# *ABBREVIATED PRELIMINARY ASSESSMENT*

# *CAP MARTIN COMPLEX*

Wallowa-Whitman National Forest
Grant County, OR

August 2006

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## APPENDICES

## EXECUTIVE SUMMARY

The United States Department of Agriculture, Forest Service (Forest Service) performed an Abbreviated Preliminary Assessment for the Cap Martin Complex to determine the need for further site characterization. The Site is located approximately 4.5 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 5660 feet above mean sea level.

The site consists of four collapsed adits, of which one has water discharge; approximately 6000 to 8,000cy total, of wasterock material exist at the Site, which at least 500cy is adjacent to Granite Creek. There are numerous trenches and apparent hydraulic mining in the area as well as possible historic dredging operations. There is an old log cabin and a collapsed apparent cabin at the Site.

A Niton XLt, 700 S 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 (60.0 to 105.6 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 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.

Laboratory results from soils collected during the Site Inspection (SI) conducted by EA Engineering (2004), showed arsenic levels ranging from 6.3 to 198 mg/kg. However, the SI only references two adits at the site. Therefore, considering the extent of land disturbance, wetlands as well as Granite Creek running through or adjacent to many of these workings, this Site has been given a High Priority for further assessment, especially since the 2004 SI has been found to be lacking. Arsenic was identified in Granite Creek as exceeding Oregon Department of Environmental Quality freshwater screening criteria (EA Site Inspection, 2004). Should a removal action be necessary, careful consideration should be given in the effort needed to gain access to the site versus the benefit of a removal action. Approximately 1.5 miles of road reconstruction would be required.

## 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 Cap Martin Complex (Site) is located:

- Approximately 4.5 aerial miles north of Granite, OR.
- 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: Adit #1 44° 51' 23"N/118° 22' 13.1"W
- Elevation: 5635 feet above MSL

- Lat/Long: Adit #2 44° 51' 24"N/118° 22' 14.6"W
- Elevation: 5630 feet above MSL

- Lat/Long: Adit #3 44° 51' 26.6"N/118° 22' 06.3"W
- Elevation: 5675 feet above MSL

- Lat/Long: Adit #4 44° 51' 25.5"N/118° 22' 05.1"W
- Elevation: 5660 feet above MSL

- Legal: Willamette Meridian, T8S, R35.5E, S24
- USGS quadrangle: Mount Ireland. Plate 1, Appendix C
- Mining District: Granite

The Site consists of:

- Adit #1
    - Water discharge from collapsed adit.
        - Visually, does not appear impacted.
    - Marshy area between mine and Granite Creek.

        - No signs of distressed vegetation.
    - Water in this area does drain to Granite Creek.
    - Wasterock material could not be located.
        - Either it is within the marshy area, or
        - Part of a logging road that was built post mining operations.
- Adit #2
    - No water discharge from the adit.
    - Marshy area associated with Adit #1 reaches the toe of the wasterock pile on the north side and then drains into Granite Creek
    - Approximately 500cy of wasterock.
        - Wasterock extends to the edge of Granite Creek.
- Adit #3
    - Large collapsed adit.
    - Volume of wasterock in the area difficult to determine because of the amount of disturbance. As an approximation – 6000cy.
    - There may be a second adit above this one.
    - Numerous dozer cuts and possible hydraulic mining.
    - Water discharge was not observed in the area.
- Adit #4
    - A large pit exists. Upon closer examination, appears to be a collapsed shaft.
        - A drift or crosscut extends from the area of the shaft. See Photo 6, Appendix C.
    - The area has been heavily disturbed by dozer cuts and what appears to be hydraulic mining.
    - Granite Creek appears to have been dredged.
    - Numerous seeps were observed coming from disturbed areas.
    - Surface disturbances extend to the edge of Granite Creek.
    - Approximately 1000cy or more of potential wasterock in the area.
- A log house and collapsed cabin.

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 (60.0 to 105.6 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 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.

## 6.0 RECOMMENDATION

Laboratory results from soils collected during the Site Inspection (SI) conducted by EA Engineering (2004) showed arsenic levels ranging from 6.3 to 198 mg/kg. However, the SI only references two adits at the site. Therefore, considering the extent of land disturbance, wetlands as well as Granite Creek running through or adjacent to many of these workings, this Site has been given a High Priority for further assessment, especially since the 2004 SI has been found to be lacking. Arsenic was identified in Granite Creek as exceeding Oregon Department of Environmental Quality freshwater screening criteria (EA Site Inspection, 2004). Should a removal action be necessary, careful consideration should be given in the effort needed to gain access to the site versus the benefit of a removal action. Approximately 1.5 miles of road reconstruction would be required.

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 | 100.6 | Plants | **8.0** | Industrial | **1.6** |
| by Adit #4 shaft | Chromium | 30.9 | Invertebrates | **0.4** | Industrial | 450 |
| | Copper | 7.56 | Invertebrates | 50.0 | Industrial | 41,000 |
| | Iron | 13,802 | Plants | **10.0** | Industrial | 100,000 |
| | Lead | 10.16 | Birds | 16.0 | Industrial | 750 |
| | Manganese | 36.6 | Invertebrates | 100.0 | Industrial | 19,000 |
| | Mercury | 5.89 | Invertebrates | **0.1** | Industrial | 310 |
| | Nickel | 20.7 | Plants | 30.0 | Industrial | 20,000 |
| | Selenium | 0.81 | Plants | 1.0 | Industrial | 5,100 |
| | Zinc | 45 | Plants | 50.0 | Industrial | 100,000 |
| | | | | | | |
| Sample #2 Wasterock | Arsenic | 60 | Plants | **8.0** | Industrial | **1.6** |
| in area of Adit #4 | Chromium | 7.75 | Invertebrates | **0.4** | Industrial | 450 |
| | Copper | 3.98 | Invertebrates | 50.0 | Industrial | 41,000 |
| | Iron | 32,308 | Plants | **10.0** | Industrial | 100,000 |
| | Lead | 10.66 | Birds | 16.0 | Industrial | 750 |
| | Manganese | 837 | Invertebrates | **100.0** | Industrial | 19,000 |
| | Mercury | 3.6 | Invertebrates | **0.1** | Industrial | 310 |
| | Nickel | 93.6 | Plants | **30.0** | Industrial | 20,000 |
| | Selenium | 3.6 | Plants | **1.0** | Industrial | 5,100 |
| | Zinc | 50.7 | Plants | **50.0** | Industrial | 100,000 |
| | | | | | | |
| Sample #3 Wasterock | Arsenic | 105.6 | Plants | **8.0** | Industrial | **1.6** |
| by Adit #2 | Chromium | 74.8 | Invertebrates | **0.4** | Industrial | 450 |
| | Copper | 8.25 | Invertebrates | 50.0 | Industrial | 41,000 |
| | Iron | 24,297 | Plants | **10.0** | Industrial | 100,000 |
| | Lead | 24.51 | Birds | **16.0** | Industrial | 750 |
| | Manganese | 441 | Invertebrates | **100.0** | Industrial | 19,000 |
| | Mercury | 2.54 | Invertebrates | **0.1** | Industrial | 310 |
| | Nickel | 39.8 | Plants | **30.0** | Industrial | 20,000 |
| | Zinc | 67.7 | 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)

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(E-Mail Address)


**Site Name:** Cap Martin Complex

**Previous Names:** N/A

**Site Location:** The Site is located approximately 4.5 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

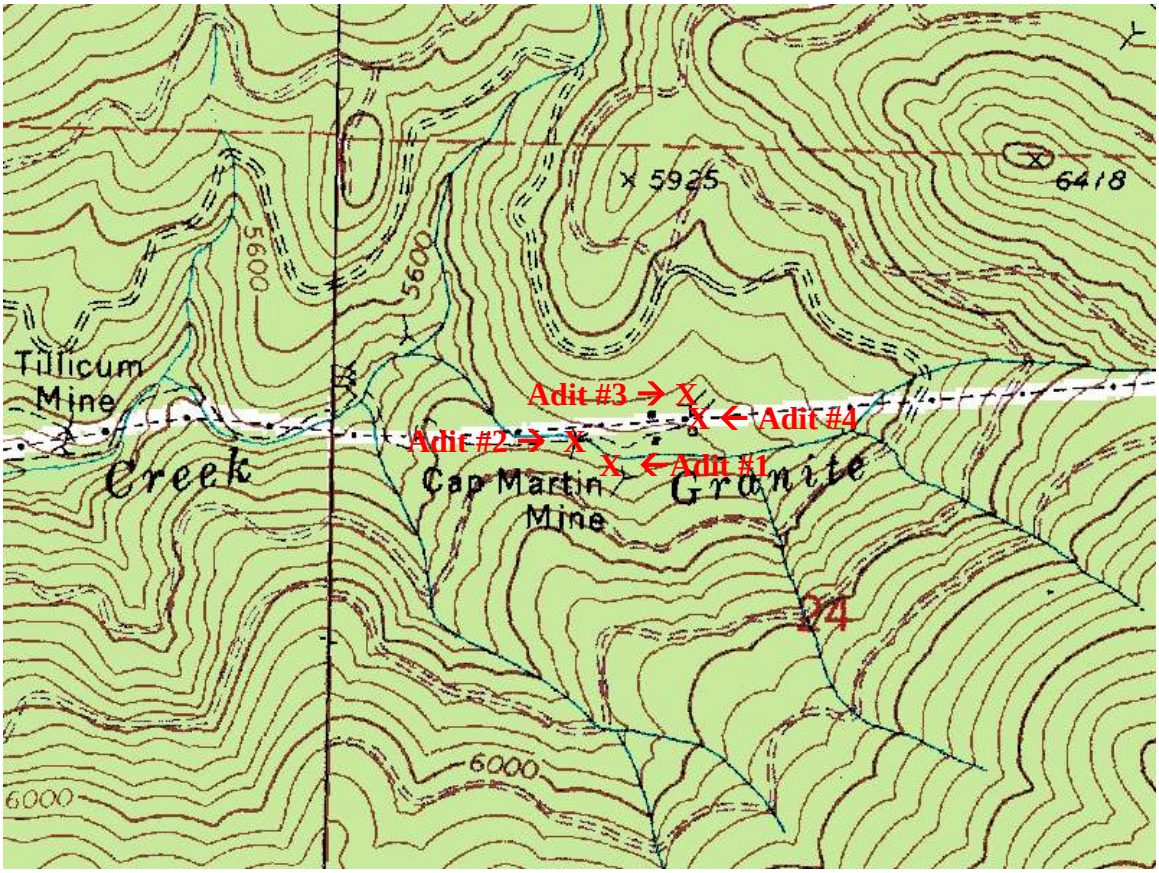


Plate 1. Granite Quadrangle showing the location of the Cap Martin Complex.

# Appendix D

## Site Photos

Photo 1. Location of Adit #1. (Photo by D. Boles)

Photo 2. Location of Adit #2. (Photo by D. Boles)

Photo 3. Wasterock at Adit #2 extending to edge of Granite Creek.
(Photo by D. Boles)

Photo 4. Location of Adit #3. (Photo by D. Boles)

Photo 5. Large pit. Appears to have been a shaft with a drift or crosscut, See Photo 6. (Photo by D. Boles)

Photo 6. About a 3’ diameter hole leading to what appears to be a drift or crosscut coming from the possible shaft as shown in Photo 5. (Photo by D. Boles)

Photo 7. Backside of log cabin as shown on the cover page. (Photo by D. Boles)

Photo 8. Remains of possible cabin. (Photo by D. Boles)