



STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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

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

April 28, 2011

Mr. Clint Hughes
Minerals Specialist
USFS – Nez Perce National Forest
104 Airport Road
Grangeville, ID 83530

Subject: Site Assessment of the Sixty Four Mine, Dixie Area, Idaho County, Idaho

Dear Mr. Hughes:

The Idaho Department of Environmental Quality (DEQ) has completed a review of historical mining data and geological information for the above referenced mine within mixed ownership lands near Dixie, Idaho. During the review, DEQ also conducted a site visit to the Sixty Four Mine. During the visit, mine site activity such as adits, shafts, and buildings were observed and mapped in order to provide a comprehensive analysis necessary to complete an Abbreviated Preliminary Assessment (APA).

The APA is used to help site investigators determine if their findings result in a determination of No Remedial Action Planned (NRAP) or if additional analysis is warranted. The APA documents the rationale for the decision on whether further steps in the site investigation process are required under the Federal Comprehensive Environmental Response, Compensation and Liabilities Act (CERCLA). If additional analysis was warranted, a Preliminary Assessment (PA) would have been prepared for this site.

PAs are conducted in accordance with CERCLA. The reasons to complete a PA include:

- 1) To identify those sites which are not Comprehensive Environmental Response, Compensation, and Liability Information System (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).

Mr. Clint Hughes
Sixty Four Mine
April 28, 2011
Page 2

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.

DEQ found a dilapidated, green tar paper roofed cabin still standing, an outhouse, and a collapsed cabin or structure dug into the hill side. DEQ noted a short collapsed adit and a discovery pit with approximately 50 cubic yards of tailings. The tailings pile was composed of country rock with little or no evidence of ore or mineralized material. An old road coming down the hill near the adit has been closed, re-vegetated, and reclaimed by the USFS.

A sediment sample (SPSD1) and a surface water sample (SPSW1) was collected from Dixie Gulch Creek.

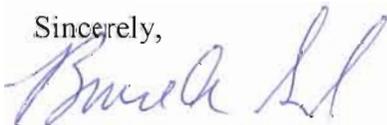
Sediment sample SPSD1 was a composite taken from the spread out tailings pile/waste dump. The sample exceeded the Initial Default Target Levels (IDTLs) for arsenic by 53.7 times and the IDTLs for silver by 2.96 times. The sample exceeded the BLM Risk Factor for arsenic relative to the robin by 5.25 times. The sample did not exceed the Human Health Medium-Screening Levels (HHSLs). These values are not remarkable, and it is unlikely any human health risks or ecological health risks are associated with this mine site.

Surface water sample SPSW1 was taken from Dixie Gulch Creek approximately one quarter to one half mile down gradient from the mine site. This sample is considered a Probable Point of Entry (PPE) sample for any contaminants originating at the Sixty Four Mine. This surface water sample exceeded the DEQ Ground Water Standard for iron by 3.5 times and for manganese by 1.3 times. The sample did not exceed the Idaho Drinking Water Standards or the Idaho Cold Water Biota Standards. These values are not remarkable, and it is unlikely any human health risks or ecological health risks are associated with this mine site.

Attached is the Abbreviated Preliminary Assessment for the Sixty Four Mine. It contains the mine history, limited geological information, water and sediment analysis results, site photographs, and maps of the property. Based on this information, DEQ is recommending the Sixty Four Mine property status be designated as NRAP.

If you have any comments or questions about this site, the report, DEQ's recommendations, or if I may be of any other assistance, contact me at (208) 373-0554.

Sincerely,



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

Attachment

cc: Ken Marcy – U.S. Environmental Protection Agency
Sixty Four Mine File

ABBREVIATED PRELIMINARY ASSESSMENT

This is an Abbreviated Preliminary Assessment (APA) for the Sixty Four Mine near Dixie, Idaho. This document provides the rationale for the determination of No Remedial Action Planned (NRAP) or if additional analysis or site investigation is necessary for the Sixty Four Mine. Additional sheets are attached which contain relevant information including historical data, site photographs, and maps generated during the site visits or desktop research.

Preparer: Daniel D. Stewart **Date:** 4/4/11
Idaho Department of Environmental Quality
300 West Main, Room 203
Grangeville, ID 83530
(208) 983-0808
daniel.stewart@deq.idaho.gov

Site Name: Sixty Four Mine

Previous Names (aka): 64 Mine, Monadnock, Sixty-Four Group, 64, Protection, Dixie, South Nugget Placer

Site Owner: United States Forest Service
Nez Perce National Forest

Address: 104 Airport Road
Grangeville, ID 83530

Site Location: The Sixty Four Mine is on the north side of Dixie Gulch. Access is from FS Road 9527C, which turns off of FS Road 9527 at Dixie Gulch. This road stops at a dilapidated cabin (with a green tar paper roof) and another collapsed building. The mine workings are 100 yards west of the cabin and are on United States Forest Service (USFS) land.

Township 26 North, Range 8 East, Section 22

Latitude: 45.5795°N **Longitude:** -115.46018°W

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

This site was investigated for potential releases of heavy metals and sediment from mine waste dumps and potential discharges of other deleterious materials, such as petroleum products and ore processing chemicals. No evidence or indications of these materials were located on site. Dixie Gulch Creek flows through the mine site (see water and sediment analysis results in the attachments of this report). Although dilapidated and collapsed structures still remain, no drums, containers, or barrels were noted. See the site photographs at the end of this report. The site

inspection identified several collapsed adits/tunnels, a stull pile, a collapsed cabin, a small gage rail system, and a spread out tailings pile/waste dump.

A sediment sample (SPSD1) and a surface water sample (SPSW1) were collected from Dixie Gulch Creek.

Sediment sample SPSD1 was a composite taken from the spread out tailings pile/waste dump. The sample exceeded the Initial Default Target Levels (IDTLs) for arsenic by 53.7 times and the ITDLs for silver by 2.96 times. The sample exceeded the BLM Risk Factor for arsenic relative to the robin by 5.25 times. The sample did not exceed the Human Health Medium-Screening Levels (HHSLs). These values are not remarkable, and it is unlikely any human health risks or ecological health risks are associated with this mine site.

Surface water sample SPSW1 was taken from Dixie Gulch Creek approximately one quarter to one half mile down gradient from the mine site. This sample is considered a Probable Point of Entry (PPE) sample for any contaminants originating at the Sixty Four Mine. This surface water sample exceeded the DEQ Ground Water Standard for iron by 3.5 times and for manganese by 1.3 times. The sample did not exceed the Idaho Drinking Water Standards or the Idaho Cold Water Biota Standards. These values are not remarkable, and it is unlikely any human health risks or ecological health risks are associated with this mine site.

Part 1 - Superfund Eligibility Evaluation

If all answers are “no” go on to Part 2, otherwise proceed to Part 3.	YES	NO
1. Is the site currently in CERCLIS or an “alias” of another site?		x
2. Is the site being addressed by some other remedial program (Federal, State, or Tribal)?		x
3. Are the hazardous substances 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)?		x
4. Are the hazardous substances that may be released from the site excluded by policy considerations (i.e., deferred to RCRA corrective action)?		x
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>	x	

Please explain all “yes” answer(s):

A site inspection involving direct observations confirmed contaminants of concern do not exist in concentrations that present a threat to human health or the environment. Although dilapidated and collapsed structures still remain, no drums, containers, or barrels were noted. The closest residence is approximately 3.5 miles away and is separated from the mine by structural geology.

Part 2 - Initial Site Evaluation

For Part 2, if information is not available to make a “yes” or “no” response, further investigation may be needed. In these cases, determine whether an APA is appropriate. Exhibit 1 parallels the questions in Part 2. Use Exhibit 1 to make decisions in Part 3.

If the answer is “no” to any of questions 1, 2, or 3, proceed directly to Part 3.	YES	NO
1. Does the site have a release or a potential to release?		x
2. Does the site have uncontained sources containing CERCLA eligible substances?		x
3. Does the site have documented on-site, adjacent, or nearby targets?		x

If the answers to questions 1, 2, and 3 above were all “yes” then answer the questions below before proceeding to Part 3.	YES	NO
4. Does documentation indicate that a target (e.g., drinking water wells, drinking surface water intakes, etc.) has been exposed to a hazardous substance released from the site?		x
5. Is there an apparent release at the site with no documentation of exposed targets, but there are targets on site or immediately adjacent to the site?		x
6. Is there an apparent release and no documented on-site targets or targets immediately adjacent to the site, but there are nearby targets (e.g., targets within one mile)?		x
7. Is there no indication of a hazardous substance release, and there are uncontained sources containing CERCLA hazardous substances, but there is a potential to release with targets present on site or in proximity to the site?		x

Notes:

During the site assessments, DEQ has used references from several different documents including USGS maps, county tax rolls, and historical reports that have spelled numerous claims 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 written in this report.

Sixty Four Mine Site Inspection Notes:

The following field notes were taken by the DEQ during the July 30, 2010 site inspection:

- Collapsed adit/tunnel
- Stull pile
- Collapsed cabin
- Water running from tunnel
- Small gage rail
- Collapsed adit with lush vegetation
- Waste dump with big trees growing
- Second collapsed tunnel, well vegetated

- Spread out waste dump/tailings pile, approximately 5000 cy, all pushed around and hard to quantify
- Trenches- dog holes
- Square nuts on bolts from 1920's-30's?
- Samples collected from Dixie Gulch Creek (SPSD1 - sediment sample from creek and SPSW1 - water sample from creek)
- Dixie Gulch Creek running through workings
- Wetlands below mining site at creek ford less than two acres

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. **(Circle or highlight responses)**

Suspected/Documented Site Conditions		APA	Full PA	PA/SI	SI
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 TDL) 5. There is documentation that a sensitive receptor has been exposed to a hazardous substance released from the site.	Option 1: APA	Yes			
	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 - EPA Site Assessment Decision

When completing Part 3, use Part 2 and Exhibit 1 to select the appropriate decision. For example, if the answer to question 1 in Part 2 was “no,” then an APA may be performed and the “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:

Bruce A. Schuld

 Bruce A. Schuld

4/25/11

 Date

Please Explain the Rationale for Your Decision:

There were no direct airborne, surface or ground water pathways to any potable water sources or residences. No evidence of ore or mineralized rock remained at the site. DEQ found a dilapidated, green tar paper roofed cabin still standing, an outhouse, and a collapsed cabin or structure dug into the hill side. DEQ noted several collapsed adits and a discovery pit with approximately 50cubic yards of tailings. The tailings pile was composed of country rock with little or no evidence of ore or mineralized material. An old road coming down the hill near the adit has been closed, re-vegetated, and reclaimed by the USFS.

Dixie Gulch Creek flows through the mine site (see water analysis results in the attachments to this report). No other water bodies or residences are within close proximity to the mine site. The closest residence is approximately 3.5 miles away and is separated from the mine by structural geology.

As a result of our observations, DEQ is recommending this site be designated as “No Remedial Action Planned” (NRAP).

Attachments:

- Historical Information
- Water and Sediment Analysis Results
- Site Photographs
- Maps

Historical Information

Mine History: The following history of the Sixty Four Mine is from McKay (1996, p. 181-182):

The Sixty-Four mine was located two miles north of Dixie, in Dixie Gulch. The group consisted of four claims: the 64, the Protection, the Dixie, and the South Nugget placer. It was reportedly discovered in 1864 and given its name at that time. The first known owner was J. B. Stowers, a banker from Oxford, Mississippi, who bought the Sixty-Four group in 1899. At that time the vein was about 3 1/2' wide and the ore assayed \$8-10 per ton. The development work was two inclined shafts, 24' deep each, and a vertical shaft on the Protection claim, plus open cuts following the surface showing. . . .

By 1900 T. S. Rackliff and B. B. Stuart owned the mine. George Trader, a Dixie blacksmith, owned the property from at least 1900 until 1930. Trader bonded the claims to Joseph Morris in 1900, who sank a shaft and had the ore treated at Trader's mill on Olive Creek. In 1909 a tunnel was being driven 2 1/2' a shift. By 1909 there was a 100' shaft sunk on a 2 1/2'-wide vein. Six tons of ore had been milled in an arrastra and yielded \$40 per ton in gold. A crosscut tunnel was being driven to tap the shaft at the depth of 90'. By 1910 Henry Hazlett was developing the property, and he worked on it until at least 1914.

In 1932 A. C. Conrad, C. P. Humphrey, and O. R. Hyde leased and bonded the Sixty-Four from George Trader, guaranteeing payment of a set amount at a later date. They installed a cyanide tank at Trader's mill, which they planned to use to treat ore from the Sixty-Four. In 1935 William Frank Robberson leased the mine from Trader, and he shipped six tons of ore to the Kellogg smelter and received back 6 ounces of gold.

In 1986 claim numbers 1, 2, and 3 had a log cabin and an outhouse on the property.

The following information was taken from the *Site Inspection Report for the Abandoned and Inactive Mines in Idaho on U.S. Forest Service Lands, Nez Perce National Forest, Vol. II: Dixie Area, Idaho County, Idaho, Bennett, Kauffman, and Mitchell, Staff Report 2003.*

Site Features:

The 64 Mine was visited by Earl Bennett on July 14, 1999. The property consists of two caved adits and a caved shaft. An upper adit and the shaft are on the slope north of Dixie Gulch, and the lower adit, which was probably the main tunnel, is in the gulch bottom near the creek.

The caved shaft forms a pit about 20 feet in diameter and 12 feet deep. Timbers fallen into the shaft mark the location of the hoist works. The waste dump extends to the south from the pit and measures 35 feet long, 10 feet wide, and 20 feet thick on the nose. Several short trenches are near the shaft. East of the shaft is the trough of the upper caved adit. Some of the old adit timbers are near the mouth of the trough. The overgrown waste

dump for this adit is about 100 feet long, 25 feet wide and 6 feet thick. A few prospect pits are to the east of the adit.

About 100 yards south of and downhill from the shaft is the lower caved adit, which has a minor seep that disappears into the dump. A collapsed shed and a small stack of mine timbers are near the mouth of the adit trough. The irregularly shaped waste dump has several lobes, the longest of which measures 230 feet long, 15 feet wide, and 6 feet thick. Part of the creek near this adit appears to have been placered. The total disturbed area at the site covers about 2 acres.

Geologic Features:

The 64 Mine is in Cretaceous biotite granodiorite of the Idaho batholith (Lewis and others, 1990, 1993). McKay (1996, p. 181) noted the following information on the geology of the deposit:

The vein trended north 55-65 degrees west and dipped 55 degrees northeast. The vein was in a shear zone in quartz monzonite and varied from less than 1" to 3' wide. The vein was strongly sheared and banded by oxidized streaks and by lenticular inclusions of altered country rock. It was cut by a wide lamprophyre dike about 200' from the portal.

Water and Sediment Analysis Results

Table 1. Total Recoverable Metals Analysis (concentrations expressed in mg/l unless other stated)

**Water Sample Analysis, Dixie Gulch Creek
Sixty Four Mine, Dixie Mining District**

Description	DEQ Ground Water Standard (T)	DEQ Drinking Water Standard MCL	DEQ Cold Water Biota Standard Acute	DEQ Cold Water Biota Standard Chronic	Sixty Four Mine Probable Point of Entry Surface Water Sample SPSW1
Antimony					<0.02
Arsenic	0.05	0.01	0.36	0.19	<0.025
Barium	2	2			0.0228
Cadmium	0.005	0.005	0.00082 (H)	0.00037 (H)	<0.002
Chromium (Total)	0.1	0.1			<0.006
Copper	1.3		0.0046 (H)	0.0035 (H)	<0.01
Iron	0.3*				1.05
Lead	0.015	0.015	0.014 (H)	0.00054 (H)	<0.0075
Manganese	0.05				0.0663
Selenium	0.05	0.05	0.018 (T)	0.005 (T)	<0.04
Silver	0.1*		0.00032 (H)		<0.005
Zinc	5*		0.035 (H)	0.032 (H)	<0.01

*Secondary MCL (T) – Standard in Total (H) – Hardness Dependent
 Gray = Exceeds DEQ Ground Water Quality Standard

Table 2. Sediment Sample Analysis

Sixty Four Mine, Dixie Mining District

Metals	IDTLs (mg/kg)	HHSLs (mg/kg)	Sixty Four Mine Point of Probable Entry Sample SPSD1 (mg/kg)
Antimony	4.77	31	<2.0
Arsenic	0.391	23	21
Barium	896	1600	64.1
Cadmium	1.35	39	<0.02
Chromium	7.9	210	3.37
Copper	921	2900	4.2
Iron		55000	9600
Lead	49.6		3.61
Manganese	223	3600	65.8
Selenium	2.03	23	<4.0
Silver	0.189	390	0.56
Zinc	886	390	14.5
Mercury	0.00509	23	<0.033

BOLD = Exceeds BLM Ecological Risk Benchmarks

Gold = Exceeds Idaho Initial Default Target Levels (IDTLs)

Light Yellow = Exceeds Human Health Screen Levels (HHSLs)

**Table 3. Wildlife and Livestock Risk Management Criteria for Metals in Soils (mg/kg)
BLM Technical Note 390 Rev. 2004 “Risk Management Criteria for Metals at BLM Mining
Sites”**

Sixty Four Mine, Dixie Mining District

Metals	Elk	Mule Deer	Big Horn Sheep	Deer Mice	Cottontail Rabbits	Canada Goose	Mallard	Robin	Cattle	Sheep	Median Values
Antimony											
Arsenic	328	200	387	230	438	61	116	4	419	275	275
Barium											
Cadmium	3	3	9	7	6	2	1	0.3	15	12	8
Chromium											
Copper	131	102	64	640	358	161	141	7	413	136	136
Iron											
Lead	127	106	152	142	172	34	59	6	244	125	125
Manganese											
Selenium											
Silver											
Zinc	275	222	369	419	373	271	196	43	1082	545	307
Mercury	11	11	6	2	15	6	4	1	45	8	8

Site Photographs



Photo 1. USFS decommissioned road at the Sixty Four Mine



Photo 2. Collapsed adit and possible tunnel at the Sixty Four Mine



Photo 3. Abandoned dilapidated cabin at the Sixty Four Mine



Photo 4. Collapsed adit and timber at the Sixty Four Mine



Photo 5. Tailings Pile/Waste Dump at the Sixty Four Mine



Photo 6. Sixty Four Mine collapsed adit and tunnel



Photo 7. Sixty Four Mine stull pile

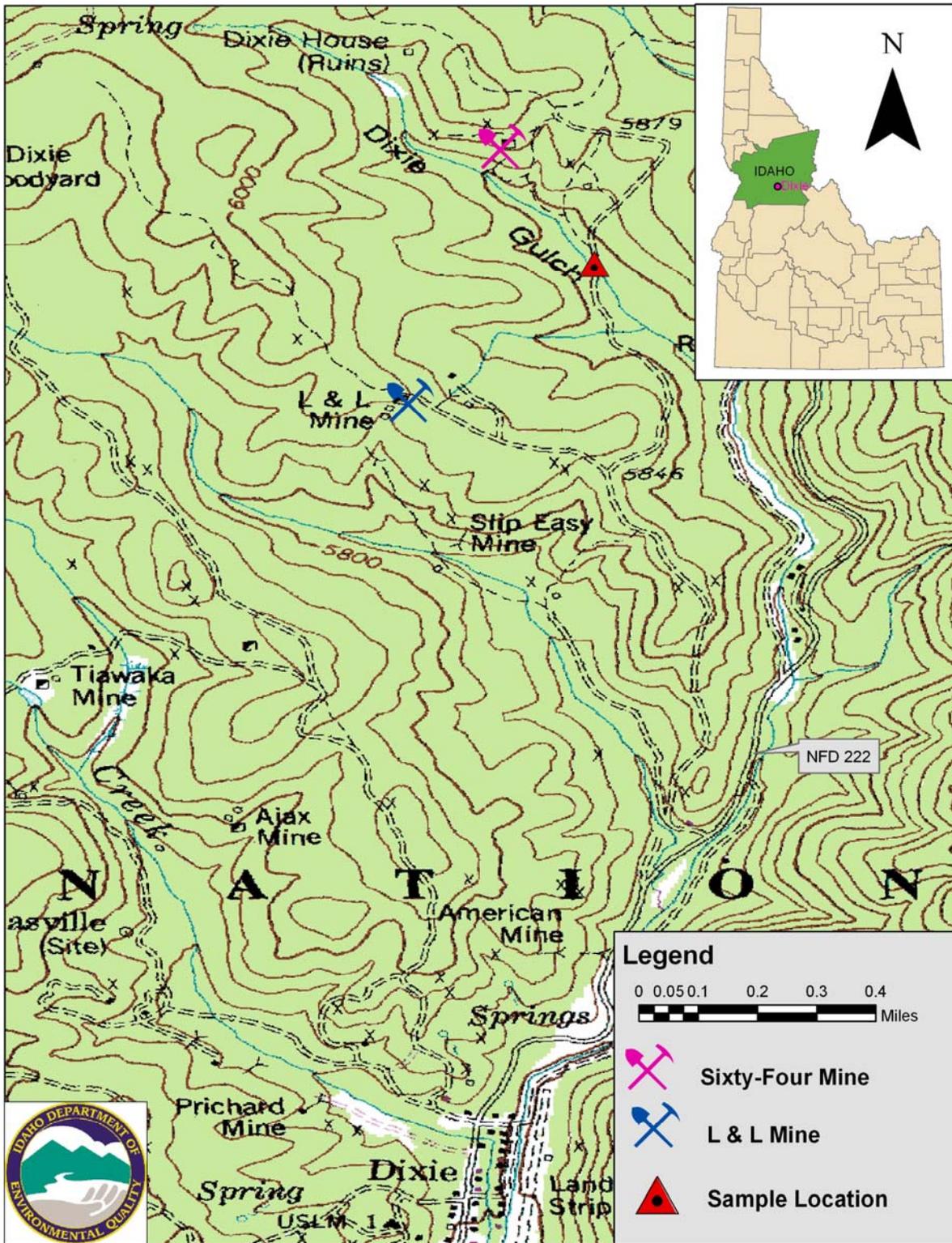


Photo 8. Sixty Four Mine collapsed tunnel

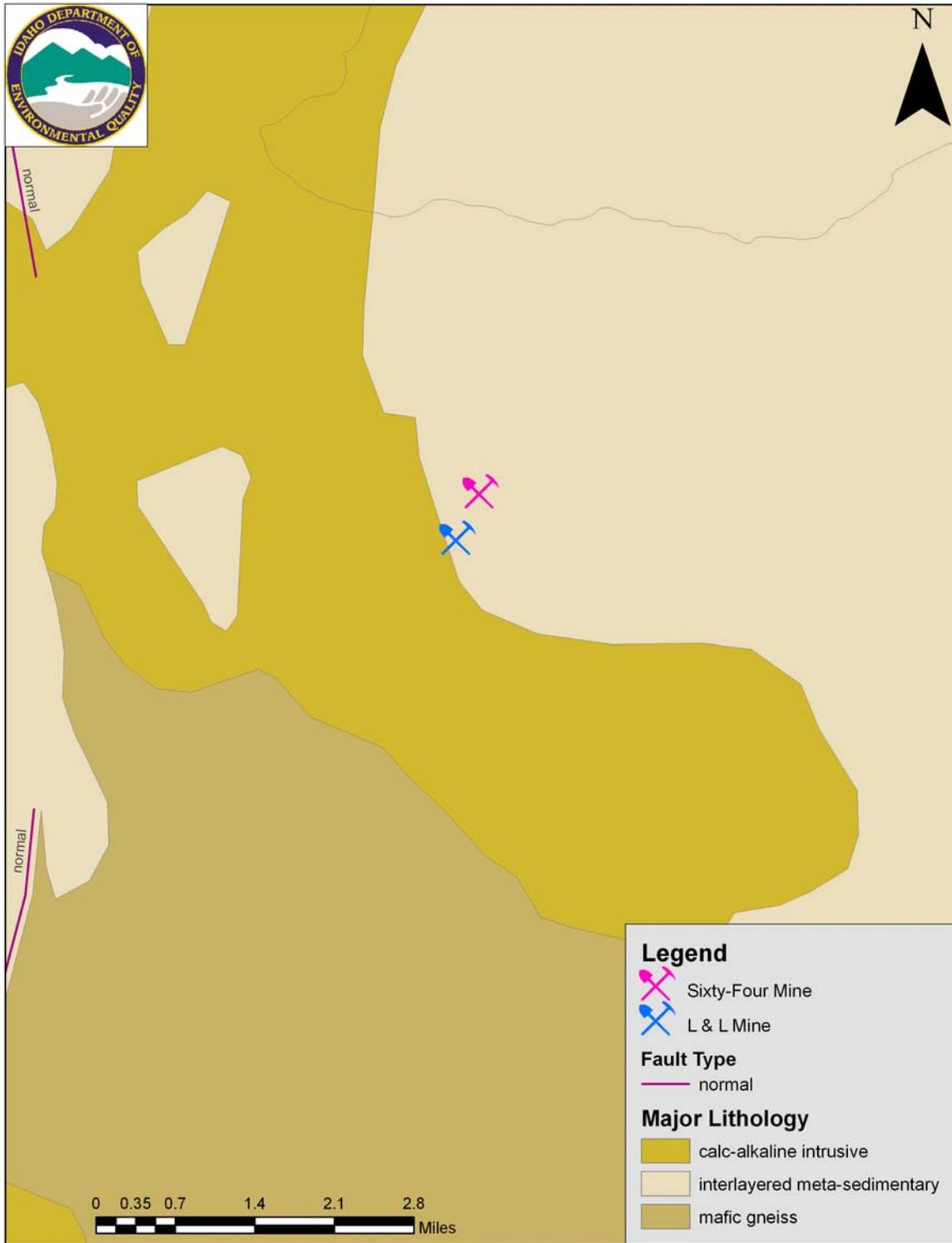


Photo 9. Sixty Four Mine water sample taken above this road

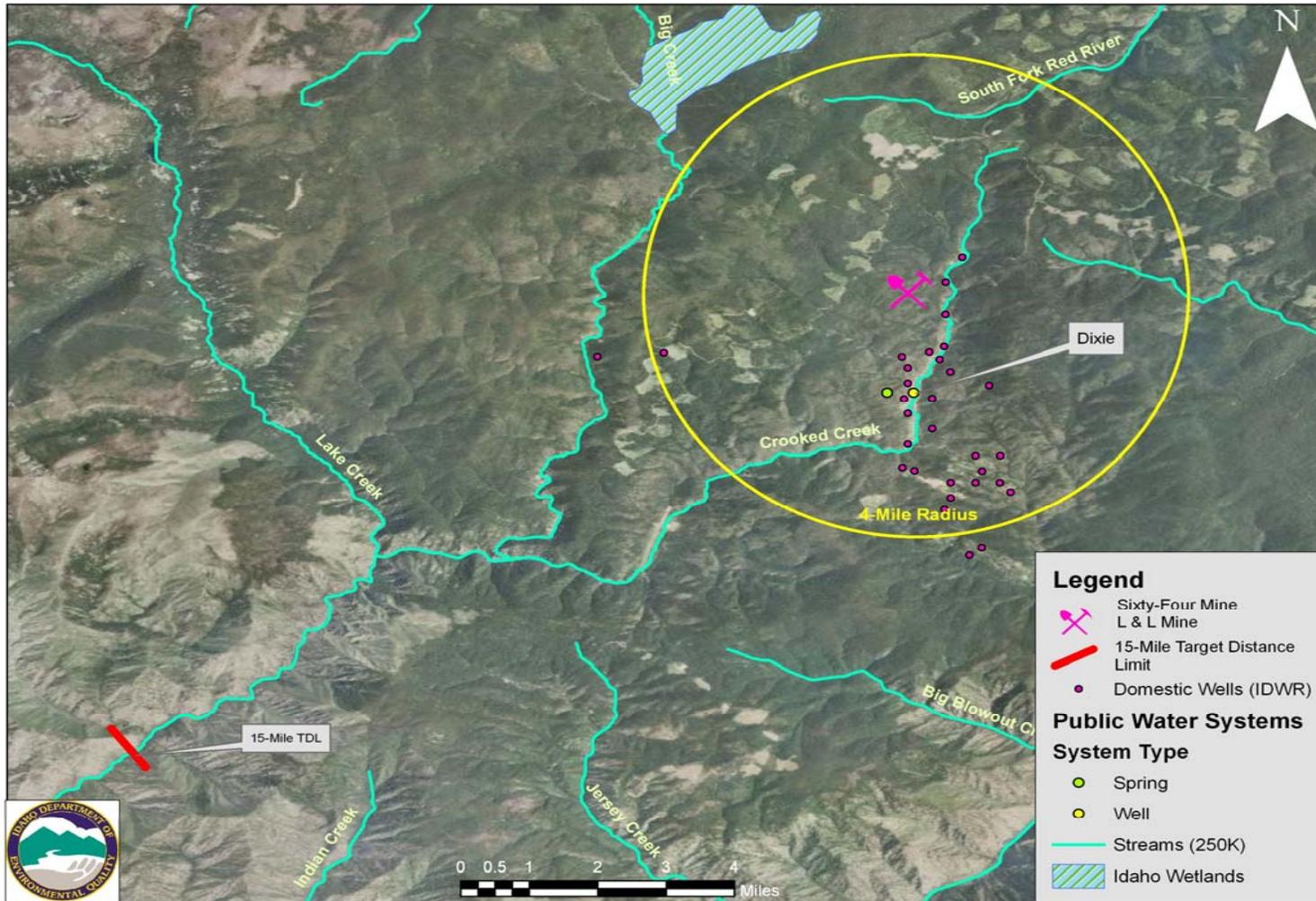
Maps



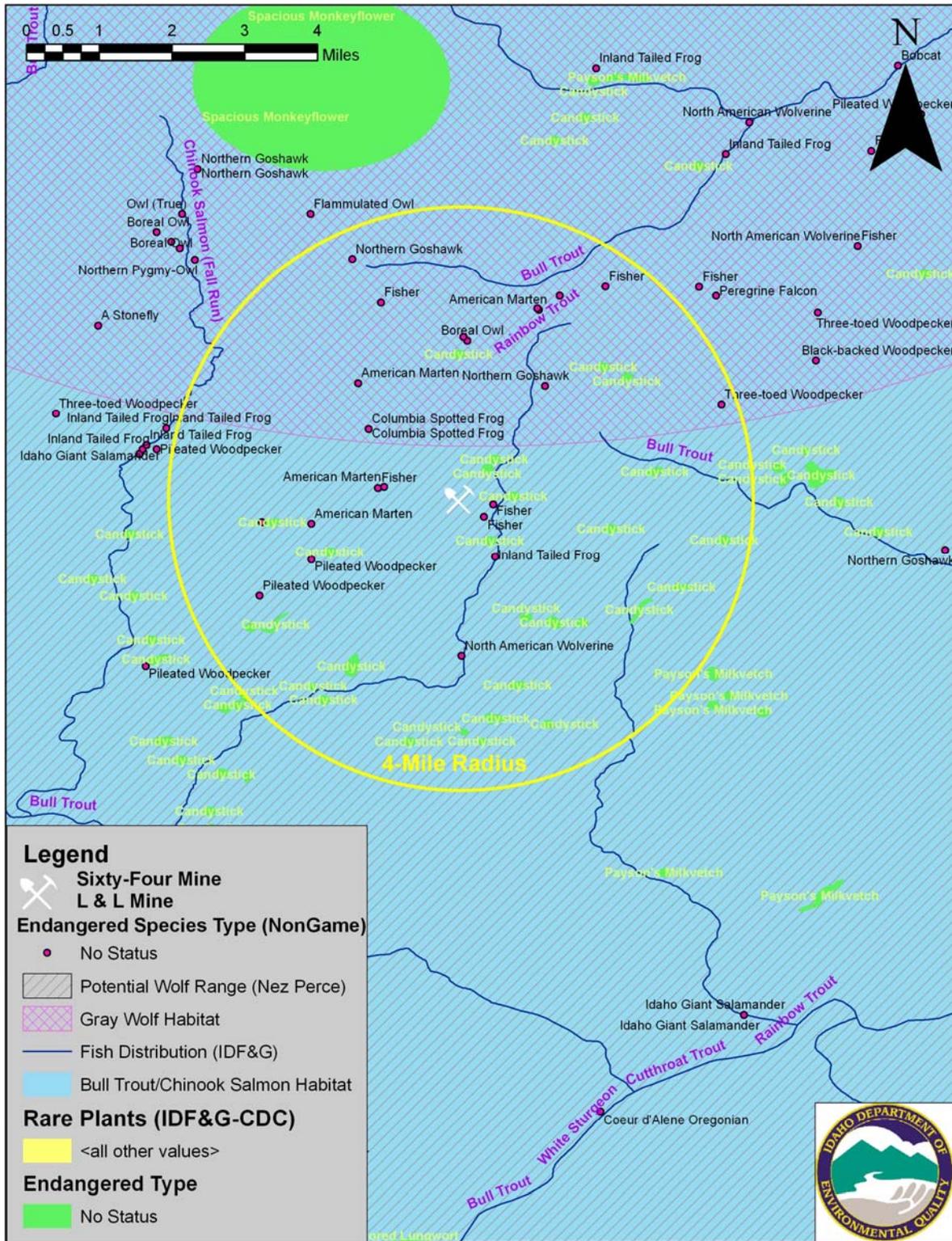
Map 1. Location of Sixty Four Mine and L & L Mine. Sample Location for SPSW1 and SPSD1 Labeled on Map. (Map Source: USGS 24k Quads)



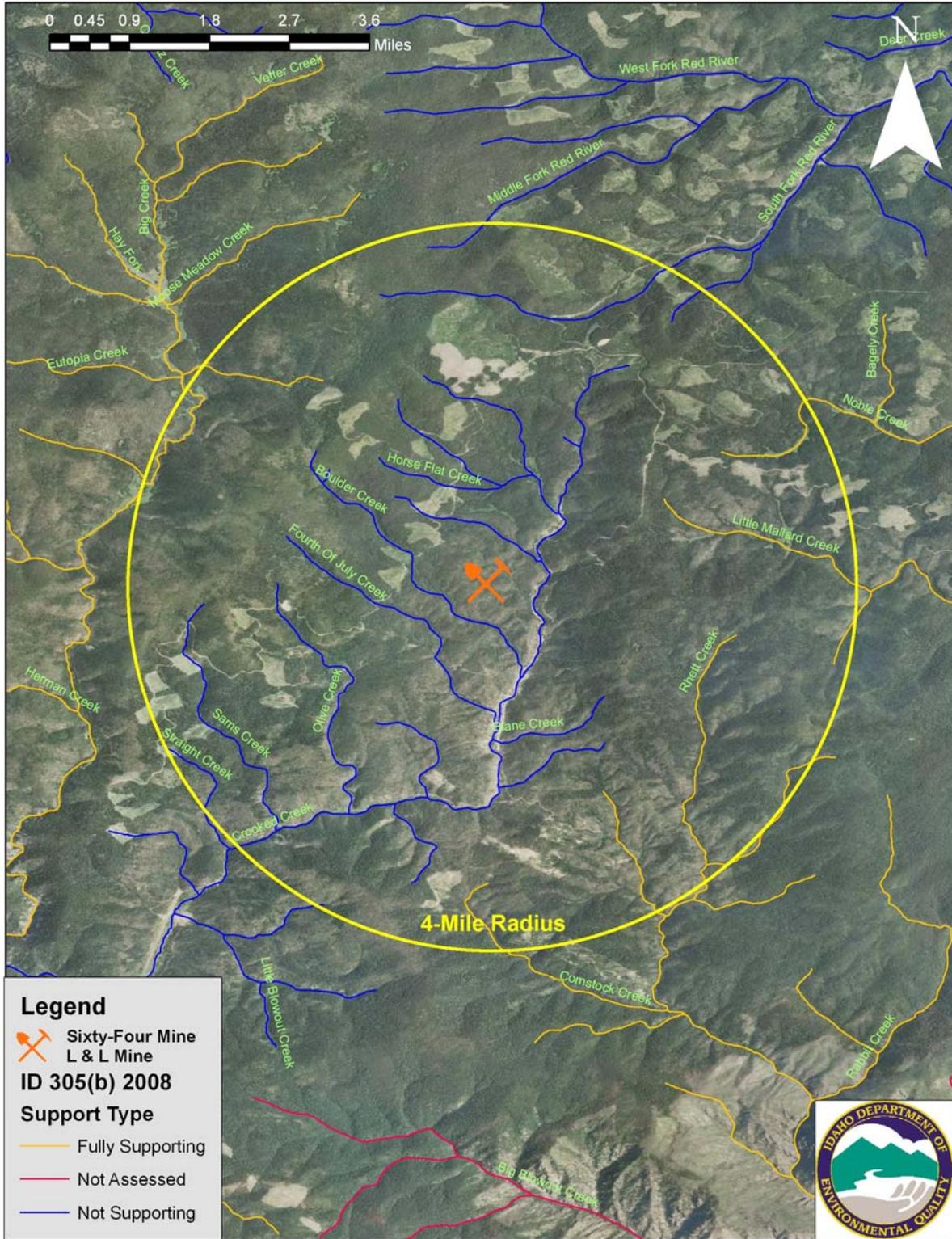
Map 2. Major Lithology of Sixty Four Mine and L & L Mine (Map Sources: SDE Feature Class, USGS 1995 and Idaho DEQ GIS ArcSDE 9.2 Geodatabase)



Map 3. Domestic Well Locations and Public Water System (PWS) Locations. There are two public water systems within the four mile radius; no Time of Travel information is available. Wetlands run along Big Creek, however they are segregated by structural geology. (Map Source: 2009 Natural Color 1-meter National Agricultural Imagery Program (NAIP) Idaho Map)



Map 4. Sensitive Species within Four Mile Radius and Surrounding Area (Map Sources: SDE Feature Dataset, Animal Conservation Database and Idaho DEQ GIS ArcSDE 9.2 Geodatabase)



Map 5. Sensitive Waterways within Four Mile Radius and Surrounding Area (Map Sources: SDE Feature Dataset, Idaho DEQ GIS ArcSDE 9.2 Geodatabase, 305(b) List. 2009 Natural Color 1-meter NAIP Idaho Map)



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Sampled By	Date Received
LCSW1	W0H0231-01	Surface Water	29-Jul-10 10:30	BS	09-Aug-2010
JCPPEW1	W0H0231-02	Surface Water	28-Jul-10 11:19	TE	09-Aug-2010
SLADSW1	W0H0231-03	Surface Water	28-Jul-10 12:00	TE	09-Aug-2010
BHBGSW1	W0H0231-04	Surface Water	27-Jul-10 13:35	TE	09-Aug-2010
SPSW1	W0H0231-05	Surface Water	30-Jul-10 14:30	BS	09-Aug-2010
SPSW2	W0H0231-06	Surface Water	27-Jul-10 14:00	RH	09-Aug-2010
SMGW1	W0H0231-07	Surface Water	20-Jul-10 13:05	RH	09-Aug-2010
BHBGSD1	W0H0231-08	Soil	27-Jul-10 13:30	DS	09-Aug-2010
MLWD1SS1	W0H0231-09	Soil	28-Jul-10 09:20	TE	09-Aug-2010
SPSD2	W0H0231-10	Soil	27-Jul-10 14:05	RH	09-Aug-2010
JCSD1	W0H0231-11	Soil	28-Jul-10 11:19	DS	09-Aug-2010
LCSD1	W0H0231-12	Soil	29-Jul-10 10:35	BS	09-Aug-2010
SPSD1	W0H0231-13	Soil	30-Jul-10 14:35	BS	09-Aug-2010
BHBGSS1	W0H0231-14	Soil	27-Jul-10 13:40	TE	09-Aug-2010

Solid samples are analyzed on an as-received, wet-weight basis, unless otherwise requested.

Sample preparation is defined by the client as per their Data Quality Objectives.

This report supercedes any previous reports for this Work Order. The complete report includes pages for each sample, a full QC report, and a notes section.

The results presented in this report relate only to the samples, and meet all requirements of the NELAC Standards unless otherwise noted.

(Q6) SVL received the following containers outside of published EPA guidelines for preservation temperatures (0-6°C).

The guidelines do not pertain to nitric-preserved metals.

Default Cooler (Received Temperature: 10.0°C)

Labnumber	Container	Client ID	Labnumber	Container	Client ID
W0H0231-01 A	Nitric HDPE	LCSW1	W0H0231-02 A	Nitric HDPE	JCPPEW1
W0H0231-03 A	Nitric HDPE	SLADSW1	W0H0231-04 A	Nitric HDPE	BHBGSW1
W0H0231-05 A	Nitric HDPE	SPSW1	W0H0231-06 A	Nitric HDPE	SPSW2
W0H0231-07 A	Nitric HDPE	SMGW1	W0H0231-07 B	Filtered nitric HDPE	SMGW1
W0H0231-08 A	Bag, cloth	BHBGSD1	W0H0231-09 A	Bag, cloth	MLWD1SS1
W0H0231-10 A	Bag, cloth	SPSD2	W0H0231-11 A	Bag, cloth	JCSD1
W0H0231-12 A	Bag, cloth	LCSD1	W0H0231-13 A	Bag, cloth	SPSD1
W0H0231-14 A	Bag, cloth	BHBGSS1			



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **LCSW1**

SVL Sample ID: **W0H0231-01 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 29-Jul-10 10:30
Received: 09-Aug-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total)										
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W034083	JAA	08/17/10 14:16	
Metals (Total Recoverable)										
EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:06	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:06	
EPA 6010B	Barium	0.0032	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:06	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:06	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:06	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033252	DT	09/01/10 12:06	
EPA 6010B	Iron	< 0.060	mg/L	0.060	0.027		W033252	DT	09/01/10 12:05	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:06	
EPA 6010B	Manganese	< 0.0040	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:05	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:06	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:06	
EPA 6010B	Zinc	< 0.0100	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:06	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **JCPPESW1**

SVL Sample ID: **W0H0231-02 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 28-Jul-10 11:19
Received: 09-Aug-10
Sampled By: TE

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total)										
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033228	JAA	08/13/10 08:36	
Metals (Total Recoverable)										
EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:11	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:11	
EPA 6010B	Barium	0.0055	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:11	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:11	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:11	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033252	DT	09/01/10 12:11	
EPA 6010B	Iron	< 0.060	mg/L	0.060	0.027		W033252	DT	09/01/10 12:10	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:11	
EPA 6010B	Manganese	< 0.0040	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:10	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:11	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:11	
EPA 6010B	Zinc	< 0.0100	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:11	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **SLADSW1**

SVL Sample ID: **W0H0231-03 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 28-Jul-10 12:00
Received: 09-Aug-10
Sampled By: TE

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total)										
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033228	JAA	08/13/10 08:41	
Metals (Total Recoverable)										
EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:17	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:17	
EPA 6010B	Barium	0.0126	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:17	
EPA 6010B	Cadmium	0.0033	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:17	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:17	
EPA 6010B	Copper	0.047	mg/L	0.010	0.005		W033252	DT	09/01/10 12:16	
EPA 6010B	Iron	1.54	mg/L	0.060	0.027		W033252	DT	09/01/10 12:15	
EPA 6010B	Lead	0.268	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:17	
EPA 6010B	Manganese	0.0343	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:15	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:17	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:16	
EPA 6010B	Zinc	0.0896	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:17	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **BHBGSW1**

SVL Sample ID: **W0H0231-04 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 27-Jul-10 13:35
Received: 09-Aug-10
Sampled By: TE

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total)										
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033228	JAA	08/13/10 08:43	
Metals (Total Recoverable)										
EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:33	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:33	
EPA 6010B	Barium	0.0157	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:33	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:33	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:33	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033252	DT	09/01/10 12:32	
EPA 6010B	Iron	0.762	mg/L	0.060	0.027		W033252	DT	09/01/10 12:31	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:33	
EPA 6010B	Manganese	0.0494	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:31	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:33	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:32	
EPA 6010B	Zinc	< 0.0100	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:33	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **SPSW1**

SVL Sample ID: **W0H0231-05 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 30-Jul-10 14:30
Received: 09-Aug-10
Sampled By: BS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total)										
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033228	JAA	08/13/10 08:45	
Metals (Total Recoverable)										
EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:38	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:38	
EPA 6010B	Barium	0.0228	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:38	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:38	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:38	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033252	DT	09/01/10 12:38	
EPA 6010B	Iron	1.05	mg/L	0.060	0.027		W033252	DT	09/01/10 12:37	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:38	
EPA 6010B	Manganese	0.0663	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:37	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:38	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:38	
EPA 6010B	Zinc	< 0.0100	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:38	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **SPSW2**

SVL Sample ID: **W0H0231-06 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 27-Jul-10 14:00
Received: 09-Aug-10
Sampled By: RH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total)										
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033228	JAA	08/13/10 08:46	
Metals (Total Recoverable)										
EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:43	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:43	
EPA 6010B	Barium	0.0049	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:43	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:43	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:43	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033252	DT	09/01/10 12:43	
EPA 6010B	Iron	< 0.060	mg/L	0.060	0.027		W033252	DT	09/01/10 12:42	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:43	
EPA 6010B	Manganese	< 0.0040	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:42	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:43	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:43	
EPA 6010B	Zinc	< 0.0100	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:43	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **SMGW1**

SVL Sample ID: **W0H0231-07 (Surface Water)**

Sample Report Page 1 of 1

Sampled: 20-Jul-10 13:05
Received: 09-Aug-10
Sampled By: RH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
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Metals (Total)

EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033228	JAA	08/13/10 08:48	
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Metals (Total Recoverable)

EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.004		W033252	DT	09/01/10 12:59	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.006		W033252	DT	09/01/10 12:59	
EPA 6010B	Barium	0.0836	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:59	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033252	DT	09/01/10 12:59	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033252	DT	09/01/10 12:59	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033252	DT	09/01/10 12:59	
EPA 6010B	Iron	0.107	mg/L	0.060	0.027		W033252	DT	09/01/10 12:58	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033252	DT	09/01/10 12:59	
EPA 6010B	Manganese	< 0.0040	mg/L	0.0040	0.0019		W033252	DT	09/01/10 12:58	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033252	DT	09/01/10 12:59	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0014		W033252	DT	09/01/10 12:59	
EPA 6010B	Zinc	0.619	mg/L	0.0100	0.0019		W033252	DT	09/01/10 12:59	

Metals (Dissolved)

EPA 6010B	Antimony	< 0.020	mg/L	0.020	0.005		W033255	DT	08/19/10 13:35	
EPA 6010B	Arsenic	< 0.025	mg/L	0.025	0.005		W033255	DT	08/19/10 13:35	
EPA 6010B	Barium	0.0796	mg/L	0.0020	0.0007		W033255	DT	08/19/10 13:35	
EPA 6010B	Cadmium	< 0.0020	mg/L	0.0020	0.0005		W033255	DT	08/19/10 13:35	
EPA 6010B	Chromium	< 0.0060	mg/L	0.0060	0.0009		W033255	DT	08/19/10 13:35	
EPA 6010B	Copper	< 0.010	mg/L	0.010	0.005		W033255	DT	08/19/10 13:35	
EPA 6010B	Iron	< 0.060	mg/L	0.060	0.018		W033255	DT	08/19/10 13:34	
EPA 6010B	Lead	< 0.0075	mg/L	0.0075	0.0040		W033255	DT	08/19/10 13:35	
EPA 6010B	Manganese	< 0.0040	mg/L	0.0040	0.0019		W033255	DT	08/19/10 13:34	
EPA 6010B	Selenium	< 0.040	mg/L	0.040	0.013		W033255	DT	08/19/10 13:35	
EPA 6010B	Silver	< 0.0050	mg/L	0.0050	0.0012		W033255	DT	08/19/10 13:35	
EPA 6010B	Zinc	0.582	mg/L	0.0100	0.0016		W033255	DT	08/19/10 13:35	
EPA 7470A	Mercury	< 0.00020	mg/L	0.00020	0.000065		W033227	JAA	08/13/10 08:25	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

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Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **BHBGSD1**

SVL Sample ID: **W0H0231-08 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Jul-10 13:30
Received: 09-Aug-10
Sampled By: DS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:08	
EPA 6010B	Arsenic	< 2.5	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:08	
EPA 6010B	Barium	12.8	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:07	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:07	
EPA 6010B	Chromium	13.9	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:07	
EPA 6010B	Copper	8.41	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:07	
EPA 6010B	Iron	8620	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:06	
EPA 6010B	Lead	2.07	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:08	
EPA 6010B	Manganese	276	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:06	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:08	
EPA 6010B	Silver	< 0.50	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:07	
EPA 6010B	Zinc	16.2	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:08	
EPA 7471A	Mercury	0.035	mg/kg	0.033	0.010		W033173	JAA	08/17/10 11:09	
Percent Solids										
Percent Solids	% Solids	96.8	%	0.1			W034163	DP	08/19/10 11:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **MLWD1SS1**

SVL Sample ID: **W0H0231-09 (Soil)**

Sample Report Page 1 of 1

Sampled: 28-Jul-10 09:20
Received: 09-Aug-10
Sampled By: TE

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	19.1	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:13	
EPA 6010B	Arsenic	12.8	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:13	
EPA 6010B	Barium	58.6	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:13	
EPA 6010B	Cadmium	1.04	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:13	
EPA 6010B	Chromium	< 0.60	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:13	
EPA 6010B	Copper	54.0	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:13	
EPA 6010B	Iron	4320	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:11	
EPA 6010B	Lead	311	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:13	
EPA 6010B	Manganese	33.2	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:12	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:13	
EPA 6010B	Silver	9.56	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:13	
EPA 6010B	Zinc	55.4	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:13	
EPA 7471A	Mercury	3.18	mg/kg	0.330	0.095	10	W033173	JAA	08/17/10 13:19	D2
Percent Solids										
Percent Solids	% Solids	95.0	%	0.1			W034163	DP	08/19/10 11:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **SPSD2**

SVL Sample ID: **W0H0231-10 (Soil)**

Sample Report Page 1 of 1

Sampled: 27-Jul-10 14:05
Received: 09-Aug-10
Sampled By: RH

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	3.0	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:19	
EPA 6010B	Arsenic	2.7	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:19	
EPA 6010B	Barium	26.2	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:18	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:18	
EPA 6010B	Chromium	9.10	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:18	
EPA 6010B	Copper	10.3	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:18	
EPA 6010B	Iron	6030	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:17	
EPA 6010B	Lead	33.6	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:19	
EPA 6010B	Manganese	103	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:17	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:19	
EPA 6010B	Silver	2.40	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:18	
EPA 6010B	Zinc	35.6	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:18	
EPA 7471A	Mercury	0.528	mg/kg	0.033	0.010		W033173	JAA	08/17/10 11:14	
Percent Solids										
Percent Solids	% Solids	95.3	%	0.1			W034163	DP	08/19/10 11:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **JCSD1**

SVL Sample ID: **W0H0231-11 (Soil)**

Sample Report Page 1 of 1

Sampled: 28-Jul-10 11:19
Received: 09-Aug-10
Sampled By: DS

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:24	
EPA 6010B	Arsenic	< 2.5	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:24	
EPA 6010B	Barium	16.4	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:24	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:24	
EPA 6010B	Chromium	6.38	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:24	
EPA 6010B	Copper	3.53	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:24	
EPA 6010B	Iron	5190	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:22	
EPA 6010B	Lead	6.69	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:24	
EPA 6010B	Manganese	74.1	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:23	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:24	
EPA 6010B	Silver	< 0.50	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:24	
EPA 6010B	Zinc	10.3	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:24	
EPA 7471A	Mercury	0.052	mg/kg	0.033	0.010		W033173	JAA	08/17/10 11:19	
Percent Solids										
Percent Solids	% Solids	96.0	%	0.1			W034163	DP	08/19/10 11:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **LCSD1**
SVL Sample ID: **W0H0231-12 (Soil)**

Sampled: 29-Jul-10 10:35
Received: 09-Aug-10
Sampled By: BS

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:29	
EPA 6010B	Arsenic	2.7	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:29	
EPA 6010B	Barium	20.0	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:29	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:29	
EPA 6010B	Chromium	3.73	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:29	
EPA 6010B	Copper	6.07	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:29	
EPA 6010B	Iron	4040	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:28	
EPA 6010B	Lead	12.6	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:29	
EPA 6010B	Manganese	204	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:28	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:29	
EPA 6010B	Silver	2.78	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:29	
EPA 6010B	Zinc	16.5	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:29	
EPA 7471A	Mercury	0.088	mg/kg	0.033	0.010		W033173	JAA	08/17/10 11:21	

Percent Solids

Percent Solids	% Solids	92.9	%	0.1			W034163	DP	08/19/10 11:13	
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This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



One Government Gulch - PO Box 929

Kellogg ID 83837-0929

(208) 784-1258

Fax (208) 783-0891

IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **SPSD1**
SVL Sample ID: **W0H0231-13 (Soil)**

Sampled: 30-Jul-10 14:35
Received: 09-Aug-10
Sampled By: BS

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:35	
EPA 6010B	Arsenic	21.0	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:35	
EPA 6010B	Barium	64.1	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:34	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:35	
EPA 6010B	Chromium	3.37	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:35	
EPA 6010B	Copper	4.20	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:34	
EPA 6010B	Iron	9600	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:33	
EPA 6010B	Lead	3.61	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:35	
EPA 6010B	Manganese	65.8	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:33	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:35	
EPA 6010B	Silver	0.56	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:34	
EPA 6010B	Zinc	14.5	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:35	
EPA 7471A	Mercury	< 0.033	mg/kg	0.033	0.010		W033173	JAA	08/17/10 11:22	
Percent Solids										
Percent Solids	% Solids	95.3	%	0.1			W034163	DP	08/19/10 11:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Client Sample ID: **BHBGSS1**
SVL Sample ID: **W0H0231-14 (Soil)**

Sampled: 27-Jul-10 13:40
Received: 09-Aug-10
Sampled By: TE

Sample Report Page 1 of 1

Method	Analyte	Result	Units	RL	MDL	Dilution	Batch	Analyst	Analyzed	Notes
Metals (Total) by EPA 6000/7000 Methods										
EPA 6010B	Antimony	< 2.0	mg/kg	2.0	0.3		W034164	DT	08/30/10 17:40	
EPA 6010B	Arsenic	< 2.5	mg/kg	2.5	0.5		W034164	DT	08/30/10 17:40	
EPA 6010B	Barium	31.3	mg/kg	0.20	0.02		W034164	DT	08/30/10 17:40	
EPA 6010B	Cadmium	< 0.20	mg/kg	0.20	0.03		W034164	DT	08/30/10 17:40	
EPA 6010B	Chromium	12.5	mg/kg	0.60	0.07		W034164	DT	08/30/10 17:40	
EPA 6010B	Copper	9.08	mg/kg	1.00	0.21		W034164	DT	08/30/10 17:40	
EPA 6010B	Iron	9230	mg/kg	6.0	1.0		W034164	DT	08/30/10 17:38	
EPA 6010B	Lead	6.54	mg/kg	0.75	0.36		W034164	DT	08/30/10 17:40	
EPA 6010B	Manganese	258	mg/kg	0.40	0.06		W034164	DT	08/30/10 17:38	
EPA 6010B	Selenium	< 4.0	mg/kg	4.0	1.4		W034164	DT	08/30/10 17:40	
EPA 6010B	Silver	0.55	mg/kg	0.50	0.04		W034164	DT	08/30/10 17:40	
EPA 6010B	Zinc	23.2	mg/kg	1.00	0.22		W034164	DT	08/30/10 17:40	
EPA 7471A	Mercury	< 0.033	mg/kg	0.033	0.010		W033173	JAA	08/17/10 11:24	
Percent Solids										
Percent Solids	% Solids	90.8	%	0.1			W034163	DP	08/19/10 11:13	

This data has been reviewed for accuracy and has been authorized for release by the Laboratory Director or designee.

John Kern
Laboratory Director



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Quality Control - BLANK Data

Method	Analyte	Units	Result	MDL	MRL	Batch ID	Analyzed	Notes
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Metals (Total)

EPA 7470A	Mercury	mg/L	<0.00020	0.000065	0.00020	W033228	13-Aug-10	
EPA 7470A	Mercury	mg/L	<0.00020	0.000065	0.00020	W034083	17-Aug-10	

Metals (Total) by EPA 6000/7000 Methods

EPA 6010B	Antimony	mg/kg	<2.0	0.3	2.0	W034164	30-Aug-10	
EPA 6010B	Arsenic	mg/kg	<2.5	0.5	2.5	W034164	30-Aug-10	
EPA 6010B	Barium	mg/kg	<0.20	0.02	0.20	W034164	30-Aug-10	
EPA 6010B	Cadmium	mg/kg	<0.20	0.03	0.20	W034164	30-Aug-10	
EPA 6010B	Chromium	mg/kg	<0.60	0.07	0.60	W034164	30-Aug-10	
EPA 6010B	Copper	mg/kg	<1.00	0.21	1.00	W034164	30-Aug-10	
EPA 6010B	Iron	mg/kg	<6.0	1.0	6.0	W034164	30-Aug-10	
EPA 6010B	Lead	mg/kg	<0.75	0.36	0.75	W034164	30-Aug-10	
EPA 6010B	Manganese	mg/kg	<0.40	0.06	0.40	W034164	30-Aug-10	
EPA 6010B	Selenium	mg/kg	<4.0	1.4	4.0	W034164	30-Aug-10	
EPA 6010B	Silver	mg/kg	<0.50	0.04	0.50	W034164	30-Aug-10	
EPA 6010B	Zinc	mg/kg	<1.00	0.22	1.00	W034164	30-Aug-10	
EPA 7471A	Mercury	mg/kg	<0.033	0.010	0.033	W033173	17-Aug-10	

Metals (Total Recoverable)

EPA 6010B	Antimony	mg/L	<0.020	0.004	0.020	W033252	01-Sep-10	
EPA 6010B	Arsenic	mg/L	<0.025	0.006	0.025	W033252	01-Sep-10	
EPA 6010B	Barium	mg/L	<0.0020	0.0005	0.0020	W033252	01-Sep-10	
EPA 6010B	Cadmium	mg/L	<0.0020	0.0005	0.0020	W033252	01-Sep-10	
EPA 6010B	Chromium	mg/L	<0.0060	0.0009	0.0060	W033252	01-Sep-10	
EPA 6010B	Copper	mg/L	<0.010	0.005	0.010	W033252	01-Sep-10	
EPA 6010B	Iron	mg/L	<0.060	0.027	0.060	W033252	01-Sep-10	
EPA 6010B	Lead	mg/L	<0.0075	0.0040	0.0075	W033252	01-Sep-10	
EPA 6010B	Manganese	mg/L	<0.0040	0.0019	0.0040	W033252	01-Sep-10	
EPA 6010B	Selenium	mg/L	<0.040	0.013	0.040	W033252	01-Sep-10	
EPA 6010B	Silver	mg/L	<0.0050	0.0014	0.0050	W033252	01-Sep-10	
EPA 6010B	Zinc	mg/L	<0.0100	0.0019	0.0100	W033252	01-Sep-10	

Metals (Dissolved)

EPA 6010B	Antimony	mg/L	<0.020	0.005	0.020	W033255	19-Aug-10	
EPA 6010B	Arsenic	mg/L	<0.025	0.005	0.025	W033255	19-Aug-10	
EPA 6010B	Barium	mg/L	<0.0020	0.0007	0.0020	W033255	19-Aug-10	
EPA 6010B	Cadmium	mg/L	<0.0020	0.0005	0.0020	W033255	19-Aug-10	
EPA 6010B	Chromium	mg/L	<0.0060	0.0009	0.0060	W033255	19-Aug-10	
EPA 6010B	Copper	mg/L	<0.010	0.005	0.010	W033255	19-Aug-10	
EPA 6010B	Iron	mg/L	<0.060	0.018	0.060	W033255	19-Aug-10	
EPA 6010B	Lead	mg/L	<0.0075	0.0040	0.0075	W033255	19-Aug-10	
EPA 6010B	Manganese	mg/L	<0.0040	0.0019	0.0040	W033255	19-Aug-10	
EPA 6010B	Selenium	mg/L	<0.040	0.013	0.040	W033255	19-Aug-10	
EPA 6010B	Silver	mg/L	<0.0050	0.0012	0.0050	W033255	19-Aug-10	
EPA 6010B	Zinc	mg/L	<0.0100	0.0016	0.0100	W033255	19-Aug-10	
EPA 7470A	Mercury	mg/L	<0.00020	0.000065	0.00020	W033227	13-Aug-10	



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Quality Control - LABORATORY CONTROL SAMPLE Data

Method	Analyte	Units	LCS Result	LCS True	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Metals (Total)

EPA 7470A	Mercury	mg/L	0.00450	0.00500	90.0	80 - 120	W033228	13-Aug-10	
EPA 7470A	Mercury	mg/L	0.00520	0.00500	104	80 - 120	W034083	17-Aug-10	

Metals (Total) by EPA 6000/7000 Methods

EPA 6010B	Antimony	mg/kg	93.0	100	93.0	80 - 120	W034164	30-Aug-10	
EPA 6010B	Arsenic	mg/kg	90.8	100	90.8	80 - 120	W034164	30-Aug-10	
EPA 6010B	Barium	mg/kg	96.5	100	96.5	80 - 120	W034164	30-Aug-10	
EPA 6010B	Cadmium	mg/kg	94.3	100	94.3	80 - 120	W034164	30-Aug-10	
EPA 6010B	Chromium	mg/kg	96.7	100	96.7	80 - 120	W034164	30-Aug-10	
EPA 6010B	Copper	mg/kg	95.3	100	95.3	80 - 120	W034164	30-Aug-10	
EPA 6010B	Iron	mg/kg	944	1000	94.4	80 - 120	W034164	30-Aug-10	
EPA 6010B	Lead	mg/kg	94.2	100	94.2	80 - 120	W034164	30-Aug-10	
EPA 6010B	Manganese	mg/kg	97.9	100	97.9	80 - 120	W034164	30-Aug-10	
EPA 6010B	Selenium	mg/kg	90.1	100	90.1	80 - 120	W034164	30-Aug-10	
EPA 6010B	Silver	mg/kg	4.85	5.00	97.0	80 - 120	W034164	30-Aug-10	
EPA 6010B	Zinc	mg/kg	91.9	100	91.9	80 - 120	W034164	30-Aug-10	
EPA 7471A	Mercury	mg/kg	0.845	0.833	101	80 - 120	W033173	17-Aug-10	

Metals (Total Recoverable)

EPA 6010B	Antimony	mg/L	1.04	1.00	104	80 - 120	W033252	01-Sep-10	
EPA 6010B	Arsenic	mg/L	1.03	1.00	103	80 - 120	W033252	01-Sep-10	
EPA 6010B	Barium	mg/L	1.09	1.00	109	80 - 120	W033252	01-Sep-10	
EPA 6010B	Cadmium	mg/L	1.06	1.00	106	80 - 120	W033252	01-Sep-10	
EPA 6010B	Chromium	mg/L	1.07	1.00	107	80 - 120	W033252	01-Sep-10	
EPA 6010B	Copper	mg/L	1.06	1.00	106	80 - 120	W033252	01-Sep-10	
EPA 6010B	Iron	mg/L	10.2	10.0	102	80 - 120	W033252	01-Sep-10	
EPA 6010B	Lead	mg/L	1.04	1.00	104	80 - 120	W033252	01-Sep-10	
EPA 6010B	Manganese	mg/L	1.04	1.00	104	80 - 120	W033252	01-Sep-10	
EPA 6010B	Selenium	mg/L	1.04	1.00	104	80 - 120	W033252	01-Sep-10	
EPA 6010B	Silver	mg/L	0.0547	0.0500	109	80 - 120	W033252	01-Sep-10	
EPA 6010B	Zinc	mg/L	1.05	1.00	105	80 - 120	W033252	01-Sep-10	

Metals (Dissolved)

EPA 6010B	Antimony	mg/L	0.908	1.00	90.8	80 - 120	W033255	19-Aug-10	
EPA 6010B	Arsenic	mg/L	0.897	1.00	89.7	80 - 120	W033255	19-Aug-10	
EPA 6010B	Barium	mg/L	0.936	1.00	93.6	80 - 120	W033255	19-Aug-10	
EPA 6010B	Cadmium	mg/L	0.905	1.00	90.5	80 - 120	W033255	19-Aug-10	
EPA 6010B	Chromium	mg/L	0.927	1.00	92.7	80 - 120	W033255	19-Aug-10	
EPA 6010B	Copper	mg/L	0.945	1.00	94.5	80 - 120	W033255	19-Aug-10	
EPA 6010B	Iron	mg/L	9.27	10.0	92.7	80 - 120	W033255	19-Aug-10	
EPA 6010B	Lead	mg/L	0.920	1.00	92.0	80 - 120	W033255	19-Aug-10	
EPA 6010B	Manganese	mg/L	0.924	1.00	92.4	80 - 120	W033255	19-Aug-10	
EPA 6010B	Selenium	mg/L	0.891	1.00	89.1	80 - 120	W033255	19-Aug-10	
EPA 6010B	Silver	mg/L	0.0469	0.0500	93.7	80 - 120	W033255	19-Aug-10	
EPA 6010B	Zinc	mg/L	0.895	1.00	89.5	80 - 120	W033255	19-Aug-10	
EPA 7470A	Mercury	mg/L	0.00431	0.00500	86.2	80 - 120	W033227	13-Aug-10	



IDEQ (Boise) 1410 N. Hilton Boise, ID 83706	Project Name: Boise Work Order: W0H0231 Reported: 02-Sep-10 14:54
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Quality Control - MATRIX SPIKE Data										
Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes

Metals (Total)

EPA 7470A	Mercury	mg/L	0.00086	<0.00020	0.00100	86.0	75 - 125	W033228	13-Aug-10	
EPA 7470A	Mercury	mg/L	0.00107	<0.00020	0.00100	107	75 - 125	W034083	17-Aug-10	

Metals (Total) by EPA 6000/7000 Methods

EPA 6010B	Antimony	mg/kg	67.1	5.8	100	61.3	75 - 125	W034164	30-Aug-10	M2
EPA 6010B	Arsenic	mg/kg	623	469	100	R > 4S	75 - 125	W034164	30-Aug-10	M3
EPA 6010B	Barium	mg/kg	1870	1520	100	R > 4S	75 - 125	W034164	30-Aug-10	M3
EPA 6010B	Cadmium	mg/kg	95.0	0.91	100	94.1	75 - 125	W034164	30-Aug-10	
EPA 6010B	Chromium	mg/kg	111	6.60	100	104	75 - 125	W034164	30-Aug-10	
EPA 6010B	Copper	mg/kg	109	11.0	100	98.0	75 - 125	W034164	30-Aug-10	
EPA 6010B	Iron	mg/kg	7840	6360	1000	R > 4S	75 - 125	W034164	30-Aug-10	M3
EPA 6010B	Lead	mg/kg	130	32.2	100	98.0	75 - 125	W034164	30-Aug-10	
EPA 6010B	Manganese	mg/kg	301	190	100	111	75 - 125	W034164	30-Aug-10	
EPA 6010B	Selenium	mg/kg	94.6	<4.0	100	94.6	75 - 125	W034164	30-Aug-10	
EPA 6010B	Silver	mg/kg	5.61	<0.50	5.00	102	75 - 125	W034164	30-Aug-10	
EPA 6010B	Zinc	mg/kg	241	151	100	90.0	75 - 125	W034164	30-Aug-10	
EPA 7471A	Mercury	mg/kg	0.190	0.035	0.167	93.0	75 - 125	W033173	17-Aug-10	

Metals (Total Recoverable)

EPA 6010B	Antimony	mg/L	0.946	<0.020	1.00	94.6	75 - 125	W033252	01-Sep-10	
EPA 6010B	Arsenic	mg/L	0.928	<0.025	1.00	92.8	75 - 125	W033252	01-Sep-10	
EPA 6010B	Barium	mg/L	1.01	0.0126	1.00	99.8	75 - 125	W033252	01-Sep-10	
EPA 6010B	Cadmium	mg/L	0.966	0.0033	1.00	96.3	75 - 125	W033252	01-Sep-10	
EPA 6010B	Chromium	mg/L	0.985	<0.0060	1.00	98.5	75 - 125	W033252	01-Sep-10	
EPA 6010B	Copper	mg/L	1.04	0.047	1.00	99.2	75 - 125	W033252	01-Sep-10	
EPA 6010B	Iron	mg/L	12.2	1.54	10.0	106	75 - 125	W033252	01-Sep-10	
EPA 6010B	Lead	mg/L	1.21	0.268	1.00	93.8	75 - 125	W033252	01-Sep-10	
EPA 6010B	Manganese	mg/L	1.13	0.0343	1.00	110	75 - 125	W033252	01-Sep-10	
EPA 6010B	Selenium	mg/L	0.925	<0.040	1.00	92.5	75 - 125	W033252	01-Sep-10	
EPA 6010B	Silver	mg/L	0.0513	<0.0050	0.0500	103	75 - 125	W033252	01-Sep-10	
EPA 6010B	Zinc	mg/L	1.04	0.0896	1.00	94.8	75 - 125	W033252	01-Sep-10	

Metals (Dissolved)

EPA 6010B	Antimony	mg/L	1.03	<0.020	1.00	101	75 - 125	W033255	19-Aug-10	
EPA 6010B	Arsenic	mg/L	1.03	<0.025	1.00	102	75 - 125	W033255	19-Aug-10	
EPA 6010B	Barium	mg/L	1.04	0.0450	1.00	100	75 - 125	W033255	19-Aug-10	
EPA 6010B	Cadmium	mg/L	0.963	<0.0020	1.00	96.3	75 - 125	W033255	19-Aug-10	
EPA 6010B	Chromium	mg/L	0.983	<0.0060	1.00	98.1	75 - 125	W033255	19-Aug-10	
EPA 6010B	Copper	mg/L	1.04	<0.010	1.00	103	75 - 125	W033255	19-Aug-10	
EPA 6010B	Iron	mg/L	10.1	0.321	10.0	98.2	75 - 125	W033255	19-Aug-10	
EPA 6010B	Lead	mg/L	0.980	<0.0075	1.00	97.5	75 - 125	W033255	19-Aug-10	
EPA 6010B	Manganese	mg/L	1.06	0.0776	1.00	98.3	75 - 125	W033255	19-Aug-10	
EPA 6010B	Selenium	mg/L	1.03	<0.040	1.00	103	75 - 125	W033255	19-Aug-10	
EPA 6010B	Silver	mg/L	0.0518	<0.0050	0.0500	104	75 - 125	W033255	19-Aug-10	
EPA 6010B	Zinc	mg/L	0.957	<0.0100	1.00	95.0	75 - 125	W033255	19-Aug-10	
EPA 7470A	Mercury	mg/L	0.00094	<0.00020	0.00100	94.0	75 - 125	W033227	13-Aug-10	



IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Quality Control - MATRIX SPIKE DUPLICATE Data

Method	Analyte	Units	MSD Result	Spike Result	Spike Level	RPD	RPD Limit	Batch ID	Analyzed	Notes
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Metals (Total)

EPA 7470A	Mercury	mg/L	0.00085	0.00086	0.00100	1.2	20	W033228	13-Aug-10	
EPA 7470A	Mercury	mg/L	0.00108	0.00107	0.00100	0.9	20	W034083	17-Aug-10	

Metals (Total) by EPA 6000/7000 Methods

EPA 6010B	Antimony	mg/kg	66.4	67.1	100	1.0	20	W034164	30-Aug-10	
EPA 6010B	Arsenic	mg/kg	627	623	100	0.6	20	W034164	30-Aug-10	
EPA 6010B	Barium	mg/kg	1900	1870	100	1.6	20	W034164	30-Aug-10	
EPA 6010B	Cadmium	mg/kg	94.9	95.0	100	0.1	20	W034164	30-Aug-10	
EPA 6010B	Chromium	mg/kg	111	111	100	0.2	20	W034164	30-Aug-10	
EPA 6010B	Copper	mg/kg	110	109	100	0.7	20	W034164	30-Aug-10	
EPA 6010B	Iron	mg/kg	7940	7840	1000	1.4	20	W034164	30-Aug-10	
EPA 6010B	Lead	mg/kg	132	130	100	1.2	20	W034164	30-Aug-10	
EPA 6010B	Manganese	mg/kg	305	301	100	1.4	20	W034164	30-Aug-10	
EPA 6010B	Selenium	mg/kg	96.0	94.6	100	1.5	20	W034164	30-Aug-10	
EPA 6010B	Silver	mg/kg	5.59	5.61	5.00	0.4	20	W034164	30-Aug-10	
EPA 6010B	Zinc	mg/kg	244	241	100	1.4	20	W034164	30-Aug-10	
EPA 7471A	Mercury	mg/kg	0.177	0.190	0.167	7.3	20	W033173	17-Aug-10	

Metals (Total Recoverable)

EPA 6010B	Antimony	mg/L	0.964	0.946	1.00	2.0	20	W033252	01-Sep-10	
EPA 6010B	Arsenic	mg/L	0.940	0.928	1.00	1.4	20	W033252	01-Sep-10	
EPA 6010B	Barium	mg/L	1.07	1.01	1.00	6.1	20	W033252	01-Sep-10	
EPA 6010B	Cadmium	mg/L	1.03	0.966	1.00	6.0	20	W033252	01-Sep-10	
EPA 6010B	Chromium	mg/L	1.05	0.985	1.00	6.1	20	W033252	01-Sep-10	
EPA 6010B	Copper	mg/L	1.11	1.04	1.00	6.5	20	W033252	01-Sep-10	
EPA 6010B	Iron	mg/L	11.6	12.2	10.0	5.1	20	W033252	01-Sep-10	
EPA 6010B	Lead	mg/L	1.22	1.21	1.00	1.5	20	W033252	01-Sep-10	
EPA 6010B	Manganese	mg/L	1.08	1.13	1.00	4.8	20	W033252	01-Sep-10	
EPA 6010B	Selenium	mg/L	0.934	0.925	1.00	1.0	20	W033252	01-Sep-10	
EPA 6010B	Silver	mg/L	0.0541	0.0513	0.0500	5.2	20	W033252	01-Sep-10	
EPA 6010B	Zinc	mg/L	1.10	1.04	1.00	6.3	20	W033252	01-Sep-10	

Metals (Dissolved)

EPA 6010B	Antimony	mg/L	1.02	1.03	1.00	0.2	20	W033255	19-Aug-10	
EPA 6010B	Arsenic	mg/L	1.03	1.03	1.00	0.2	20	W033255	19-Aug-10	
EPA 6010B	Barium	mg/L	1.04	1.04	1.00	0.0	20	W033255	19-Aug-10	
EPA 6010B	Cadmium	mg/L	0.964	0.963	1.00	0.1	20	W033255	19-Aug-10	
EPA 6010B	Chromium	mg/L	0.982	0.983	1.00	0.1	20	W033255	19-Aug-10	
EPA 6010B	Copper	mg/L	1.05	1.04	1.00	0.8	20	W033255	19-Aug-10	
EPA 6010B	Iron	mg/L	10.0	10.1	10.0	1.3	20	W033255	19-Aug-10	
EPA 6010B	Lead	mg/L	0.977	0.980	1.00	0.3	20	W033255	19-Aug-10	
EPA 6010B	Manganese	mg/L	1.05	1.06	1.00	1.2	20	W033255	19-Aug-10	
EPA 6010B	Selenium	mg/L	1.02	1.03	1.00	0.8	20	W033255	19-Aug-10	
EPA 6010B	Silver	mg/L	0.0515	0.0518	0.0500	0.6	20	W033255	19-Aug-10	
EPA 6010B	Zinc	mg/L	0.958	0.957	1.00	0.1	20	W033255	19-Aug-10	
EPA 7470A	Mercury	mg/L	0.00099	0.00094	0.00100	5.2	20	W033227	13-Aug-10	



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IDEQ (Boise)
1410 N. Hilton
Boise, ID 83706

Project Name: Boise
Work Order: **W0H0231**
Reported: 02-Sep-10 14:54

Quality Control - POST DIGESTION SPIKE Data

Method	Analyte	Units	Spike Result	Sample Result (R)	Spike Level (S)	% Rec.	Acceptance Limits	Batch ID	Analyzed	Notes
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Metals (Total) by EPA 6000/7000 Methods

EPA 6010B	Antimony	mg/kg	95.2	5.8	100	89.4	75 - 125	W034164	30-Aug-10	
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Notes and Definitions

D2	Sample required dilution due to high concentration of target analyte.
M2	Matrix spike recovery was low, but the LCS recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to spike level. The LCS was acceptable.
LCS	Laboratory Control Sample (Blank Spike)
RPD	Relative Percent Difference
UDL	A result is less than the detection limit
R > 4S	% recovery not applicable, sample concentration more than four times greater than spike level
<RL	A result is less than the reporting limit
MRL	Method Reporting Limit
MDL	Method Detection Limit
N/A	Not Applicable