

UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

**Analytical results and sample locality maps of
stream-sediment, heavy-mineral-concentrate, and rock
samples from the Black Warrior, Hanson Lakes, Lime Creek,
Red Mountain, and Trinitities Roadless Study Areas, Boise,
Camas, Custer, Elmore, and Valley Counties, Idaho**

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STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts requires the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of geochemical surveys of the Black Warrior, Hansen Lakes, Lime Creek, Red Mountain, and the Trinitities Roadless Areas in the Boise, Challis, and Sawtooth National Forests, Boise, Camas, Custer, Elmore, and Valley Counties, Idaho. The Black Warrior, Hansen Lakes, Lime Creek, Red Mountain, and Trinitities Roadless Areas were classified as a further planning area during the Second Roadless Area Review and Evaluation (RARE II) by the U.S. Forest Service, January 1979.

INTRODUCTION

In October 1989, and June-July 1990, the U.S. Geological Survey conducted reconnaissance geochemical surveys of the Black Warrior, Hanson Lakes, Lime Creek, Red Mountain, and Trinitities Roadless Study Areas, Boise, Camas, Custer, Elmore, and Valley Counties, Idaho (table 1). These roadless study areas are Group 1 study areas of the Idaho Initiative Project.

Table 1. Sizes of the five Group 1 Roadless Study Areas

Roadless Study Area	County	SIZE		
		Mi ²	km ²	Acres
Black Warrior	Elmore	~20	~52	~12,800
Hanson Lakes	Boise, Custer	68.4	177.8	43,800
Lime Creek	Camas, Elmore	63.3	164.6	40,500
Red Mountain	Boise, Valley	103.4	268.8	66,200
Trinitities	Elmore	74.4	193.4	47,600

The Black Warrior Study Area is in the northeast end of Elmore County, Idaho, and lies about 20 mi (32 km) southwest of Stanley and 4 mi (6.4 km) northwest of Atlanta. The Hanson Lakes Study Area is in the western end of Custer County and the northeast end of Boise County, Idaho, and lies about 8 mi (13 km) west of Stanley. The Red Mountain Study Area is in the southeastern end of Valley County and the northeastern part of Boise County, Idaho, and lies about 19 mi (30 km) west of Stanley. The Trinitities Study Area is in the north-central part of Elmore County, Idaho, and lies about 38 mi (61 km) east of Boise

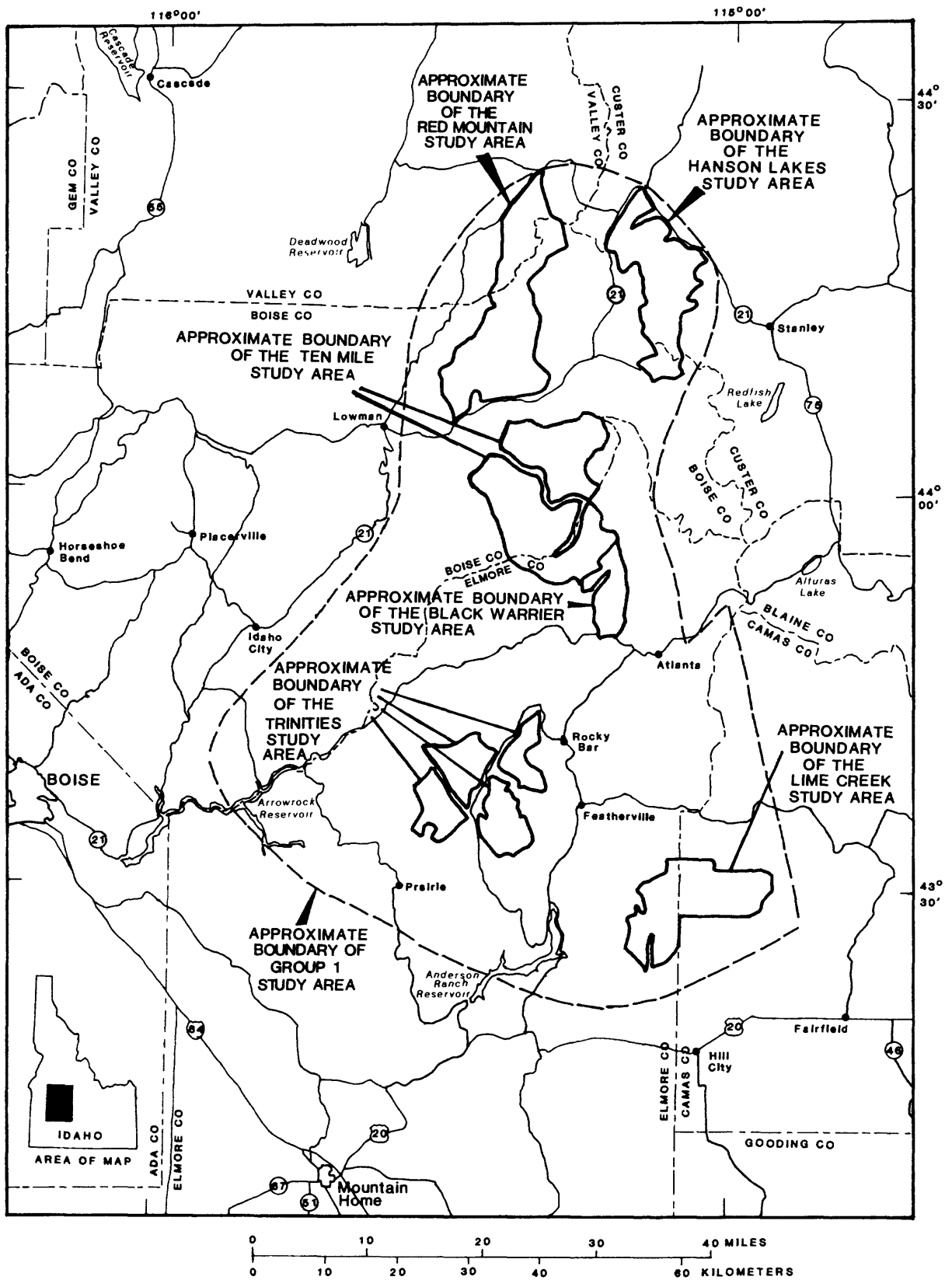


Figure 1.--Location of the Black Warrior, Hanson Lakes, Lime Creek, Red Mountain, and Trinities Roadless Study Areas, Boise, Camas, Custer, Elmore, and Valley Counties, Idaho.

Table 2.--Topographic information

<u>Study area</u>	<u>Approximate Low elev. and location</u>	<u>High elev. and location</u>	<u>Relief</u>
Black Warrior	5,000 ft; South Fork (1,524 m) of Boise River	8,758 ft; E. Warrior Pk. (2,669 m)	3,758 ft (1,145 m)
Hanson Lakes	5,100 ft; South Fork (1,554 m) Payette River	9,300 ft; Crest of the (2,835 m) Sawtooth Range	4,200 ft (1,281 m)
Lime Creek	5,000 ft; Lime Creek (1,524 m)	10,095 ft; Smoky Dome (3,077 m)	5,095 ft (1,553 m)
Red Mountain	4,200 ft; South Fork (1,280 m) Payette River	8,720 ft; Red Mountain (2,658 m)	4,520 ft (1,378 m)
Trinities	5,000 ft; Trinity Creek (1,524 m)	9,451 ft; Trinity Mtn. (2,881 m)	4,451 ft (1,357 m)

and about 4 mi (6.4 km) west of Featherville. The Lime Creek Study Area is in east-central Elmore County and northwestern Camas County, Idaho, and lies about 8 mi (13 km) north of Hill City (fig. 1, table 2).

Access to the Hanson Lakes Study Area is provided on the east, north, and west by State Highway 21, which follows the northeast and northwest boundaries of the study area, and on the south by the light duty road leading to Grandjean. Access to the Red Mountain Study Area is provided on the south by State Highway 21, and on all other sides by the road which branches off State Highway 21 near Cape Horn, along the northwest boundary of the Hanson Lakes Study Area, and rejoins State Highway 21 at Lowman. Access to the Black Warrior Study Area is provided on the south by the light duty road along the Middle Fork Boise River. Access to the Trinitities Study Area is provided on the east by the light duty road which leads off U.S. Highway 20 near Anderson Ranch Reservoir and goes northward to Atlanta via Featherville and Rocky Bar. A road passing between the western two segments and the eastern two segments of the Trinitities Study Area and connecting to Highway 20 at Rocky Bar and Pine provides further access. Access to the Lime Creek Study Area is provided on the south by gravel roads which connect to Highway 20 near Hill City. Additional access to all the study areas is provided by various dirt roads and jeep trails, and in some cases by other improved light duty roads not previously mentioned.

Granitic rocks of the southern Atlanta lobe of the extensive Cretaceous Idaho batholith underlie most of the Group 1 study area, and, more specifically, underlie most of the Red Mountain, Black Warrior, western Lime Creek, northern parts of the Trinitities, and large parts of the Hanson Lakes Study Areas. These rocks consist mostly of biotite grandiorite, with the exception of the Lime Creek Study Area where the rocks have been mapped as an aplite/pegmatite complex (Johnson and others, 1988). Leucocratic quartz monzonite of the Idaho batholith occurs in parts of the Black Warrior and Hanson Lakes Study Areas. Most of the central and southern parts of the Trinitities Study Area are underlain by a quartz diorite stock (Bennett, 1980). Tertiary granite also occurs in this study area, in the eastern part of the Lime Creek Study Area, and in parts of the Hanson Lakes Study Area. All study areas contain abundant Tertiary dikes of various compositions. Faults of the trans-Challis fault system transect the Red Mountain and Hanson Lakes Study Areas. For detailed descriptions of the rock units, see references given above and also Kiilsgaard and others (1970), Kiilsgaard and Lewis (1985), and Kiilsgaard (1983).

METHODS OF STUDY

Sample Media

Analyses of the stream-sediment samples represent the chemistry of the rock material eroded from the drainage basin

upstream from each sample site. Such information is useful in identifying those basins which contain concentrations of elements that may be related to mineral deposits.

Heavy-mineral-concentrate samples provide information about the chemistry of a limited number of minerals in rock material eroded from the drainage basin upstream from each sample site. The selective concentration of minerals, many of which may be ore related, permits determination of some elements that are not easily detected in stream-sediment samples.

Analyses of unaltered or unmineralized rock samples provide background geochemical data for individual rock units. On the other hand, analyses of altered or mineralized rocks, where present, may provide useful geochemical information about the major and trace-element assemblages associated with a mineralizing system.

Sample Collection

Samples were collected at a total of six sites (fig. 2) in the Black Warrior Roadless Study Area (RSA), 15 sites in the Hanson Lakes RSA (fig. 3), 19 sites in the Lime Creek RSA (fig. 4), 20 sites in the Red Mountain RSA (fig. 5), and 10 sites in the Trinitities RSA (fig. 6). At all sites, both a stream-sediment sample and a heavy-mineral-concentrate sample were collected. Sampling density was about one sample site per 4.7 square miles. The area of the drainage basins sampled ranged from 0.2 to 11 square miles. All sampling done for this report was to supplement previous sampling for other CUSMAP studies. Sufficient heavy-mineral-concentrate for spectrographic analysis (5 mg) was recovered from all sample sites. In addition, three rock samples were collected from the Hanson Lakes RSA.

Stream-sediment samples

The stream-sediment samples consisted of active alluvium collected primarily from first-order (unbranched) and second-order (below the junction of two first-order) stream as shown on USGS topographic maps (scale = 1:24,000). Each sample was composited from several localities within an area that may extend as much as 50 feet from the center of the site symbol plotted on the map.

Heavy-mineral-concentrate samples

Heavy-mineral-concentrate samples were collected from the same active alluvium as the stream-sediment samples. Each bulk sample was screened with a 2.0-mm (10-mesh) screen to remove the coarse material. The less than 2.0-mm fraction was panned until most of the quartz, feldspar, organic material, and clay-sized material were removed.

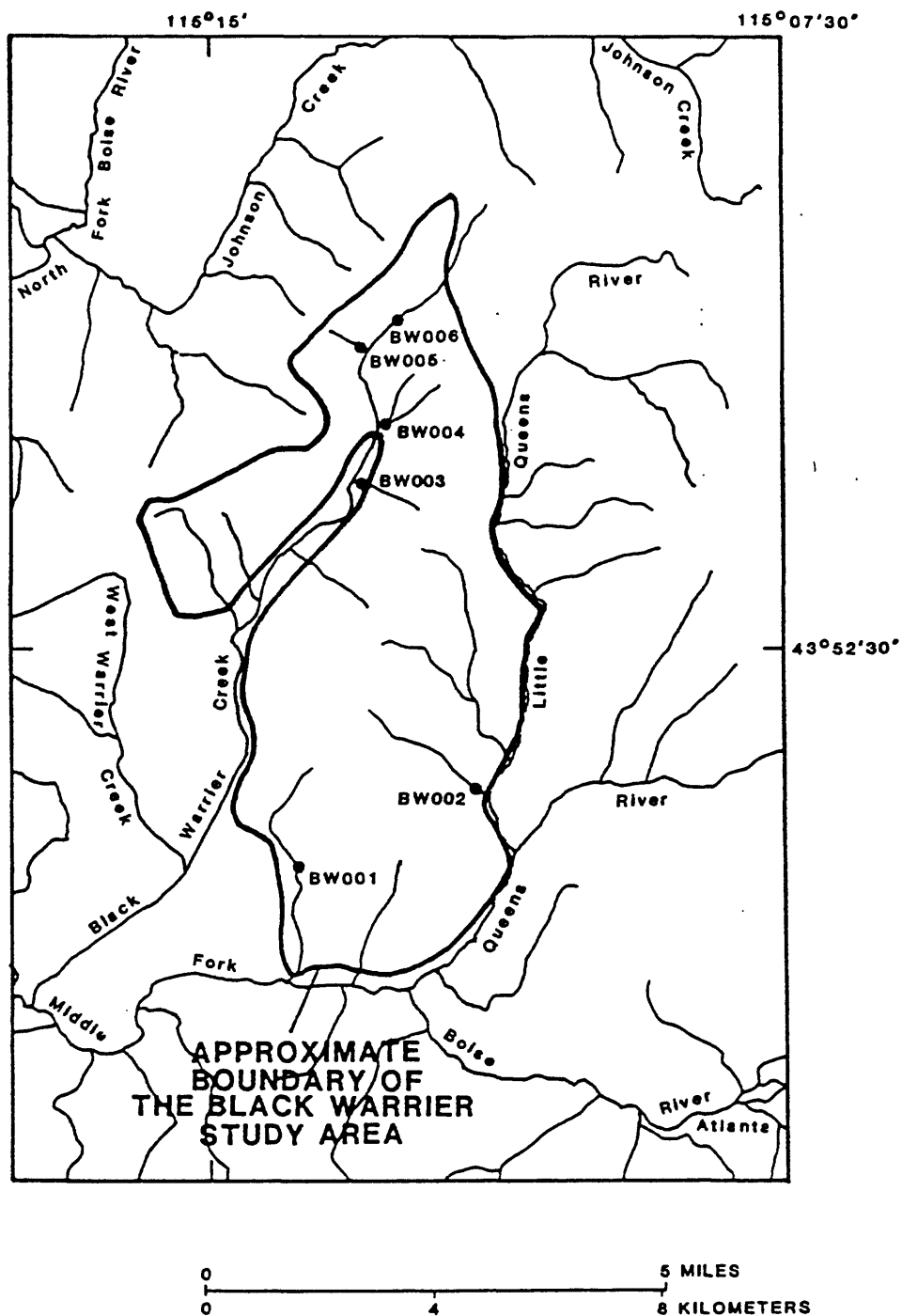


Figure 2. Localities of stream-sediment and heavy-mineral-concentrate samples from the Black Warrior Roadless Study Area, Elmore County, Idaho.

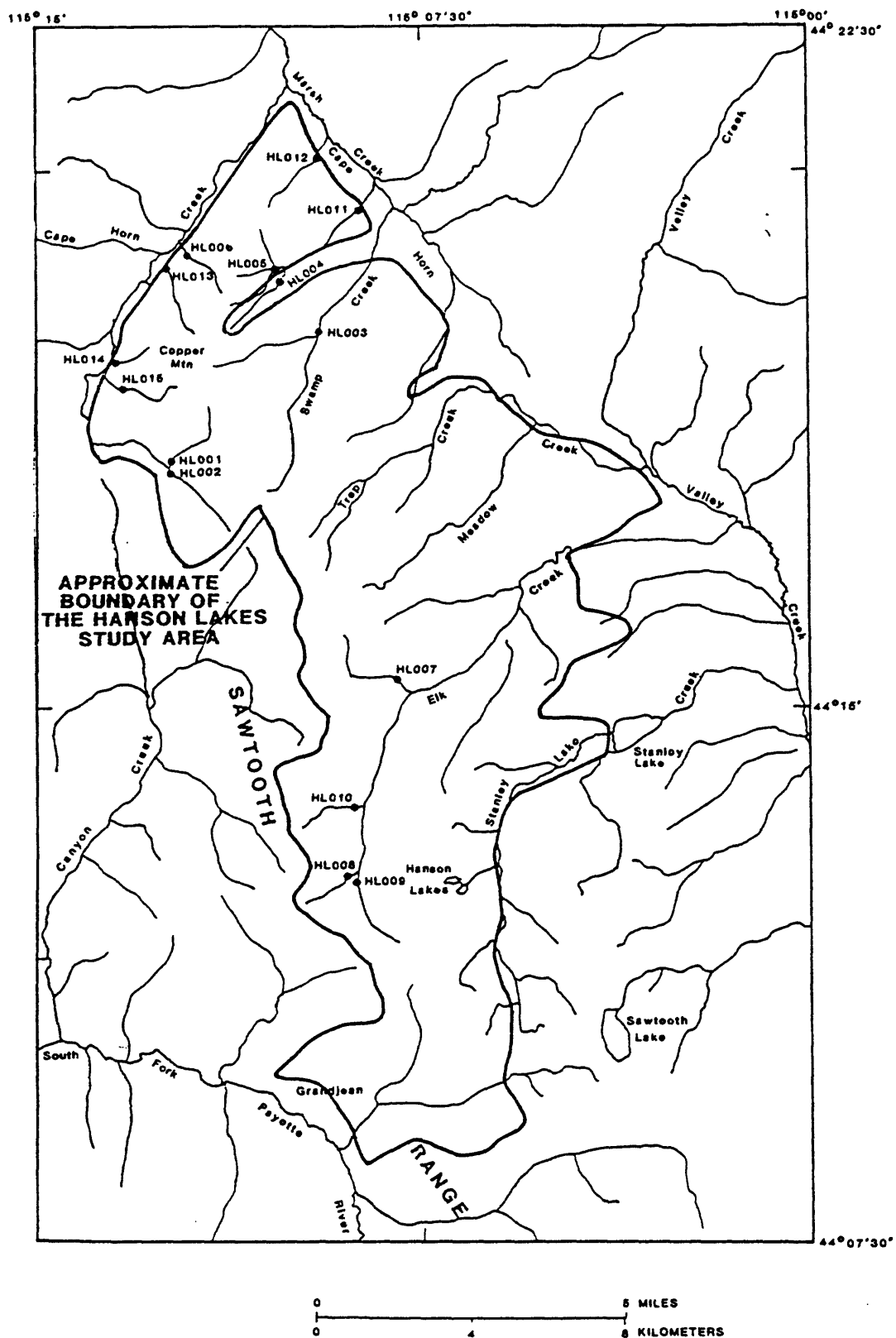


Figure 3. Localities of stream-sediment, heavy-mineral-concentrate, and rock samples from the Hanson Lakes Roadless Study Area, Boise and Custer Counties, Idaho.

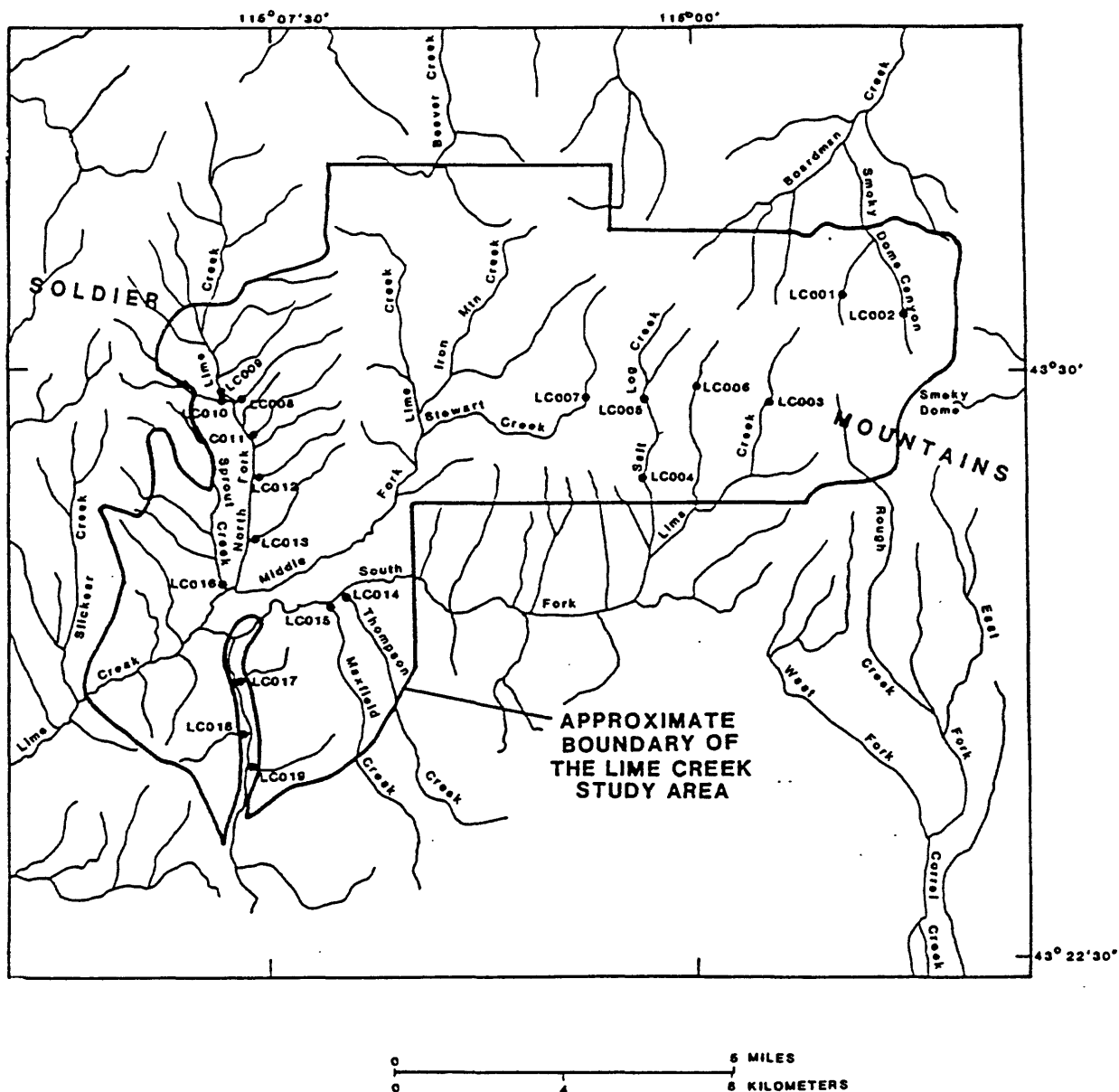


Figure 4. Localities of stream-sediment and heavy-mineral-concentrate samples from the Lime Creek Roadless Study Area, Camas and Elmore Counties, Idaho.

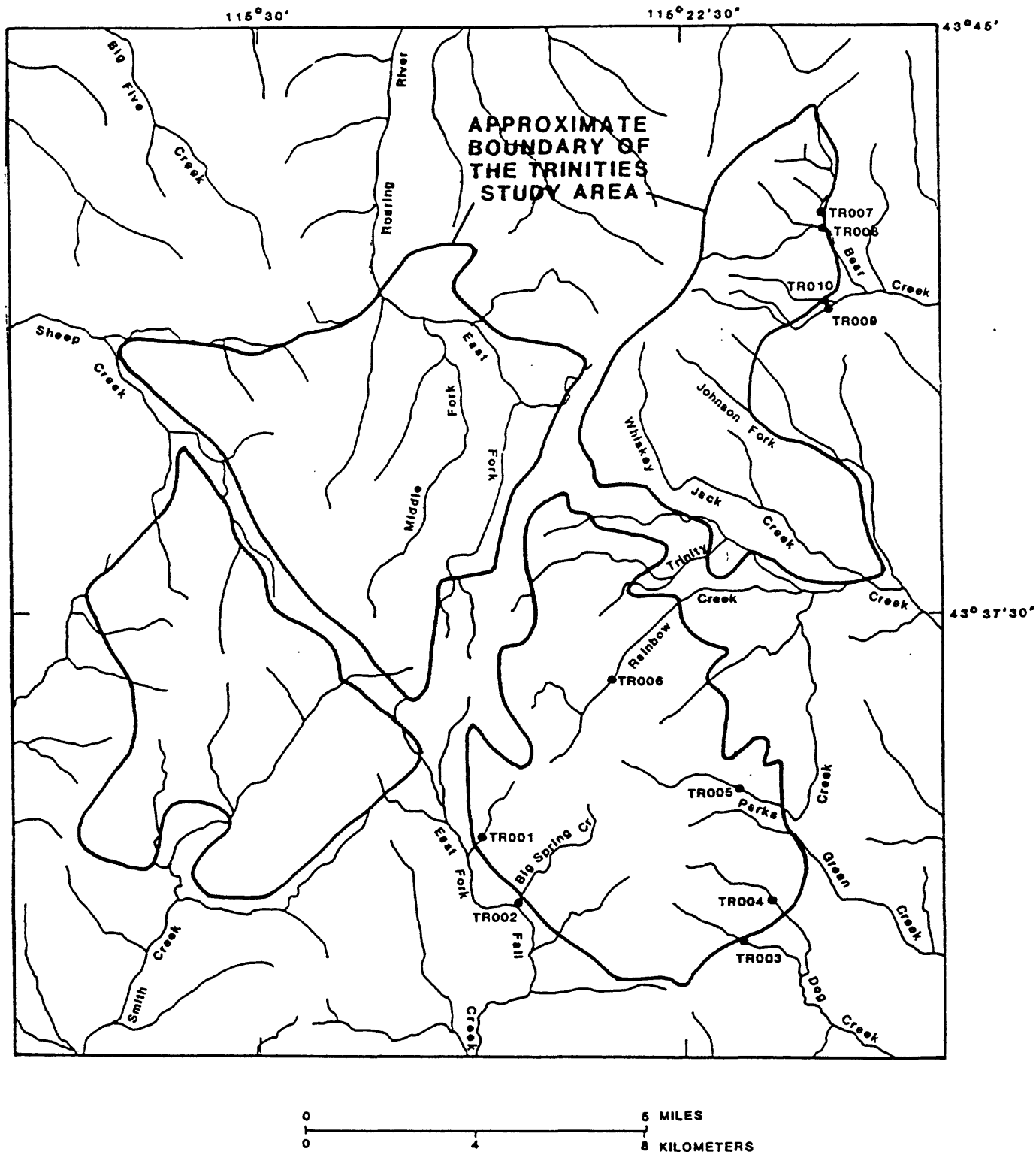


Figure 6. Localities of stream-sediment and heavy-mineral-concentrate samples from the Trinities Roadless Study Area, Boise and Valley Counties, Idaho.

Rock samples

Rock samples were collected from float in the vicinity of the plotted site location. Descriptions of the rock samples are in table 16.

Sample Preparation

The stream-sediment samples were air dried, then sieved using 80-mesh (0.17-mm) stainless-steel sieves. The portion of the sediment passing through the sieve was saved for analysis.

Samples that had been panned in the field were air dried and sieved to -35 mesh; bromoform (specific gravity 2.85) was used to remove the remaining quartz and feldspar. The resultant heavy-mineral sample was separated into three fractions using a large electromagnet by placing the sample in contact with the face of the magnet (in this case a modified Frantz Isodynamic Separator). The most magnetic material (removed at a setting of 0.25 ampere), primarily magnetite, was not analyzed. The second fraction (removed at a setting of 1.75 ampere), largely ferromagnesian silicates and iron oxides, was saved for archival storage. The third fraction (the nonmagnetic material which may include the nonmagnetic ore minerals, zircon, sphene, etc.) was split using a Jones splitter. One split was hand ground for spectrographic analysis; the other split was saved for mineralogical analysis. (These magnetic separates are the same separates that would be produced by using a Frantz Isodynamic Separator set at a slope of 15 degrees and a tilt of 10 degrees with a current of 0.2 ampere to remove the magnetite and ilmenite, and a current of 0.6 ampere to split the remainder of the sample into paramagnetic and nonmagnetic fractions.)

Rock samples were crushed and then pulverized to minus 0.15 mm with ceramic plates.

Sample Analysis

Spectrographic method

Stream-sediment and rock samples were analyzed for 35 elements using a semiquantitative, direct-current arc emission spectrographic method (Grimes and Marranzino, 1968). Heavy-mineral-concentrate samples were analyzed for the same elements plus platinum and palladium by the same method. The elements analyzed and their lower limits of determination are listed in Table 3. Spectrographic results were obtained by visual comparison of spectra derived from the sample against spectra obtained from standards made from pure oxides and carbonates. Standard concentrations are geometrically spaced over any given order of magnitude of concentration as follows: 100, 50, 20, 10, and so forth. Samples whose concentrations are estimated to fall between those values are assigned values of 70, 30, 15, and so forth. The precision of the analytical method is approximately plus or minus one reporting intervals at the 83 percent

confidence level and plus or minus two reporting intervals at the 96 percent confidence level (Motooka and Grimes, 1976). Values determined for the major elements (iron, magnesium, calcium, sodium, phosphorus, and titanium) are given in weight percent; all others are given in parts per million (micrograms/gram). Analytical data are listed in tables 5 - 15.

Other methods

The stream-sediment and rock samples from the RSA's were also analyzed by inductively coupled plasma emission spectroscopy (ICP), and atomic absorption spectroscopy (AA). Silver (Ag), arsenic (As), gold (Au), bismuth (Bi), cadmium (Cd), copper (Cu), molybdenum (Mo), lead (Pb), antimony (Sb), and zinc (Zn) were analyzed by ICP, gold (Au) was analyzed by flame AA, and mercury (Hg) was analyzed by cold vapor AA. Limits of determination and references are listed in table 4.

Analytical results using these methods are listed in tables 5, 7, 9, 10, 12, and 14.

DATA STORAGE SYSTEM

Upon completion of all analytical work, the analytical results were entered into a U.S. Geological Survey computer data base called PLUTO. This data base contains both descriptive geological information and analytical data. Any or all of this information may be retrieved and converted to a binary form (STATPAC) for computerized statistical analysis or publication (Van Trump and Miesch, 1977).

DESCRIPTION OF DATA TABLES

Tables 5-15 list the results of analyses for the stream-sediment, heavy-mineral-concentrate, and rock samples from the five RSA's. For these tables, the data are arranged so that column 1 contains the USGS-assigned sample numbers. These numbers correspond to the numbers shown on figs. 2-6. Columns in which the element headings show the letter "s" following the element symbol are emission spectrographic analyses, "icp" indicates inductively couple plasma analyses, and "aa" indicates atomic absorption analyses. A letter "N" in the tables indicates that a given element was looked for but not detected at the lower limit of determination (LLD) shown for that element in table 1. For emission spectrographic analyses and AA analyses, a "less than" symbol (<) entered in the tables in front of the LLD indicates that an element was observed but was below the lowest reporting value. If an element was observed but was above the highest reporting value, a "greater than" symbol (>) was entered in the tables in front of the upper limit of determination. If an element was not looked for in a sample, two dashes (--) are entered in the tables in place of the analytical value. Because of the formatting used in the computer program that produced the

data tables, some of the elements listed in these tables (Fe, Mg, Ca, Ti, Ag, and Be) may carry one or more nonsignificant digits to the right of the significant digits. The analysts did not determine these elements to the accuracy suggested by the extra zeros.

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TABLE 3.--Limits of determination for the spectrographic analysis of rocks and stream sediments, based on a 10-mg sample

[The spectrographic limits of determination for heavy-mineral-concentrate samples are based on a 5-mg sample, and are therefore two reporting intervals higher than the limits listed, except as noted]

Elements	Lower determination limit	Upper determination limit
Weight percent		
Calcium (Ca)	0.05	20
Iron (Fe)	.05	20
Magnesium (Mg)	.02	10
Sodium (Na)	.2	5
Phosphorus (P)	.2	10
Titanium (Ti)	.002	1
Parts per million		
Silver (Ag)	0.5	5,000
Arsenic (As)	200	10,000
Gold (Au)	10	500
Boron (B)	10	2,000
Barium (Ba)	20	5,000
Beryllium (Be)	1	1,000
Bismuth (Bi)	10	1,000
Cadmium (Cd)	20	500
Cobalt (Co)	10	2,000
Chromium (Cr)	10	5,000
Copper (Cu)	5	20,000
Gallium (Ga)	5	500
Germanium (Ge)	10	100
Lanthanum (La)	50	1,000
Manganese (Mn)	10	5,000
Molybdenum (Mo)	5	2,000
Niobium (Nb)	20	2,000
Nickel (Ni)	5	5,000
Lead (Pb)	10	20,000
Antimony (Sb)	100	10,000
Scandium (Sc)	5	100
Tin (Sn)	10	1,000
Strontium (Sr)	100	5,000
Thorium (Th)	100	2,000
Vanadium (V)	10	10,000
Tungsten (W)	20	10,000
Yttrium (Y)	10	2,000
Zinc (Zn)	200	10,000
Zirconium (Zr)	10	1,000
Palladium (Pd)*	5	1,000
Platinum (Pt)*	20	1,000

*Determined in heavy-mineral-concentrate samples only. Limits are for heavy-mineral-concentrate samples.

Table 4.--Other Methods Used

(AA, flame atomic absorption spectroscopy; ICP, inductively coupled plasma emission spectroscopy; CVAA, cold vapor atomic absorption spectroscopy)

Element determined	Sample type	Method	LLD (PPM)	References
Silver (Ag)	ss/rk	ICP	0.045	Motooka, 1988
Arsenic (As)	"	"	0.6	
Gold (Au)	"	"	0.15	
Bismuth (Bi)	"	"	0.6	
Cadmium (Cd)	"	"	0.03	
Copper (Cu)	"	"	0.03	
Molybdenum (Mo)	"	"	0.09	
Lead (Pb)	"	"	0.6	
Antimony (Sb)	"	"	0.6	
Zinc (Zn)	"	"	0.03	
Gold (Au)	"	AA	0.05	Thompson and others, 1968: O'Leary and Meier, 1986.
Mercury (Hg)	"	CVAA	0.02	Koirttyohann and Khalil, 1976.

TABLE 5 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE BLACK WARRIER ROADLESS STUDY AREA, ELMORE COUNTY, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s
BW001S	43 50 27	115 13 52	.7	3	.5	.2	3	<.2	N	N	N
BW002S	43 51 8	115 11 27	1	3	.7	.2	3	<.2	N	N	N
BW003S	43 54 3	115 13 7	.7	2	.5	.15	3	<.2	N	N	N
BW004S	43 54 38	115 12 46	.7	3	.3	.3	3	<.2	N	N	N
BW005S	43 55 16	115 13 2	1	3	.5	.3	3	N	N	N	N
BW006S	43 55 37	115 12 31	1.5	7	.5	.3	5	N	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s
BW001S	10	1,500	1.5	N	N	<10	70	5	30	N	200	500
BW002S	10	1,500	1.5	N	N	10	50	<5	30	N	150	700
BW003S	15	1,000	1.5	N	N	<10	<10	5	30	N	100	700
BW004S	15	1,500	1.5	N	N	N	10	<5	50	N	150	1,000
BW005S	20	2,000	1.5	N	N	<10	15	<5	50	N	150	700
BW006S	15	2,000	1.5	N	N	<10	10	<5	50	N	200	700

Sample	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s
BW001S	N	20	15	70	N	<5	N	500	N	70	N	50	N
BW002S	N	20	<5	70	N	5	N	700	N	70	N	30	N
BW003S	N	20	<5	150	N	<5	20	500	N	30	N	20	N
BW004S	N	50	<5	50	N	5	N	700	N	50	N	30	N
BW005S	N	20	<5	70	N	7	N	700	N	70	N	70	N
BW006S	N	150	<5	50	N	7	N	700	N	100	N	100	N

Sample	Zr-ppm s	Au-ppm aa	Ag-ppm icp	As-ppm icp	Au-ppm icp	Bi-ppm icp	Cd-ppm icp	Cu-ppm icp	Mo-ppm icp	Pb-ppm icp	Sb-ppm icp	Zn-ppm icp
BW001S	300	N	N	8.6	N	N	.045	1.6	.17	8.1	N	43
BW002S	300	N	.062	13	N	N	.1	1.8	.13	10	N	48
BW003S	150	1	.2	73	N	N	.088	2.8	1.4	54	N	43
BW004S	200	N	N	N	N	N	.054	1.6	.18	6.7	N	31
BW005S	300	N	N	N	N	N	.05	2	.22	8.2	N	34
BW006S	300	N	N	N	N	N	.035	.97	.22	6.6	N	32

TABLE 6 --RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE BLACK WARRIER ROADLESS STUDY AREA,
ELMORE COUNTY, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s
BW001C3	43 50 27	115 13 52	3	1	.1	>2	N	1.5	N	N	N	N
BW002C3	43 51 8	115 11 27	7	5	.3	>2	N	3	5	N	100	N
BW003C3	43 54 3	115 13 7	5	2	.07	2	N	2	700	N	>1,000	N
BW004C3	43 54 38	115 12 46	2	1.5	.07	>2	N	1.5	3	N	<20	N
BW005C3	43 55 16	115 13 2	3	1.5	.1	>2	N	3	15	N	50	20
BW006C3	43 55 37	115 12 31	3	2	.15	>2	N	2	50	N	150	N

Sample	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	Nb-ppm s
BW001C3	500	N	N	N	N	20	N	<10	N	>2,000	700	N	150
BW002C3	200	<2	N	N	<20	300	50	10	N	>2,000	1,500	N	200
BW003C3	300	N	N	N	N	N	30	10	N	2,000	1,000	500	200
BW004C3	200	N	N	N	N	<20	N	<10	N	>2,000	5,000	N	300
BW005C3	500	3	N	N	N	20	N	10	N	>2,000	700	N	500
BW006C3	200	<2	N	N	N	50	N	N	N	>2,000	1,000	N	700

Sample	Ni-ppm s	Pb-ppm s	Pd-ppm s	Pt-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
BW001C3	N	30	N	N	N	10	N	N	500	20	N	1,500	N	>2,000
BW002C3	N	100	N	N	N	15	N	N	500	30	N	2,000	N	>2,000
BW003C3	N	5,000	N	N	N	<10	1,500	N	300	<20	N	1,000	N	>2,000
BW004C3	N	50	N	N	N	20	N	N	500	N	<50	3,000	N	>2,000
BW005C3	N	50	N	N	N	15	N	N	700	N	50	2,000	N	>2,000
BW006C3	N	70	N	N	N	20	<20	N	700	N	70	3,000	N	>2,000

TABLE 7--RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE HANSON LAKES ROADLESS STUDY AREA, BOISE AND CUSTER COUNTIES, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s
HL001S	44 18 30	115 12 23	.7	3	.7	.5	3	<.2	N	N	N
HL002S	44 18 22	115 12 27	.7	3	.7	.3	2	<.2	N	N	N
HL003S	44 20 15	115 9 31	1	3	1	.5	3	<.2	N	N	N
HL004S	44 21 0	115 10 8	.7	2	.7	.3	1.5	<.2	N	N	N
HL005S	44 21 7	115 10 21	.5	2	.7	.3	1.5	<.2	N	N	N
HL006S	44 21 22	115 12 3	.3	2	.5	.3	3	<.2	N	N	N
HL007S	44 15 18	115 7 56	1	2	.5	.3	3	<.2	N	N	N
HL008S	44 12 40	115 8 55	1	3	.7	.5	2	.3	N	N	N
HL009S	44 12 37	115 8 48	1	5	.7	.5	2	.2	N	N	N
HL010S	44 13 35	115 8 51	.7	3	.7	.3	3	<.2	N	N	N
HL011S	44 21 58	115 8 44	.7	2	.5	2	<.2	.3	N	N	N
HL012S	44 22 44	115 9 32	.7	2	.5	2	N	.3	N	N	N
HL013S	44 21 7	115 12 27	1.5	3	1	2	<.2	.5	1.5	N	N
HL014S	44 19 52	115 13 31	2	5	1	3	N	.7	<.5	N	N
HL015S	44 19 27	115 13 18	1.5	3	.7	3	.2	.5	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s
HL001S	15	1,000	3	N	N	10	20	20	30	N	200	700	15
HL002S	<10	1,000	2	N	N	10	30	7	20	N	300	700	N
HL003S	<10	1,500	2	N	N	10	30	15	30	N	200	300	N
HL004S	10	700	3	N	N	<10	30	20	15	N	300	500	N
HL005S	10	500	2	N	N	10	50	15	20	N	70	500	N
HL006S	20	500	3	N	N	<10	30	15	20	N	100	300	N
HL007S	10	700	7	N	N	10	10	10	30	N	150	700	N
HL008S	10	700	2	N	N	10	<10	5	30	N	150	700	N
HL009S	<10	1,000	2	N	N	<10	10	7	30	N	200	700	N
HL010S	<10	1,000	2	N	N	<10	15	7	30	N	100	700	N
HL011S	<10	700	1.5	N	N	<10	50	10	15	N	150	300	<5
HL012S	10	500	2	N	N	<10	10	7	20	N	150	300	<5
HL013S	15	700	3	N	N	20	100	30	30	N	200	700	5
HL014S	20	700	3	N	N	10	70	30	50	N	300	700	10
HL015S	15	1,000	2	N	N	10	30	30	30	N	500	700	5

TABLE 7 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE HANSON LAKES ROADLESS STUDY AREA, BOISE AND CUSTER COUNTIES, IDAHO.--Continued

Sample	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
HL001S	20	<5	70	N	7	N	500	N	70	N	50	N	300
HL002S	20	7	30	N	7	N	700	N	50	N	50	N	150
HL003S	<20	7	50	N	7	N	1,000	N	70	N	30	N	200
HL004S	<20	<5	70	N	5	N	500	N	50	N	30	200	150
HL005S	20	<5	50	N	7	N	300	N	70	N	30	N	200
HL006S	20	<5	50	N	5	N	200	N	70	N	30	N	300
HL007S	20	<5	70	N	5	100	700	N	70	N	50	300	150
HL008S	30	<5	70	N	7	<10	500	N	70	N	30	N	300
HL009S	50	<5	70	N	7	N	500	N	100	N	70	<200	700
HL010S	70	5	70	N	7	<10	500	N	70	N	30	N	300
HL011S	20	<5	70	N	7	N	500	N	70	N	30	N	300
HL012S	50	<5	50	N	7	N	300	N	50	N	50	N	500
HL013S	30	20	200	N	7	<10	500	N	100	N	50	200	700
HL014S	30	20	100	N	15	20	500	N	150	N	70	300	1,000
HL015S	30	15	150	N	15	15	500	<100	100	N	70	300	700

Sample	Au-ppm aa	Hg-ppm aa	Ag-ppm icp	As-ppm icp	Au-ppm icp	Bi-ppm icp	Cd-ppm icp	Cu-ppm icp	Mo-ppm icp	Pb-ppm icp	Sb-ppm icp	Zn-ppm icp
HL001S	N	N	N	N	N	N	.92	12	8.4	40	N	140
HL002S	N	N	N	2.6	N	N	.35	5.4	1.9	18	N	80
HL003S	N	N	.047	.87	N	N	.49	9	2.3	23	N	110
HL004S	N	.04	.23	22	N	N	3.3	33	1.3	59	N	330
HL005S	N	.02	.12	5.3	N	N	.35	8.3	2	30	N	79
HL006S	5.6	.08	.23	5	N	N	.36	11	2.5	35	1.5	91
HL007S	N	.02	.14	.97	N	N	1.3	5.6	.69	17	N	310
HL008S	N	N	N	N	N	N	.1	2.2	.29	13	N	77
HL009S	2.3	N	N	1.3	N	N	.2	2.8	.22	20	N	77
HL010S	N	N	N	N	N	N	.084	4.8	.27	9.9	N	48
HL011S	N	.02	.093	3	N	N	.21	6.7	.88	50	N	54
HL012S	N	.02	.095	1.3	N	N	.086	2.2	.52	21	N	27
HL013S	N	.02	.41	3.9	N	N	1.2	23	1.5	190	N	270
HL014S	N	.02	.31	2.2	N	.87	1.3	27	8.6	96	.6	280
HL015S	N	.02	.22	2.1	N	N	1.9	26	2.9	110	N	330

TABLE 8 --RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE HANSON LAKES ROADLESS STUDY AREA,
BOISE AND CUSTER COUNTIES, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s
HL001C3	44 18 30	115 12 23	10	1.5	1	>2	N	3	N	N	N	N
HL002C3	44 18 22	115 12 27	15	2	2	>2	N	2	N	N	N	N
HL003C3	44 20 15	115 9 31	15	.5	.2	1.5	N	10	N	N	N	N
HL004C3	44 21 0	115 10 8	20	1	2	2	N	10	N	N	N	N
HL005C3	44 21 7	115 10 21	7	1	2	>2	N	2	N	N	N	N
HL006C3	44 21 22	115 12 3	10	3	.5	>2	N	5	<1	N	N	N
HL007C3	44 15 18	115 7 56	7	2	1	>2	N	3	N	N	N	N
HL008C3	44 12 40	115 8 55	15	.7	.05	>2	N	5	1	N	N	N
HL009C3	44 12 37	115 8 48	10	1	.15	>2	N	2	<1	N	N	N
HL010C3	44 13 35	115 8 51	15	1.5	.7	>2	N	2	N	N	<20	N

HL011C3	44 21 58	115 8 44	15	1	1	N	10	>2	N	N	N	N
HL012C3	44 22 44	115 9 32	3	.5	.3	N	5	>2	N	N	N	<20
HL013C3	44 21 7	115 12 27	20	1.5	3	N	5	2	N	N	N	N
HL014C3	44 19 52	115 13 31	15	1.5	2	N	5	>2	N	N	N	N
HL015C3	44 19 27	115 13 18	15	1	1.5	N	7	>2	N	N	N	<20

Sample	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	Nb-ppm s
HL001C3	700	30	N	N	N	30	<10	N	N	1,500	200	500	150
HL002C3	100	50	50	N	N	50	N	<10	N	>2,000	300	10	200
HL003C3	<50	N	N	N	N	<20	N	N	N	1,500	300	N	100
HL004C3	50	2	N	N	N	50	N	<10	N	2,000	200	N	70
HL005C3	70	<2	N	N	N	70	N	N	N	700	150	N	100
HL006C3	700	<2	N	N	N	30	<10	N	N	1,500	100	N	100
HL007C3	500	3	70	N	N	30	N	<10	N	2,000	700	N	150
HL008C3	<50	N	N	N	N	N	N	N	N	200	500	10	200
HL009C3	50	N	N	N	N	N	N	N	N	200	300	<10	200
HL010C3	<50	<2	N	N	N	20	N	N	N	500	1,000	<10	500

HL011C3	100	N	N	N	N	150	15	<10	N	1,500	500	N	300
HL012C3	200	N	N	N	N	70	50	<10	N	300	300	<10	500
HL013C3	70	7	N	N	N	200	<10	<10	N	500	500	N	100
HL014C3	50	5	N	N	N	150	15	10	N	500	700	150	150
HL015C3	500	10	N	N	N	100	15	10	N	1,500	500	100	200

Sample	Ni-ppm s	Pb-ppm s	Pd-ppm s	Pt-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
HL001C3	N	10,000	N	N	N	N	20	N	N	100	100	300	N	>2,000
HL002C3	<10	200	N	N	N	<10	30	N	200	50	300	500	N	>2,000
HL003C3	N	<20	N	N	N	N	N	N	300	30	<50	500	N	2,000
HL004C3	N	<20	N	N	N	N	N	<200	N	70	150	300	N	2,000
HL005C3	N	20	N	N	N	<10	20	N	N	50	N	200	N	>2,000
HL006C3	N	50	N	N	N	N	N	N	N	70	N	200	N	>2,000
HL007C3	N	<20	N	N	N	<10	>2,000	N	200	50	100	1,000	N	>2,000
HL008C3	N	500	N	N	N	N	70	N	N	100	N	500	N	>2,000
HL009C3	N	1,000	N	N	N	N	50	N	N	70	N	700	N	2,000
HL010C3	N	<20	N	N	N	10	700	N	N	100	N	1,000	N	>2,000

HL011C3	N	50	N	N	N	20	20	700	<200	150	N	700	N	>2,000
HL012C3	N	100	N	N	N	50	300	N	N	200	<50	500	N	>2,000
HL013C3	15	150	N	N	N	15	N	N	N	150	N	200	N	>2,000
HL014C3	N	700	N	N	N	15	50	N	1,000	150	N	500	N	>2,000
HL015C3	N	200	N	N	N	15	30	<200	200	150	<50	700	N	>2,000

TABLE 9 --RESULTS OF ANALYSES OF ROCK SAMPLES FROM THE HANSON LAKES ROADLESS STUDY AREA, BOISE AND CUSTER COUNTIES, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s
HL014R1	44 19 52	115 13 31	1	3	.7	3	N	.5	N	N	N
HL014R2	44 19 52	115 13 31	.05	1.5	.2	2	N	.15	N	N	N
HL014R3	44 19 52	115 13 31	.3	3	.5	5	<.2	.7	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s
HL014R1	<10	1,000	1.5	N	N	<10	N	7	30	N	100	500
HL014R2	N	500	<1	N	N	N	N	N	15	N	<50	500
HL014R3	<10	1,000	1.5	N	N	<10	<10	<5	30	N	150	300

Sample	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s
HL014R1	N	20	N	30	N	7	N	500	N	70	N	30	N
HL014R2	7	<20	<5	10	N	<5	N	N	N	15	N	<10	N
HL014R3	N	30	N	20	N	7	N	300	N	50	N	30	N

Sample	Zr-ppm s	Au-ppm aa	Ag-ppm icp	As-ppm icp	Au-ppm icp	Bi-ppm icp	Cd-ppm icp	Cu-ppm icp	Mo-ppm icp	Pb-ppm icp	Sb-ppm icp	Zn-ppm icp
HL014R1	500	N	N	N	N	N	.16	6.2	.37	4	N	75
HL014R2	150	N	N	N	N	N	.24	3.1	.43	7.7	N	250
HL014R3	300	N	N	N	N	N	.07	3.8	.37	6.3	N	240

TABLE 10 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE LIME CREEK ROADLESS STUDY AREA, CAMAS AND ELMORE COUNTIES, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s
LC001S	43 30 55	114 57 25	.7	2	.7	.2	2	<.2	N	N	N
LC002S	43 30 45	114 56 20	.7	3	.7	.3	2	<.2	.7	N	N
LC003S	43 29 38	114 58 41	1.5	3	1	.3	2	N	N	N	N
LC004S	43 28 37	115 0 56	.7	5	.7	.5	3	N	N	N	N
LC005S	43 29 39	115 0 52	1	5	.7	.5	3	N	N	N	N
LC006S	43 29 49	114 59 58	1	5	1	.5	2	<.2	N	N	N
LC007S	43 29 38	115 1 55	1	5	.7	.5	3	<.2	N	N	N
LC008S	43 29 38	115 8 5	1.5	5	1	3	<.2	.5	N	N	N
LC009S	43 29 43	115 8 26	1.5	3	1	3	<.2	.5	N	N	N
LC010S	43 29 40	115 8 16	2	5	1.5	5	N	.5	N	N	N
LC011S	43 29 10	115 7 50	.7	5	1	3	N	.5	N	N	N
LC012S	43 28 38	115 7 46	2	7	1	3	N	.7	N	N	N
LC013S	43 27 50	115 7 49	2	5	1	3	N	.7	N	N	N
LC014S	43 27 8	115 6 11	2	5	1.5	2	<.2	.5	N	N	N
LC015S	43 27 2	115 6 26	2	5	1	3	N	.7	N	N	N
LC016S	43 27 16	115 8 20	1.5	5	1	3	N	.5	N	N	N
LC017S	43 26 1	115 8 5	2	7	1	3	N	1	N	N	N
LC018S	43 25 23	115 7 55	1.5	5	1	3	<.2	.7	N	N	N
LC019S	43 24 58	115 7 51	1	5	1	5	.2	.5	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s
LC001S	20	700	3	N	N	10	30	10	30	N	150	500
LC002S	20	700	2	N	N	15	30	15	30	N	200	700
LC003S	10	1,000	2	N	N	15	100	10	30	N	300	700
LC004S	<10	1,000	2	N	N	15	70	10	50	N	200	700
LC005S	<10	700	2	N	N	15	70	10	30	N	300	700
LC006S	<10	1,000	2	N	N	15	100	20	50	N	150	700
LC007S	<10	700	2	N	N	15	100	10	50	N	300	700
LC008S	10	1,000	1.5	N	N	15	100	20	30	N	100	700
LC009S	10	1,000	1.5	N	N	10	50	7	30	N	200	700
LC010S	10	1,500	1.5	N	N	10	150	15	30	N	50	1,000
LC011S	10	1,000	1.5	N	N	15	100	20	30	N	100	700
LC012S	10	1,000	1.5	N	N	15	100	15	30	N	100	1,000
LC013S	10	1,000	1.5	N	N	15	100	20	30	N	70	700
LC014S	10	1,000	1.5	N	N	20	200	20	30	N	150	1,000
LC015S	10	1,000	1.5	N	N	15	100	15	30	N	150	1,000
LC016S	<10	1,000	1.5	N	N	20	100	20	30	N	<50	700
LC017S	10	1,000	1.5	N	N	20	150	20	30	N	150	1,000
LC018S	15	1,000	1.5	N	N	20	100	20	50	N	100	1,000
LC019S	15	1,000	1.5	N	N	15	70	20	30	N	100	1,500

TABLE 10 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE LIME CREEK ROADLESS STUDY AREA, CAMAS AND ELMORE COUNTIES, IDAHO.--Continued

Sample	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s
LC001S	10	<20	15	50	N	7	N	200	N	70	N	20	N
LC002S	10	20	10	70	N	7	N	300	N	70	N	30	N
LC003S	N	30	10	70	N	10	<10	500	N	100	N	50	N
LC004S	N	30	10	70	N	10	<10	300	<100	100	N	50	N
LC005S	N	50	7	70	N	10	10	300	150	150	N	70	N
LC006S	N	30	15	50	N	10	<10	300	<100	150	N	30	N
LC007S	N	50	15	70	N	10	<10	300	<100	150	N	70	N
LC008S	N	20	30	50	N	10	15	700	N	150	N	20	N
LC009S	N	50	15	50	N	7	N	700	N	150	N	70	N
LC010S	N	30	30	50	N	10	N	1,000	N	150	N	50	N
LC011S	N	<20	30	70	N	7	N	700	N	150	N	30	N
LC012S	N	20	30	70	N	15	N	700	N	150	N	50	N
LC013S	N	20	30	70	N	15	N	1,000	N	150	N	30	N
LC014S	N	20	50	50	N	20	N	500	N	150	N	30	N
LC015S	N	30	30	70	N	15	<10	700	N	150	N	50	N
LC016S	N	20	30	70	N	10	N	700	N	150	N	30	N
LC017S	N	50	50	70	N	20	10	700	N	200	N	70	N
LC018S	N	20	30	100	N	10	N	700	N	150	N	50	N
LC019S	N	20	20	150	N	10	N	500	N	150	N	30	N

Sample	Zr-ppm s	Au-ppm aa	Ag-ppm icp	As-ppm icp	Au-ppm icp	Bi-ppm icp	Cd-ppm icp	Cu-ppm icp	Mo-ppm icp	Pb-ppm icp	Sb-ppm icp	Zn-ppm icp
LC001S	200	N	.097	1.6	N	N	.17	6.5	5.1	15	N	41
LC002S	300	N	.087	2.7	N	N	.2	7.2	5.4	11	N	33
LC003S	500	N	N	.89	N	N	.13	6	.4	9.2	N	41
LC004S	500	N	N	N	N	N	.072	4.9	.47	11	N	34
LC005S	700	N	N	N	N	N	.08	5.5	.57	13	N	35
LC006S	500	N	N	N	N	N	.057	9	.45	12	N	35
LC007S	300	N	N	N	N	N	.056	4.9	.31	9.6	N	31
LC008S	500	N	.053	.68	N	N	.089	6	.18	11	N	41
LC009S	500	N	N	N	N	N	.054	2.4	.098	8.3	N	38
LC010S	500	N	N	N	N	N	.066	9.2	.22	12	N	430
LC011S	200	N	.059	.83	N	N	.088	7.5	.21	16	N	120
LC012S	500	N	N	N	N	N	.072	5.2	.13	14	N	56
LC013S	500	N	N	N	N	N	.078	5.8	.13	15	N	53
LC014S	700	N	N	.83	N	N	.09	6.2	.16	13	N	42
LC015S	700	N	N	.74	N	N	.099	4.6	.17	18	N	48
LC016S	300	N	N	N	N	N	.11	5.6	.13	17	N	45
LC017S	700	N	.062	1.3	N	N	.18	8.4	.39	29	N	61
LC018S	500	N	.086	1.4	N	N	.31	7.9	.31	54	N	92
LC019S	300	N	.07	1.4	N	N	.25	15	.62	91	N	700

TABLE 11 --RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE LIME CREEK ROADLESS STUDY AREA, CAMAS
AND ELMORE COUNTIES, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s
LC001C3	43 30 55	114 57 25	.5	.5	.05	>2	N	1	10	N	N	N
LC002C3	43 30 45	114 56 20	.7	1	.15	>2	N	.7	N	N	N	<20
LC003C3	43 29 38	114 58 41	7	.7	.07	>2	N	1.5	N	N	N	N
LC004C3	43 28 37	115 0 56	5	1.5	<.05	>2	N	2	N	N	N	N
LC005C3	43 29 39	115 0 52	1	2	<.05	>2	N	<.5	N	N	N	N
LC006C3	43 29 49	114 59 58	5	.5	.05	>2	N	5	N	N	N	N
LC007C3	43 29 38	115 1 55	7	1	.07	>2	N	N	N	N	N	N
LC008C3	43 29 38	115 8 5	7	.7	.1	N	1.5	>2	N	N	N	N
LC009C3	43 29 43	115 8 26	7	1	.07	N	1.5	>2	N	N	N	N
LC010C3	43 29 40	115 8 16										
LC011C3	43 29 10	115 7 50	7	.3	.07	N	1.5	>2	N	N	N	N
LC012C3	43 28 38	115 7 46	7	.7	.2	N	1.5	>2	N	N	N	N
LC013C3	43 27 50	115 7 49	7	.5	.07	N	2	>2	N	N	N	N
LC014C3	43 27 8	115 6 11	7	.7	.3	.5	2	>2	N	N	N	N
LC015C3	43 27 2	115 6 26	15	.5	.15	N	3	>2	N	N	N	N
LC016C3	43 27 16	115 8 20	7	.3	.15	N	1.5	>2	N	N	N	N
LC017C3	43 26 1	115 8 5	7	.5	.1	N	1.5	>2	N	N	N	N
LC018C3	43 25 23	115 7 55	7	.5	.15	N	5	>2	N	N	N	N
LC019C3	43 24 58	115 7 51	20	.3	.2	N	7	>2	N	N	N	N

Sample	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	Nb-ppm s
LC001C3	70	<2	N	N	N	N	N	N	N	700	30	N	100
LC002C3	500	2	N	N	N	30	N	N	N	>2,000	70	15	200
LC003C3	70	N	N	N	N	30	N	N	N	300	150	N	200
LC004C3	50	<2	N	N	<20	N	<10	N	N	200	100	N	<50
LC005C3	50	2	N	N	<20	N	10	N	N	500	100	N	70
LC006C3	<50	N	N	N	N	<20	<10	N	N	200	70	N	<50
LC007C3	50	N	N	N	N	50	N	N	N	1,000	200	10	200
LC008C3	70	N	N	N	N	<20	N	N	N	300	700	30	300
LC009C3	70	N	N	N	N	<20	N	N	N	300	700	10	300
LC010C3													
LC011C3	70	N	N	N	N	20	N	N	N	300	500	N	300
LC012C3	100	N	N	N	N	20	N	N	N	500	700	N	500
LC013C3	70	N	N	N	N	<20	N	N	N	500	700	N	300
LC014C3	200	N	N	N	N	70	N	N	N	300	500	N	150
LC015C3	70	N	N	N	N	50	N	N	N	300	700	N	300
LC016C3	70	N	N	N	N	50	N	N	N	300	500	N	500
LC017C3	50	N	N	N	N	50	N	N	N	500	700	N	500
LC018C3	150	N	N	N	N	<20	N	N	N	700	700	N	300
LC019C3	150	N	N	N	N	50	N	N	N	300	700	N	200

Sample	Ni-ppm s	Pb-ppm s	Pd-ppm s	Pt-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
LC001C3	N	30	N	N	N	10	<20	N	500	30	70	500	N	>2,000
LC002C3	N	20	N	N	N	15	150	N	200	70	100	1,000	N	>2,000
LC003C3	N	<20	N	N	N	<10	200	N	>5,000	100	N	700	N	>2,000
LC004C3	N	30	N	N	N	15	N	N	>5,000	N	N	700	N	>2,000
LC005C3	N	100	N	N	N	15	N	N	1,500	N	N	1,000	N	>2,000
LC006C3	N	30	N	N	N	<10	N	N	5,000	N	<50	500	N	>2,000
LC007C3	N	20	N	N	N	10	200	N	1,500	150	N	1,500	N	>2,000
LC008C3	N	30	N	N	N	N	70	N	N	200	N	1,000	N	>2,000
LC009C3	N	<20	N	N	N	10	100	N	N	200	N	700	N	>2,000
LC010C3														
LC011C3	N	<20	N	N	N	20	100	N	N	300	N	700	N	>2,000
LC012C3	N	20	N	N	N	15	100	N	N	200	N	1,000	N	>2,000
LC013C3	N	70	N	N	N	15	70	N	N	200	N	1,000	N	>2,000
LC014C3	N	20	N	N	N	10	50	N	N	200	N	700	N	>2,000
LC015C3	N	30	N	N	N	20	100	N	N	300	N	1,000	N	>2,000
LC016C3	N	30	N	N	N	20	100	N	N	300	N	1,000	N	>2,000
LC017C3	N	30	N	N	N	10	100	N	N	300	N	1,000	N	>2,000
LC018C3	N	70	N	N	N	15	70	N	N	200	N	500	N	>2,000
LC019C3	N	70	N	N	N	20	70	<200	N	200	N	500	N	>2,000

TABLE 12 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE RED MOUNTAIN ROADLESS STUDY AREA, BOISE AND VALLEY COUNTIES, IDAHO.
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s
RM001S	44 12 40	115 20 42	.7	3	.7	.5	2	<.2	N	N	N
RM002S	44 13 36	115 22 37	.7	5	.7	.5	2	<.2	N	N	N
RM003S	44 13 12	115 23 52	1.5	2	.7	.5	3	<.2	N	N	N
RM004S	44 12 2	115 22 27	1	3	.7	.3	2	<.2	N	N	N
RM005S	44 12 2	115 22 39	.5	1.5	.3	.2	2	<.2	N	N	N
RM006S	44 10 34	115 23 47	.7	2	.5	.3	2	.2	N	N	N
RM007S	44 10 26	115 24 5	.7	3	.3	.2	2	<.2	N	N	N
RM008S	44 9 5	115 23 4	.5	1.5	.3	.3	3	N	N	N	N
RM009S	44 10 28	115 22 12	1	5	.5	.3	2	<.2	N	N	N
RM010S	44 9 9	115 23 7	1	7	.5	.5	2	<.2	N	N	N
RM011S	44 9 33	115 25 17	.3	3	.2	.2	2	N	N	N	N
RM012S	44 9 35	115 25 17	.7	2	.3	.3	2	<.2	N	N	N
RM013S	44 10 3	115 28 27	1.5	1.5	.5	.2	3	N	N	N	N
RM014S	44 9 4	115 32 18	.7	1.5	.3	.15	3	N	N	N	N
RM015S	44 18 22	115 23 13	.7	3	.5	.5	2	<.2	N	N	N
RM016S	44 20 45	115 24 11	1	2	.7	.3	3	<.2	N	N	N
RM017S	44 19 28	115 21 52	1.5	3	.7	.5	2	<.2	N	N	N
RM018S	44 19 25	115 18 50	1.5	2	.7	.5	2	<.2	N	N	N
RM019S	44 16 54	115 20 32	.7	2	.3	.5	2	<.2	N	N	N
RM020S	44 22 31	115 20 52	1.5	2	.7	.3	3	<.2	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s
RM001S	<10	700	2	N	N	10	15	7	30	N	100	700
RM002S	<10	700	1.5	N	N	15	70	50	30	N	150	700
RM003S	10	1,000	2	N	N	<10	15	7	30	N	200	700
RM004S	<10	1,000	1.5	N	N	<10	<10	5	30	N	200	700
RM005S	<10	700	2	N	N	N	N	<5	30	N	150	500
RM006S	<10	700	2	N	N	<10	<10	<5	30	N	500	700
RM007S	<10	1,000	1.5	N	N	N	N	<5	30	N	700	500
RM008S	15	1,000	2	N	N	N	<10	<5	30	N	<50	500
RM009S	N	1,000	1.5	N	N	10	15	5	50	N	200	700
RM010S	<10	1,000	1.5	N	N	<10	15	5	50	N	500	700
RM011S	10	700	2	N	N	N	N	<5	30	N	70	500
RM012S	10	1,000	3	N	N	N	<10	<5	30	N	100	700
RM013S	10	1,000	3	N	N	N	<10	<5	30	N	50	700
RM014S	10	1,000	1.5	N	N	N	20	5	30	N	<50	700
RM015S	<10	700	2	N	N	<10	<10	7	30	N	300	700
RM016S	10	700	2	N	N	<10	15	10	30	N	200	700
RM017S	10	1,000	2	N	N	<10	<10	<5	30	N	200	700
RM018S	10	1,000	2	N	N	<10	50	15	30	N	500	500
RM019S	10	1,000	3	N	N	<10	<10	<5	30	N	300	700
RM020S	15	700	3	N	N	<10	<10	7	30	N	500	700

TABLE 12 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE RED MOUNTAIN ROADLESS STUDY AREA, BOISE AND VALLEY COUNTIES, IDAHO.--Continued

Sample	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s
RM001S	N	30	5	50	N	7	N	500	N	70	N	20	N
RM002S	N	30	<5	30	N	10	N	300	N	100	N	30	N
RM003S	N	30	<5	30	N	7	N	700	N	70	N	30	N
RM004S	N	30	<5	50	N	7	N	700	N	70	N	50	N
RM005S	N	30	N	30	N	5	N	500	N	30	N	30	N
RM006S	N	20	<5	30	N	<5	N	700	<100	30	N	70	N
RM007S	N	20	N	50	N	<5	N	700	<100	50	N	100	N
RM008S	N	50	<5	50	N	<5	N	500	N	30	N	20	N
RM009S	N	50	<5	50	N	7	N	700	N	100	N	70	N
RM010S	N	70	N	50	N	7	N	700	N	150	N	100	N
RM011S	N	70	<5	50	N	<5	N	500	N	50	N	100	N
RM012S	N	30	<5	50	N	5	N	700	N	50	N	50	N
RM013S	N	20	5	50	N	5	N	700	N	50	N	20	N
RM014S	N	100	5	50	N	5	N	700	N	50	N	20	N
RM015S	N	20	5	30	N	5	N	700	N	70	N	150	N
RM016S	N	20	5	50	N	7	N	700	N	70	N	100	N
RM017S	N	20	5	50	N	7	N	1,000	N	70	N	30	N
RM018S	N	20	5	50	N	7	N	1,000	N	70	N	50	N
RM019S	N	30	<5	50	N	5	N	700	N	70	N	50	N
RM020S	N	<20	<5	30	N	7	N	700	N	70	N	30	N

Sample	Zr-ppm s	Au-ppm aa	Ag-ppm icp	As-ppm icp	Au-ppm icp	Bi-ppm icp	Cd-ppm icp	Cu-ppm icp	Mo-ppm icp	Pb-ppm icp	Sb-ppm icp	Zn-ppm icp
RM001S	200	N	N	N	N	N	.074	4.7	.1	13	N	60
RM002S	500	N	.084	N	N	N	.16	95	1.5	15	N	46
RM003S	200	N	N	N	N	N	N	2.6	.29	7.6	N	52
RM004S	300	N	N	N	N	N	N	2.6	N	10	N	42
RM005S	300	N	N	N	N	N	N	1.6	N	8	N	43
RM006S	200	N	N	N	N	N	N	.89	N	7.5	N	47
RM007S	300	N	N	N	N	N	N	.66	.11	7.6	N	50
RM008S	150	N	N	N	N	N	.043	1.4	.13	6.7	N	44
RM009S	300	N	N	N	N	N	.091	2	.19	11	N	56
RM010S	300	N	N	N	N	N	.042	1.2	.11	7.2	N	47
RM011S	300	N	N	N	N	N	N	.54	N	6.2	N	39
RM012S	200	N	N	N	N	N	N	1.4	N	6	N	45
RM013S	150	N	N	N	N	N	N	1.3	N	5.4	N	39
RM014S	150	N	N	N	N	N	N	1.9	N	4.2	N	29
RM015S	200	2.8	.34	N	.43	N	.065	2.3	.14	6.9	N	49
RM016S	200	N	N	.92	N	N	.075	2.8	.15	6.4	N	48
RM017S	150	N	N	N	N	N	N	1.2	.32	5.6	N	41
RM018S	300	N	N	.92	N	N	.3	4.8	.31	10	N	70
RM019S	200	N	N	N	N	N	.12	1.4	.22	6.5	N	47
RM020S	300	N	N	6.6	N	N	.059	2.4	1	4.1	N	41

TABLE 13 --RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE RED MOUNTAIN ROADLESS STUDY AREA,
BOISE AND VALLEY COUNTIES, IDAHO.
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s
RM001C3	44 12 47	115 20 42	10	1.5	.15	>2	N	7
RM002C3	44 13 36	115 22 37	7	5	.5	>2	N	3
RM003C3	44 13 12	115 23 52	7	3	.2	2	N	7
RM004C3	44 12 2	115 22 27	10	5	.5	>2	N	5
RM005C3	44 12 2	115 22 39	7	3	.15	2	N	7
RM006C3	44 10 34	115 23 47	15	1	.1	.3	N	15
RM007C3	44 10 26	115 24 5	15	1.5	.15	.7	N	20
RM008C3	44 9 5	115 23 4	7	1.5	.05	>2	N	3
RM009C3	44 10 28	115 22 12	10	1.5	.07	>2	N	5
RM010C3	44 9 9	115 23 7	10	5	.2	>2	N	5
RM011C3	44 9 33	115 25 17	7	2	.15	>2	N	5
RM012C3	44 9 35	115 25 17	15	2	.15	2	N	10
RM013C3	44 10 3	115 28 27	7	3	.3	1	N	15
RM014C3	44 9 4	115 32 18	2	3	1	>2	N	<.5
RM015C3	44 18 22	115 23 13	7	3	.2	2	N	7
RM016C3	44 20 45	115 24 11	5	5	1	>2	N	5
RM017C3	44 19 28	115 21 52	10	5	.5	>2	N	10
RM018C3	44 19 25	115 18 50	10	3	5	2	N	3
RM019C3	44 16 54	115 20 32	5	3	.2	>2	N	7
RM020C3	44 22 31	115 20 52	7	2	.05	>2	N	5

Sample	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s
RM001C3	N	N	<20	N	50	N	20	N	N	<20	N
RM002C3	N	N	N	N	150	N	N	N	30	50	200
RM003C3	N	N	<20	N	70	N	N	N	N	N	N
RM004C3	N	N	N	N	300	N	N	N	30	<20	<10
RM005C3	<1	N	N	N	100	N	N	N	N	N	<10
RM006C3	N	N	N	N	<50	N	N	N	N	20	N
RM007C3	N	N	N	N	70	N	N	N	N	20	N
RM008C3	N	N	N	N	700	<2	N	N	N	N	N
RM009C3	N	N	N	N	70	N	N	N	N	N	N
RM010C3	N	N	<20	N	50	<2	N	N	N	<20	N
RM011C3	5	N	20	N	200	<2	N	N	<20	20	N
RM012C3	100	N	<20	N	100	N	N	N	N	50	N
RM013C3	N	N	N	N	50	N	N	N	N	<20	N
RM014C3	N	N	20	N	300	<2	N	N	N	150	N
RM015C3	N	N	N	N	150	N	N	N	N	30	N
RM016C3	N	N	N	N	70	2	N	N	N	300	N
RM017C3	N	N	N	N	300	N	N	N	N	30	N
RM018C3	N	N	N	N	<50	3	N	N	N	300	N
RM019C3	N	N	<20	N	200	<2	N	N	N	20	N
RM020C3	N	N	N	N	100	N	N	N	N	<20	N

TABLE 13 --RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE RED MOUNTAIN ROADLESS STUDY AREA,
BOISE AND VALLEY COUNTIES, IDAHO.--Continued

Sample	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Pd-ppm s	Pt-ppm s
RM001C3	N	N	1,000	700	N	300	N	20	N	N
RM002C3	N	N	1,000	300	50	70	<10	500	N	N
RM003C3	<10	N	>2,000	2,000	N	500	N	50	N	N
RM004C3	N	N	2,000	1,000	N	300	<10	200	N	N
RM005C3	<10	N	>2,000	1,000	N	500	N	500	N	N
RM006C3	N	N	>2,000	1,500	N	<50	N	20	N	N
RM007C3	10	N	>2,000	1,500	N	50	N	50	N	N
RM008C3	N	N	500	500	N	200	N	30	N	N
RM009C3	N	N	500	500	N	150	N	20	N	N
RM010C3	N	N	>2,000	1,000	N	500	N	<20	N	N
RM011C3	N	N	>2,000	1,000	15	1,000	N	300	N	N
RM012C3	N	N	>2,000	1,500	N	1,000	N	50	N	N
RM013C3	15	N	>2,000	1,000	N	300	N	50	N	N
RM014C3	N	N	1,500	2,000	N	1,000	N	50	N	N
RM015C3	20	N	>2,000	150	N	100	N	30	N	N
RM016C3	10	N	>2,000	1,000	N	200	N	30	N	N
RM017C3	15	N	>2,000	1,000	10	100	N	20	N	N
RM018C3	10	N	>2,000	150	N	70	N	20	N	N
RM019C3	<10	N	>2,000	500	N	300	N	500	N	N
RM020C3	N	N	1,000	200	N	100	N	N	N	N

Sample	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
RM001C3	N	10	100	N	300	100	<50	1,000	N	>2,000
RM002C3	N	10	30	N	N	150	N	700	N	>2,000
RM003C3	N	30	N	N	2,000	20	50	3,000	N	>2,000
RM004C3	N	<10	<20	N	300	70	N	700	N	>2,000
RM005C3	N	70	N	N	>5,000	20	<50	3,000	N	>2,000
RM006C3	N	15	N	N	1,500	N	N	2,000	N	>2,000
RM007C3	N	N	N	N	>5,000	N	N	3,000	N	>2,000
RM008C3	N	<10	50	N	<200	N	N	1,500	N	>2,000
RM009C3	N	N	100	N	N	30	N	500	N	2,000
RM010C3	N	50	30	N	1,500	50	<50	5,000	N	2,000
RM011C3	N	20	N	N	1,000	N	70	>5,000	N	>2,000
RM012C3	N	<10	N	N	700	N	70	3,000	N	>2,000
RM013C3	N	N	N	N	>5,000	N	N	5,000	N	>2,000
RM014C3	N	15	20	N	700	N	70	2,000	N	>2,000
RM015C3	N	N	N	N	>5,000	N	N	3,000	N	>2,000
RM016C3	N	150	30	N	2,000	50	N	5,000	N	>2,000
RM017C3	N	70	N	N	2,000	30	2,000	2,000	N	>2,000
RM018C3	N	20	N	N	500	70	N	1,000	N	>2,000
RM019C3	N	30	1,500	N	1,000	20	<50	2,000	N	>2,000
RM020C3	N	<10	50	N	N	70	N	500	N	>2,000

TABLE 14 --RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE TRINITIES ROADLESS STUDY AREA, ELMORE COUNTY, IDAHO.
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s
T001S	43 34 38	115 26 5	2	5	1.5	.3	2	<.2	N	N	N
T002S	43 33 48	115 25 26	1.5	5	1	.3	2	<.2	N	N	N
T003S	43 33 20	115 21 33	.7	2	.7	.2	2	<.2	7	N	N
T004S	43 33 51	115 20 57	1.5	2	.7	.2	3	<.2	N	N	N
T005S	43 35 16	115 21 27	1.5	3	1	.3	2	<.2	N	N	N
T006S	43 36 47	115 23 42	1.5	3	1	.3	3	<.2	N	N	N
T007S	43 42 38	115 20 3	1	3	.7	3	N	.3	N	N	N
T008S	43 42 24	115 19 59	1	3	.5	3	N	.3	N	N	N
T009S	43 41 25	115 19 58	1	3	.5	5	N	.3	N	N	N
T010S	43 41 28	115 19 59	1.5	3	.5	3	N	.3	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s
T001S	10	700	2	N	N	15	100	<5	30	N	300	1,000
T002S	15	700	1.5	N	N	15	100	5	30	N	300	700
T003S	10	700	1.5	N	N	10	50	5	30	N	200	700
T004S	15	700	1.5	N	N	<10	30	5	30	N	150	1,000
T005S	10	700	1.5	N	N	10	70	7	30	N	300	700
T006S	10	700	1.5	N	N	10	70	<5	30	N	300	700
T007S	15	700	3	N	N	10	50	10	30	N	70	700
T008S	<10	700	3	N	N	N	30	7	30	N	150	1,000
T009S	10	500	5	N	N	N	30	10	50	N	50	700
T010S	15	700	5	N	N	N	20	10	30	N	<50	700

Sample	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s
T001S	N	20	7	50	N	15	<10	700	150	150	N	50	N
T002S	N	20	15	50	N	15	N	700	100	100	N	50	N
T003S	N	20	10	50	N	7	N	500	N	50	N	50	N
T004S	N	30	7	50	N	7	20	500	N	70	N	50	N
T005S	N	20	7	50	N	15	<10	700	N	100	N	50	N
T006S	N	<20	10	50	N	10	N	700	N	100	N	30	N
T007S	N	20	15	70	N	7	10	500	N	70	N	50	N
T008S	N	50	<5	70	N	<5	15	500	N	70	N	70	N
T009S	N	70	<5	100	N	<5	20	300	N	70	N	70	N
T010S	N	50	5	70	N	<5	N	500	N	70	N	50	N

Sample	Zr-ppm s	Au-ppm aa	Ag-ppm icp	As-ppm icp	Au-ppm icp	Bi-ppm icp	Cd-ppm icp	Cu-ppm icp	Mo-ppm icp	Pb-ppm icp	Sb-ppm icp	Zn-ppm icp
T001S	300	N	N	N	N	N	.081	2.4	.13	6.2	N	36
T002S	500	N	N	N	N	N	.063	2.6	.19	5.5	N	30
T003S	500	N	N	N	N	N	.047	2.3	.13	4.9	N	28
T004S	300	N	N	N	N	N	.13	2.8	.13	5.5	N	22
T005S	500	N	N	N	N	N	.1	3.3	.25	5.2	N	28
T006S	300	N	N	N	N	N	.071	1.9	.13	9.8	N	43
T007S	200	N	N	.95	N	N	.14	2.2	.35	14	N	39
T008S	500	N	.052	.75	N	N	.46	2.6	.69	19	N	46
T009S	700	N	.075	4.3	N	N	.15	3.6	.35	18	N	39
T010S	200	N	.12	3.3	N	N	.23	3.1	.39	17	N	33

TABLE 15 --RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE TRINITIES ROADLESS STUDY AREA, ELMORE COUNTY, IDAHO.

[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown.]

Sample	Latitude	Longitude	Ca-pct. s	Fe-pct. s	Mg-pct. s	Ti-pct. s	Na-pct. s	P-pct. s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s
T001C3	43 34 38	115 26 5	10	5	.07	>2	N	N	N	N	<20	N
T002C3	43 33 49	115 25 26	5	2	.1	>2	N	N	N	N	N	N
T003C3	43 33 20	115 21 33	.2	1	.1	.7	N	2	N	N	N	N
T004C3	43 33 51	115 20 57	.2	1.5	.15	1.5	N	1	N	N	N	N
T005C3	43 35 16	115 21 27	3	1.5	.05	>2	N	N	N	N	N	N
T006C3	43 36 47	115 23 42	7	3	.15	>2	N	N	N	N	N	N
T007C3	43 42 38	115 20 3	15	1	.1	N	1.5	2	N	N	N	<20
T008C3	43 42 24	115 19 59	2	1	.2	<.5	1.5	>2	N	N	N	<20
T009C3	43 41 25	115 19 58	.3	1	.15	N	.7	>2	N	N	N	N
T010C3	43 41 28	115 19 59	.7	1	.15	N	1.5	>2	N	N	N	N

Sample	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm s	Ge-ppm s	La-ppm s	Mn-ppm s	Mo-ppm s	Nb-ppm s
T001C3	<50	N	N	N	N	50	N	N	N	700	700	<10	300
T002C3	100	N	N	N	N	30	N	N	N	500	200	N	150
T003C3	50	N	N	N	N	N	N	N	N	>2,000	1,000	N	N
T004C3	70	N	<20	N	N	N	N	N	N	200	700	N	N
T005C3	<50	N	N	N	N	20	N	N	N	300	100	N	<50
T006C3	50	N	N	N	N	50	N	N	N	1,000	200	<10	70
T007C3	100	N	N	N	N	<20	50	N	N	200	700	N	100
T008C3	150	N	N	N	N	50	70	<10	N	1,000	700	N	150
T009C3	200	N	N	N	N	20	N	N	N	1,500	1,000	N	150
T010C3	70	N	N	N	N	N	<10	<10	N	1,500	1,000	N	150

Sample	Ni-ppm s	Pb-ppm s	Pd-ppm s	Pt-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	Th-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s
T001C3	N	20	N	N	N	N	200	N	2,000	200	N	1,500	N	2,000
T002C3	N	<20	N	N	N	N	150	N	1,000	70	N	700	N	>2,000
T003C3	N	30	N	N	N	15	N	N	700	<20	N	2,000	N	>2,000
T004C3	N	<20	N	N	N	20	N	N	500	20	N	1,500	N	>2,000
T005C3	N	N	N	N	N	N	70	N	<200	70	N	700	N	>2,000
T006C3	N	<20	N	N	N	<10	100	N	2,000	150	N	2,000	N	>2,000
T007C3	N	150	N	N	N	150	500	N	>5,000	100	N	5,000	N	>2,000
T008C3	N	1,500	N	N	N	>200	>2,000	N	2,000	1,000	N	5,000	N	>2,000
T009C3	N	70	N	N	N	>200	N	N	1,500	200	N	3,000	N	>2,000
T010C3	N	100	N	N	N	200	200	N	1,000	150	N	3,000	N	>2,000

Table 16.--Rock Descriptions

<u>SAMPLE</u>	<u>DESCRIPTION</u>
HL014R1	Pink quartz monzonite, pegmatitic, sawtooth batholith
HL014R2	Quartz vein, minor feldspar
HL014R3	Quartz monzonite, pegmatitic, pervasive iron staining