

**RED ELEPHANT MINE
PRELIMINARY ASSESSMENT REPORT
BLAINE COUNTY, IDAHO**

**STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY**

December 2002

Submitted To:
U.S. Environmental Protection Agency
1200 Sixth Avenue
Seattle, WA 98101



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, WA 98101

1.11.0.1
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JUL 14 2003

D.E.Q. STATE WASTE
MANAGEMENT & REMEDIATION DIVISION

July 9, 2003

Reply To
Attn Of: ECL-115

Johnson Sister L.C.
721 I Street
Salt Lake City, UT 84103

Dear Sir:

The Idaho Department of Environmental Quality (DEQ) has completed a report summarizing the findings of a visit conducted at the Red Elephant Mine site in July, 2002. A copy of the report, called a Preliminary Assessment, is enclosed.

Based on a review of this assessment, EPA has determined that no further action is warranted at the site. A no further action designation means that no additional steps under the Federal Superfund Program will be taken at the site unless new information warranting further Superfund consideration is discovered. EPA's no further action designation does not relieve your facility from complying with appropriate Idaho state regulations.

In accordance with EPA's decision regarding the tracking of no further action sites, the above named site will be removed from the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) data base and placed in a separate archival data base as a historical record. Archived sites may be returned to the CERCLIS site inventory if new information necessitating further Superfund consideration is discovered.

We appreciate your cooperation during the site visit. If you have any questions, please feel free to contact me at (206)553-2782.

Sincerely,

Ken Marcy
Site Assessment Manager

Enclosure

cc: Bruce Schuld, Idaho Department of Environmental Quality
Monica Lindeman, US EPA, ECL-115
Craig Conant, EPA SF Records Center, ECL-076



11153

1.11.8.7



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

January 7, 2003

Johnson Sisters LLC
721 I Street
Salt Lake City, Utah 84103

RE: Preliminary Assessment of the Red Elephant Mine.

To Whom It May Concern;

While investigating abandoned mine sites near Hailey, Idaho, the Idaho Department of Environmental Quality (DEQ) conducted a cursory inspection for the completion of a Preliminary Assessment of mine workings on your property, the Red Elephant Mine (Site). The Preliminary Assessment Report (attached), which resulted from our visit, documents DEQ's findings relative to issues at the Site related to the use, handling and disposal of hazardous or deleterious materials. In brief, DEQ did not find anything, which may pose a risk to human health or the environment, and I am, therefore, not recommending any additional site visits or actions at the Site.

Although DEQ did not find any problems related to the Site, I would greatly appreciate the opportunity to assist you if you have and questions or concerns which may arise in the future. Thank you again.

Sincerely,

A handwritten signature in black ink, appearing to read "Bruce A. Schuld".

Bruce A. Schuld
Mine Waste Projects Coordinator
Waste Management & Remediation Division

BAS:ab C:\My Documents\Bruce\Correspondence\PA Letter Red Elephant Mine\ January 7.doc

attachment

cc: Bill Alred, DEQ Twin Falls Regional Office
Source File
Reading File

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LIST OF ACRONYMS

<u>Acronym</u>	<u>Definition</u>
amsl	above mean sea level
DEQ	Department of Environmental Quality
EPA	U. S. Environmental Protection Agency
PA	Preliminary Assessment
PPE	Probable Point of Entry
TDL	Target Distance Limit

1. INTRODUCTION

The Department of Environmental Quality (DEQ) was tasked by the United States Environmental Protection Agency (EPA) Region 10 to provide technical support for completion of a Preliminary Assessment (PA) at the Red Elephant Mine site in Blaine County, Idaho. The DEQ completed PA activities in accordance with DEQ's stated goals.

The specific goals for the Red Elephant Mine PA, identified by the EPA, are to:

- Determine the potential threat to public health or the environment posed by the site.
- Determine the potential for a release of hazardous constituents into the environment.
- Determine the potential for placement of the site on the National Priorities List.

Completion of the PA included reviewing existing site information, collecting receptor information within the site's range of influence, determining regional characteristics, and conducting a site visit. This document includes a discussion of site background information (Section 2), a discussion of migration/exposure pathways and potential targets (Section 3), and a list of pertinent references. Photographic documentation is provided in Appendix A and analytical results are included in Appendix B.

2.0 SITE BACKGROUND

2.1 SITE LOCATION

Site Name: Red Elephant Mine

CERCLIS ID No.:

Location: Blaine County, Idaho

Latitude: 43° 29' 24"

Longitude: 114° 25' 50"

Legal Description: Mine located in the NW corner of Sec. 21, 2N, 17E
Mill located in the SE corner of Sec. 28, 2N, 17E

Site Owners: Johnson Sister L.C.
721 I Street
Salt Lake City, UT 84103

Site Contact: Owners

2.2 SITE DESCRIPTION/OWNERSHIP HISTORY

The Red Elephant Mine is a former silver and lead mine (with lesser production of gold, copper and zinc) located in Blaine County, approximately 6 miles southwest of the town of Hailey, Idaho (Figure 2-1). The site includes an upper portion of Red Elephant Gulch, extending from approximately 6,200 feet to 7,200 feet above mean sea level (amsl) and a lower portion of Red Elephant Gulch along Elk Creek between 5,900 and 5,800 feet amsl (Figure 2-2). Mine structures (dumps, adits, and an ore bin) are the primary features of the upper Gulch, but tailings, dam and mill ruins are the primary features of the lower Gulch. The floodplain of Elk Creek consist of tailings and associated earthen impoundment dams (all breached), ore piles and concrete foundations comprising the remnants of the Red Elephant Mill. The site is best accessed from Hailey via the Croy Creek Road (six miles), then turning north on a gravel road that follows Elk Creek. This road passes through the lower Gulch to the intersection of Elk Creek and the upper Gulch where a two-track jeep road continues approximately 2.5 miles to the uppermost workings. At the time of the site visit, upper mine features (adits and dumps) were accessed by foot.

The main adits and waste dumps are located at the head of Red Elephant Gulch. Mitchell and Gillerman (1999) described seven open adits, eight closed adits, two closed shafts, one open stope, one trench, and four prospect pits as a minimum number of obvious mine features. Some workings were hidden in the trees or other dense vegetation and difficult to identify.

Information pertaining to the mine ownership and operational history is scarce. Umpleby, et al (1930) indicates more than one company worked the site, including the "Red Elephant Consolidated Mines Company", which apparently leased the site to the "Bunker Hill and Sullivan Mining and Concentrating Company" which was active in developing the mine until August of 1924. Interest in the Hailey area was renewed in 1984 when Exxon Corporation acquired additional patented and unpatented claims in the Bullion Gulch and Red Elephant Mine areas (Mining Record, 1984).

Based on tax records, the site currently appears to be owned by the Johnson Sisters of Salt Lake City, Utah (Blaine County, 2002).

2.3 SITE OPERATIONS AND WASTE CHARACTERISTICS

Ore deposits were first discovered in this area in the middle to late 1800s and worked during the earliest period of mining activity in the Wood River region. The principle production appears to have been between 1890 and 1898, with lesser production continuing up through the 1920s. Historical records indicate at its peak production the mine was comprised of 9,000 feet of workings on six levels, working a series of ore veins offset by numerous faults. The primary ores were galena and pyrite, with some tetrahedrite, all found in a siderite-quartz gangue. The country rock consists of shale, sandstones and siliceous limestones (Umpleby, 1930).

From 1882 through 1900 production figures indicate 9.44 ounces of gold, 834,601 ounces of silver, 8,655,493 pounds of lead and 781,443 pounds of copper were produced from 8,231 tons of ore. From 1904 through 1918, it appears 42.56 ounces of gold, 125,099 ounces of silver, 853,409 pounds of lead, 170,615 pounds of zinc, and 7,425 pounds of copper were produced from 6,927 tons of ore (Umpleby, et al, 1930). Production records could not be obtained for the latter part of the mines' existence, assumed to be through the 1920s.

Fig. 2-1. Site Vicinity Map; Red Elephant Mine

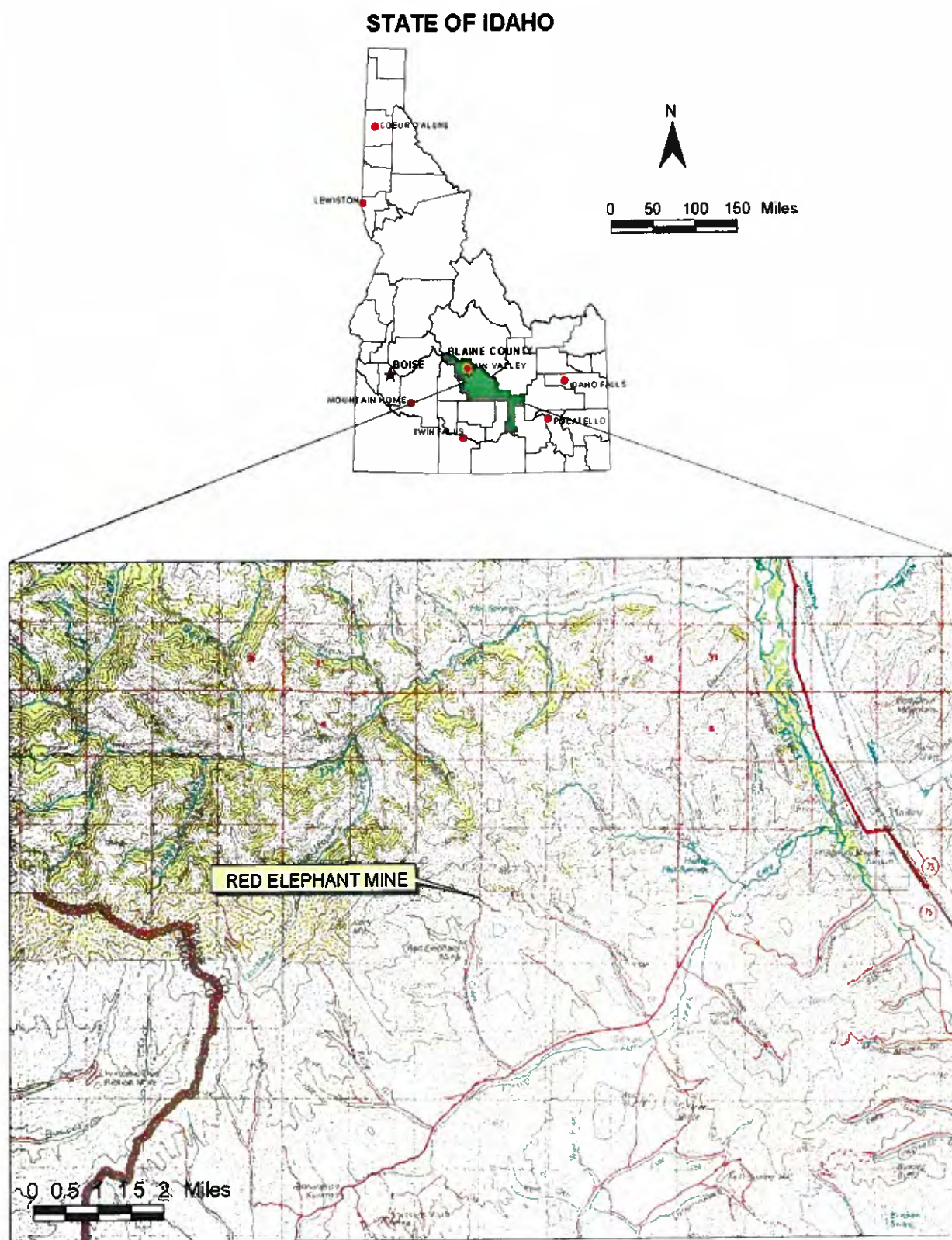
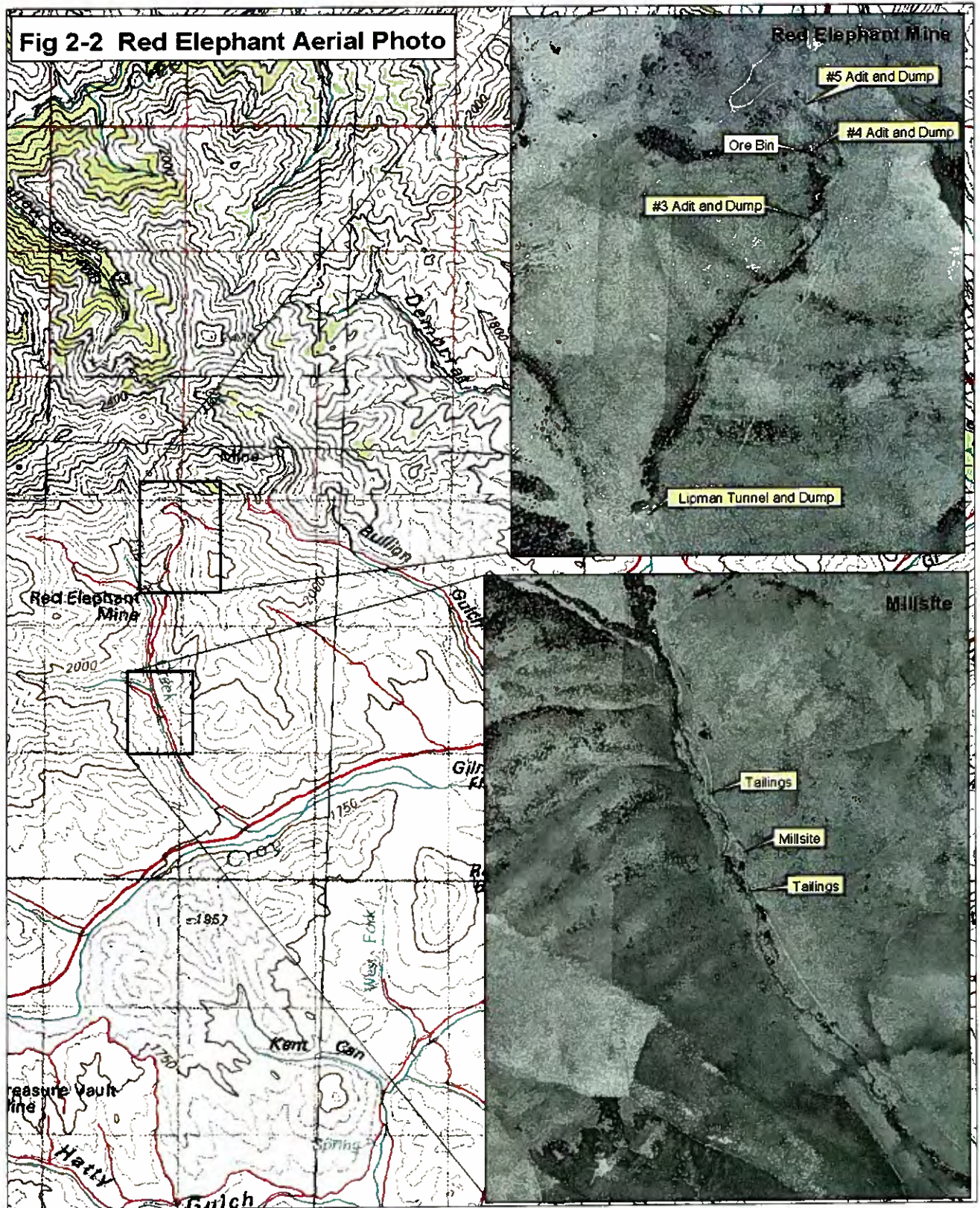
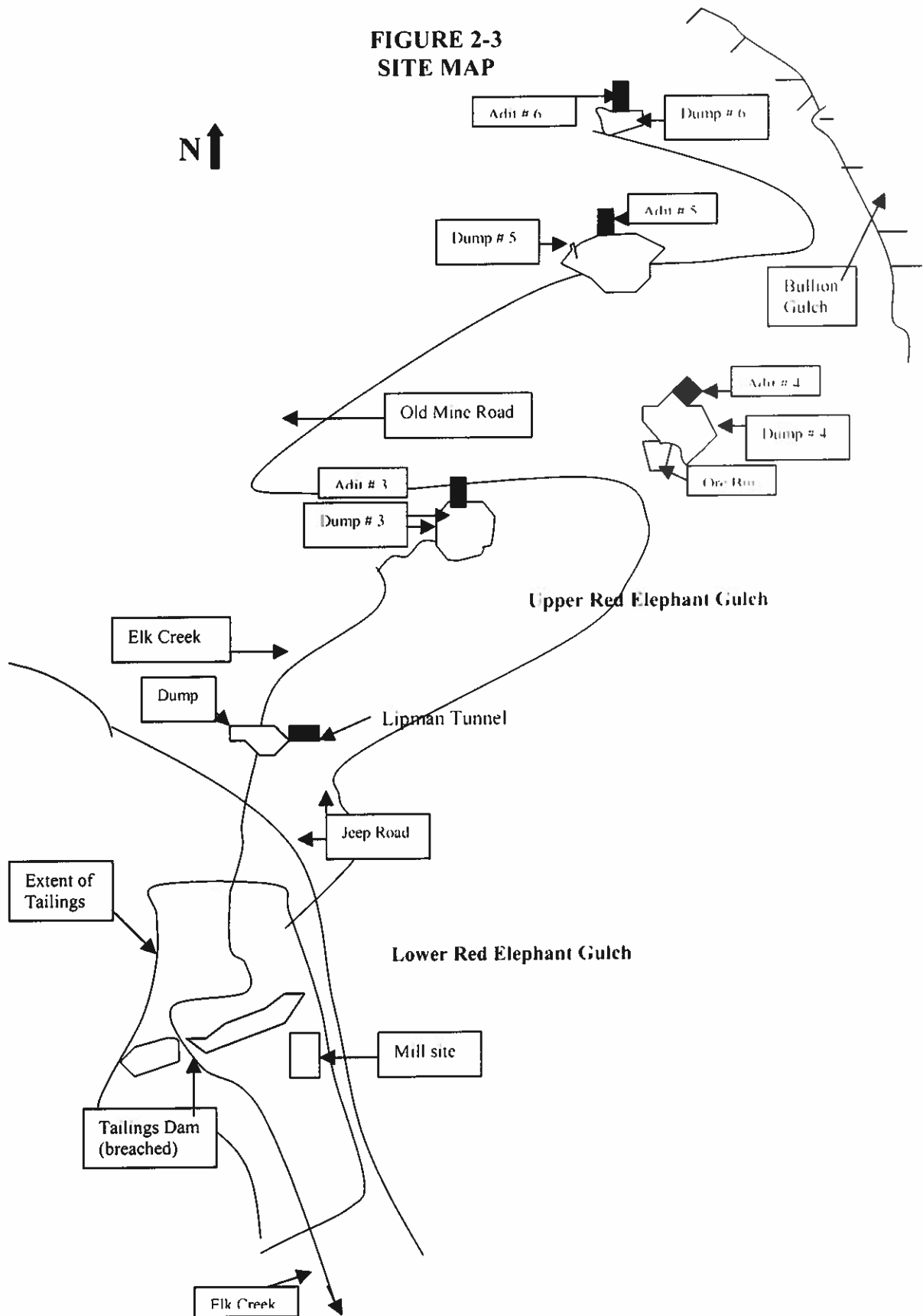


FIGURE 2-2



**FIGURE 2-3
SITE MAP**



2.4 DEQ SITE ACTIONS

DEQ conducted a site visit on July 26, 2002. Site features included tailings, a mill site, adits and associated waste-rock dumps. Tailings were found in Elk Creek above and below the former mill-site. The adits, waste-rock dumps and at least one ore bin were located in the upper Red Elephant Gulch above the confluence with Elk Creek (Figures 2-2 and 2-3). Waste rock, associated with prospect holes, was noted near the ridge above the uppermost adits. Based upon historical information and information gathered by Mitchell and Gillerman (1999), there were collapsed or covered (thick vegetation) adits and shafts not readily apparent during the DEQ site visit.

Photographic documentation is provided in Appendix A. The site was accessible by a gravel road from the south along Elk Creek to the confluence of the upper part of Red Elephant Gulch and Elk Creek. At that point, the upper portions of the site were more safely accessed on foot by a narrow two-track jeep road.

Based upon descriptions provided by Mitchell and Gillerman (1999), DEQ located the "Lipman Tunnel", Adits #3 through #6 and the associated waste rock dumps. Adit #3 was the source for Dump #3 (Photo 1), which straddled and entirely filled the drainage of Red Elephant Gulch. The dump was the site of relatively thick vegetation and appeared to retain water flowing down the gulch during wet periods. "The large dump has been dissected by the creek and shows both red, oxidized material and typical black argillite. In spite of the swampy area by the portal, there was no significant discharge at the time of the visit." (Mitchell and Gillerman, 1999, p. 6).

The following is a description of the upper Red Elephant Gulch workings encountered during the site visit. Adit #3 apparently constituted the #6 level of the Red Elephant Mine. Adit and Dump #4 were the next prominent and higher mine features. A wooden ore bin still stands at the toe of Dump #4 (Photos 2 and 4). The entrance to Adit #4 (Photo 2) was partially caved, and blocked by a wooden gate. Adit and Dump #5 (Photo 5) were located just above Adit and Dump #4. Dump #5, while not as large as Dump #4, was still one of the larger dumps in upper Red Elephant Gulch. The adit entrance was driven into competent rock and only partially blocked and the gate was open (Photo 6). Adit and Dump #6 were located just above Adit and Dump #5. Adit #6 was collapsed and the associated waste rock dump was smaller than the previously described dumps. At the time of the DEQ site visit, none of the upper adits exhibited groundwater discharge to Red Elephant Gulch.

The remainder of the upper site (Adit #6 to the ridge crest forming the divide between Red Elephant and Bullion Gulches) consisted of a series of prospect holes and associated small waste rock piles. At the mouth of Red Elephant Gulch DEQ identified a waste rock dump and portal located east from Elk Creek. The adit was apparently known as the "Lipman Tunnel" (Gillerman, 1990), or the "Red Elephant Consolidated Tunnel" (Umpleby, 1930). The adit collapsed beyond the portal creating a sinkhole. The exposed country rock and waste rock were thin-bedded shale and limestone. Drainage emanated

from the collapsed adit, flowed through an area of lush vegetation, an adjacent waste rock dump and the remnants of a collapsed wooden structure before entering Elk Creek. Elk Creek flowed just to the west and adjacent to the waste rock dump.

The Red Elephant Mill site and tailings were located downstream from the Lipman Tunnel. The mill site (Photo 10) consisting of a concrete foundation approximately 100 feet long by 60 feet wide, was located approximately 0.5 miles above the junction of Elk Creek and Croy Road at about 5990 feet amsl (USGS, 1986). Tailings (Photo 8) and the remains (wooden timbers) of several earthen tailings dams (Photo 9) were located above and below the mill site. Mitchell and Gillerman described the tailings as "approximately one-half mile long, 150 feet wide, and with an average of 3 feet deep" (1999, p.8). Elk Creek dispersed the tailings throughout the drainage. The tailings appeared light to dark gray and coarse at the surface. Tailings away from and less influenced by flowing water were more uniformly dark gray and fine to very fine-grained, especially several inches beneath the surface. Vegetation was sparse over a significant portion of the tailings.

3. MIGRATION/EXPOSURE PATHWAYS AND TARGETS

3.1 GROUNDWATER MIGRATION PATHWAY

Red Elephant Gulch is underlain by the Dollarhide and Wood River Formations of Pennsylvanian and Permian age and by intrusive granitic rocks of Cretaceous age. The Dollarhide Formation is composed of dark colored carbonaceous and calcareous sandstone, calcareous siltstone, silty and sandy limestone and silty argillite. The lowest member of the Dollarhide Formation hosts the lead-silver deposits in Red Elephant Gulch. Cretaceous intrusive rocks, primarily quartz diorite and hornblende-biotite granodiorite, intrude the older sedimentary rocks (Mitchell and Gillerman, 1999). The deposits in both Bullion and Red Elephant Gulches were a result of proximity to an elongated mass of granitic rock and the resultant contact metamorphism of the sedimentary rocks (Umpleby, 1930).

Groundwater exists locally and within the 4-mile radius within fractures in the bedrock and surficial unconsolidated deposits. At the time of the site visit, there was evidence of numerous seeps and possibly, some springs in Red Elephant Gulch as evidenced by vegetation patterns. The upper adits were dry, possibly owing to current drought conditions. The Lipman Tunnel vicinity exhibited seepage, though not vigorous.

Based upon its central location between the upper and lower Red Elephant Gulch workings, DEQ selected the "Lipman Tunnel" to represent the center of the Red Elephant Mine and Mill site. An estimated thirty-four groundwater drinking water wells (all private domestic wells) are located within the 4-mile Target Distance Limit (TDL) (Figure 3-1). The nearest well is located at approximately 2.5 miles south-southeast from the site. Depth to groundwater is approximately 60 feet below ground surface in the nearest wells, but groundwater levels in addition to well depths vary greatly in the wells found in the 4-mile radius (DEQ, 2002). There are approximately eleven wells located in

the 2-3 mile ring and twenty-three within the 3-4 mile ring. Most of the wells are a result of recent development of private residences along Croy Road. Based upon the Blaine County average number of persons per household of 2.4 people (DOC, 2000), these wells serve approximately 82 individuals. Table 1 provides the number of drinking water wells and the individuals using groundwater as a drinking water source per target distance ring. No public supply wells are located within the 4-mile TDL (DEQ, 2002).

<p align="center">Table 1</p> <p align="center">GROUNDWATER DRINKING WATER POPULATION WITHIN A 4-MILE RADIUS</p> <p align="center">RED ELEPHANT MINE PRELIMINARY ASSESSMENT</p> <p align="center">BLAINE COUNTY, IDAHO</p>		
Distance (Miles)	Wells	Population¹
0-0.25	0	0
0.25-0.5	0	0
0.5-1	0	0
1-2	0	0
2-3	11	26.4
3-4	23	55.2
Total	34	81.6

¹ Based on the average number of persons per household for Blaine County of 2.40

Precipitation data is not available for the immediate site area. The mean annual precipitation at Hailey, Idaho located 6 miles northeast from the site at an approximate elevation of 5,400 feet amsl (USGS, 1986) is 15.89 inches, including a mean annual snowfall of 81.1 inches (WRCC, 2002). The maximum 24-hour event was 2.68 inches (ibid.). Given the location and elevation of Red Elephant Gulch, especially the upper part that is over 1,000 feet amsl higher than Hailey, these numbers appear conservative. The site is not located within a wellhead protection area (DEQ, 2002).

One Probable Point of Entry (PPE) is rainwater and snowmelt infiltrating the workings in the upper Gulch and the tailings in the lower Gulch. The subsurface lithology could aid the infiltration and movement of metal constituents to the ground water.

3.2 SURFACE WATER MIGRATION PATHWAY

At the time of the site visit, upper Red Elephant Gulch did not exhibit surface water flow. Surface water may be present in the upper Gulch during precipitation events based upon vegetation patterns and the nature of the drainage (small incised channel) before the confluence with Elk Creek and lower Red Elephant Gulch. During these periods, one PPE is located at the confluence of Elk Creek and upper Red Elephant Gulch. Elk Creek flows 2.5 miles south-southeast from the PPE where it merges with Croy Creek. Croy Creek continues within the 15-mile Target Distance Limit (TDL) northeast for 6.0 miles

where it merges with the Big Wood River. The Big Wood River continues south within the TDL for another 6.5 miles located near Bellevue, Idaho (Figure 3-2) (USGS, 1987).

A second PPE is located below the dump as adit drainage from the "Lipman Tunnel" enters Elk Creek. Seepage from the adit flows over the dump before merging with Elk Creek. Elk Creek flows 1.0 miles south-southeast from the PPE where it merges with Croy Creek. Croy Creek continues within the 15-mile TDL northeast for 6.0 miles where it merges with the Big Wood River. The Big Wood River continues south within the TDL for another 8.0 miles (USGS, 1987).

A third PPE is located along the entire extent of the tailings in the lower Gulch. Elk Creek flows adjacent to and over the lower tailings and mill site. Elk Creek flows 0.5 miles southeast from the PPE where it merges with Croy Creek. Croy Creek continues within the 15-mile TDL northeast for 6.0 miles where it merges with the Big Wood River. The Big Wood River continues south within the TDL for another 8.5 miles (USGS, 1987).

The cities of Hailey and Bellevue do not obtain drinking water the Big Wood River from surface water intakes, or any other surface water body (DEQ, 2002).

During the site visit, DEQ collected three water samples (Appendix B) from Elk Creek: downstream of the Lipman Tunnel, but above the first tailings impoundment; adjacent to the mill site; and downstream from the mill site near the tailings terminus. Results indicate lead at a concentration of 0.009 mg/L in the downstream sample, but below the Drinking Water action level for lead of .015 mg/L (EPA², 2002).

Soil survey data near the site is not available. Based upon observations during the site visit, soils at the site appear thin, moderately coarse-grained and probably result in moderate to high infiltration rates into the underlying fractured bedrock.

Commercial and subsistence fishing are not conducted within the surface water TDL. Sport fishing does occur in the Big Wood River and possibly in Croy Creek near its confluence with the Big Wood River. However, no evidence of sport fishing was noted on Elk Creek. Fish catch data is not available for this area, but the number of fish caught and kept for human consumption from the Big Wood River is probably minimal. The Big Wood River is regulated between Hailey and Bellevue with a bag limit of two fish per day under 12 inches or over 16 inches (F&G, 2002).

The upper Red Elephant Gulch is located within wolf range (F&G, 1997). The Big Beaver/Little Beaver Crucial Elk Range (Figure 3-1) is located approximately four miles due west from the site. However, no other listed or endangered species are known to be located within the site's TDL. An estimated 68 acres of wetland frontage exist along the surface water TDL (NWI, 2002). The wetlands are found along all the stream segments comprising the TDL. It is expected the surface water is used for crop irrigation and by livestock and wildlife for drinking water.

3.3 SOIL EXPOSURE PATHWAY

Access to the Red Elephant Mine Site is unrestricted. However, the site is somewhat remote and due to the steep terrain of the upper Gulch, not readily accessible. The upper road to the adits and dumps does not appear to be maintained and through part of the year is most likely snow covered. There was little evidence of recreational use or other visitation. There are no residences or workers within 200 feet from the site. No schools or day-care facilities are located within 200 feet from the site. One residence is located at the mouth of Elk Creek, which lies approximately 0.6 miles from the mill site and tailings impoundments. There does appear to be commercial agriculture and livestock presently associated with this residence (numerous cattle/hay fields observed just north of the residence), thus placing these activities within an area of potential contamination. One PPE is the easy access of the mill and tailings from the gravel road.

DEQ collected three representative samples from the tailings (Appendix B); two from the tailings impoundments above the mill site and one adjacent to the mill site but, on the opposite side (west) of Elk Creek. The composite samples were representative of the coarse and fine fractions characteristic of the tailings. Total metals analysis of the tailings samples indicates risk levels at or below 1×10^{-6} (or one in 1,000,000) for cadmium, silver and two samples for mercury, conservatively assuming an industrial exposure scenario. Using the same exposure scenario, one mercury sample (1.0×10^{-5}) and three lead samples (ranging from 1.8×10^{-5} to 2.5×10^{-5}) demonstrated slightly higher risk (EPA¹, 2002). Lead ranged from 14,200 mg/kg to 18,400 mg/kg in the samples.

3.4 AIR MIGRATION PATHWAY

The nearest individual lives within 1 mile of the lowermost tailings and mill site. Approximately 82 individuals reside within the 4-mile radius. It is expected there will continue to be livestock grazing within 0.5 miles of the site (cattle observed grazing in fields within one-half mile of tailings). There are wetlands, wolf range and a designated elk range within 4 miles of the Red Elephant Mine.

The tailings impoundments (above and below the mill site) exhibited a strong binding characteristic while the waste rock dumps appeared consolidated with minor amounts of fine-grained material. Based upon direct observation, the likelihood of aerial dispersion from either of these sources appears minimal.

Fig 3-1 Red Elephant Mill & Mine Site 4-Mile Radius Map

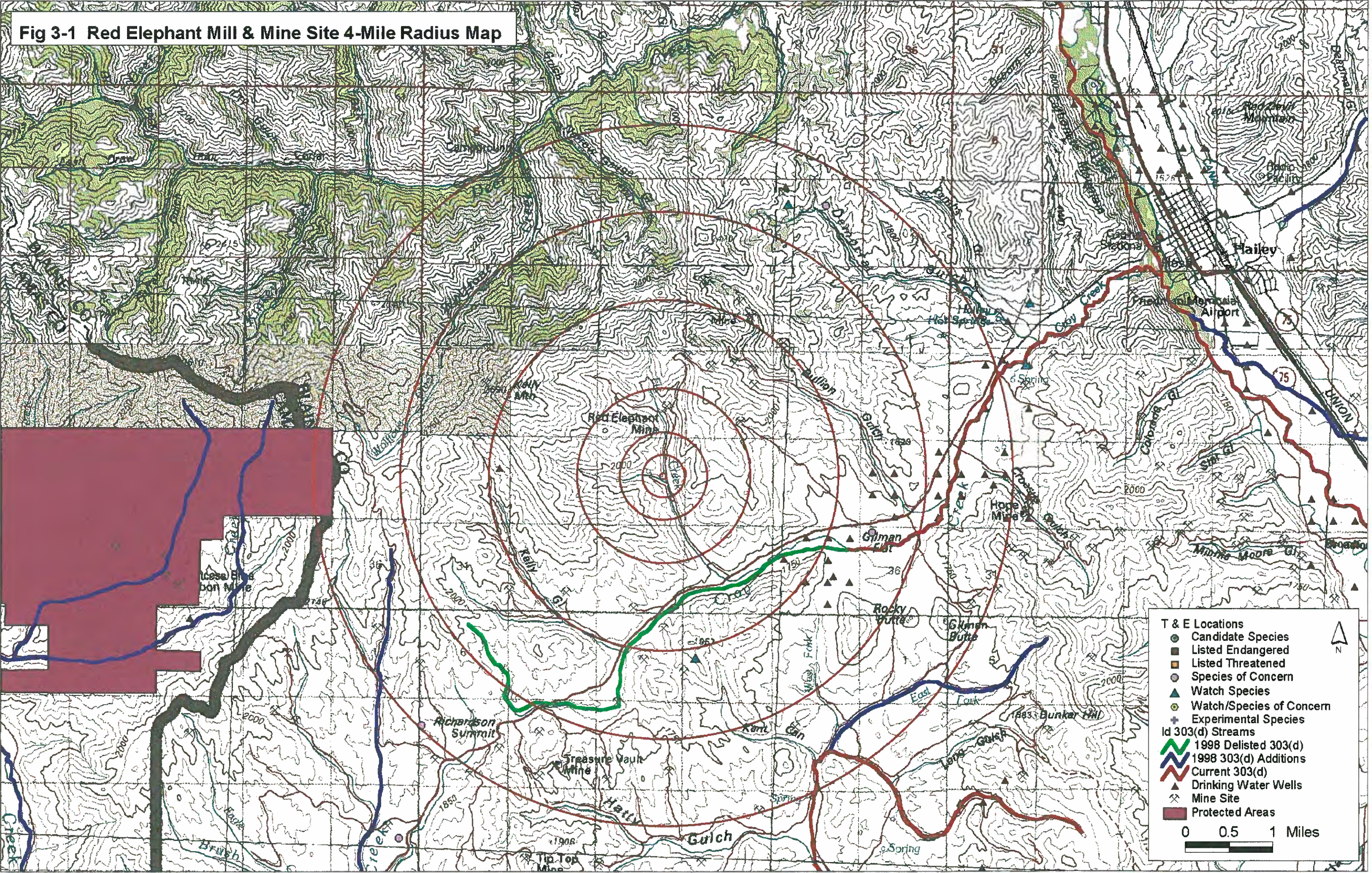
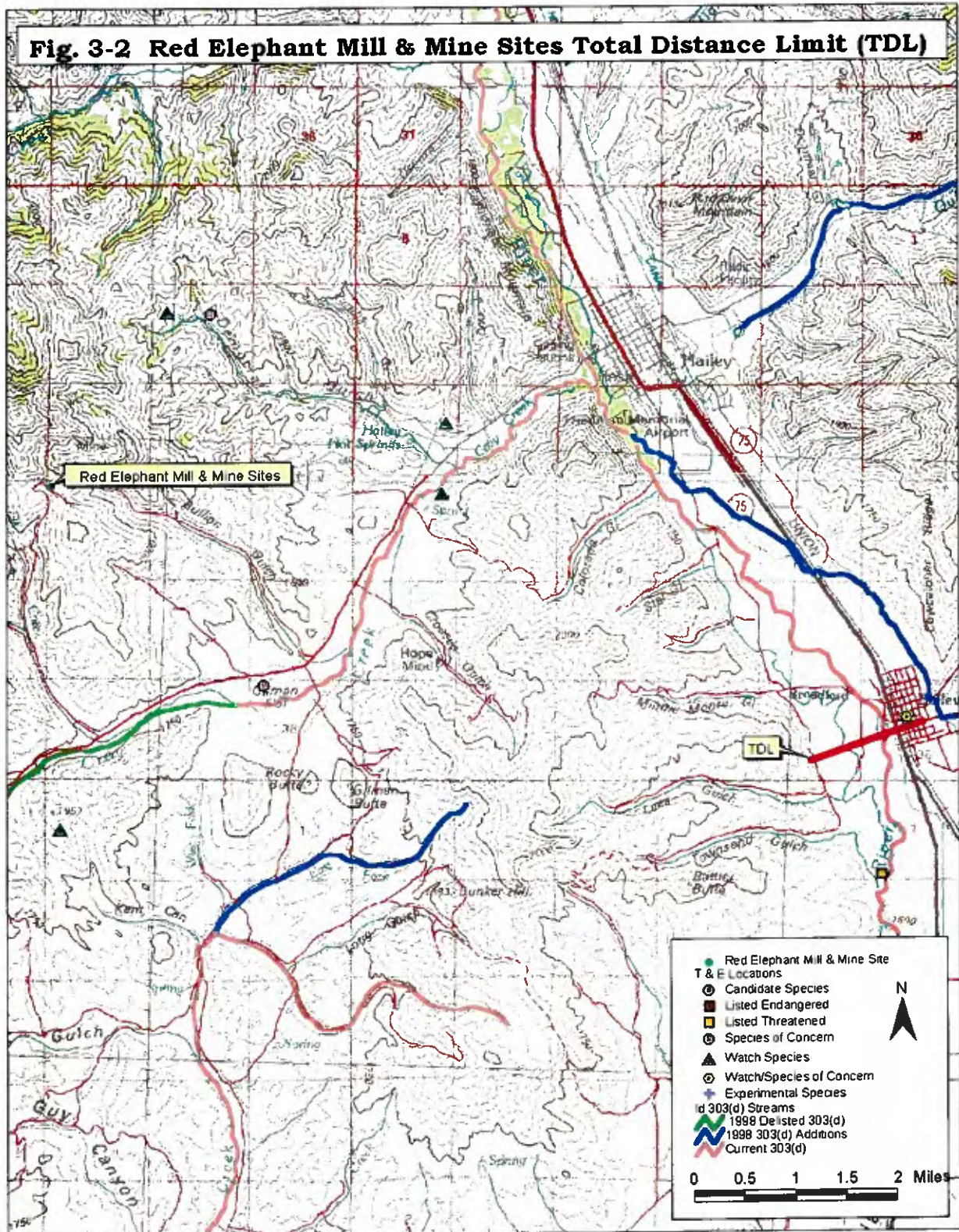


FIGURE 3-2



REFERENCES

Blaine County, 2002, Blaine County Treasurer-Tax Collections, Hailey, Idaho

DEQ (Department of Environmental Quality), 2002, Personal Communication with R. Taylor, Technical Services Division

DOC (U.S. Department of Commerce, Census Bureau), 2000, General Housing Characteristics, Idaho, <http://factfinder.census.gov>.

EPA¹ (U.S. Environmental Protection Agency), 2002, Region 9 Preliminary Remediation Goals. <http://www.epa.gov/region09/waste/sfund/prg/files/02table.pdf>

EPA² (U.S. Environmental Protection Agency), 2002.
<http://www.epa.gov/safewater/mcl.html>

F&G (Idaho Department of Fish and Game), 2002.
<http://www2.state.id.us/fishgame/common/regulations/fish/02-03/02fishinfo.pdf>

F&G (Idaho Department of Fish and Game), 1997, Idaho Conservation Data Center, Idaho Threatened/Endangered Species (GIS Point Locations).

Mitchell, V.E., and V.S. Gillerman, 1999, Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Bureau of Land Management Property in the Hailey-Bellevue Area, Red Elephant Gulch, Hailey Bellevue Area, Blaine County, Idaho, Idaho Geological Survey, 60 p.

The Mining Record, August 22, 1984, Division of Exxon is Acquiring Mining Rights, Section 2.1

Umpleby, J. B., L.G. Westgate, and C.P. Ross, 1930, Geology and Ore Deposits of the Wood River Region, Idaho, U.S. Geological survey Bulletin 814, 250 pp.

USGS, 1986, Richardson Summit Quadrangle, Idaho, United States Geological Survey, 7.5 minute series topographic map

WRCC (Western Regional Climate Center), 2002.
<http://www.wrcc.dri.edu/summary/climsmid.html>

APPENDIX A

PHOTOGRAPHIC DOCUMENTATION



Photo 1. Red Elephant Gulch, Dump #3. (NNW)



Photo 2. Ore bin and Dump #4. (NW)



Photo 3. Close-up, Adit # 4 (NW)



Photo 4. Close-up of ore bin at Dump #4. (NW)



Photo 5. Adit and Dump #5 (NW)



Photo 6. Close-up of Adit #5. (N)



Photo 7. Near top of ridge, overlooking Dumps # 4 and #5, and looking towards Bullion Gulch. (SE)



Photo 8. Elk Creek tailings, upstream of Red Elephant Mill site. (SE)



Photo 9. Tailings Dam in Elk Creek. (W)



Photo 10. Red Elephant Mill foundations and tailings; the channel of Elk Creek flows just to the right (W) and out of the photograph. (SE)

APPENDIX B

ANALYTICAL DATA



IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

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DEPT. OF ENVIRONMENTAL QUALITY
TECHNICAL SERVICES OFFICE

BUREAU OF LABORATORIES
RICHARD F. HUDSON, Ph.D., Chief
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235
FAX 208-334-2382

Attention: Brian Gaber
Dept. of Env. Quality - Boise Regional Office
1445 N. Orchard Street
Boise, ID 83706-2239

Date Collected: 7/26/2002
Time Collected: 4:15 PM
Date/Time Received: 7/30/2002 4:54:41 PM

Lab Sample ID Number

02 07 727

(Please refer to this number when contacting the lab)

DEQB / 4814

Site: Red Elephant Mill, 1st Tailings by Elk Cr

Collected By: Brian Gaber

Matrix: Soil

Sample ID: T-1

Type / Source:

Test	Method	Result	Units	Date Completed	Analyst
Cadmium, Total	EPA 7130	667	mg/kg	8/9/2002	huangh
Duplicate sample		493 mg/kg			
Lead, Total	EPA 7420	18400	mg/kg	8/9/2002	huangh
Duplicate sample		20 000 mg/kg			
Mercury, Total	EPA 7471A	10.4	mg/kg	8/7/2002	stranskyj
Duplicate sample		10.7 mg/kg			
Silver, Total	SM 3111B	179	mg/kg	8/9/2002	huangh
Duplicate sample		170 mg/kg			

RECEIVED

AUG 15 2002

DEPARTMENT OF
ENVIRONMENTAL QUALITY
BOISE REGIONAL OFFICE

Memo: Sample is not homogeneous.

Reported: Monday, August 12, 2002

EPA Laboratory ID: ID00018


Laboratory Supervisor



IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

RECEIVED

AUG 19 2002

DEPT. OF ENVIRONMENTAL QUALITY
TECHNICAL SERVICES OFFICE

BUREAU OF LABORATORIES
RICHARD F. HUDSON, Ph.D., Chief
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235
FAX 208-334-2382

Attention: Brian Gaber
Dept. of Env. Quality - Boise Regional Office
1445 N. Orchard Street
Boise, ID 83706-2239

Date Collected: 7/26/2002
Time Collected: 4:40 PM
Date/Time Received: 7/30/2002 4:54:41 PM

Lab Sample ID Number

02 07 728

(Please refer to this number when contacting the lab)

Site: Red Elephant Mill, 2nd Tailings at Berm

Collected By: Brian Gaber

Matrix: Soil

Sample ID: T-2

Type / Source:

Test	Method	Result	Units	Date Completed	Analyst
Cadmium, Total	EPA 7130	116	mg/kg	8/9/2002	huangh
Duplicate sample		171 mg/kg			
Lead, Total	EPA 7420	14200	mg/kg	8/9/2002	huangh
Duplicate sample		17 000 mg/kg			
Mercury, Total	EPA 7471A	6.4	mg/kg	8/7/2002	stranskyj
Duplicate sample		5.3 mg/kg			
Silver, Total	SM 3111B	128	mg/kg	8/9/2002	huangh
Duplicate sample		152 mg/kg			

RECEIVED

AUG 15 2002

DEPARTMENT OF
ENVIRONMENTAL QUALITY
BOISE REGIONAL OFFICE

Memo: Sample is not homogenous.

Reported: Monday, August 12, 2002

EPA Laboratory ID: ID00018

Laboratory Supervisor



IDAHO DEPARTMENT OF
HEALTH & WELFARE

DIRK KEMPTHORNE - Governor
KARL B. KURTZ - Director

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AUG 19 2002

DEPT. OF ENVIRONMENTAL QUALITY
TECHNICAL SERVICES OFFICE

BUREAU OF LABORATORIES
RICHARD F. HUDSON, Ph.D., Chief
2220 Old Penitentiary Road
Boise, ID 83712
PHONE 208-334-2235
FAX 208-334-2382

Attention: Brian Gaber
Dept. of Env. Quality - Boise Regional Office
1445 N. Orchard Street
Boise, ID 83706-2239

Date Collected: 7/26/2002
Time Collected: 4:28 PM
Date/Time Received: 7/30/2002 4:54:41 PM

Lab Sample ID Number

02 07 729

(Please refer to this number when contacting the lab)

DEQB / 4814

Site: Red Elephant Mill, across Elk Creek fro

Collected By: Brian Gaber

Matrix: Soil

Sample ID: T-3

Type / Source:

Test	Method	Result	Units	Date Completed	Analyst
Cadmium, Total	EPA 7130	80	mg/kg	8/9/2002	huangh
Duplicate sample		87 mg/kg			
Lead, Total	EPA 7420	15600	mg/kg	8/9/2002	huangh
Duplicate sample		13 300 mg/kg			
Mercury, Total	EPA 7471A	3.9	mg/kg	8/7/2002	stranskyj
Duplicate sample		3.3 mg/kg			
Silver, Total	SM 3111B	167	mg/kg	8/9/2002	huangh
Duplicate sample		137 mg/kg			

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Attention: Brian Gaber
Dept. of Env. Quality - Boise Regional Office
1445 N. Orchard Street
Boise, ID 83706-2239

Date Collected: 7/26/2002
Time Collected: 4:10 PM
Date/Time Received: 7/30/2002 4:54:41 PM

Lab Sample ID Number

02 07 730

DEQB / 4814

Site: Red Elephant Mill, Upstream above tailin

(Please refer to this number when contacting the lab)

Collected By: Brian Gaber

Matrix: Surface Water

Sample ID: Sample 1

Type / Source:

Test	Method	Result	Units	Date Completed	Analyst
Cadmium, Total	EPA 200.9	<0.001	mg/L	8/1/2002	stranskyj
Lead, Total	EPA 200.9	<0.005	mg/L	8/1/2002	huangh
Mercury, Total	EPA 245.1	<0.0005	mg/L	8/7/2002	stranskyj
Silver, Total	EPA 200.9	<0.001	mg/L	8/1/2002	stranskyj

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Attention: Brian Gaber
Dept. of Env. Quality - Boise Regional Office
1445 N. Orchard Street
Boise, ID 83706-2239

Date Collected: 7/26/2002
Time Collected: 4:20 PM
Date/Time Received: 7/30/2002 4:54:41 PM

Lab Sample ID Number

02 07 731

DEQB / 4814

Site: Red Elephant Mill, opposite millsite, Elk

(Please refer to this number when contacting the lab)

Collected By: Brian Gaber

Matrix: Surface Water

Sample ID: Sample 2

Type / Source:

Test	Method	Result	Units	Date Completed	Analyst
Cadmium, Total	EPA 200.9	<0.001	mg/L	8/1/2002	stranskyj
Lead, Total	EPA 200.9	<0.005	mg/L	8/1/2002	huangh
Mercury, Total	EPA 245.1	<0.0005	mg/L	8/7/2002	stranskyj
Silver, Total	EPA 200.9	<0.001	mg/L	8/1/2002	stranskyj

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1445 N. Orchard Street
Boise, ID 83706-2239

Date Collected: 7/26/2002
Time Collected: 5:28 PM
Date/Time Received: 7/30/2002 4:54:41 PM

Lab Sample ID Number

02 07 732

(Please refer to this number when contacting the lab)

DEQB / 4814

Site: Red Elephant Mill, Downstream below tai

Collected By: Brian Gaber

Matrix: Surface Water

Sample ID: Sample 3

Type / Source:

Test	Method	Result	Units	Date Completed	Analyst
Cadmium, Total	EPA 200.9	<0.001	mg/L	8/1/2002	stranskyj
Lead, Total	EPA 200.9	0.009	mg/L	8/1/2002	huangh
Mercury, Total	EPA 245.1	<0.0005	mg/L	8/7/2002	stranskyj
Silver, Total	EPA 200.9	<0.001	mg/L	8/1/2002	stranskyj

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