



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

1410 North Hilton • 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 Center Star Mine,  
Idaho County, Idaho

Dear Mr. Marcy:

Attached is an Abbreviated Preliminary Assessment (APA) for the Center Star Mine between the towns of Golden and Elk City, Idaho. The Idaho Department of Environmental Quality (DEQ) did not visit this property due to lack of contaminant sources and receptors at this site.

A site inspection was conducted by the Idaho Geological Survey (IGS) in 1999. IGS observed the following:

*This site consists several caved adits, one open adit, and a gravity mill building. Only the open (main) adit and the mill were visited during this visit. One of the caved adits was visited by E. H. Bennett in 1995. The main adit, the Weiss or No. 1 tunnel, was driven southeast into the slope near the bottom of the gully. A gate on the portal of the main adit (closed in 1995; is open, but the adit is caved not far inside. Some of the portal timbers are broken and beginning to collapse. A small stream discharging from the portal at a rate of 5 gallons per minute is contained in a pipe until it reaches the north edge of the dump. The large waste dump measures 150 feet long, 70 feet wide, and 20 feet thick. It appears to have been revegetated with grass.*

*A second adit, possibly the Murphy tunnel, was visited by Earl Bennett in 1995. This adit is a short distance up the gully from the main adit and was also driven southeast into the slope. This adit was caved, with a few old, collapsed planks and beams from the portal exposed below a shallow trough on the slope. The waste dump was not extensive.*

*The mill building is several hundred feet northwest of the main adit. The mill tailings, at the eastern end of the mill building, cover an area estimated to be 30 feet long, 40 feet wide, and 5 feet thick. The mine and mill cover about 2-3 acres.*

Mr. Ken Marcy  
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IGS collected a water sample from the main adit and the lead concentration was within the range of the Aquatic Life Chronic standard. The adit was discharging 3-5 gallons/minute. IGS also collected and analyzed a soil sample which showed elevated arsenic, cadmium, chromium, copper, nickel, zinc and lead. Provided the site remains stable and undisturbed, these metals are not an immediate issue.

The site inspection conducted by IGS provided direct observations that confirmed sources of contaminants of concern including hazardous materials and petroleum products were not present in quantities that pose 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 occupied homes or cabins exist on the. Although the main adit was discharging 3-5 gallons/minute, the analysis of the water sample did not indicate any metal concentrations of concern.

As a result of the above information, **DEQ recommends the property status of the Center Star Mine site be designated as No Remedial Action Planned (NRAP).**

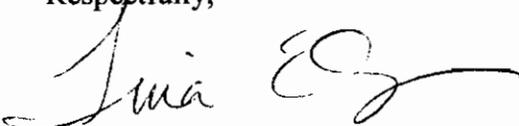
Although the adit is caved several feet behind the gate, the gate is unlocked and can be easily entered. The portal timbers are broken and beginning to collapse. If it has not occurred already, DEQ recommends the U.S. Forest Service adequately block this adit. Provided the area remains stable and undisturbed, the elevated metals concentrations are not an issue at this time.

A link to DEQ's Center Star Mine 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  
Center Star Mine File

## ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) for the Center Star Mine between Gold and Elk City, 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 Center Star Mine. 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:** 3/21/12  
Idaho Department of Environmental Quality  
300 W. Main  
Grangeville, ID 83530  
(208) 983-0808  
daniel.stewart@deq.idaho.gov

**Site Name:** Center Star Mine

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

**Address:** c/o Mr. Clint Hughes  
Nez Perce National Forest  
104 Airport Road  
Grangeville, ID 83530

**Site Location:** From IGS 2003:  
*Access is via FS Road 9875. This road leaves the South Fork of the Clearwater River 1/4 mile east of mile marker 40. The bridge across the river has been removed. The mine is on Forest Service land approximately 1 1/2 mile south up Center Star Creek on Road 9875. The bridge across the South Fork Clearwater River has been removed.*

Township 29 North, Range 7 East, Section 35

**Latitude:** 45.80917°N **Longitude:** -115.55855°W

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

DEQ did not visit this property due to lack of contaminant sources and receptors at the Center Star Mine site.

The Center Star Mine was investigated by IGS on August 11, 1999. IGS reported several caved adits, one open adit and various buildings. A water sample was taken from the main adit and the lead concentration was within the range of the Aquatic Life Chronic standard. The adit was discharging 3-5 gallons/minute. A soil sample analyzed showed elevated arsenic, cadmium, chromium, copper, nickel, zinc and lead. Provided the site remains stable and undisturbed, these metals are not an immediate issue.

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. The Center Star Mine site is fairly remote with no homes or cabins for many miles.

**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):**

The site inspection conducted by IGS provided direct observations that confirmed sources of contaminants of concern including hazardous materials and petroleum products were not present in quantities that pose 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 occupied homes or cabins exist on the claim. Although the main adit was discharging 3-5 gallons/minute, the analysis of the water sample did not indicate any metal concentrations of concern.

**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 occupied homes or cabins exist on the claim. A water sample from the main adit showed an elevated level for lead. There is no mention of any drinking water sources and no homes are within the drainage or in close proximity to the Center Star Mine.

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>NO</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:**

  
 Daniel D. Stewart

3/27/12  
 Date

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

The 2003 IGS report indicated no areas of concern were found. No occupied homes or cabins exist on the site, thus no pathways exist relative to human health risks or environmental risks. No drinking water sources or residences exist within the drainage or in close proximity to the Center Star Mine. IGS did not indicate any hazardous or deleterious materials on site. This site is not easily accessible as the road to the mine has been reclaimed.

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

**Notes:**

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

*Site Description: This site consists several caved adits, one open adit, and a gravity mill building. Only the open (main) adit and the mill were visited during this visit. One of the caved adits was visited by E. H. Bennett in 1995. The main adit, the Weiss or No. 1 tunnel, was driven southeast into the slope near the bottom of the gully. A gate on the portal of the main adit (closed in 1995; is open, but the adit is caved not far inside. Some of the portal timbers are broken and beginning to collapse. A small stream discharging from the portal at a rate of 5 gallons per minute is contained in a pipe until it reaches the north edge of the dump. The large waste dump measures*

*150 feet long, 70 feet wide, and 20 feet thick. It appears to have been revegetated with grass.*

*A second adit, possibly the Murphy tunnel, was visited by Earl Bennett in 1995. This adit is a short distance up the gully from the main adit and was also driven southeast into the slope. This adit was caved, with a few old, collapsed planks and beams from the portal exposed below a shallow trough on the slope. The waste dump was not extensive.*

*The mill building is several hundred feet northwest of the main adit. The mill tailings, at the eastern end of the mill building, cover an area estimated to be 30 feet long, 40 feet wide, and 5 feet thick. The mine and mill cover about 2-3 acres.*

**Geologic Features:** *The Center Star Mine is in the biotite gneiss and schist unit of the Middle or Early Proterozoic Elk City metamorphic sequence (Lewis and others, 1990, 1993). Brook (1984, p. 18) stated: "Gold occurs at Center Star in northeast striking, southeast dipping quartz veins varying from a few inches to twenty feet in width. These veins are contained within a 75 to 100 foot wide shear zone which creates the potential for multiple veins." The shear zone hosting the Center Star vein has a projected strike length of two miles (Brook, 1984). Mapping along a logging road north of the mine revealed a shear zone that is probably an extension of the Center Star system. It is possible that this shear zone extends to the northeast and is the same system that hosts the South Fork Mine (Site No. EC-536) (Bennett and others, 1999).*

**Water Sample:** *Sample E8119901 from the main adit is within the range of the Aquatic Life Chronic standard for lead in the EPA 200.8 test. No other standards are exceeded in any of the tests.*

**Soil Sample:** *Compared to expected background and environmental values, sample E8119902 from the mill tailings at the Center Star Mine has elevated levels of arsenic, cadmium, chromium, copper, nickel, zinc, and lead in the element screen. No metals of concern are leaching in the TCLP for metals test.*

**History:** *The Center Star was discovered in 1907 by a Mr. Murphy. Herman Brown, Charles Tiedeman, and Mike Freeh [or Walter Fresh, according to Brook (1984)] later purchased shares in the property (Shenon and Reed, 1934). The mine shipped ore in 1915, and active development was reported in 1923 and 1924. In 1926, the mine had a 370-foot lower tunnel and two upper tunnels (Childs, 1926).*

*Day Development Company (incorporated in 1928 as the Hercules Exploration Company; name changed to Day Development Company in 1930; corporation dissolved in 1948) leased the Center Star Group in 1930. The company built four miles of trail, installed a gas-driven compressor, and started sinking a 200-foot inclined shaft. The shaft, which gained a vertical depth of 150 feet, was completed in 1931 and a small amount of drifting was done from the bottom before the company stopped all operations. Day's option was relinquished later in the year.*

*Some of the ore produced in 1933 was amalgamated, while a small amount was shipped directly to a smelter. Three small lots of gold ore, averaging 3-6 ounces of gold per ton, were shipped from the mine in 1934 and additional shipments were made in 1935. In 1938, Ted Ward and W. J. Walker of Ely, Nevada, leased the mine and worked it with a crew of seven men. Development continued in 1939, with fourteen men completing a new 50-tpd mill and doing surface work. A small amount of ore was processed in 1939, and a much larger amount was shipped in 1940, when 6,538 tons of ore was milled. A maximum production of 6,880 tons was reached in 1941. Production fell off in 1942 to 4,900 tons. In the mill, jig concentrates were treated by amalgamation and flotation concentrates were shipped to a smelter. The mine was closed by War Production Board Act L-208 and remained closed until the late 1950s.*

*In 1959, a Mrs. Ward, with help from Harold Lynch, began an exploration program and started to rehabilitate the mine. The property was acquired from Mrs. Ward and incorporated as Center Star Gold Mines, Inc., in 1961. In 1963, a small drilling program was conducted on the main level. Additional underground work was done, and twenty-two more core holes were drilled in an attempt to find ore shoots indicated in the first drilling program. There was little else accomplished in the following years except for normal assessment work to maintain the claims (Bennett and others, 1999).*

*The most recent work on the property was in the early 1980s. Brook (1984, p. 10-11) reported:*

*In 1970 a group calling itself "Big Three" took a ten year option on the property - and in 1980 submitted the property to Ruddock Resources Inc. of Reno, Nevada. ... In December of 1980, Ruddock Resources Inc., and World Tech, an Oklahoma based investor group, entered into an agreement with Center Star for an exploration and development program. . . . About \$700,000 was spent on this program. [The program included extensive rehabilitation; the lower four levels of the mine were cleaned out, mapped, and extensively sampled.]*

*In 1982, the investors signed an agreement with the Midas Group for further development of the mine. This program was designed to test reserves indicated by the earlier work. A new 100-foot crosscut was driven from the surface to the intermediate level of the mine, the mill was refurbished, and a tailings disposal site built at a cost of approximately \$250,000. All the equipment for the new mill was delivered. Ore was mined at 25 tpd, and the initial mill capacity was 50 tpd. In 1985, development of reserves continued (Bennett and others, 1999). Century Star Mining Company was incorporated in 1986 and apparently acquired the property soon afterwards; handwritten notes on Brook's (1984) report indicate that Century Star was the new owner of the property.*

**Structures:** *There are two structures near the main adit, the largest of which is the mill building. Most of the walls of the mill are standing, but the roof has collapsed in several places. Overall, the mill is in disrepair. A small building is on the road just*

*above the mill. Less than 1/4 mile north of the mine is a large house with wood siding and a shake roof that may have been a boarding house when the mine was operating.*

**Safety:** *The main adit has an unlocked gate that can be easily entered, although the adit is caved several feet behind the gate. The portal timbers are broken and beginning to collapse.*

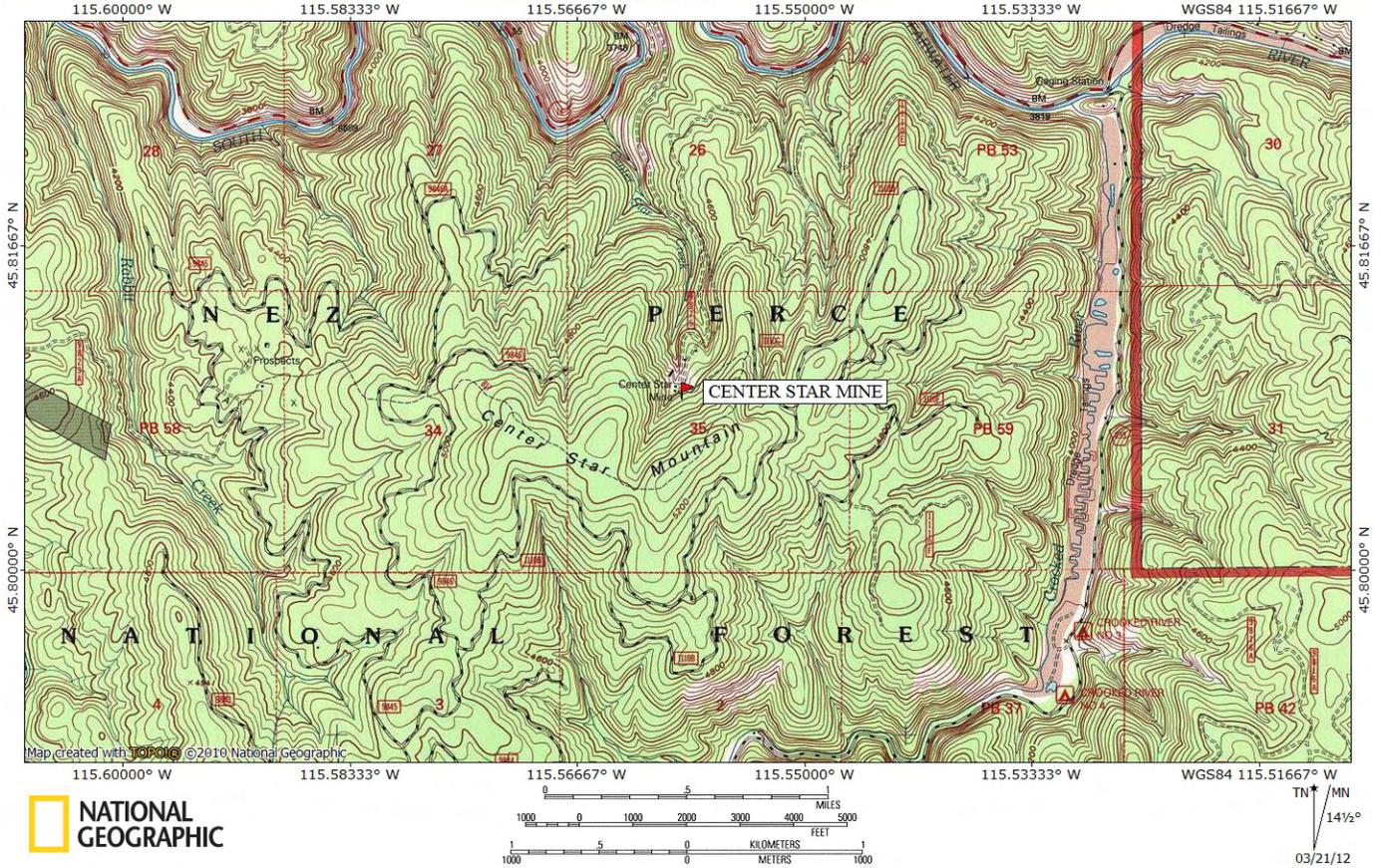
If it has not occurred already, DEQ recommends the U.S. Forest Service adequately block this adit. Provided the area remains stable and undisturbed, the elevated metals concentrations are not an issue at this time.

**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 C: 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 03-23.

Topographic Overview Map of the Center Star Mine 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 Center Star Mine Location  
(Map Source: National Geographic Topographic Software).**