ABBREVIATED PRELIMINARY ASSESMENT

LONGSHOT MINE AND MILLSITE



Colville National Forest
Three Rivers Ranger District
Stevens County, WA

September, 2003

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EXECUTIVE SUMMARY

The Forest Service performed an Abbreviated Preliminary Assessment for the Longshot Mine and Millsite (Site) to determine the need for further site characterization. The Site is located on a small tributary of the South Fork of Mill Creek approximately 11 miles northeast of Colville, WA. The Site lies on lands managed and administered by the Three Rivers Ranger District of the Colville National Forest. The Site is situated on gentle to moderate side slopes with elevations ranging from 3,480 ft. above mean sea level (MSL) at the tailings impoundment to 3,640 ft. above MSL at the upper mine workings.

Soil samples were collected, from an ore bin at the mill and tailings impoundment, for bench testing using a Niton XRF unit. Water and sediment samples were not collected as part of this investigation.

Lead was the only constituent of concern that exceeded EPA Region IX Preliminary Remediation Goals (PRGs) as to acceptable industrial levels in soil.

Based on the lead concentrations at the millsite and tailings impoundment, it is recommended that a Site Inspection (SI) be performed.

1.0 INTRODUCTION

An Abbreviated Preliminary Assessment (APA) was performed by the US Forest Service in accordance with the EPA "Guidance for Performing Preliminary Assessments Under CERCLA", EPA "Improving Site Assessment: Abbreviated Preliminary Assessments" of 1999, the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980, the Superfund Amendments and Reauthorization Act (SARA) of 1986, and the National Contingency Plan as outlined in 40 CFR Parts 300.410(c)(1)(i-v).

The purpose of this assessment was to determine whether or not there is a potential for a release of contaminants to the environment and/or to human health. The purpose of an APA is to determine whether further site characterization is warranted. A Niton XRF 700 Series was utilized to help in the preliminary screening of this Site.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

The Longshot Mine and Millsite is located approximately 11 miles northeast of Colville, WA on the Three Rivers Ranger District of the Colville National Forest. The Site is adjacent to a small tributary of the South Fork of Mill Creek and falls within the Colville Mining District.

Location information:

Lat./Long.:	N 48° 37' 18" W 117° 41' 27"
Legal:	Willamette Meridian, T 36 N, R 41 E, Section 18, E ½
USGS quadrangle:	Park Rapids

Huntting (1956) reported that 3 unpatented claims, owned by Robert Ferguson and George Watson of Spokane, WA, covered the Site from 1942 to 1952. The property was leased to Pioneer Mining Co. from 1951 to the time of Huntting's publication in 1956.

Moen (1976) reported that development at the Site consisted of a 600-foot long crosscut adit with several hundred feet of drifts, raises, and stopes. A 40 ton-per-day mill was constructed on the property in 1951 (Huntting, 1956). Moen (1976) reported that 246 tons of ore was produced from the Longshot Mine in 1951 and 1952 yielding 16,330 pounds lead, 20,581 pounds zinc, 5,094 ounces silver, 3 ounces gold. The U.S. Bureau of Mines (1993) reported 1,750 tons of production for 1951 through 1955.

The primary ore minerals at the Site are galena, sphalerite, tetrahedrite, and scheelite; gangue minerals include shattered limestone wall rock and tourmaline (Derkey and others, 1990). The host rock for the mineralization is a limy bed within argillite and phyllite overlain by volcanics.

The Site was visited on July 16, 2002. The main adit at the Site is open and did have water discharging (≈5 gpm) at the time of inspection. An upper adit is open at the portal as well and leads to a stoped out area that is open to the surface. The open stope poses a significant health and safety hazard to the general public recreating at the Site. Waste rock was piled along the access road to the mine away from the mine adits. The remains of the mill and unprocessed ore are just southeast of the main adit. Below the mill, a series of small tailings impoundments are located in and adjacent to an ephemeral drainage. A small impounded pond is located beneath the lowermost tailings impoundment. There are remains of other structures in the area.

Access to the Site can be accomplished from Colville, WA by proceeding east on State Highway 20, then proceeding north, then northeast on County 9435 (Aladdin Road). At Threeforks, proceed east on County 4954, which follows the South Fork of Mill Creek, for approximately 4 miles to Forest Service Spur Road 150. Turn north on the 150 Spur and proceed just over a mile to the end of the road where the mine is located.

Currently, the Site is inactive and unclaimed.

3.0 SITE SAMPLING AND TEST RESULTS

Soil Samples

A Niton XRF, XL-722S was used to assess material from an ore bin at the millsite and the tailings impoundment for potential contamination. Soil samples were collected for bench testing per EPA Method 6200. Surface soils were removed to approximately 4 to 6 inches below grade in order to get below highly oxidized surface layers. Rocks, debris and other deleterious materials were removed. Samples were then collected, bagged, and labeled. Samples were later dried and prepared for bench testing using the Niton XRF. The results from this effort are provided below.

The following constituents exceeded EPA Region IX PRG industrial levels:

Location	Constituent	Result (mg/kg)	PRG (mg/kg)
Ore bin at millsite	Lead	44,300	750
Tailings impoundment	Lead	1,390	750

4.0 SUMMARY

The material around the mill foundation and tailings impoundment is contaminated. Lead concentrations of 1,390 to 44,300 mg/kg exceed EPA Region IX PRGs for industrial soils of 750 mg/kg.

5.0 RECOMMENDATION

Based on the sampling and bench testing of material from an ore bin at the millsite and the tailings impoundment with the Niton XRF unit and EPA's APA Checklist (Appendix A), it is recommended that a Site Inspection (SI) be completed. As part of this inspection, a thorough study of the area to determine the extent of contamination is warranted as well as sampling water from pore spaces of the stream gravels immediately above and below the Site. Sampling of the benthic macroinvertebrates are also required. In addition to testing water samples from the pore spaces of the gravels for the presence of metallic elements, water parameters such as pH, conductivity, turbidity, dissolved oxygen, temperature, total dissolved solids, hardness, and oxygen reduction potential are required. The area should be sampled to determine the presence of waste material and tailings, and if present, the potential waste piles and tailings should be sampled at depth and a determination of volumes should be calculated. Acid base accounting (ABA) is required if waste material is present besides what had been observed during this assessment. Sediment samples are to be collected from transects of the stream and preferably at depth and analyzed for total as well as for available metals. Surface water samples are also required for analyses of both total and dissolved metal concentrations in the South Fork of Mill Creek as well as in any other seeps and/or tributaries that may be present in the vicinity of the Longshot Mine and Millsite.

Appendix B contains additional photos of the Site.

REFERENCES

Derkey, R.E., Joseph, N.L., and Lasmanis, R., 1990, Metal mines of Washington-preliminary report: Washington Department of Natural Resources, Division of Geology and Earth Resources Open File Report 90-18. 577 p.

Huntting, M.T., 1956, Inventory of Washington minerals – Part II, Metallic minerals: Washington Division of Mines and Geology Bulletin No. 37, v. 1, 428 p.

Moen, W.S., 1976, Silver occurrences of Washington: Washington Department of Natural Resources, Division of Geology and Earth Resources Bulletin No. 69, 188 p.

U.S. Bureau of Mines, 1993, Identification and preliminary assessment of mineral properties for hazard potential on U.S. Forest Service Lands of Region 6 in Washington state: unpublished report to U.S. Forest Service, February 1, 1993.

Appendix A

ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

ABBREVIATED PRELIMINARY ASSESSMENT CHECKLIST

This checklist can be used to help the site investigator determine if an Abbreviated Preliminary Assessment (APA) is warranted. This checklist should document the rationale for the decision on whether further steps in the site assessment process are required under CERCLA. Use additional sheets, if necessary.

Checklist Preparer: Greg Graham, Geologist *for*
Dennis Boles, Environmental Engineer — September 29, 2003
(Name/Title) (Date)

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Site Name: Longshot Mine and Millsite

Previous Names (if any): Newland, Pioneer

Site Location: The Site is located approximately 11 miles northeast of Colville, WA off of Stevens County Road 4954 at the end of Forest Service Spur Road 150.

Legal Description: Willamette Meridian, T 36 N, R 41 E, Section 18, E ½

Lat./Long. N 48° 37' 18" W 117° 41' 27"

Describe the release (or potential release) and its probable nature: The material around the mill foundation and tailings impoundment is contaminated. Lead concentrations of 1,390 to 44,300 mg/kg exceed EPA Region IX PRGs for industrial soils of 750 mg/kg.

Part 1 - Superfund Eligibility Evaluation

If All answers are "no" go on to Part 2, otherwise proceed to Part 3	YES	NO
1. Is the site currently in CERCLIS or an "alias" of another site?		X
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		X
3. Are the hazardous substances potentially released at the site regulated under a statutory exclusion (i.e., 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)?		X
4. Are the hazardous substances potentially released at the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		X
5. Is there sufficient documentation to demonstrate that no potential for a release that could cause adverse environmental or human health impacts exist (i.e., comprehensive remedial investigation equivalent data showing no release above ARAR's, completed removal action, documentation showing that no hazardous substance release have occurred, or an EPA approved risk assessment completed)?		X

Please explain all "yes" answer(s). _____

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.

If the answer is "no" to any questions 1, 2, or 3, proceed directly to Part 3.	**YES**	**NO**
1. Does the site have a release or a potential to release?	**X**	
2. Does the site have uncontained sources containing CERCLA eligible substances?	**X**	
3. Does the site have documented on-site, adjacent, or nearby targets?	**X**	

If the answers to questions 1, 2, and 3 above were all "yes" then answer the questions below before proceeding to Part 3.	**YES**	**NO**
4. Does documentation indicate that a target (i.e., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		**X**
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?	**X**	
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (i.e., targets within 1 mile)?	**X**	
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?	**X**	

Notes:

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. You will 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.

Suspected/Documented Site Conditions		**APA**	**FULL PA**	**PA/SI**	**SI**
1. There are no releases or potential to release.		Yes	No	No	**No**
2. No uncontained sources with CERCLA-eligible substances are present on site.		Yes	No	No	**No**
3. There are no on-site, adjacent, or nearby targets		Yes	No	No	**No**
4. There is documentation indicating that a target (i.e., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site.	Option 1: APA SI	Yes	No	No	Yes
	Option 2: PA/SI	No	No	Yes	**No**
5. There is an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site.	Option 1: APA SI	Yes	No	No	**Yes**
	Option 2: PA/SI	No	No	Yes	N/A
6. There is an apparent release and no documented on-site targets and no documented immediately adjacent to the site, but there are nearby targets. Nearby targets are those targets that are located within 1 mile of the site and have a relatively high likelihood of exposure to a hazardous substance migrating from the site.		No	Yes	No	**No**
7. There is 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.		No	Yes	No	**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 "NFRAP" 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:

( ) NFRAP
(X) Higher Priority SI
( ) Lower Priority SI
( ) Defer to RCRA Subtitle C
( ) Defer to NRC
( ) Refer to Removal Program – further site assessment needed
( ) Refer to Removal Program – NFRAP
( ) Site is being addressed as part of another CERCLIS site
( ) Other: _____

Regional EPA Reviewer: N/A _____ _____
Print Name/Signature Date

PLEASE EXPLAIN THE RATIONALE FOR YOUR DECISION:

The material around the mill foundation and tailings impoundment is contaminated. Lead concentrations of 1,390 to 44,300 mg/kg exceed EPA Region IX PRGs for industrial soils of 750 mg/kg.

NOTES:

A four-wheel drive vehicle is recommended for 150 Spur which access the Site. The access road is in fair condition but may require some downed tree and brush removal to drive all the way to the Site.

Appendix B

ADDITIONAL SITE PHOTOS



Photo 1. Remains of the Longshot mill, view to the southwest (photo by R. Lentz, 7/16/2002).