed by BL Mining’s completion of the proposed action as presented under Alternative A. BL Mining’s use of Best Management Practices (as outlined in the Idaho Department of Lands; Best Management Practices for Mining in Idaho) and implementation of the project design measures should ensure that the temporary impacts created by the proposed activity will cause no irreparable harm to affected land or the surrounding environment.



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USDA Forest Service, Payette National Forest, McCall Ranger District

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Date

## APPENDIX A

### Bear Lake Mining Company Fuel Transport, Storage, and Emergency Spill Plan

Fuels will be hauled to the site in Department of Transportation (D.O.T.) approved commercial transport vessels. Oil and lubricants would be transported in D.O.T. approved containers. To reduce potential accidents with recreational traffic, fuel haulage will be prohibited on weekends and holidays.

The Bear Lake Mining Company will store on site a **maximum** of 55 gallons of motor oil, a **maximum** of 55 gallons of hydraulic oil, and a **maximum** of 25 gallons of lubricants. **Maximum** fuel storage capacity is dependant on the EA alternative chosen for implementation. Stationary storage tanks or barrels for fuel, oil, lubricants, and other liquids required for the operation of the heavy equipment would be stored in a containment area which is stabilized and underlined by a polysynthetic material of at least 30 mils thickness (or equivalent) in such a way that any spilled contaminants would be collected and confined in that area. Storage capacity of the containment area would be one-hundred and fifty percent (150%) of the materials being stored.

Minor petrochemical contamination may occur from leaky equipment (e.g. hydraulic fluid, engine oil) on the work site. The operator would be required to maintain all equipment free of leaks. The fuel and lubricants would be hand or mechanically pumped into the fuel tanks of the equipment. There would be a person attending such operations at all times. Absorbent pads would be used in the event of a spill or release. They would be stored in the truck that is used to haul the fuel and oil and in readily accessible locations on the project site.

#### Spill Procedures

All spills, regardless of size or quantity, would be reported immediately to the Project Managers. The following information regarding the spill would be provided:

- The chemical name of the substance that spilled or leaked;
- An estimate of the quantity that spilled or leaked;
- The time and duration of the release;
- Where the release is deposited;
- Why the release occurred;
- Any immediate health and safety, or environmental threats or issues.

Spills that would be reported immediately to the Project Manager **and** BLM (phone #208-962-3688) include:

- Spills of any substance that exceeds 5 gallons.
- Spills that cannot be totally cleaned up within 24 hours.
- Spills of any substance that reaches or threatens a water body, or that has the potential to cause environmental damage.

If the spill of any quantity has the potential to reach or threaten a water body and cause environmental damage, the BLM or Project Manager would report all spills immediately to the following agencies:

- Idaho County Sheriff: (208) 983-1100
- Idaho State Communication Center: (800) 632-8000 or (208) 846-7610
- National Spill Response Center: (800) 424-8802
- Idaho Department of Environmental Quality: (208) 373-0550

BL Mining personnel would be responsible for preventing the spill from spreading by using absorbent pads, dikes, trenches, plugging the leak in the container, or other appropriate means. A spill response plan, shovels, and absorbent pads would be stored in readily accessible locations on the project site and in the transport vehicle. Contaminated soil and/or absorbent pads will be placed in 55-gallon drums which are compatible with petroleum hydrocarbon materials. A company equipped to clean up hazardous waste spills would be called to haul away the spilled material for proper disposal. The fuel, oil and lubricant storage areas would be inspected by BL Mining personnel weekly for any signs of spills or leaks. Tanks would be inspected weekly for signs of weakness or deterioration, such as dents or pressure buildup. The tank inspection would also check for:

- Drip marks
- Discoloration of tanks
- Puddles containing spilled or leaked material
- Corrosion and cracks
- Localized dead vegetation or soil staining