



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor  
Curt Fransen, Director

March 28, 2012

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

Subject: Abbreviated Preliminary Assessment of the Waverly Mine, 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 mine, located near Florence, Idaho. Subsequent to that review, DEQ conducted a site visit to the Waverly Mine.

During the site visit, mining activities such as a shaft house, a collapsed adit, and a dilapidated collapsed mill were observed and photographed in order to provide a comprehensive analysis necessary to complete an Abbreviated Preliminary Assessment.

Preliminary Assessments are conducted by DEQ according to the Federal Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA). The reasons to complete a Preliminary Assessment (PA) include:

- 1) To identify those sites which are not 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;
- 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.

Mr. Clint Hughes  
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During a DEQ field visit if sources, pathways, and receptors are identified for heavy metal contamination and samples are collected, a PA is generally written. If there is no evidence of receptors being influenced by sources of contamination, as was the case with the Waverly Mine, then an Abbreviated Preliminary Assessment (APA) is written.

Attached is the Abbreviated Preliminary Assessment for the Waverly Mine. The APA includes limited historical and geological information, photographs, and maps of the location.

A site inspection involving direct observations confirmed that contaminants of concern including hazardous materials and petroleum products do not exist in concentrations that present a threat to human health or the environment. No contaminants or hazardous substances remain on the site. Surface water sample WAAD1SW1 was analyzed for total recoverable metals. No airborne pathways exist to any residences. The closest residence to the Waverly Mine is approximately 24 miles downstream. There are no public water systems within the 15-mile target distance limit (TDL).

Waverly Mine Adit 1 was discharging water at approximately five gallons per minute (gpm). The analysis results indicated surface water sample WAAD1SW1 exceeded the DEQ Ground Water Standard for iron by 3.0 times and manganese by 2.7 times. This sample did not violate any of Idaho's surface water quality standards. These values are not remarkable and it is unlikely any human health risks or ecological health risks are associated with this mine site discharge.

**This information was used by DEQ to recommend the property status of the Waverly Mine be designated as No Remedial Action Planned (NRAP).**

DEQ looks forward to addressing any questions you may have regarding our findings. Please contact me (208-373-0563) if you have any comments, questions, or if I may be of any other assistance.

Sincerely,



Tina Elayer  
Mine Waste Program Specialist  
Waste Management and Remediation Division

#### Attachments

cc: Ken Marcy – EPA  
Daniel Stewart – DEQ Grangeville  
Scott Sanner – BLM  
Waverly Mine File

## ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) for the Waverly Mine near Florence, Idaho. This document provides the rationale for the determination of No Remedial Action Planned (NRAP) and that no additional analysis or site investigation is necessary for the Waverly Mine. Additional sheets are attached which contain relevant information including historical and geologic information, photographs, maps, and references generated during the site visit or desktop research.

**Preparer:** Daniel D. Stewart **Date:** 10/25/11  
Idaho Department of Environmental Quality  
300 W. Main  
Grangeville, ID 83530  
(208) 983-0808  
daniel.stewart@deq.idaho.gov

**Site Name:** Waverly Mine

**Previous Names (aka):** Monte Crisco Mining Company

**Site Owner:** U.S. Forest Service\*

**Address:** 104 Airport Road  
Grangeville, ID 83530

\*Although the site labeled Waverly Mine on the topographic map (Figure 1 of this report) is on U.S. Forest Service land, Reed (1939) indicates the mine is on a patented claim.

**Site Location:** From IGS 2003:

*Access from Florence is on FS Road 643 south to FS Road 643H, then northwest about 1/4 mile on Road 643H to the mine. The shaft mentioned by Lindgren (1900) and Reed (1939) was not found; it is probably on the block of private land (presumably a patented claim) south of the adit.*

Township 25 North, Range 3 East, Section 13

**Latitude:** 45.50261°N **Longitude:** -116.0414°W

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

The Waverly Mine was investigated by the Idaho Department of Environmental Quality (DEQ) on September 22, 2011 for potential releases of heavy metals by airborne, surface water or ground water pathways. Additionally, potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals were investigated. No deleterious materials,

petroleum products or ore processing chemicals were evident at the site. Waverly Mine Adit 1 was discharging water at approximately five gallons per minute (gpm).

**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 that contaminants of concern including hazardous materials and petroleum products do not exist in concentrations that present a threat to human health or the environment. No contaminants or hazardous substances remain on the site. Surface water sample WAAD1SW1 was analyzed for total recoverable metals (Table 1). No airborne pathways exist to any residences. The closest residence to the Waverly Mine is downstream approximately 24 miles. There are no public water systems within the 15-mile target distance limit (TDL).

Waverly Mine Adit 1 was discharging water at approximately five gpm. The analysis results indicated surface water sample WAAD1SW1 exceeded the DEQ Ground Water Standard for iron by 3.0 times and manganese by 2.7 times. This sample did not violate any of Idaho’s surface water quality standards. These values are not remarkable and it is unlikely any human health risks or ecological health risks are associated with this mine site discharge. Table 1 summarizes the laboratory analysis of the surface water taken from Adit 1.

**Table 1.** Total Recoverable Metals Analysis in Surface Water – Waverly Mine Adit 1  
(Concentrations expressed in mg/l unless otherwise stated.)

Description	DEQ Ground Water Standard (T)	DEQ Drinking Water Standard MCL	DEQ Cold Water Biota Standard Acute	DEQ Cold Water Biota Standard Chronic	Surface Water Sample WAADISW1
Antimony					<0.020
Arsenic	0.05	0.01	0.36	0.19	<0.025
Barium	2	2			0.0423
Cadmium	0.005	0.005	0.00082 (H)	0.00037 (H)	<0.0020
Chromium (Total)	0.1	0.1			<0.0060
Copper	1.3		0.0046 (H)	0.0035 (H)	<0.010
Iron	0.3*				0.912
Lead	0.015	0.15	0.014 (H)	0.00054 (H)	<0.0075
Manganese	0.05				0.136
Selenium	0.05	0.05	0.018 (T)	0.005 (T)	<0.040
Silver	0.1*		0.0032 (H)		<0.0050
Zinc	5*		0.035 (H)	0.032 (H)	<0.01

\*Secondary MCL (T) – Standard in Total (H) – Hardness dependent \*25 mg/l

Yellow = Exceeded DEQ Ground Water Standard.

## 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?		
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?		
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)?		
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?		

**Notes:**

The Waverly Mine is not located near any occupied dwellings, towns, or inhabitants. No hazardous materials were evident during the site visit. Surface water sample results did not violate any Idaho surface water quality standards and were unremarkable. It is unlikely any human health risks or ecological health risks are associated with this mine site discharge.

During the site assessment, DEQ used references from several different documents including U.S. Geological Survey (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.

<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 - DEQ 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
<input type="checkbox"/>	Higher Priority SI	Refer to Removal Program
<input type="checkbox"/>	Lower Priority SI	Site is being addressed as part of another CERCLIS site
<input type="checkbox"/>	Defer to RCRA Subtitle C	Other:

**DEQ Reviewer:**

*Daniel D. Stewart*  
Daniel D. Stewart

*3/28/12*  
Date

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

A site inspection involving direct observations confirmed that contaminants of concern including hazardous materials and petroleum products do not exist in concentrations that present a threat to human health or the environment. The Waverly Mine is not located near any occupied dwellings, towns, or inhabitants. No hazardous materials were evident during the site visit.

Results for surface water sample WAAD1SW1 for total recoverable metals indicated the sample exceeded DEQ Ground Water Standards for iron by 3.0 times and manganese by 2.7 times. These values are not remarkable and it is unlikely any human health risks or ecological health risks are associated with this mine site discharge. Lush plant growth in both the stream and on the banks indicates no plant stress from the water discharging from Adit 1.

The closest residence to the Waverly Mine is approximately 24 miles downstream.

As a result of DEQ’s research and observations, it is recommending the Waverly Mine site be designated as NRAP.

**Attachments:**

- Historical and Geologic Information
- Site Conditions and Photographs
- Maps
- References

## Historical and Geologic Information

Numerous sources were used during desktop research prior to visiting the site. DEQ could not improve or expound upon these reports by writing additional historical or geological text, therefore they were directly referenced and cited.

**Mine History:** IGS (2003) described the Waverly Mine as follows:

*The long trough of the caved adit is at the head of a shallow ravine that branches from a tributary of Miller Creek. Iron-rich water from the caved adit, estimated at 5-10 gallons per minute, flows through the trough and into a grassy wetland behind an earthen dam. The waste dump, built along Road 643H and beginning at least 100 feet northwest of the adit trough, has probably been modified to some extent, but still measures 150-200 feet long, 10 feet wide (from the south edge of the road), and 15-20 feet thick. The cabin is at the northwest end of the adit trough, the collapsed building is northwest of the cabin, and the remnants of the mill are below the earthen dam. The disturbed area covers about 2 acres.*

*In 1897, the development on the property consisted of a shaft 116 feet deep. The property was idle during part of 1898 (Lindgren, 1900). McKay (1998, p. 231-234) gave the following historical account of the Waverly Mine:*

*It was reportedly discovered by Chinese placer miners, but Charles Gutman located it in 1894. The lode was poorly defined, consisting of groups of small veinlets. It was worked as early as 1895, giving \$25 per ton in ore. By early 1896 the Waverly Mining Company of Moscow [Idaho] had been organized. In the fall of 1896 forty-four tons of ore from the mine yielded 110 ounces in gold. During the winter of 1896-97 the mine worked a small crew. The next summer the owners purchased a steam hoist and pump, and a shaft was sunk at least 100 feet deep. The mine had a two-stamp mill on the property by October of 1897 and was reducing six tons of ore daily that yielded just over \$200 per ton.*

*The company reportedly ordered a new five-stamp mill in November 1897, but it is not known whether this was ever actually used on the Waverly because the company soon experienced financial difficulties. In February of 1898 the company surrendered the management of the property to the employees until its debt (several months' wages) were satisfied. The workers operated it cooperatively. At that time Charlie Aldridge was mine foreman and J.C. Moore mill foreman. In March a rich strike was made on the 130-foot level of the 160-foot shaft, but the mine closed down and was idle later in the year. J.M. Herman took an option on the Waverly in 1898 and spent \$3,000 on the mine but ended up giving it back to the original owners because he was not able to keep water out of the workings.*

*The Waverly mine was surveyed for patent in October 1901 for the Waverly Mining Company of Moscow. The development work up to that time included the following: a 4-foot X 6-foot shaft 150 feet deep topped by a 16-foot X 36-foot shaft house (the shaft was perpendicular for the first 50' and then dipped at an angle of 78 degrees from the horizontal for the remaining 100 feet), a 26-foot X 12-foot stamp mill building, a 10-foot X 12-foot ore bin. The shaft had a connecting 90-foot-long adit and three drifts (155 feet at the 50-foot level, 100 feet at the 100-foot level, and 155 feet at the 130-foot level). There was also a hoist building and machinery, blacksmith shop, mess and bunkhouses, and an old building for the arrastra. The vein was reportedly 3 feet wide at the foot of the shaft and milled about \$55 per ton. To the southeast was the road to J.C. Meinert's cabin and just beyond the cabin was Florence's custom mill, which was recorded as having been little used. The recorder commented, "There has been a great amount of Placer Mining above, every gulch having been washed out, and the country is full of old abandoned water ditches."*

*By 1901 the Waverly Gold Mining Company of Moscow owned the Waverly and was working-it off and on. In 1902 poor management and reported trouble among the stockholders shut down the work. In July of 1903 only three men were working the mine, and in the fall it was reported that the boiler and engine, hoist, and mining implements on the claim were to be sold by the Idaho County assessor and tax collector for nonpayment of taxes.*

*No mention of the Waverly mine has been found between 1903 and 1921, although a group of Waverly claims, including a tunnel claim, was located in 1919. In the latter year, the Waverly Mining Company (with officers in Lewiston) was working an average of three men. The one patented and nine unpatented claims had 850 feet of underground workings. The Kinkade oscillating rotary mill on the property had a 10-ton capacity. The Monte Cristo Mining Company was incorporated in 1927 to operate the Waverly group of two claims in Florence and the Monte Cristo group in the Buffalo Hump district. In 1932 the company worked an average of four men on the Waverly year-round, using a gas-driven compressor. For the next several years two to seven men worked on the claim, doing small amounts of development work on the tunnel and shaft (most of the old workings were inaccessible because of flooding). During the summer of 1939 the Waverly reportedly made good returns when water was available, operated under lease and bond to Fred Johnson (president of the Monte Cristo Mining Company). The Waverly was one of the three top producing lode mines in Florence that year. Johnson's crew worked the mine until the early 1940s, but they had difficulty holding the ground; it collapsed easily. Johnson moved the gas-powered arrastra on the Waverly to the Yakima mine.*

*In the 1940s or 1950s, Gene Fuzzell and his brother-in-law leased the Waverly mine from Fred Johnson. Working only on weekends, they drove a 150-foot tunnel below the Waverly shaft, from Miller Creek to the Waverly, in an*

*attempt to find solid ground to work. They supported the tunnel with split lodgepole, timbering it close. Two men did the drilling with compressed-air drills, while one man cut the timbers and laid the charges. They drove approximately 5 or 6 feet a day.*

*In 1988 the Waverly mine site included parts of the ball mill, six structures, an earthen dam, and cast-iron and sheet-metal piping.*

**Geologic Features:** The following is the description of the Waverly Mine from Reed (1939):

*The Waverly mine is on the patented Waverly claim in the SW ¼ of Sec. 13, T. 25N. R. 3E. The property is owned by the Monte Crisco Mining Company, of which Fred G. Jonson is president. According to local reports, the Waverly was found many years ago by Chinese miners who were placer mining in the vicinity. When acquired by the present owners in 1932, the old workings consisted of a 120-foot shaft and 145 feet of stopes. According to Jonson, the old stope yielded about \$90,000 worth of metal.*

*When visited in 1934, the old workings were inaccessible except for short distances underground where they were encountered by new tunnels. In 1934, about 1,100 feet of tunnel work were accessible and were mapped in detail because the mine illustrates well the type of lode found in the district. Workings on a lower level, formerly accessible through a winze, were completely flooded.*

*The lode is very poorly defined and consists of groups of small veinlets. According to Lindgren, the Waverly “vein has the usual E.W. strike and southerly dip; its width is about 12 feet”. A 12-foot lode, such as mentioned by Lindgren, is not apparent in the workings accessible in 1934.*

*Near the mouth of Six Ounce Gulch, a small tributary to White Sand Creek from the north in the SW ¼ of Sec. 13, T. 25N., R. 3E., on ground belonging to Otto Egloff and only a few feet from one of the Waverly claim’s corner posts, a veinlet-zone about 40 feet thick that contains more than 40 veinlets is exposed. An assay of a channel sample across this zone indicated more than \$9.00 to the ton in gold.*

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## Site Conditions and Photographs

All of the Waverly Mine photographs in this section were taken by DEQ on September 22, 2011.

Photo 1 shows a collapsed and broken down cabin at the northwest end of the Waverly Mine Adit 1 trough. The waste dump lies below and on the same side of the drainage as the cabin. The waste dump is approximately 175 feet by 18 feet by 10 feet. The waste material consists of granitic like, non-mineralized material.



**Photo 1.** Collapsed and broken down cabin at Latitude 45.50619°N and Longitude -116.04227°W

As shown in Photos 2 and 3, water is flowing from Waverly Mine Adit 1 at approximately 5 gpm. The water is orange in color, presumably iron stained. The collapsed adit is well vegetated with alders and plants growing along the stream and in the water. A surface water sample was taken 20 feet below/downstream of Adit 1.



**Photo 2.** Collapsed Adit 1 at Latitude 45.50582°N and Longitude -116.04227°W.



**Photo 3.** Water discharging from Adit 1.



**Photo 4.** Collapsed building below/downstream from the collapsed Adit 1 at Latitude 45.50625°N and Longitude -116.04239°W.



**Photo 5.** Collapsed mill below the workings at Latitude 45.50677°N and Longitude -116.04276°W.

Photo 6 is taken from the upstream side of the mill remnants.



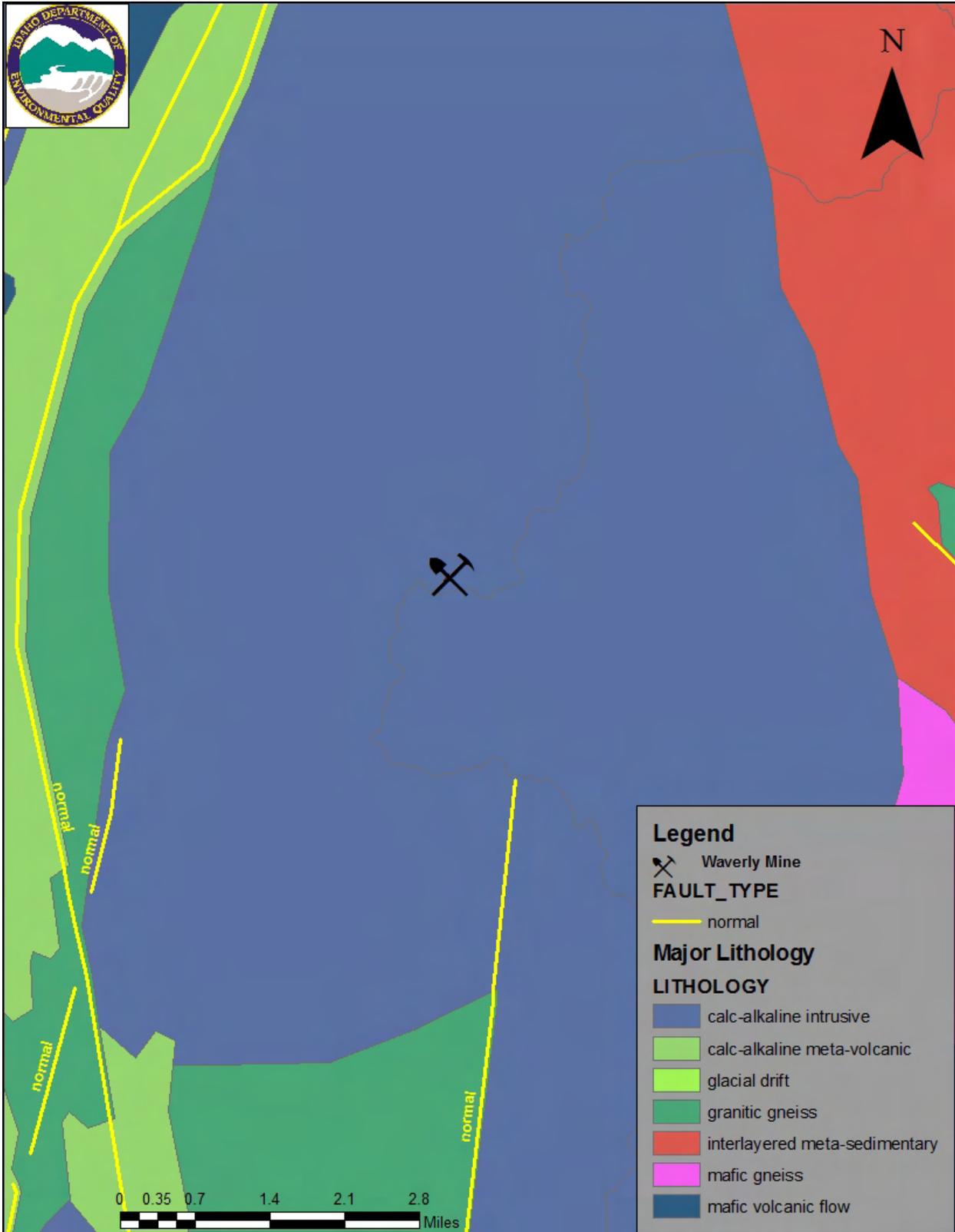
**Photo 6.** Collapsed mill built directly in the drainage channel.

Maps



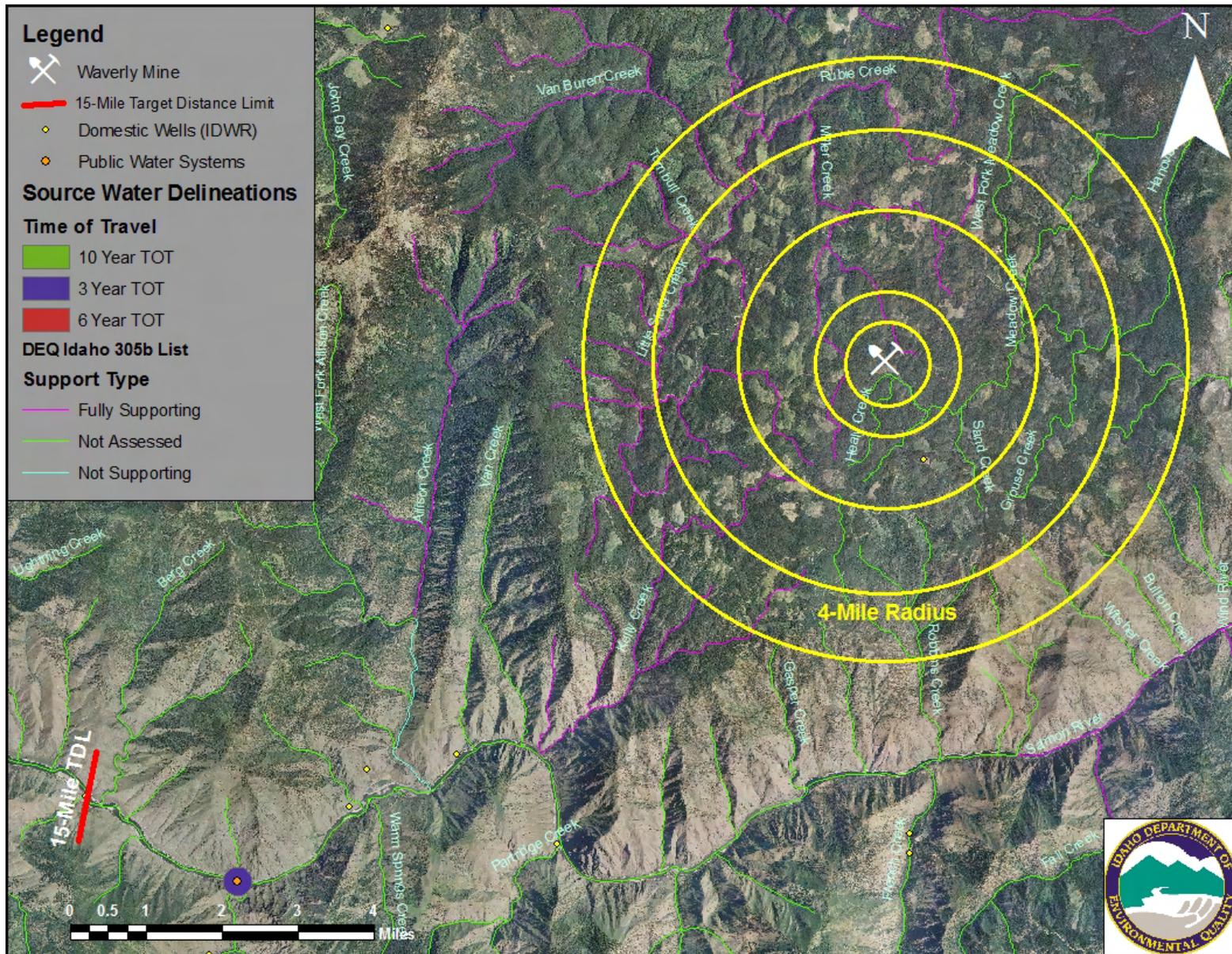
**Figure 1.** Location of the Waverly Mine in Idaho County, Idaho  
(Map Source: USGS 100k Quads)

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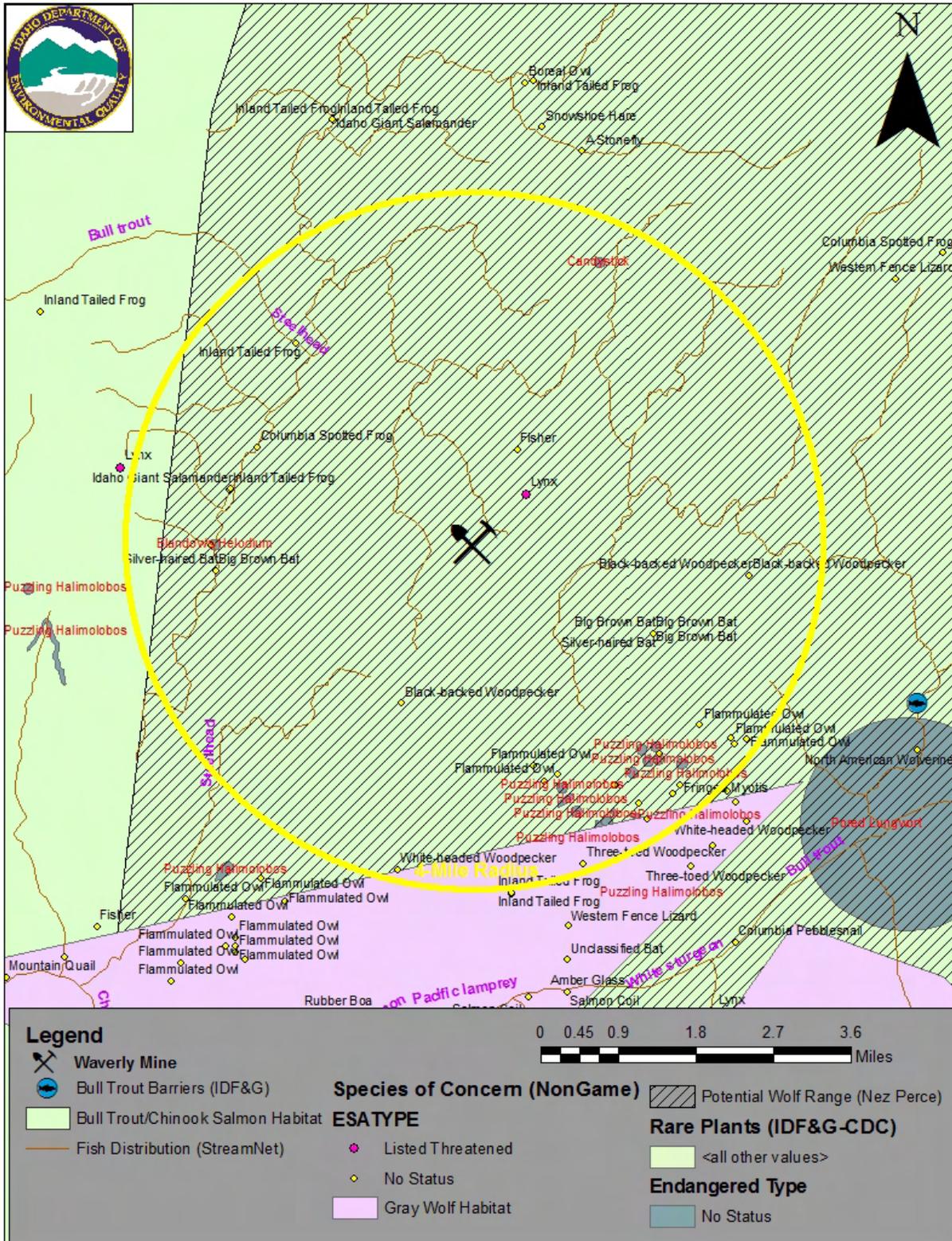
**Figure 2.** Major Lithology of the Waverly Mine and Surrounding Area  
 (Map Source: SDE Feature Class, USGS 1995. Idaho GIS ArcSDE 9.2 Geodatabase)

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**Figure 3.** There are no domestic well locations or Public Water Systems within the 4-mile radius, 15-mile TDL. There are no significant wetlands within a 2-mile radius or in the general area. Sensitive streams located in the vicinity of the Waverly Mine are also shown. (Map Source: Idaho GIS ArcSDE 9.3 Geodatabase, National Agricultural Imagery Program (NAIP) 2004)

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**Figure 4.** Sensitive Species Within 4-Mile Radius and Surrounding Area of the Waverly Mine. Species of Concern: Non-Game Animals and Plants. Fisheries Within 4- Mile Radius and Surrounding Area. (Map Source: SDE Feature Dataset, Animal Conservation Database. Idaho GIS ArcSDE 9.2 Geodatabase)

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## References

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