



STATE OF IDAHO  
DEPARTMENT OF  
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor  
Toni Hardesty, Director

January 5, 2012

Mr. Scott Sanner  
U.S. Bureau of Land Management  
Coeur d'Alene District  
3815 Schreiber Way  
Coeur d'Alene, ID 83815

Subject: Site Assessment of the Sultan Shaft (Mine), Elk City Mining District,  
Idaho County, Idaho

Dear Mr. Sanner:

The Idaho Department of Environmental Quality (DEQ) has completed a review of historical mining data and geological information for the above referenced mine, located near Elk City, Idaho. Subsequent to that review, DEQ conducted a site visit of the Sultan Shaft.

During the site visit, mining activities such as; waste dumps, collapsed adit(s), and a reclaimed shaft were observed and photographed in order to provide a comprehensive analysis necessary to complete an Abbreviated Preliminary Assessment.

Preliminary Assessments are conducted by DEQ according to the Federal Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA). The reasons to complete a Preliminary Assessment (PA) include:

- 1) To identify those sites which are not CERCLIS caliber because they do not pose a threat to public health or the environment (No Remedial Action Planned (NRAP));
- 2) To determine if there is a need for removal actions or other programmatic management of sites;
- 3) To determine if a Site Investigation, which is a more detailed site characterization, is needed; and/or
- 4) To gather data to facilitate later evaluation of the release of hazardous substances through the Hazard Ranking System (HRS).

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DEQ has also completed PAs under contract with the U.S. Environmental Protection Agency in order to identify risks to human health and the environment, and make recommendations to land owners regarding how risks might be managed, if necessary.

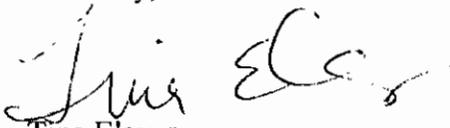
During a DEQ field visit if sources, pathways, and receptors are identified for heavy metal contamination and samples are collected, a PA is generally written. If there is no evidence of receptors being influenced by sources of contamination, as was the case with the Sultan Shaft property, then an Abbreviated Preliminary Assessment (APA) is written.

Attached is the Abbreviated Preliminary Assessment for the Sultan Shaft. The APA includes limited historical and geological information, photographs, and a map of the property. This information was used by DEQ to make a determination that the property status is No Remedial Action is Planned (NRAP).

DEQ also observed there was reclamation actions conducted on the Sultan Shaft site. Thank you for answering my questions regarding those efforts.

DEQ looks forward to addressing any questions you may have regarding our findings. Please contact me (208-373-0563) if you have any comments, questions, or if I may be of any other assistance.

Sincerely,



Tina Elayer  
Mine Waste Program Specialist  
Waste Management and Remediation Division

#### Attachments

cc: Ken Marcy – U.S. EPA  
Daniel Stewart – DEQ Grangeville  
~~Sultan Shaft~~ (Mine) File

## ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) for the Sultan Shaft near 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 Sultan Shaft. Additional sheets are attached which contain relevant information including historical and geological information, photographs, a map, and references generated during the site visit or desktop research.

**Preparer:** Daniel D. Stewart **Date:** 12/2/11  
Idaho Department of Environmental Quality  
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Grangeville, ID 83530  
(208) 983-0808  
daniel.stewart@deq.idaho.gov

**Site Name:** Sultan Shaft

**Previous Names (aka):** Larsen Vein, Last Chance

**Site Owner:** U.S. Bureau of Land Management

**Address:** U.S. Bureau of Land Management – Coeur d’Alene District  
Attention: Scott Sanner  
3815 Schreiber Way  
Coeur d’Alene, ID 83815

**Site Location:** The shaft is 1.2 miles northeast of the Elk City Ranger Station along County Road 443. It is approximately 50 feet south of and 20 feet in elevation above the road.

Township 29 North, Range 8 East, Section 23

**Latitude:** 45.84167°N **Longitude:** -115.42401°W

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

The Sultan Shaft was investigated by the Idaho Department of Environmental Quality (DEQ) on September 8, 2011 for potential releases of heavy metals by airborne, surface or ground water pathways. Additionally, potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals were investigated. No evidence or indications of sources for these materials was located on site.

**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):**

A site inspection involving direct observations confirmed that contaminants of concern including hazardous materials and petroleum products do not exist 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. With the exception of recent, but minimal disturbances, the site is well vegetated and stable.

The U.S. Bureau of Land Management (BLM) conducted remediation work at the Sultan Shaft site in September of 2010 which included filling the shaft with polyurethane foam (PUF).

See the photographs at the end of this report.

**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:**

The Sultan Shaft was a dry site with no mining related water present and no active surface water sources. Thus, it is unlikely any human health risks or ecological health risks are associated with this mine site.

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.		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)		Yes			
3. On-site, adjacent, or nearby receptors are not present.		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 target distance limit (TDL)).	Option 1: APA	Yes			
5. There is documentation that a sensitive receptor has been exposed to a hazardous substance released from the site.	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.	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.		No			
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.		No			

**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]* for *[Handwritten Signature]* *1/5/2012*  
 Daniel D. Stewart Date

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

A site inspection involving direct observations confirmed that contaminants of concern including hazardous materials and petroleum products do not exist in concentrations that present a threat to human health or the environment.

Two collapsed shafts were noted. Both of the shafts have been filled in and no longer remain a safety hazard. The two waste dumps were composed of country rock with no mineralization evident and no sulfide smell.

With the exception of some recent, minor disturbances which appear to be reclamation efforts, the site is well vegetated and stable. Plants showed no signs of stress. No surface water, ground water or airborne pathways existed. Thus, it is unlikely any human health risks or ecological health risks are associated with this mine site.

As a result of DEQ’s research and observations, it is recommending the Sultan Shaft site be designated as NRAP.

**Attachments:**

- Historical and Geologic Information
- Site Conditions and Photographs
- Map
- References

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## **Historical and Geological Information**

**Mine History:** The Idaho Geologic Survey (IGS 2003) provided the following history of the Sultan Shaft:

*The Sultan Gold Mining Company, Inc. was incorporated in 1933. This company acquired the mine from the estate of Jim Larson of Elk City. In 1934, the mine had four tunnels and two shafts, but the company noted that most of the workings were caved. In 1934 and 1935, the company worked to deepen the main shaft, which was 170 feet deep by the middle of 1935. Sultan Gold forfeited its corporate charter in 1938.*

*Liberty Gold Mining Company was incorporated in 1941. This company never did more than assessment work on the property. Liberty Gold forfeited its corporate charter in 1955.*

**Geologic Features:** IGS 2003 offered the following geologic description of the Sultan Shaft Mine:

*The Sultan Shaft is in the biotite gneiss and schist unit of the Middle or Early Proterozoic Elk City metamorphic sequence.*

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## Site Conditions and Photographs

The site consists of two collapsed and filled in shafts and two stabilized waste dumps. The larger waste dump from the main shaft contains approximately 500 cubic yards of material. No ore was observed. There is a small waste dump of approximately 47 cubic yards located 30 yards east of the main Sultan Shaft workings. Both of the waste dumps appeared to be composed of country rock. No evidence of sulfides was observed. It is apparent the site has been reclaimed eliminating any safety hazards.

All of the Sultan Shaft photographs in this section were taken by DEQ on September 8, 2011. Photos 1 through 7 are identified as Site #1 and Photo 8 is identified as Site #2 because they are two separate waste dump/mining activity areas in close proximity to each other.

The Sultan Shaft (as noted in IGS 2003 report) has since been filled in. According to Scott Sanner with the BLM, the shaft was filled in with polyurethane foam (PUF) in September 2010 (Scott Sanner, *pers. comm.*).



**Photo 1, Site #1.** Sultan Shaft (collapsed).

No structures were observed on site. Boards and metal used in the mining operation are scattered around on Waste Dump #1 and in the collapsed/reclaimed shaft.



**Photo 2, Site #1.** Waste Dump #1 and collapsed/reclaimed shaft.

Vegetation appears to be well-established and there are mature trees. Waste Dump #1 is composed of country rock with no mineralized material left, no sulfide smell was observed at time of field visit. The mined area has been logged including trees cut off of the waste dump and by the shaft.



**Photo 3, Site #1.** Top of Waste Dump #1.

In the IGS 2003 report the estimated total volume for the Sultan Shaft waste dump was 555 cubic yards. DEQ estimated the waste dump to be approximately 500 cubic yards.



**Photo 4, Site #1.** Sultan Shaft Waste Dump #1.



**Photo 5, Site #1.** West side of Waste Dump #1.  
Note vegetation on the top and at the toe.

Located at the toe of Waste Dump #1 there is a shallow drainage without a defined bed, bank or channel. During spring runoff, snow melt water may run in it. The channel drains to the road, where there is no culvert, and goes subsurface beneath the road. Surface water pathways are incomplete for this site.



**Photo 6, Site #1.** Toe of Waste Dump #1.

The old road to the Sultan Shaft and the waste dumps appears to have been worked by equipment, smoothed, and pushed around. DEQ assumes the BLM has seeded the disturbed area with a rye and grass mix. All areas are well vegetated, except for the disturbed/fixed area in Photo 7.



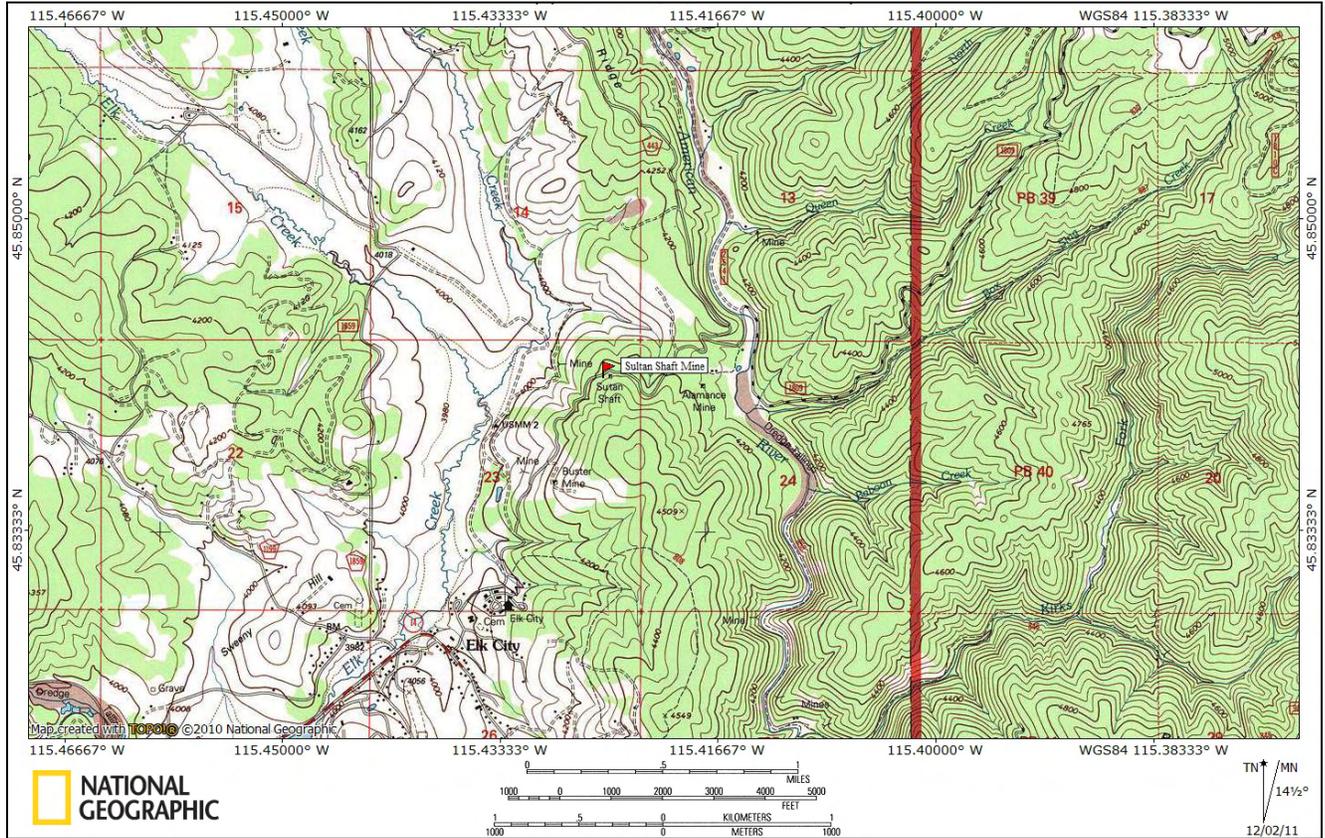
**Photo 7, Site #1.** Seeded area adjacent to the shaft.  
The area has settled and the pipe sticking out could be an air vent pipe.

Located approximately 30 yards east of the primary area there is a collapsed adit/tunnel and a waste dump. Both are very well vegetated. Waste Dump #2 is approximately 47 cubic yards. No evidence of surface water erosional pathways from this waste dump was observed.



**Photo 8, Site #2.** Sultan Shaft Waste Dump #2.

# Map



**Figure 1.** Topographic Overview Map of the Sultan Shaft Location  
(Map Source: National Geographic Topographic Software)

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## 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 A: 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 03-21.

Sanner, Scott. U.S. Bureau of Land Management. 2011. Personal Communications.

Topographic Overview Map of the Sultan Shaft Location. 12/2/2011. 1:24,000.

Daniel Stewart; National Geographic Topographic Software.

<http://shop.nationalgeographic.com/ngs/product/topo%21-state-series/topo%21-idaho>