



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hillton • Boise, Idaho 83706 • (208) 373-0502

C.L. "Butch" Otter, Governor  
Toni Hardesty, Director

April 28, 2011

Mr. Clint Hughes  
Minerals Specialist  
USFS – Nez Perce National Forest  
104 Airport Road  
Grangeville, ID 83530

Subject: Site Assessments of the Penman Mine and Homestake Mine/Badger Shafts,  
Orogrande Area, Idaho County, Idaho

Dear Mr. Hughes:

The Idaho Department of Environmental Quality (DEQ) has completed a review of historical mining data and geological information for the above referenced mines within mixed ownership lands near Orogrande, Idaho. During the review, DEQ also conducted site visits to the Penman Mine and the Homestake Mine/Badger Shafts. During the visit, mine site activities such as shafts, collapsed tunnels, adits, tailings piles/waste dumps, and collapsed structures were observed and mapped in order to provide a comprehensive analysis necessary to complete an Abbreviated Preliminary Assessment (APA).

The APA is used to help site investigators determine if their findings result in a determination of No Remedial Action Planned (NRAP), or if additional analysis is warranted. The APA documents the rationale for the decision on whether further steps in the site investigation process are required under the Federal Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA). If additional analysis was warranted a Preliminary Assessment (PA) would have been prepared for this site.

PAs are conducted in accordance with CERCLA. The reasons to complete a PA include:

- 1) To identify those sites which are not Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) caliber because they do not pose a threat to public health or the environment (No Remedial Action Planned (NRAP));
- 2) To determine if there is a need for removal actions or other programmatic management of sites;

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- 3) To determine if a Site Investigation, which is a more detailed site characterization, is needed; and/or
- 4) To gather data to facilitate later evaluation of the release of hazardous substances through the Hazard Ranking System (HRS).

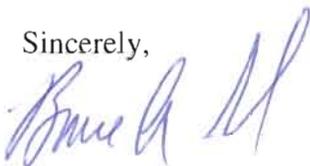
DEQ has also completed PAs under contract with the U.S. Environmental Protection Agency in order to identify risks to human health and the environment and make recommendations to land owners regarding how risks might be managed, if necessary.

DEQ offers the following health and safety recommendations relating to the aforementioned mines. Open adits pose a safety hazard to the general public who often wish to enter and explore them. Although DEQ did not find substantial toxicological risks associated with the heavy metals concentrations in the waste dumps present at these mines, repeated contact with soil and dust from these waste dumps is not advised and should be managed.

Attached are the Abbreviated Preliminary Assessments (APAs) for the Penman Mine and the Homestake Mine/Badger Shafts. Although the Penman Mine is located on private property and DEQ did not have permission from the landowner to access DEQ utilized the FS access road which runs through the property to conduct an assessment. The APAs contain mine history, limited geological information, site photographs, and maps of the property. Based on this information, DEQ is recommending the Penman Mine and the Homestake Mine/Badger Shafts property status be designated as No Remedial Action Planned (NRAP).

If you have any comments or questions about these sites, the reports, DEQ's recommendations, or if I may be of any other assistance, contact me at (208) 373-0554.

Sincerely,



Bruce A. Schuld  
Mine Waste Projects Coordinator  
Waste Management and Remediation Division

Attachment

cc: Ken Marcy – U.S. Environmental Protection Agency  
Penman Mine File  
Homestake Mine/Badger Shaft File

## ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) the Penman Mine near Orogrande, Idaho. This document provides the rationale for the determination of No Remedial Action Planned (NRAP) or if additional analysis or site investigation is necessary for the Penman Mine. Additional sheets are attached which contain relevant information including photo logs, historical data, and maps generated during the site visits or desktop research.

**Preparer:** Daniel D. Stewart **Date:** 3/18/11  
Idaho Department of Environmental Quality  
300 West Main, Room 203  
Grangeville, ID 83530  
(208) 983-0808  
daniel.stewart@deq.idaho.gov

**Site Name:** Penman Mine

**Previous Names (aka):** Penman Deposit, Homestake, Sadie H, Pennsylvania

**Site Owner:** Donald S. Alm

**Address:** 203 S. Myrtle Street  
Grangeville, ID 83530

**Site Location:** Access via County Road 233 (the Crooked River Road) is approximately 12 miles south from the junction with State Highway 14 to Old Orogrande. In Old Orogrande, FS Road 311 heads southeast 3.9 miles to the Homestake Mine. From there, an old road leads 1,200 feet south to the upper adit and shafts of the Penman Mine. The other adits for the Penman Mine are downhill to the west. The workings are on private property.

Township 27 North, Range 7 East, Section 24

**Latitude:** 45.66334°N **Longitude:** -115.52729°W

### **Describe the release (or potential release) and its probable nature:**

This site was investigated for potential releases of heavy metals and sediment from mine waste dumps and potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals. No evidence or indications of these materials were located on the site. See site photographs at the end of this report.

**Part 1 - Superfund Eligibility Evaluation**

<b>If all answers are “no” go on to Part 2, otherwise proceed to Part 3.</b>	<b>YES</b>	<b>NO</b>
1. Is the site currently in CERCLIS or an “alias” of another site?		<b>x</b>
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		<b>x</b>
3. Are the hazardous substances that may be released from the site regulated under a statutory exclusion (e.g., petroleum, natural gas, natural gas liquids, synthetic gas usable for fuel, normal application of fertilizer, release located in a workplace, naturally occurring, or regulated by the NRC, UMTRCA, or OSHA)?		<b>x</b>
4. Are the hazardous substances that may be released from the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		<b>x</b>
5. Is there sufficient documentation to demonstrate that there is no potential for a release that constitutes risk to human or ecological receptors? <i>(e.g., comprehensive remedial investigation equivalent data showing no release above ARARs, completed removal action, documentation showing that no hazardous substance releases have occurred, or an EPA approved risk assessment completed)?</i>	<b>x</b>	

**Please explain all “yes” answer(s):**

A site inspection involving direct observations confirmed contaminants of concern do not exist in concentrations that present a threat to human health or the environment. This site was in close proximity to several mining claims and workings (Homestake Mine and Badger Shafts) which are located on USFS land. The Penman Mine is located on private property. Although DEQ did not have permission from the landowner to access DEQ utilized the FS access road which runs into the property to conduct an assessment. Remnants of old buildings and structures remain in the area. No standing structures were observed. Various mining related articles are on the site.

Penman Adit 1 is an open adit that showed evidence of recreational use. This is a dangerous adit and access into the mine should be restricted. Penman Adit 1 waste dump is below the adit. The waste dump contains approximately 10,000 cubic yards of material. No visible sulfides or highly mineralized material remains. The waste dump is country rock. Vegetation is evident on the top and the toe of the waste dump. The adit does not discharge water. No streams or water bodies are within close proximity to this site, thus no pathways exist to surface waters.

Penman Shaft 1 is partially collapsed. As the shaft continues to collapse, it is cutting into the access road. The shaft is eroding the road away. This is a dangerous situation and access to the road should be restricted. The shaft does not discharge and no surface water is within close proximity to this site, thus no pathways exist to surface waters.

Penman Shaft 2 is collapsed with vegetation well established. The shaft does not discharge and no surface water is within close proximity to this site, thus no pathways exist to surface waters.

**Part 2 - Initial Site Evaluation**

For Part 2, if information is not available to make a “yes” or “no” response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

<b>If the answer is “no” to any of questions 1, 2, or 3, proceed directly to Part 3.</b>	<b>YES</b>	<b>NO</b>
1. Does the site have a release or a potential to release?		<b>x</b>
2. Does the site have uncontained sources containing CERCLA eligible substances?		<b>x</b>
3. Does the site have documented on-site, adjacent, or nearby targets?		<b>x</b>

<b>If the answers to questions 1, 2, and 3 above were all “yes” then answer the questions below before proceeding to Part 3.</b>	<b>YES</b>	<b>NO</b>
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		<b>x</b>
5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?		<b>x</b>
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within one mile)?		<b>x</b>
7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?		<b>x</b>

**Notes:**

During the site assessment, DEQ used references from several different documents including USGS maps, county tax rolls, and historical reports that have spelled numerous claim names, town sites, and/or geographic features differently from one and another. DEQ’s use of the different spellings is to remain in context with the reference used for each given section of text or written in this report.

**Exhibit 1 – Site Assessment Decision Guidelines for a Site**

Exhibit 1 identifies different types of site information and provides some possible recommendations for further site assessment activities based on that information. The assessor should use Exhibit 1 in determining the need for further action at the site, based on the answers to the questions in Part 2. Please use your professional judgment when evaluating a site. Your judgment may be different from the general recommendations for a site given below. **(Circle or highlight responses)**

<b>Suspected/Documented Site Conditions</b>		<b>APA</b>	<b>Full PA</b>	<b>PA/SI</b>	<b>SI</b>
1. Releases or potential to release are not documented at the site.		Yes			
2. Uncontained sources with CERCLA-eligible substances have not been documented as being present on the site. (i.e. they do exist at site)		Yes			
3. On-site, adjacent, or nearby receptors are not present.		Yes			
4. There is no documentation or observations made leading to the conclusion that a sensitive receptor is present or may have been exposed (e.g., drinking water system user inside four mile TDL) 5. There is documentation that a sensitive receptor has been exposed to a hazardous substance released from the site.	Option 1: APA	Yes			
	Option 2: Full PA or PA/SI	No			
6. There is an apparent release at the site with no documentation of targets, but there are targets on site or immediately adjacent to the site.	Option 1: APA SI	No			
	Option 2: PA/SI	No			
7. There is an apparent release and no documented on-site targets and no documented targets immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within one mile of the site and have a relatively high likelihood of exposure to a hazardous substance migration from the site.		No			
8. There are: no indications of a hazardous substance release; uncontained sources containing CERCLA hazardous substances; but there is a potential to release with targets present on site or in proximity to the site.		No			

**Part 3 - EPA Site Assessment Decision**

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was “no,” then an APA may be performed and the “NRAP” box below should be checked. Additionally, if the answer to question 4 in Part 2 is “yes,” then you have two options (as indicated in Exhibit 1): Option 1 -- conduct an APA and check the “Lower Priority SI” or “Higher Priority SI” box below; or Option 2 -- proceed with a combined PA/SI assessment.

**Check the box that applies based on the conclusions of the APA:**

<input checked="" type="checkbox"/>	No Remedial Action Planned (NRAP)		Defer to NRC
	Higher Priority SI		Refer to Removal Program
	Lower Priority SI		Site is being addressed as part of another CERCLIS site
	Defer to RCRA Subtitle C		Other:

**DEQ Reviewer:**

*Bruce A. Schuld*

Bruce A. Schuld

*4/28/11*

Date

**Please Explain the Rationale for Your Decision:**

There are no direct airborne, surface or ground water pathways to any potable water sources or residences. Although on a previous inspection by the Idaho Geological Survey water was observed discharging from one of the adits, there were no such indications during DEQ’s visit. No streams or water bodies are within close proximity to the mine site. The closest residence is 2.5 to 3 miles away and is separated from the mine by structural geology. No significant evidence of mineralization remains at the mine site with the waste dumps being composed of country rock.

As a result of our observations, DEQ is recommending this site be designated as “No Remedial Action Planned” (NRAP).

**Attachments:**

- Historical Information
- Site Photographs
- Maps

## Historical Information

**Mine History:** The following information was taken from the *Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Nez Perce National Forest, Vol. III: Elk City, Orogrande, Buffalo Hump, and Surrounding Areas, Idaho County, Idaho, Section A, Idaho Geological Survey 2001, Prepared for the U.S. Forest Service, Region 1, Under Participating Agreement No. FS-01-96-14-2800.*

*The Pennsylvania claim of the Penman Mine was located by William Yetter and the Homestake claim was located by Walter Hill, both in 1896. Sam Silverman relocated the property in 1905. These claims were surveyed for patent in 1915 by James Penman and patented in 1917 (Rains, 1991). The subsequent history of the property is essentially the same as that of the Homestake Mine (section 3.29.3).*

**Geologic Features:** The following information was taken from the *Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1), Nez Perce National Forest, Vol. III: Elk City, Orogrande, Buffalo Hump, and Surrounding Areas, Idaho County, Idaho, Section A, Idaho Geological Survey 2001, Prepared for the U.S. Forest Service, Region 1, Under Participating Agreement No. FS-01-96-14-2800.*

*The geology of the Penman Mine is summarized in Thomson and Ballard (1924), Shenon and Reed (1934), and Rains (1991). The predominant country rock in the area of the Penman Mine is a coarse-grained biotite granodiorite which contains abundant inclusions of quartzite, schist, and gneiss. Pegmatite and intermediate-composition dikes intrude the granodiorite. The dominant sulfides in the ore were pyrite and galena (Thomson and Ballard, 1924). Most of the workings on the property were on the Homestake vein (Rains, 1991).*

The property was visited by Ted Erdman on June 18-19,1999. He observed that:

*The Penman Mine has four adits, two of which are open, and possibly two collapsed shafts. The collapsed shafts, about 10 feet apart, are the uppermost workings of the Penman Mine and are at an elevation of approximately 6,550 feet. The southern shaft has a nearly collapsed wooden structure in the pit. The northern shaft has a wire fence surrounding the pit. There is a large trench about 50 feet long to the west of these two shafts. The trench could be either a collapsed adit or a deep excavation. A second short trench with a rail along part of it may well be an adit.*

*Adit 1, the uppermost and easternmost of the four adits, is open and dry. A cut with a headwall scarp extends back into the slope about 20 feet to the opening. The dump for Adit 1 is 40 feet long, 40 feet wide, and 15 feet thick. North of the adit is a large trench or collapsed feature about 25 feet long, 10 feet wide, and 15 feet deep.*

*Adit 2 is approximately 500 feet west of Adit 1 at an elevation of 6,300 feet. The mill building and several other structures are in the vicinity of the adit. This adit is collapsed and discharging water at approximately 5 gallons per minute. The water flows west across the dump and seeps through the waste rock. The dump measures 150 feet long,*

*25 feet wide, and 20 feet thick. There is a minor amount of scrap metal around this adit. The total disturbed area at this adit is 1-2 acres.*

*The upper part of the Penman mill is at the level of Adit 2 and extends downhill to the level of Adit 3. The mill building is almost completely collapsed. Adit 3 is about 200 feet northwest of Adit 2 at an elevation of 6,250 feet. This adit is open and discharging water at approximately 10 gallons per minute. The water flows around the edge of the dump and away from it. The mine rails are in good condition and extend approximately 50 feet to the end of the dump. The dump is 50 feet long, 25 feet wide, and 20 feet thick.*

*Adit 4, the westernmost adit on the property, is caved and has a stream of water discharging at 10 gallons per minute. The dump is 40 feet long, 20 feet wide, and 15 feet thick. There are two buildings at this site, one a partially collapsed wood building, and the other a metal-covered shaped building in moderately good condition, although some of the support beams are leaning and some of the metal sheets are loose.*

*The total disturbed area at the Penman Mine is approximately 5 acres.*

## Site Photographs



Photo 1. Penman Shaft 1, partly collapsed (7/29/10)



Photo 2. Penman Adit 1, note the large rock that fell from top of the adit opening (7/29/10)



Photo 3. Penman waste dump, trees growing on top and toe of the dump (7/29/10)

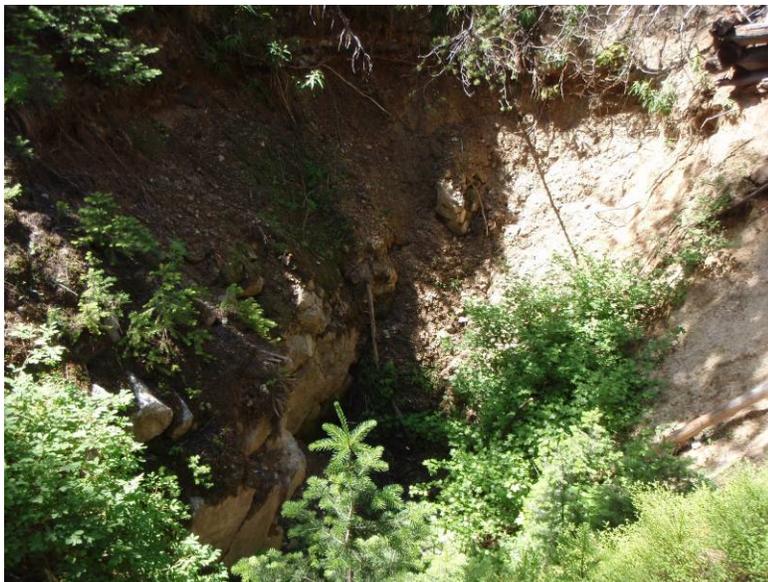
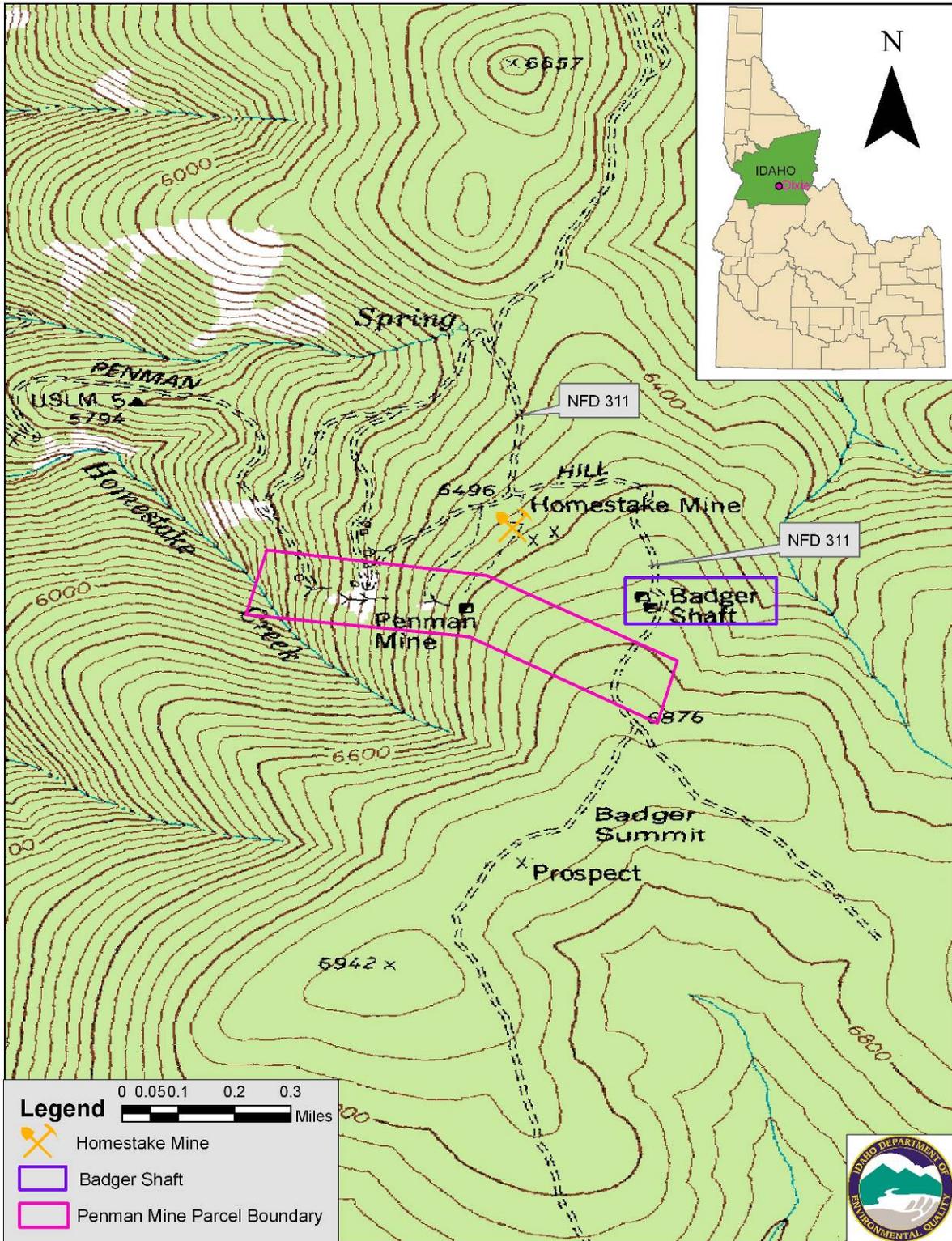
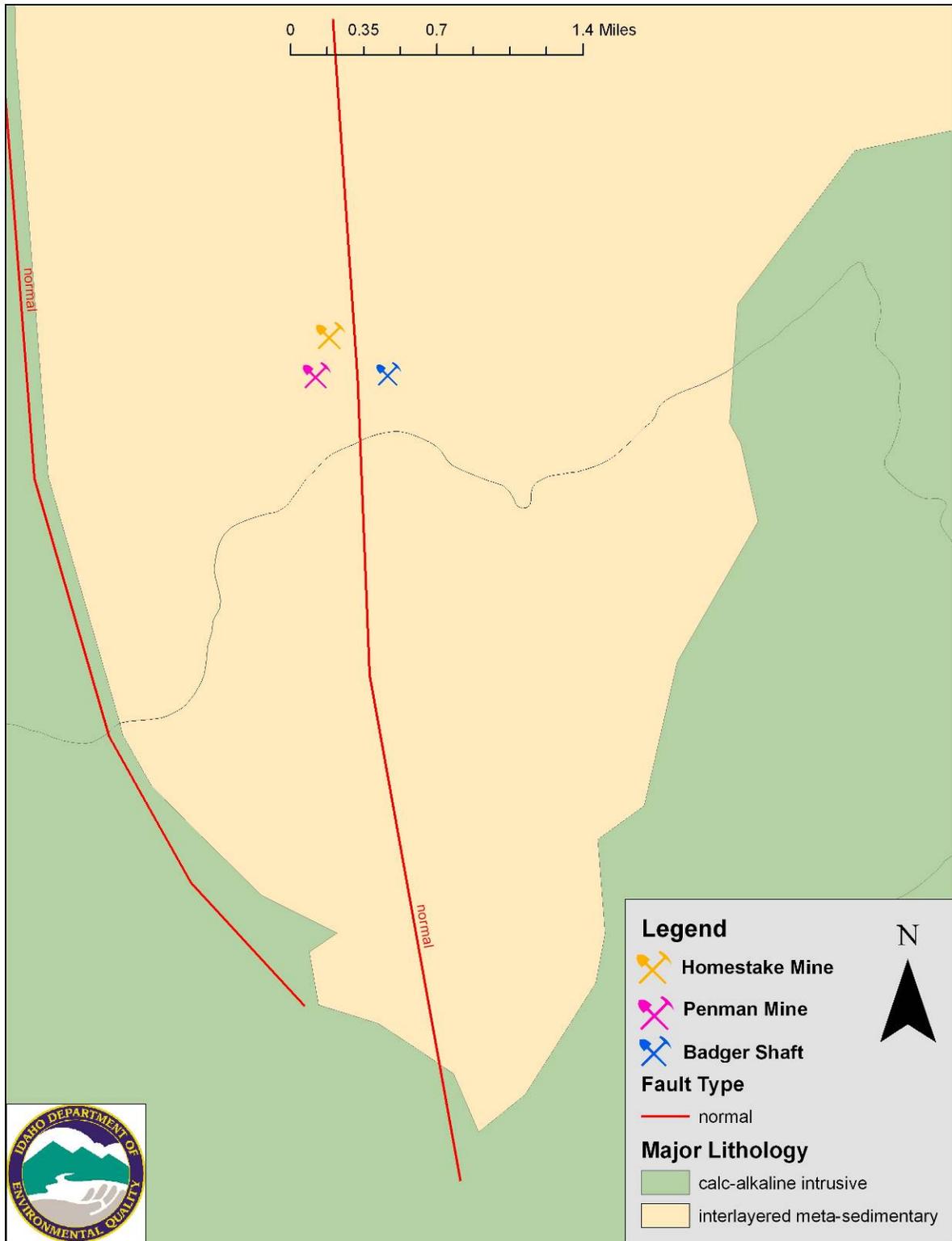


Photo 4. Penman Shaft 2, collapsed with vegetation (7/29/10)

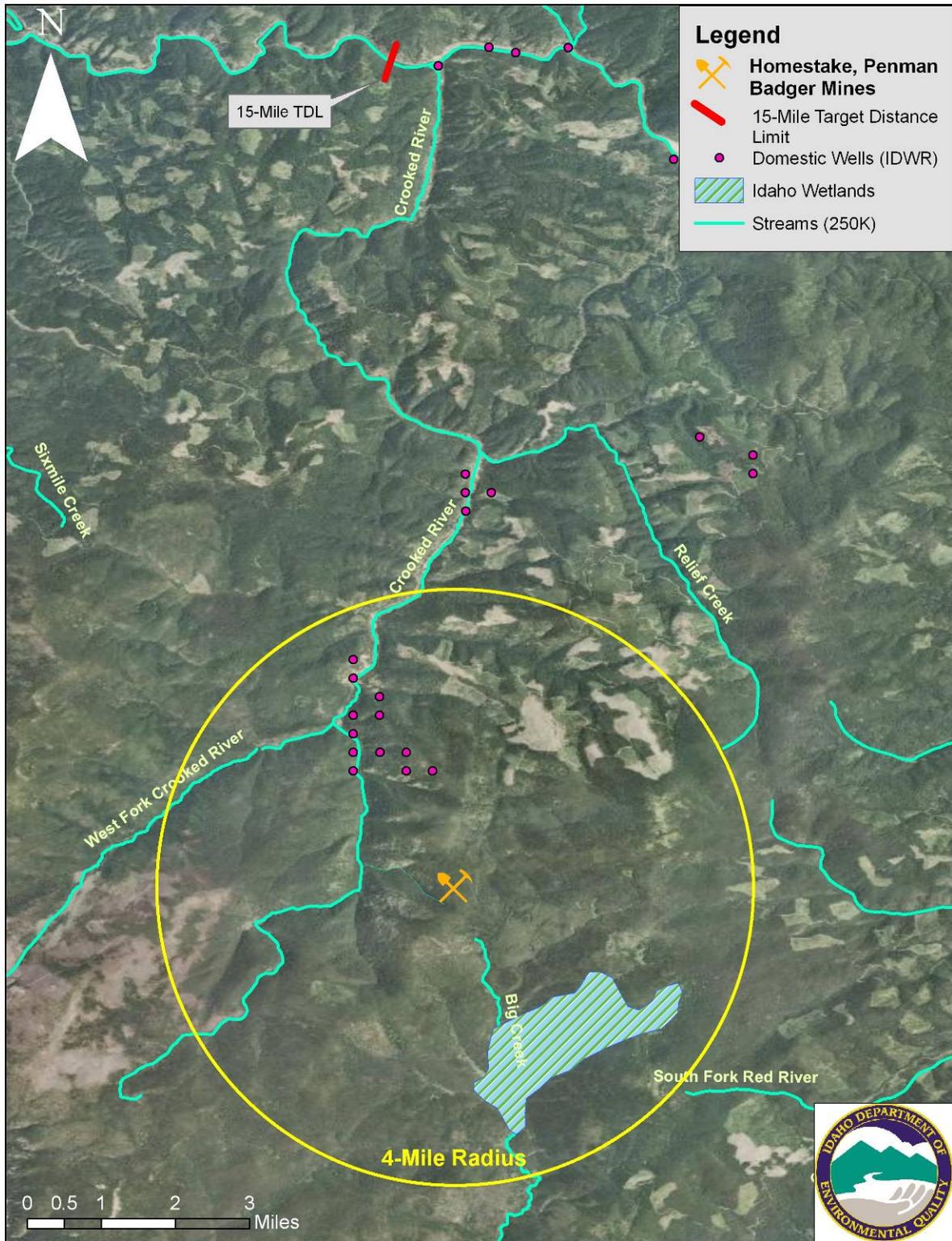
# Maps



Map 1. Location of Homestake Mine, Badger Shaft, and Penman Mine with Idaho County 2010 Parcel Data Overlay (Map Source: USGS 24k Quads)

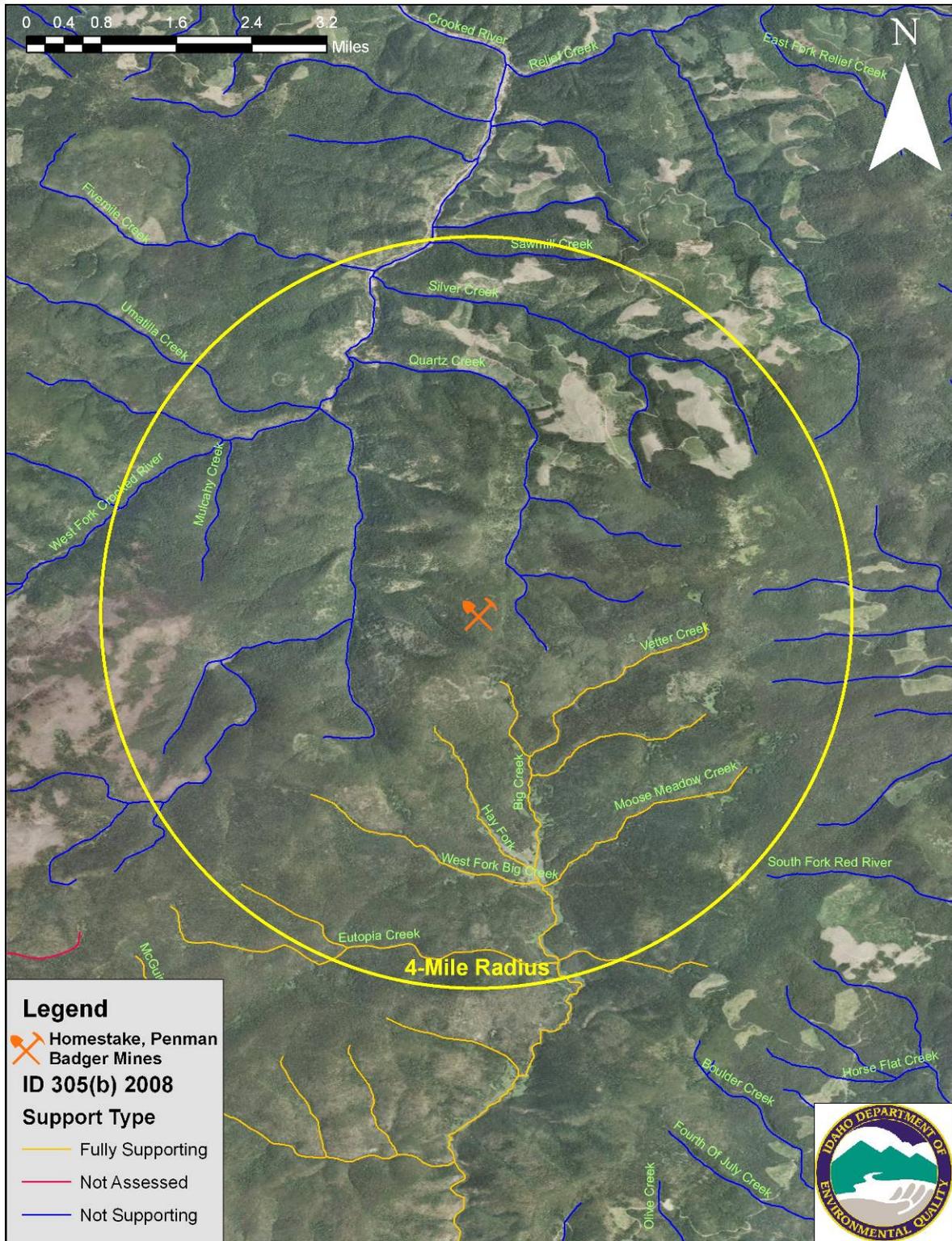


Map 2. Major Lithology of Homestake Mine, Badger Shaft, and Penman Mine and Surrounding Area (Map Sources: SDE Feature Class, USGS 1995 and Idaho DEQ GIS ArcSDE 9.2 Geodatabase)



Map 3. Domestic Well Locations. There are no public water systems within the four mile radius, 15 mile target distance limit (TDL). Wetlands run along Big Creek, however they are segregated by structural geology. (Map Source: 2009 Natural Color 1-meter NAIP Idaho Map)





Map 5. Sensitive Waterways within Four Mile Radius and Surrounding Area (Map Sources: SDE Feature Dataset, Animal Conservation Database and Idaho DEQ GIS ArcSDE 9.2 Geodatabase, 2009 Natural Color 1-meter NAIP Idaho Map)