



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

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

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

March 28, 2012

Mr. Ken Marcy  
U.S. Environmental Protection Agency  
12928 SW 276<sup>th</sup> Street  
Vashon, WA 98070

RE: Abbreviated Preliminary Assessment Report for the Gnome Mine and Mill Site,  
Idaho County, Idaho.

Dear Mr. Marcy:

Attached is an Abbreviated Preliminary Assessment (APA) for the Gnome Mine and Mill Site near Orogrande, Idaho. The Idaho Department of Environmental Quality (DEQ) made several attempts to request access from the landowners of the Gnome Mine and Mill Site, but permission was never granted.

The Gnome Mine and Mill Site was investigated by the Idaho Geological Survey (IGS) in 2000. IGS observed the following:

*The Gnome Mine site consists of a collapsed and reclaimed adit, a mill foundation, and a tailings disposal area. The Gnome townsite is approximately 0.2 mile north of the mine. The area around the adit has been completely reclaimed, and the exact location of the opening is unknown. The reclaimed area covers approximately one acre. The tailings disposal area is just east of Crooked River along a gated road leading to the Gnome adit. The tailings cover an area approximately 30 feet by 30 feet by 5 feet thick. The total disturbed area at the Gnome Mine is 2-3 acres. There are several standing buildings, as well as several collapsed building, at the Gnome townsite.*

IGS collected a sample in the tailings disposal area and the following conclusions were made:

*Tailings sample E7029906 is above background and environmental levels for arsenic, cadmium, copper, iron, zinc, and lead in the element screen. In the TCLP for metals test, no elements of concern are leaching at a significant rate.*

*An examination of other soil samples taken from mines in the same geology and vicinity show similar elevated metals concentrations. These values are not remarkable and it is unlikely any human health risks or ecological health risks are associated with this area.*

As a result of the above information, **DEQ is recommending the Gnome Mine and Mill Site be designated as No Remedial Action Planned (NRAP).**

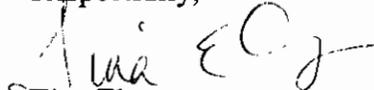
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A link to DEQ's Gnome Mine and Mill Site APA can also be found on DEQ's Mining Preliminary Assessment Web page at:

<http://www.deq.idaho.gov/waste-mgmt-remediation/remediation-activities/mining-preliminary-assessments.aspx>

If you have any questions about this site, the report, or DEQ's recommendations, please do not hesitate to call me at (208) 373-0563.

Respectfully,

  
Tina Elayer  
Mine Waste Specialist

attachment

cc: Clint Hughes – USFS  
Scott Sanner – BLM  
Gnome Mine and Mill Site File

## ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) for the Gnome Mine and Mill Site near Orogrande, 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 Gnome Mine and Mill Site. The information to produce this document was taken from the 2003 Idaho Geological Survey (IGS) report. A map generated during desktop research is attached.

**Preparer:** Daniel D. Stewart **Date:** 3/20/12  
Idaho Department of Environmental Quality  
300 W. Main  
Grangeville, ID 83530  
(208) 983-0808  
daniel.stewart@deq.idaho.gov

**Site Name:** Gnome Mine and Mill Site

**Previous Names (aka):** Gnome Mine (International), Prince Group, Prince, Riverside Fraction

**Site Owners:** Robert Sockolich  
Jerry Coppernoll  
**Address:** PO Box 312  
Cottonwood, ID 83522

**Site Owner:** Douglas Stephen  
**Address:** 35465 Harper Road  
Woodfield, OH 43793

**Site Location:** From IGS 2003:  
*Access to the site is from County Road 233 (the Crooked River Road) approximately 8.4 miles south from the junction with State Highway 14. The Gnome townsite is 0.2 miles north of the mine and mill. The mine is 400 feet east of the main road, and the mill is between the adit and the townsite. The mine and mill are on private property.*

Township 28 North, Range 8 East, Section 30

**Latitude:** 45.74062°N **Longitude:** -115.51954°W

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

DEQ was unable to access the property after various attempts to contact the property owner were unsuccessful.

The Gnome Mine and Mill Site was investigated by IGS on June 2, 1999. IGS reported the area around and including the adit had been reclaimed. The exact location of the adit opening is unknown. No safety issues exist on the site.

A soil sample was taken and analyzed. An examination of other soil samples taken from mines in the same geology and vicinity show similar elevated metals concentrations. These values are not remarkable and it is unlikely any human health risks or ecological health risks are associated with this area.

The IGS report contained no information indicating any environmental concerns were observed or documented. This would indicate no potential releases of heavy metals by airborne means or surface and ground water existed which would cause any human health risks or ecological health risks. Additionally, potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals would have been investigated.

**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?		<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 by IGS involving direct observations confirmed that contaminants of concern including hazardous materials and petroleum products were not reported in concentrations that present a threat to human health or the environment. No contaminants or hazardous substances remain on the site. No surface water, ground water or airborne pathways were detected. No homes or cabins exist on the claim.

**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:**

It is unlikely any human health risks or ecological health risks are associated with this mine site. No surface water, ground water or airborne pathways were reported by IGS. No homes or cabins exist on the claim. The adit has been reclaimed and IGS was unable to locate it. A soil sample was taken and analyzed showing unremarkable results similar to other mines in the immediate vicinity.

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. <b>YES</b>		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) <b>YES</b>		Yes			
3. On-site, adjacent, or nearby receptors are not present. <b>YES</b>		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). <b>YES</b>	Option 1: APA	Yes			
5. There is documentation that a sensitive receptor has been exposed to a hazardous substance released from the site. <b>NO</b>	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. <b>NO</b>	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. <b>YES</b>		Yes			
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. <b>NO</b>		Yes			

**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:**

*[Handwritten Signature]*  
 Daniel D. Stewart

*[Handwritten Date]*  
 Date 3/27/12

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

The 2003 IGS report indicated no areas of concern were found. No homes or cabins exist on the site. No pathways exist relative to human health risks or environmental risks. IGS did not indicate any hazardous or deleterious materials on site. A soil sample taken indicated elevated levels of arsenic, cadmium, copper, iron, zinc, and lead in the element screen. In the TCLP for metals test, no elements of concern are leaching at a significant rate. Elevated metals concentrations in highly mineralized areas are typical for this geology.

**As a result of the information contained in this APA, DEQ recommends the property status of the Gnome Mine and Mill Site be designated as No Remedial Action Planned (NRAP).**

**Notes:**

Pictures of the Gnome Townsite are available on this website:

<http://www.ghosttownsofWashington.com/Idaho.html>

The italicized text below was taken directly from the 2003 IGS report.

*Site Description: The Gnome Mine site consists of a collapsed and reclaimed adit, a mill foundation, and a tailings disposal area. The Gnome townsite is approximately 0.2 mile north of the mine. The area around the adit has been completely reclaimed, and the exact location of the opening is unknown. The reclaimed area covers approximately one acre. The tailings disposal area is just east of Crooked River along a gated road*

*leading to the Gnome adit. The tailings cover an area approximately 30 feet by 30 feet by 5 feet thick. The total disturbed area at the Gnome Mine is 2-3 acres.*

*There are several standing buildings, as well as several collapsed building, at the Gnome townsite.*

**Geologic Features:** *The rocks near the Gnome Mine include the biotite gneiss and schist unit of the Middle or Early Proterozoic Elk City metamorphic sequence and Late Cretaceous biotite granodiorite. The mine is near the Orogrande shear zone (Lewis and others, 1990, 1993). The ore occurred in a quartz vein in quartzite and gneiss. The strike of the vein was N. 75° W., and the dip 80° SW. to vertical. The ore consisted of pyrite, galena, chalcopyrite, and free gold (Shenon and Reed, 1934; Lorain, 1938). The lenticular ore shoots averaged 12-14 inches wide in the upper workings, and the vein widened to 3-4 feet in the lower workings (Lorain, 1938).*

**Soil Sample:** *Tailings sample E7029906 is above background and environmental levels for arsenic, cadmium, copper, iron, zinc, and lead in the element screen. In the TCLP for metals test, no elements of concern are leaching at a significant rate.*

*An examination of other soil samples taken from mines in the same geology and vicinity show similar elevated metals concentrations. These values are not remarkable and it is unlikely any human health risks or ecological health risks are associated with this area.*

**Safety:** *There are no safety hazards at this site.*

**History:** *The Gnome Mine was third on the list of the largest producing lode mines in the Elk City area. The International Gold Mining and Milling Company was incorporated in 1913. By 1919, the property had 550 feet of workings. In 1923, the workings included two tunnels (250 feet and 130 feet), a 180-foot drift, and twenty-one open cuts along the vein. International Gold forfeited its corporate charter in 1926.*

*In 1931, the Gnome Gold Mining Company (incorporated in 1931) obtained an option and lease on the property from the trustees for International Gold Mining and Milling Company. Gnome paid \$2,500 for the lease, with a balance of \$120,000 due over eight years and payable out of 15 percent of the smelter returns (IGS mineral property files). The company extended the main adit, known as the International tunnel, 225 feet by October 1932. In addition, Gnome constructed a 25-tpd cyanide and crushing plant and built new camp buildings (Shenon and Reed, 1934). Lorain (1938) discussed the operation of this mill. The company placed the cost of the mill at \$25,000 (IGS mineral property files). The mine began production in 1932 (Lorain, 1938). Production for 1933 totaled 3,997 ounces of gold and 929 ounces of silver from 4,498 tons of ore. By the middle of 1934, the mine had 2,266 feet of development, including three tunnels (240 feet, 740 feet, and 290 feet long) and a 178-foot vertical shaft. The property was operated by a lessee during part of 1934 or 1935. In late 1936 or early 1937, a new hoist house was built and an electric hoist and generator were installed. By June 1937, the property had about 5,555 feet of workings, including five tunnels (185 feet, 620 feet, 700 feet, 810 feet, and 1,040 feet long) and a 240-foot vertical*

shaft. Production continued until 1937, when the mine closed in June. The company forfeited its corporate charter later that year. According to Lorain (1938), the mill had not been able to adequately process the sulfide ore that was being recovered from the deeper levels of the mine. The company's officers began selling off the equipment to pay the company's debts, and the lease on the two patented claims expired in 1939. By 1942, only hand mining tools remained. The company's treasurer continued to file reports with the Idaho Mine Inspector until 1947.

Shenon and Reed (1934) reported the following geologic features and history of the Gnome Mine:

**Geologic Features:** *The wall rock at the Gnome mine is principally thin bedded quartzite which contains considerable feldspar. Next to the vein the strike of the bedding ranges from about 70 degrees west to about due north. In general the dip ranges from east to 20 SW. In places enough feldspar and biotite have been introduced into the quartzite to make it distinctly gneissic.*

*Granitic rocks occur parallel to the bedding of the quartzite and in places cut it. Two irregular bodies of dark grayish-green porphyritic dactite have been exposed in the International tunnel. The granitic rocks are clearly older than the vein quartz, but the porphyritic dactite appears to cut the quartz.*

*The quartz in the Gnome mine occurs along a well-defined vein as good sized lenses bounded in. Test places of several inches show dark gray gouge. Strata on slicken sided walls along the vein are nearly horizontal. The vein strikes in general about 75 degrees and dip from 80 SW to 90 degrees SW. Pyrite is the most abundant ore mineral, galena is next, and chalcopyrite is visible in some places. Covellite occurs along fractures, and free gold was seen in some ore specimens. The sulphides are almost entirely oxidized to a point about 140 feet from the face of the International tunnel, and even at the face they are partly oxidized. According to James O'Brien, President of the Gnome Co, the ore exposed along the International tunnel has an average value of \$25 a ton in gold.*

**History:** *The property of the Gnome Gold Mining Co. is on the Crooked River 3 miles north of Orogrande and 10 Miles south of Elk City. Prior to 1931 the International Gold Co. had driven a drift about 350 feet long and had dug numerous surface cuts on the Gnome Vein. In 1931 the property was taken over by the Gnome Mining Co. By October, 1932 this company, in addition to extending the International drift 224 feet, had constructed camp buildings adequate for 25 or 30 men and had nearly completed a 25 ton cyanide mill. Mining Truth of February 6, 1932, states that the Gnome Gold Mining Co. had shipped bullion worth \$6000 and would probably start working in March to keep ore developed ahead of the mill.*

**References:**

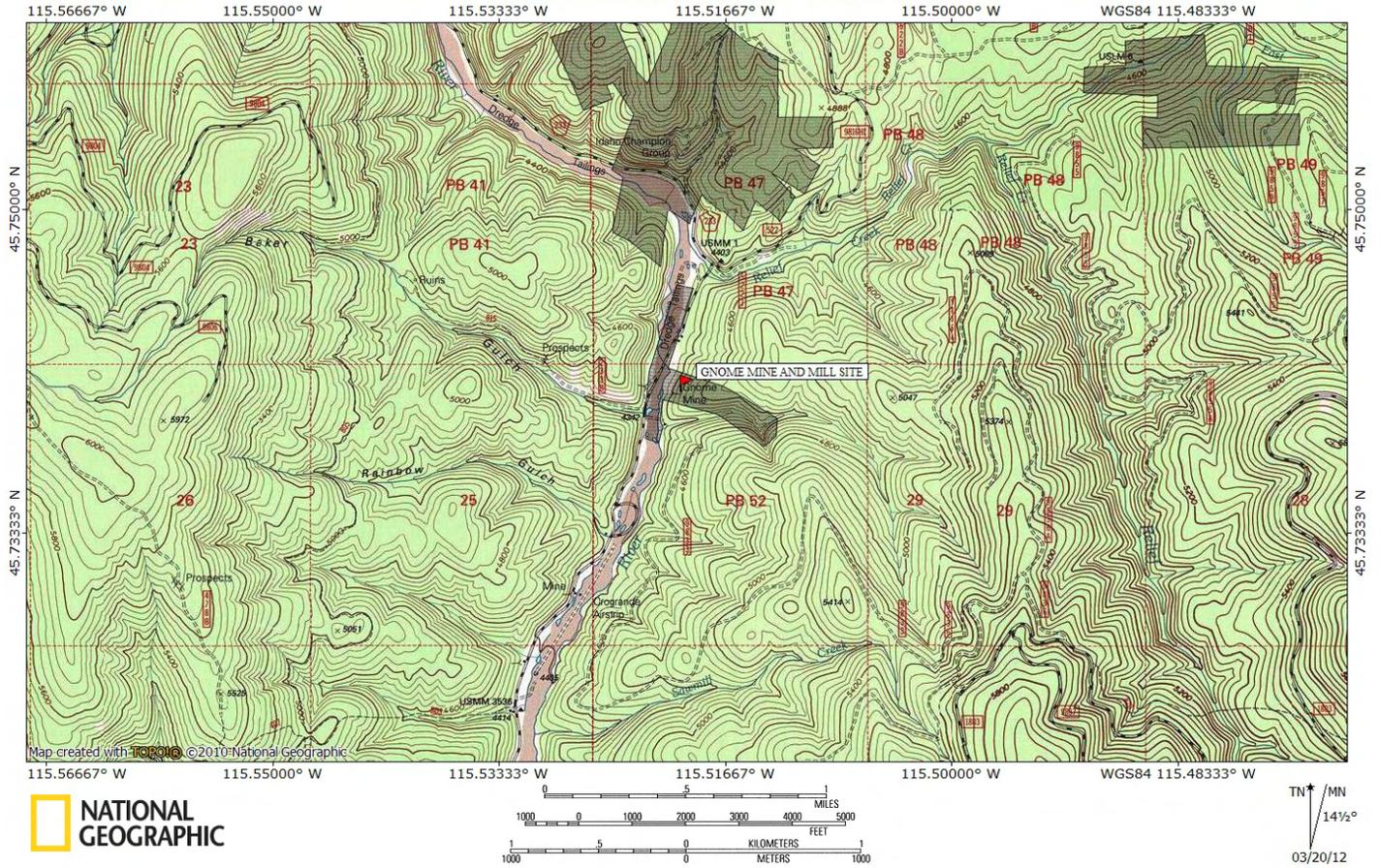
IGS (Idaho Geological Survey). Erdman, Ted, John Kauffman, Earl H. Bennett, and Victoria E. Mitchell. 2003. *Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands (Region 1) Nez Perce National Forest. Volume III, Section B: Elk City, Orogrande, Buffalo Hump, and Surrounding Areas, Idaho County, Idaho*. Prepared for the U.S. Forest Service Under Participating Agreement No. FS-01-96-14-2800. Staff Report 03-22.

Shenon, P.J., and J.C. Reed. 1934. *Geology and Ore Deposits of the Elk City, Orogrande, Buffalo Hump, and Tenmile Districts, Idaho County, Idaho*: U.S. Geological Survey Circular 9, 89 p.

Topographic Overview Map of the Gnome Mine and Mill Site Location. 10/25/2011. 1:24,000. Daniel Stewart; National Geographic Topographic Software.  
<http://shop.nationalgeographic.com/ngs/product/topo%21-state-series/topo%21-idaho>

**Attachment:**

Map



**Topographic Overview Map of the Gnome Mine and Mill Site Location  
(Map Source: National Geographic Topographic Software).**