ABBREVIATED PRELIMINARY ASSESMENT

GRANITE CREEK MINE #7

Wallowa-Whitman National Forest
Grant County, OR

August 2006

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EXECUTIVE SUMMARY

The United States Department of Agriculture, Forest Service (Forest Service) performed an Abbreviated Preliminary Assessment for the Granite Creek Mine #7 (Site) to determine the need for further site characterization. The actual name for the mine is unknown. The Site is located approximately 4.2 aerial miles north of Granite, Oregon off County Road 73, then by Forest Service Road 680, which is closed. The Site is situated on moderately steep side slopes at an elevation of 5520 feet above mean sea level.

The site consists of a collapsed adit and approximately 700cy of wasterock material, which is adjacent to Granite Creek. There are numerous trenches and apparent hydraulic mining in the area as well as possible historic dredging operations. No water was observed coming from the adit.

A Niton XLt, 700 Series unit was used for In Situ screening of wasterock and tailings material. Water and sediment samples were not collected as part of this investigation.

Most metals detected at the site exceeded screening criteria for bird, invertebrate, or plants. Of these, only arsenic (79.0 mg/kg) exceeded EPA Region IX Preliminary Remediation Goals for industrial screening levels of 1.6 mg/kg. In general, based upon human health and ecological risk assessments conducted at other mine sites throughout Oregon, arsenic would not be considered a risk for this Site. For example, risk assessments at other mine sites have shown arsenic levels generally less than 85 mg/kg do not pose serious risk to human health and the environment and anything above this level would require a removal action. However, since the wasterock material is situated adjacent to Granite Creek, additional assessment should be conducted at the site.

Since the wasterock forms part of the embankment and obvious erosion of material is entering Granite Creek during rain and snowmelt events, scouring of the wasterock by Granite Creek, and because arsenic has been identified in Granite Creek as exceeding Oregon Department of Environmental Quality freshwater screening criteria (EA Site Inspection, 2004), this Site has been given a High Priority for conducting additional assessment work. Should a removal action be necessary, careful consideration should be taken in the effort needed to gain access to the site versus the benefit of a removal action. Approximately 1.0 miles of road reconstruction would be required. If removal actions are necessary for Tillicum and Cap Martin Mines, then removal of material at this site would be recommended.

1.0 INTRODUCTION

An Abbreviated Preliminary Assessment (APA) was performed by the United States Department of Agriculture, Forest Service (Forest Service) in accordance with:

- EPA "Guidance for Performing Preliminary Assessments Under CERCLA",
- EPA "Improving Site Assessment: Abbreviated Preliminary Assessments" of 1999,
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980,
- Superfund Amendments and Reauthorization Act (SARA) of 1986,
- National Contingency Plan as outlined in 40 CFR Parts 300.410I(1)(i-v).

The purpose:

- Determine whether or not there is a potential for a release of contaminants to the environment and/or to human health.
- Document whether further site characterization is warranted.

A Niton XLt 700 Series was utilized to help in the preliminary screening of this Site.

2.0 SITE DESCRIPTION, OPERATIONAL HISTORY, AND WASTE CHARACTERISTICS

The Granite Creek Mine #7, given this name because the exact name is unknown, (Site) is located:

- Approximately 4.2 aerial miles north of Granite, OR.
- Located at an elevation of 5520 feet above mean sea level (MSL).
- Via County Road 73, then by Forest Service Road 680 which is closed.
- On National Forest System lands administered and managed by the Wallowa-Whitman National Forest.

Location:

- Lat./Long 44° 51' 29.1"N/118° 22' 28.6"W
- Legal: Willamette Meridian, T8S, R35.5E, S24
- USGS quadrangle: Mount Ireland. Plate 1, Appendix C
- Mining District: Granite

The Site consists of:

- Collapsed adit and approximately 700cy of wasterock.
  - Wasterock material adjacent to Granite Creek
  - There is no water discharge from the adit.
  - Numerous workings in the area. Appears the stream had been dredged.
- Difficult site to access.
  - Approximately 1.0 miles of road reconstruction would be required to gain access.
    - Numerous drainages to cross and road blowouts.
    - If a removal is required on the Tillicum and Cap Martin mines, then the road issue becomes a moot point.

Historical Information

- Unknown.

Currently, the mine is inactive.

3.0 SITE SAMPLING AND TEST RESULTS

A Niton XLt, 700 Series was used to assess the material from the wasterock dump for potential contamination.

- In Situ testing was performed 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 and to create a flat surface to place the Niton.
- Rocks, debris and other deleterious materials were removed.

Refer to Appendix A for a listing of elements that were detected as well as those that exceeded any regulatory requirements.

4.0 REMOVAL ACTION JUSTIFICATION

The NCP states that an appropriate removal action may be conducted at a site when a threat to human health or welfare or the environment is identified.

- The removal action is undertaken to abate, prevent, minimize, stabilize, mitigate, or eliminate the release or the threat of a release at a site.
- Section 300.415(b)(2)(i-viii) of the NCP outlines eight factors to be considered when determining the appropriateness of a removal action.
- The applicable factors are outlined below and provide justification for completing the removal action, if required.

Factor	Site Condition	Justification
1) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants	Arsenic, see Appendix A	Yes
2) Actual or potential contamination of drinking water supplies or sensitive ecosystems	Granite Creek	Yes
3) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release.	None located at the site.	No
4) High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate	Arsenic	Yes
5) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released	Heavy rain or rain on snow events and bank scour by Granite Creek	Yes
6) Threat of fire or other explosion	None	No
7) The availability of other appropriate federal or state response mechanisms to respond to the release	N/A	No
8) Other situations or factors that may pose threats to public health or welfare of the United States or the environment	None	No

5.0 SUMMARY

Most metals detected at the site exceeded screening criteria for bird, invertebrate, or plants. Of these, only arsenic (59.7 mg/kg) exceeded EPA Region IX Preliminary Remediation Goals for industrial screening levels of 1.6 mg/kg.

- Based upon human health and ecological risk assessments conducted at other mine sites throughout Oregon, arsenic would not be considered a risk for this Site.
    - For example, risk assessments at other mine sites have shown arsenic levels generally less than 85 mg/kg do not pose serious risk to human health and the environment and anything above this level would require a removal action.
    - However, since the wasterock material is situated adjacent to Granite Creek, additional assessment should be conducted at the site.

6.0 RECOMMENDATION

Since the wasterock forms part of the embankment and obvious erosion of material is entering Granite Creek during rain and snowmelt events, scouring of the wasterock by Granite Creek, and because arsenic has been identified in Granite Creek as exceeding Oregon Department of Environmental Quality freshwater screening criteria (EA Site Inspection, 2004), this Site has been given a High Priority for conducting additional assessment work. Should a removal action be necessary, careful consideration should be taken in the effort needed to gain access to the site versus the benefit of a removal action. Approximately 1.0 miles of road reconstruction would be required. If removal actions are necessary for Tillicum and Cap Martin Mines, then removal of material at this site would be recommended.

Appendix D contains additional photos of the Site.

7.0 DISCLAIMER

This abandoned mine/mill site was created under the General Mining Law of 1872 and is located solely on National Forest System (NFS) lands administered by the Forest Service. The United States has taken the position and courts have held that the United States is not liable as an "owner" under CERCLA Section 107 for mine contamination left behind on NFS lands by miners operating under the 1872 Mining Law. Therefore, Forest Service believes that this site should not be considered a "federal facility" within the meaning of CERCLA Section 120 and should not be listed on the Federal Agency Hazardous Waste Compliance Docket. Instead, this site should be included on EPA's CERCLIS database. Consistent with the June 24, 2003 OECA/FFEO "Policy on Listing Mixed Ownership Mine or Mill Sites Created as a Result of the General Mining Law of 1872 on the Federal Agency Hazardous Waste Compliance Docket," we respectfully request that the EPA Regional Docket Coordinator consult with the Forest Service and EPA Headquarters before making a determination to include this site on the Federal Agency Hazardous Waste Compliance Docket.

REFERENCES

Brooks, Howard C., 1968; *Gold and Silver in Oregon*; Oregon Department of Geology and Mineral Industries; Bulletin 61.

http://www.topozone.com

EA Engineering, 2004; *Granite Creek Mines Site Inspection*

Appendix A

NITON ANALYTICAL RESULTS

SAMPLE LOCATION	TEST RESULTS Element	mg/kg	STATE GUIDELINES Receptor	mg/kg	EPA Standard	mg/kg
Sample #1 Wasterock	Arsenic	79	Plants	**8.0**	Industrial	**1.6**
	Chromium	87.9	Invertebrates	**0.4**	Industrial	450
	Copper	60.2	Invertebrates	**50.0**	Industrial	41,000
	Iron	16,501	Plants	**10.0**	Industrial	100,000
	Lead	23.1	Birds	**16.0**	Industrial	750
	Manganese	773	Invertebrates	**100.0**	Industrial	19,000
	Mercury	1.01	Invertebrates	**0.1**	Industrial	310
	Nickel	26.2	Plants	30.0	Industrial	20,000
	Selenium	3.65	Plants	**1.0**	Industrial	5,100
	Zinc	74	Plants	**50.0**	Industrial	100,000

Appendix B

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:

Dennis Boles, Environmental Engineer — August 23, 2006
(Name/Title) — (Date)

Ochoco NF, 3160 NE 3rd St, Prineville, OR 97754 — 541.923.0393
(Address) — (Phone)

djboles@fs.fed.us
(E-Mail Address)

Site Name: Granite Creek Mine #7

Previous Names: N/A

Site Location: The Site is located approximately 4.2 aerial miles north of Granite, OR.

Legal Description: Willamette Meridian, T8S, R35.5W, S24

Describe the release (or potential release) and its probable nature: Arsenic would be a concern as the wasterock is situated adjacent to Granite Creek

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 ARARs, 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**	**SI**
1. There are no releases or potential to release.		True	**False**
2. No uncontained sources with CERCLA -eligible substances are present on site.		True	**False**
3. There are no on-site, adjacent, or nearby targets		True	False
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	True	True
	Option 2: SI	False	**False**
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	True	True
	Option 2: SI	**False**	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.		**False**	True
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.		False	**True**

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:

High Priority Sites:

1. Water discharge from adit and/or wasterock/tailings material, and
2. Wasterock adjacent to surface water sources, and
3. Sensitive fishery habitat, and
4. May or may not be readily accessible by the general public.

Medium Priority Sites:

1. No water discharge from adit or wasterock/tailings material, and
2. There is surface water in the area, but not immediately adjacent to the Site, and
3. Easily accessible by the general public.

Low Priority Sites:

1. No water discharge from the adit or wasterock/tailings material, and
2. No surface water in the area, and
3. Not easily accessible to the general public.

Based upon the information provided in the APA and the above criteria, this site has been given a High Priority for further evaluation.

Appendix C

Quadrangle

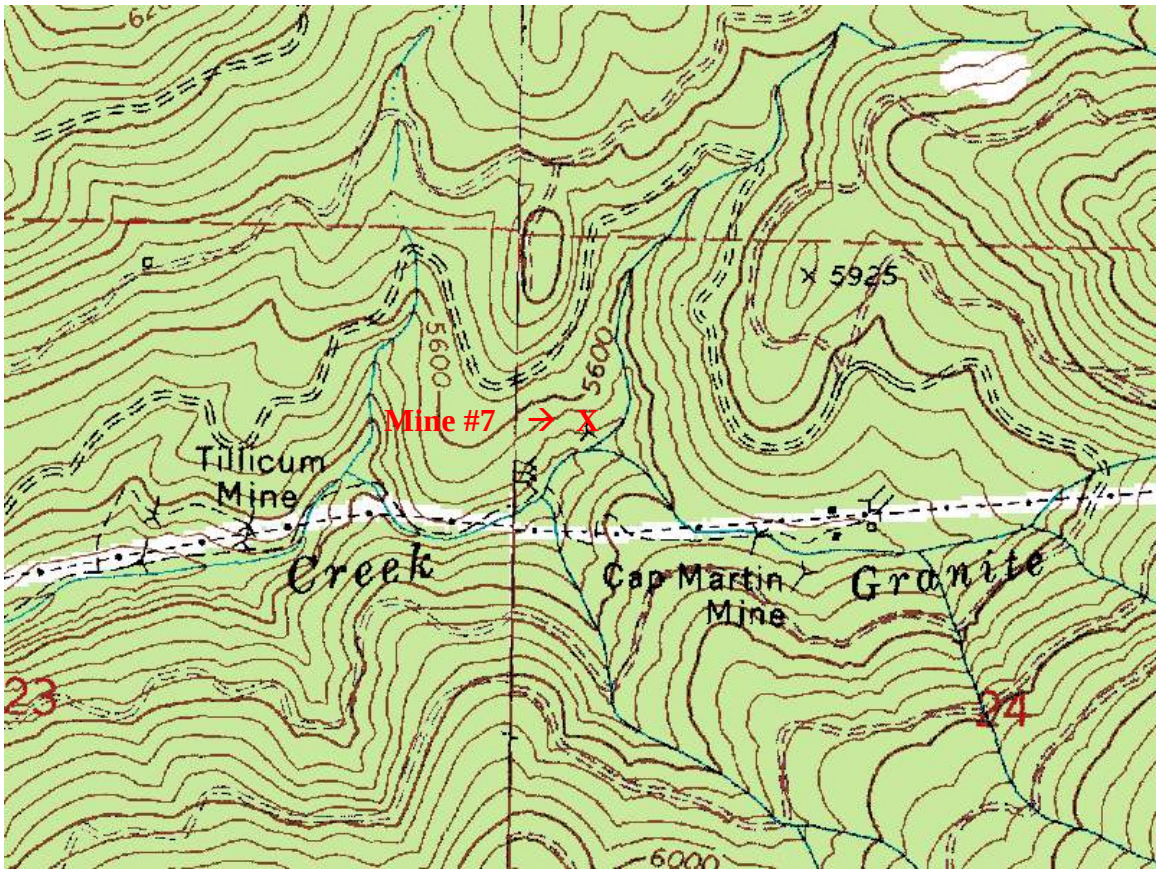

Plate 1. Granite Quadrangle showing the location of the Granite Creek Mine #7.