UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Analytical results and sample locality map of stream-sediment, heavy-mineral-concentrate, and rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho

By

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STUDIES RELATED TO WILDERNESS

Bureau of Land Management Wilderness Study Areas

The Federal Land Policy and Management Act (Public Law 94-579, October 21, 1976) requires the U.S. Geological Survey and the U.S. Bureau of Mines to conduct mineral surveys on certain areas to determine their mineral values, if any. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the King Hill Creek Wilderness Study Area, Elmore County, Idaho.

INTRODUCTION

In the summer of 1985, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the King Hill Creek (ID-19-02) Wilderness Study Area, Elmore County, Idaho.

The King Hill Creek Wilderness Study Area comprises 27,680 acres (43.3 mi^2) in southeastern Elmore County, Idaho, and lies about 5 mi (8 km) north of the small town of King Hill, Idaho (see figure 1). Access to the study area is provided by a well-maintained gravel road along the western side of the study area that runs north from Glenns Ferry to U.S. Highway 20. Four-wheel drive roads approach the study area from the north and south, and to a lesser extent from the east.

The study area is in a southeast-dipping horst (uplifted fault block) on the northern edge of the Snake River Plain. The Tertiary Idavada Formation consisting of several hundred feet of welded dacitic tuff occurs in the northern part of the study area and is overlain by basalt flows of the Banbury Basalt and the Bruneau Formation in the southern part of the study area. The individual formations have been described by Malde and Powers (1962). Generalized geology is shown in figure 1 (Malde and Powers, 1972).

Elevations range from a low of about 3,400 ft (1,036 m) in the southeast part of the area up to 6,140 (1,871 m) in the northwest part of the area. Streams in the study area form steep, heavily vegetated canyons and flow southeastward into King Hill Creek. Rugged, somewhat brushy hills characterize the northern part of the area and give way to grassy gently sloping basalt-covered plateaus in the southern part of the study area. The climate is semiarid.

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 certain 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.

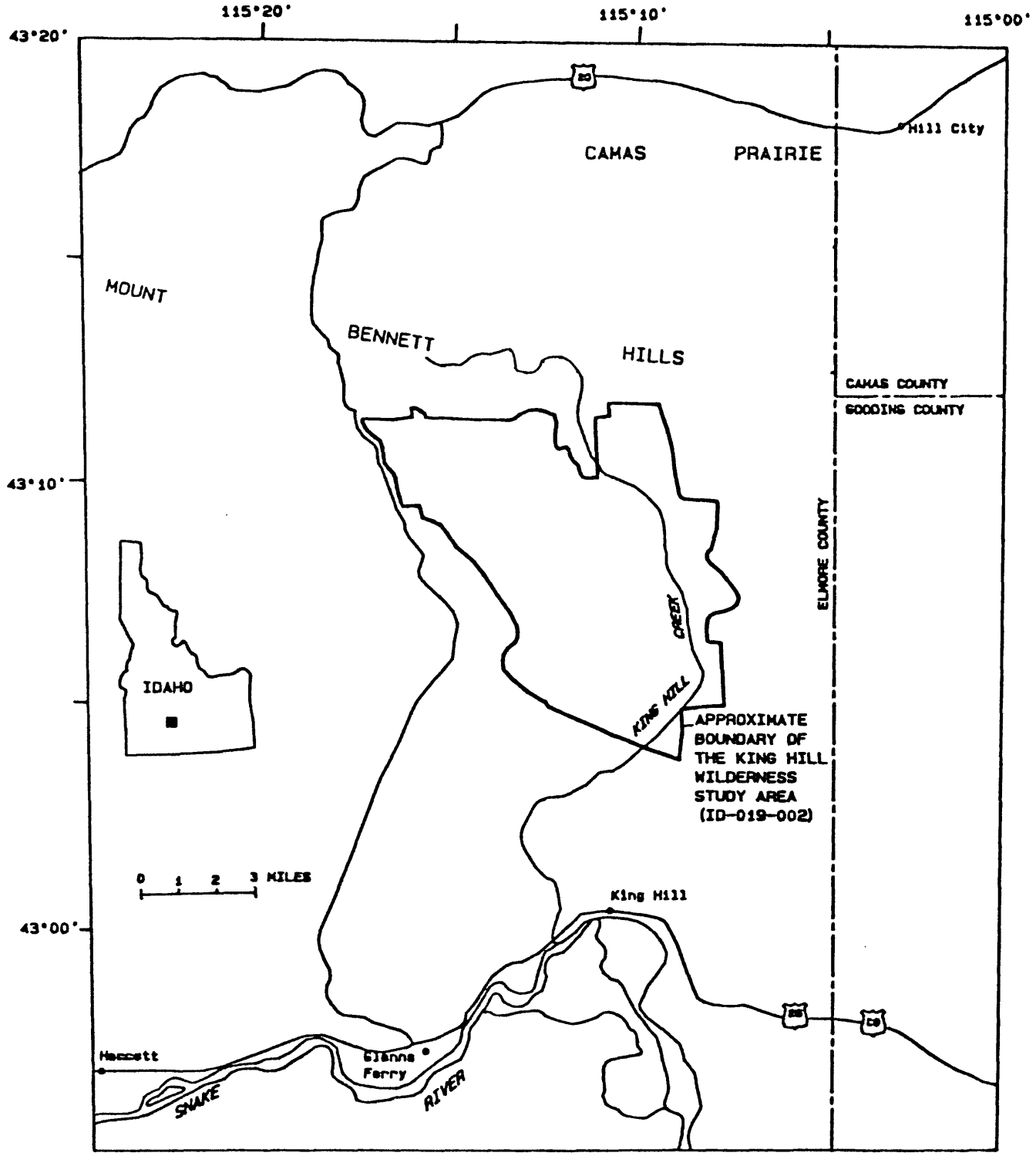

Figure 1. Location map of the King Hill Creek Wilderness Study Area, Elmore County, Idaho.

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 93 sites (plate 1). A stream-sediment sample was collected at 43 of those sites and a heavy-mineral-concentrate sample was collected at 28 of the sites where stream-sediment samples were collected. Rock samples were collected at six of the sites where stream-sediment samples were collected and at an additional 50 sites where no other sample types were collected. A total of 70 rock samples were collected. Sampling density was about one sample site per square mile for the heavy-mineral concentrates, and about one sample site per 0.77 mi^2 for the rock samples.

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) streams as shown on USGS topographic map (fig. 2). Each sample was composited from several localities within an area that may extend as much as 20 ft from the site plotted on the map.

Heavy-mineral-concentrate samples

Heavy-mineral-concentrate samples were collected from active alluvium at most stream-sediment sites. 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.

Rock samples

Rock samples were collected from various types of occurrences in the vicinity of the plotted site location.

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.

After air drying, bromoform (specific gravity 2.8) was used to remove the remaining quartz and feldspar from the heavy-mineral-concentrate samples that had been panned in the field. The resultant heavy-mineral sample was separated into three fractions using a large electromagnet (in this case a modified Frantz Isodynamic Separator). The most magnetic material, primarily magnetite, was not analyzed. The second fraction, largely ferromagnesian silicates and iron oxides, was saved for archival storage. The third fraction (the least magnetic 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°

and a tilt of 10° 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

The stream-sediment, heavy-mineral-concentrate, and rock samples were analyzed for 31 elements using semiquantitative, direct-current arc emission spectrographic methods. The analyses for heavy-mineral-concentrate samples were performed by analysts in the Branch of Exploration Geochemistry using the method of Grimes and Marranzino (1968); analyses for stream-sediment and rock samples were performed by analysts in the Branch of Analytical Chemistry using the method of Myers and others (1961). The elements analyzed and their lower limits of determination are listed in table 1. For arsenic (As), gold (Au), cadmium (Cd), lanthanum (La), and thorium (Th), the lower limits of determination of the two analytical methods varies. The values in the parentheses are the limits of determination for Myers and others (1961). 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 interval 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, and titanium, are given in weight percent; all others are given in parts per million (micrograms/gram). Analytical data for samples from the King Hill Creek Wilderness Study Area are listed in tables 3, 4, and 5.

Chemical methods

Rock and stream-sediment samples were also analyzed by atomic absorption (AA) for gold (Au) and mercury (Hg), and by inductively coupled plasma-atomic emission spectroscopy (ICP) for arsenic (As), antimony (Sb), zinc (Zn), bismuth (Bi), and cadmium (Cd). See table 2 for a more detailed summary of these chemical methods.

Analytical results for stream-sediment, heavy-mineral-concentrate, and rock samples are listed in tables 3, 4, and 5, respectively.

ROCK ANALYSIS STORAGE SYSTEM

Upon completion of all analytical work, the analytical results were entered into a computer-based file called Rock Analysis Storage System (RASS). 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 (VanTrump and Miesch, 1977).

DESCRIPTION OF DATA TABLES

Tables 3-5 list the results of analyses for the stream sediment, heavy-mineral concentrate, and rock samples, respectively. For the tables, the data are arranged so that column 1 contains the USGS-assigned sample numbers. These numbers correspond to the numbers shown on the site location map (plate 1). Columns in which the element headings show the letter "s" below the element symbol are emission spectrographic analyses; "aa" indicates atomic absorption analyses; "icp" indicates inductively coupled plasma-atomic emission spectroscopy. A letter "N" in the tables indicates that a given element was looked for but not detected at the lower limit of determination shown for that element in table 2. For emission spectrographic analyses, a "less than" symbol (<) entered in the tables in front of the lower limit of determination indicates that an element was observed but was below the lowest reporting value. For AA and ICP analyses, a "less than" symbol (<) entered in the tables in front of the lower limit of determination indicates that an element 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 tables 3-5 in place of an analytical value. Because of the formatting used in the computer program that produced tables 3-5, some of the elements listed in these tables (Fe, Mg, Ca, Ti, Ag, and Be) 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.

ACKNOWLEDGMENTS

A number of our colleagues also participated in collection and analyses of these samples: collection, Margo Toth; and analyses, Mollie Jane Malcolm, J.G. Crock, Paul Briggs, and David Fey. Mary Lou Tompkins compiled and retrieved all of the computer data.

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TABLE 1.--Limits of determination for the spectrographic analysis of rocks and stream sediments, based on a 10-mg sample

[The values shown are the lower limits of determination assigned by the Grimes and Marranzino method, except for those values in parentheses, which are the lower values assigned by the Myers and others method. 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 given for rocks.]

Elements	Lower determination limit		Upper determination limit
	Percent		
Iron (Fe)	0.05		20
Magnesium (Mg)	.02		10
Calcium (Ca)	.05		20
Titanium (Ti)	.002		1
	Parts per million		
Manganese (Mn)	10		5,000
Silver (Ag)	0.5		5,000
Arsenic (As)	200	(700)	10,000
Gold (Au)	10	(15)	500
Boron (B)	10		2,000
Barium (Ba)	20		5,000
Beryllium (Be)	1		1,000
Bismuth (Bi)	10		1,000
Cadmium (Cd)	20	(30)	500
Cobalt (Co)	5		2,000
Chromium (Cr)	10		5,000
Copper (Cu)	5		20,000
Lanthanum (La)	20	(30)	1,000
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
Vanadium (V)	10		10,000
Tungsten (W)	50		10,000
Yttrium (Y)	10		2,000
Zinc (Zn)	200		10,000
Zirconium (Zr)	10		1,000
Thorium (Th)	100	(200)	2,000

TABLE 2.--Chemical methods used

[AA = atomic absorption; ICP = inductively coupled plasma spectroscopy]

Element or constituent determined	Sample type	Method	Determination limit (micrograms/ gram or ppm)	Reference
Gold (Au)	Rocks and sediments	AA	0.01	Modification of Thompson and others, 1968, by Crock and others, 1987.
Mercury (Hg)	Rocks and sediments	AA	0.02	Koirtyohann and Khalil, 1976.
Arsenic (As)	Rocks and sediments	ICP	5	Crock and others, 1987.
Antimony (Sb)		ICP	2	
Zinc (Zn)		ICP	2	
Bismuth (Bi)		ICP	2	
Cadmium (Cd)		ICP	0.1	

Table 3.--Results of analyses of stream-sediment samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
KH001S	43 11 4	115 11 41	7	.50	1.5	>1.0	1,000	N	N	N	10	1,000
KH002S	43 10 22	115 11 37	7	.30	1.5	1.0	1,000	N	N	N	10	1,500
KH003S	43 10 13	115 12 17	5	.30	1.5	.7	700	.7	N	N	10	1,500
KH004S	43 9 54	115 11 25	7	.30	1.5	.7	700	N	N	N	10	1,500
KH005S	43 11 4	115 10 32	7	.20	1.5	.7	700	N	N	N	<10	1,500
KH006S	43 11 9	115 12 54	7	.30	1.5	.7	700	N	N	N	<10	1,000
KH007S	43 9 57	115 11 14	10	.70	1.5	>1.0	1,000	N	N	N	10	700
KH008S	43 9 56	115 11 20	10	.50	1.5	>1.0	1,000	N	N	N	<10	1,000
KH009S	43 9 33	115 10 40	7	.70	1.5	.7	700	N	N	N	<10	700
KH010S	43 9 32	115 9 49	7	.70	1.5	1.0	700	N	N	N	10	1,000
KH011S	43 8 47	115 11 35	7	1.00	1.5	1.0	700	N	N	N	10	700
KH012S	43 8 40	115 10 29	7	1.50	1.5	1.0	1,000	N	N	N	10	700
KH013S	43 7 55	115 10 22	7	.70	1.5	.7	700	N	N	N	<10	700
KH014S	43 7 34	115 13 53	7	.70	1.5	1.0	1,000	N	N	N	<10	700
KH015S	43 7 58	115 13 28	10	.50	1.5	>1.0	700	N	N	N	<10	700
KH016S	43 9 8	115 13 29	3	.30	1.5	.3	500	N	N	N	10	1,000
KH017S	43 10 42	115 13 27	7	.30	1.5	>1.0	700	N	N	N	<10	1,500
KH018S	43 10 41	115 13 32	5	.15	1.5	1.0	300	N	N	N	<10	1,500
KH019S	43 9 10	115 14 19	5	.30	1.5	.7	500	N	N	N	<10	2,000
KH020S	43 10 31	115 14 52	5	.20	1.5	1.0	500	N	N	N	<10	2,000
KH021S	43 11 4	115 14 15	7	.30	1.5	1.0	500	N	N	N	<10	1,500
KH022S	43 10 58	115 15 54	7	.20	1.5	>1.0	500	N	N	N	<10	1,500
KH023S	43 10 54	115 15 53	3	.30	1.5	.7	500	N	N	N	10	1,500
KH024S	43 9 23	115 15 12	7	.30	1.5	>1.0	700	N	N	N	<10	1,500
KH025S	43 9 50	115 16 18	3	.20	1.5	.5	300	N	N	N	<10	1,500
KH026S	43 10 59	115 17 24	5	.30	1.5	.7	500	N	N	N	<10	1,500
KH027S	43 11 52	115 18 58	7	.50	1.5	1.0	700	N	N	N	10	1,500
KH028S	43 9 14	115 16 3	3	.20	1.5	1.0	300	N	N	N	<10	1,500
KH029S	43 9 43	115 18 36	5	.30	1.5	1.0	500	N	N	N	<10	1,500
KH030S	43 11 10	115 19 27	5	.20	1.5	1.0	500	N	N	N	<10	1,500
KH031S	43 11 7	115 19 23	3	.30	.7	.7	300	N	N	N	10	700
KH032S	43 8 18	115 16 28	3	.50	.7	.5	300	N	N	N	10	700
KH033S	43 6 7	115 15 43	5	1.00	1.5	1.0	700	N	N	N	<10	500
KH034S	43 10 16	115 12 53	5	1.50	1.5	1.0	500	N	N	N	N	500
KH035S	43 6 11	115 10 39	3	.70	1.5	.5	500	N	N	N	10	700
KH036S	43 6 41	115 10 57	3	1.00	1.5	.7	300	N	N	N	<10	300
KH037S	43 19 36	115 12 32	5	1.50	1.5	.7	700	N	N	N	<10	500
KH038S	43 5 24	115 13 1	3	.70	1.0	.7	1,000	N	N	N	<10	300
KH039S	43 7 8	115 12 17	2	.70	1.0	.3	300	N	N	N	15	500
KH040S	43 7 17	115 8 48	3	.70	1.0	.5	700	N	N	N	10	500
KH041S	43 4 27	115 11 50	3	1.50	3.0	1.0	700	N	N	N	<10	300
KH042S	43 4 19	115 12 14	3	1.00	1.5	.3	700	N	N	N	15	700
KH043S	43 4 35	115 10 32	3	.70	1.5	.5	500	N	N	N	10	700

Table 3.--Results of analyses of stream-sediment samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s
KH001S	1.5	N	N	15	30	20	70	N	20	15	15	N	15	N
KH002S	1.5	N	N	15	30	15	70	N	30	10	15	N	15	N
KH003S	2.0	N	N	7	30	30	70	N	30	7	15	N	15	N
KH004S	2.0	N	N	10	30	30	70	N	30	10	15	N	15	N
KH005S	2.0	N	N	7	30	15	100	N	30	7	15	N	15	N
KH006S	1.5	N	N	10	30	15	70	N	30	7	20	N	15	N
KH007S	1.5	N	N	20	50	20	70	N	30	20	20	N	20	N
KH008S	1.5	N	N	15	50	20	70	N	30	15	30	N	15	N
KH009S	1.0	N	N	20	150	50	50	N	<20	50	15	N	30	N
KH010S	2.0	N	N	15	70	30	70	N	30	20	15	N	15	N
KH011S	1.0	N	N	20	150	70	<30	N	<20	70	15	N	30	N
KH012S	1.0	N	N	30	150	70	<30	N	<20	70	15	N	30	N
KH013S	1.0	N	N	20	150	50	30	N	<20	50	15	N	20	N
KH014S	1.0	N	N	20	150	30	50	N	<20	30	15	N	15	N
KH015S	1.5	N	N	15	150	10	70	N	50	15	30	N	20	N
KH016S	1.5	N	N	10	30	20	70	N	<20	15	15	N	15	N
KH017S	1.5	N	N	7	20	7	70	5	70	<5	30	N	10	N
KH018S	1.5	N	N	7	15	7	70	<5	50	<5	15	N	7	N
KH019S	2.0	N	N	7	30	7	100	<5	30	5	20	N	7	N
KH020S	2.0	N	N	7	30	7	70	N	30	5	20	N	7	N
KH021S	1.5	N	N	7	20	10	70	N	50	5	15	N	15	N
KH022S	2.0	N	N	10	20	7	70	<5	70	5	20	N	10	N
KH023S	1.5	N	N	7	20	10	70	N	30	5	15	N	10	N
KH024S	1.5	N	N	15	30	10	70	<5	70	10	20	N	15	N
KH025S	1.5	N	N	7	30	7	70	N	30	5	15	N	7	N
KH026S	1.5	N	N	7	30	15	70	N	30	7	15	N	10	N
KH027S	2.0	N	N	10	50	20	70	N	30	15	20	N	10	N
KH028S	1.5	N	N	7	30	7	70	N	30	5	15	N	7	N
KH029S	2.0	N	N	7	30	15	70	N	30	5	15	N	10	N
KH030S	2.0	N	N	7	30	10	70	N	30	7	15	N	10	N
KH031S	3.0	N	N	7	20	7	70	<5	30	<5	15	N	7	N
KH032S	1.5	N	N	7	30	7	70	<5	30	5	15	N	7	N
KH033S	1.5	N	N	15	150	7	50	N	30	15	15	N	15	N
KH034S	1.5	N	N	15	150	10	50	N	30	15	20	N	15	N
KH035S	1.5	N	N	15	150	15	30	N	<20	20	15	N	15	N
KH036S	1.5	N	N	15	100	7	30	N	<20	20	15	N	15	N
KH037S	1.5	N	N	15	150	20	30	N	<20	20	15	N	30	N
KH038S	1.5	N	N	15	70	10	30	N	<20	20	15	N	15	N
KH039S	1.5	N	N	15	150	10	30	N	<20	15	15	N	15	N
KH040S	1.5	N	N	20	70	15	30	N	<20	30	15	N	15	N
KH041S	1.5	N	N	15	150	15	30	N	<20	30	15	N	30	N
KH042S	1.5	N	N	15	70	10	30	N	<20	15	15	N	15	N
KH043S	1.5	N	N	15	70	10	70	N	<20	15	15	N	15	N

Table 3.--Results of analyses of stream-sediment samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Au-ppm aa	Hg-ppm aa	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp
KH001S	300	150	N	50	N	500	N	<.1	.04	<5	<2	1.1	<2	130
KH002S	300	150	N	50	N	700	N	<.1	.04	<5	<2	.9	<2	120
KH003S	300	100	N	70	N	500	N	<.1	.04	<5	<2	1.2	<2	110
KH004S	300	70	N	70	N	300	N	<.1	.04	<5	<2	1.4	<2	100
KH005S	300	70	N	70	N	700	N	<.1	.04	<5	<2	1.3	<2	100
KH006S	300	150	N	50	N	1,000	N	<.1	.04	<5	<2	1.7	<2	150
KH007S	300	200	N	50	N	300	N	<.1	.04	<5	<2	3.0	<2	180
KH008S	300	150	N	50	N	1,000	N	<.1	.03	<5	<2	2.8	<2	160
KH009S	150	150	N	20	N	200	N	<.1	.04	<5	<2	1.7	<2	65
KH010S	300	150	N	50	N	500	N	<.1	.04	<5	<2	1.6	<2	100
KH011S	150	150	N	30	N	300	N	<.1	.06	<5	<2	2.1	<2	86
KH012S	150	150	N	20	N	150	N	<.1	.06	<5	<2	2.4	<2	83
KH013S	150	150	N	15	N	150	N	<.1	.05	<5	<2	1.8	<2	74
KH014S	150	150	N	30	N	300	N	<.1	.05	<5	<2	1.5	<2	74
KH015S	150	200	N	30	0	1,000	N	<.1	.04	<5	<2	2.6	<2	160
KH016S	200	70	N	50	N	300	N	<.1	.03	6	<2	1.5	2	120
KH017S	300	100	N	50	N	1,500	N	<.1	.05	<5	<2	2.0	<2	170
KH018S	200	70	N	50	N	1,000	N	<.1	.02	<5	<2	1.0	<2	110
KH019S	300	70	N	70	N	300	N	<.1	.03	<5	<2	1.1	<2	88
KH020S	300	70	N	50	N	500	N	<.1	.03	<5	<2	1.0	<2	95
KH021S	150	70	N	70	N	1,000	N	<.1	.03	<5	<2	1.5	<2	140
KH022S	200	100	N	50	N	1,000	N	<.1	.04	<5	<2	1.8	<2	160
KH023S	200	70	N	70	N	500	N	<.2	.03	<5	<2	1.2	<2	95
KH024S	300	150	N	50	N	1,500	N	<.1	.04	<5	<2	2.1	<2	150
KH025S	200	70	N	50	N	1,000	N	<.1	.04	<5	<2	1.0	<2	87
KH026S	200	70	N	50	N	300	N	<.1	.06	<5	<2	1.1	<2	100
KH027S	200	100	N	50	N	500	N	<.1	.03	<5	<2	1.9	<2	150
KH028S	200	70	N	50	N	1,500	N	<.1	.03	<5	<2	1.0	<2	77
KH029S	200	70	N	70	N	300	N	<.1	.04	<5	<2	1.4	<2	140
KH030S	200	100	N	70	N	300	N	<.1	.03	<5	<2	1.2	<2	110
KH031S	150	150	N	50	N	300	N	<.1	<.02	<5	<2	<.1	<2	150
KH032S	200	70	N	30	N	200	N	<.1	<.02	<5	<2	.2	<2	78
KH033S	200	150	N	30	N	300	N	<.1	<.02	<5	<2	.9	<2	110
KH034S	150	150	N	30	N	200	N	<.1	.02	5	<2	1.5	<2	150
KH035S	200	150	N	20	N	150	N	<.1	.03	<5	<2	.8	<2	66
KH036S	150	150	N	20	N	150	N	<.1	<.02	<5	<2	.9	<2	70
KH037S	150	150	N	15	N	150	N	<.1	.02	<5	<2	1.0	<2	65
KH038S	150	100	N	15	N	150	N	<.1	<.02	<5	<2	.9	<2	49
KH039S	200	70	N	20	N	150	N	<.1	.02	<5	<2	.5	<2	36
KH040S	150	150	N	20	N	200	N	<.1	.03	<5	<2	.8	<2	47
KH041S	150	150	N	15	N	150	N	<.1	.02	<5	<2	1.4	<2	65
KH042S	200	70	N	15	N	200	N	<.1	<.02	5	<2	.9	<2	54
KH043S	300	100	N	30	N	150	N	<.1	<.02	<5	<2	1.0	<2	75

Table 4.--Results of analyses of heavy-mineral-concentrate samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
KH001C	43 11 4	115 11 41	.2	.05	.5	.20	70	N	N	N	<20	1,000
KH002C	43 10 22	115 11 37	.3	.05	1.0	.10	70	N	N	N	<20	1,500
KH003C	43 10 13	115 12 17	.3	.05	.7	.10	50	N	N	N	<20	2,000
KH005C	43 11 4	115 10 32	.3	.05	1.5	.10	50	N	N	N	20	2,000
KH006C	43 11 9	115 12 54	.2	.05	3.0	.03	20	N	N	N	20	1,500
KH007C	43 9 57	115 11 14	.5	.07	1.5	.07	50	N	N	N	<20	1,000
KH008C	43 9 56	115 11 20	.3	.07	.7	.07	50	N	N	N	<20	1,000
KH010C	43 9 32	115 9 49	.5	.05	1.5	.07	70	N	N	N	<20	1,000
KH011C	43 8 47	115 11 35	.3	.05	1.5	.05	70	N	N	N	<20	1,000
KH013C	43 7 55	115 10 22	.5	.15	.7	.20	70	N	N	N	<20	500
KH015C	43 7 58	115 13 28	.5	.05	2.0	.20	50	N	N	N	<20	1,000
KH017C	43 10 42	115 13 27	.2	.05	1.0	.05	30	N	N	N	<20	2,000
KH018C	43 10 41	115 13 32	.2	.05	.5	.05	20	N	N	N	<20	2,000
KH019C	43 9 10	115 14 19	.3	.07	.5	.30	50	N	N	N	<20	2,000
KH020C	43 10 31	115 14 52	.3	.07	.5	.30	70	N	N	N	<20	700
KH021C	43 11 4	115 14 15	.2	.05	.5	.20	20	N	N	N	<20	2,000
KH022C	43 10 58	115 15 54	.2	.05	.7	.07	<20	N	N	N	<20	2,000
KH024C	43 9 23	115 15 12	.7	.07	1.0	.50	100	N	N	N	<20	3,000
KH026C	43 10 59	115 17 24	.2	.10	.7	.20	30	N	N	N	<20	2,000
KH027C	43 11 52	115 18 58	.2	.05	1.0	.05	30	N	N	N	<20	2,000
KH028C	43 9 14	115 16 3	.2	.07	1.5	.07	50	N	N	N	<20	7,000
KH029C	43 9 43	115 18 36	.3	.05	1.5	.10	50	N	N	N	<20	2,000
KH031C	43 11 7	115 19 23	.3	.07	1.0	.07	50	N	N	N	<20	2,000
KH033C	43 6 7	115 15 43	.5	.10	5.0	.10	50	N	N	N	<20	1,500
KH034C	43 10 16	115 12 53	.5	.10	5.0	.10	70	N	N	N	<20	1,500
KH036C	43 6 41	115 10 57	.5	.20	.7	.50	100	N	N	N	<20	700
KH037C	43 19 36	115 12 32	.3	.20	.7	.50	100	N	N	N	<20	700
KH041C	43 4 27	115 11 50	.3	.10	.7	.50	70	N	N	N	<20	700

Table 4.--Results of analyses of heavy-mineral-concentrate samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Be-ppm S	Bi-ppm S	Cd-ppm S	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mo-ppm S	Nb-ppm S	Ni-ppm S	Pb-ppm S	Sb-ppm S	Sc-ppm S	Sn-ppm S
KH001C	<2	N	N	N	<20	N	N	N	N	20	N	N	N	N
KH002C	2	N	N	N	N	N	N	N	N	<10	N	N	N	N
KH003C	<2	N	N	N	20	N	N	N	N	<10	N	N	N	N
KH005C	3	N	N	N	20	N	N	N	N	20	N	N	N	N
KH006C	<2	N	N	N	20	N	N	N	N	<10	N	N	N	N
KH007C	2	N	N	N	20	N	N	N	N	<10	N	N	N	N
KH008C	2	N	N	N	20	N	N	N	N	20	N	N	N	N
KH010C	<2	N	N	N	20	N	N	N	N	N	N	N	N	N
KH011C	<2	N	N	N	30	N	N	N	N	N	N	N	N	N
KH013C	<2	N	N	N	30	N	N	N	N	15	N	N	N	N
KH015C	2	N	N	N	30	N	N	N	N	<10	N	N	N	N
KH017C	3	N	N	N	<20	N	N	N	N	<10	N	N	N	N
KH018C	3	N	N	N	<20	N	N	N	N	<10	N	N	N	N
KH019C	<2	N	N	N	<20	N	N	N	N	20	N	N	N	N
KH020C	2	N	N	N	<20	N	50	N	N	20	N	N	N	N
KH021C	2	N	N	N	20	N	N	N	N	<10	N	N	N	N
KH022C	2	N	N	N	<20	N	N	N	N	<10	N	N	N	N
KH024C	<2	N	N	N	20	N	<50	N	N	15	N	N	N	N
KH026C	2	N	N	N	20	N	<50	N	N	10	N	N	N	N
KH027C	<2	N	N	N	30	N	<50	N	N	<10	N	N	N	N
KH028C	<2	N	N	N	20	N	<50	N	N	<10	N	N	N	N
KH029C	<2	N	N	N	20	N	<50	N	N	<10	N	N	N	N
KH031C	<2	N	N	N	20	N	<50	N	N	<10	N	N	N	200
KH033C	3	N	N	N	<20	N	<50	N	N	<10	N	N	N	N
KH034C	2	N	N	N	<20	N	<50	N	N	<10	N	N	N	N
KH036C	<2	N	N	N	20	N	<50	N	N	<10	N	N	N	N
KH037C	<2	N	N	N	20	N	<50	N	N	<10	N	N	N	N
KH041C	<2	N	N	N	20	N	N	N	N	<10	3,000	N	N	N

Table 4.--Results of analyses of heavy-mineral-concentrate samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Au-ppm aa	Hg-ppm aa	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp
KH001C	500	20	N	300	N	>2,000	N	--	--	--	--	--	--	--
KH002C	1,000	20	N	300	N	>2,000	N	--	--	--	--	--	--	--
KH003C	500	20	N	100	N	>2,000	N	--	--	--	--	--	--	--
KH005C	700	20	N	200	N	>2,000	N	--	--	--	--	--	--	--
KH006C	300	30	N	50	N	>2,000	N	--	--	--	--	--	--	--
KH007C	500	<20	N	50	N	>2,000	N	--	--	--	--	--	--	--
KH008C	500	20	N	150	N	>2,000	N	--	--	--	--	--	--	--
KH010C	500	20	N	30	N	>2,000	N	--	--	--	--	--	--	--
KH011C	700	20	N	50	N	>2,000	N	--	--	--	--	--	--	--
KH013C	200	50	N	50	N	>2,000	N	--	--	--	--	--	--	--
KH015C	500	20	N	70	N	>2,000	N	--	--	--	--	--	--	--
KH017C	500	20	N	150	N	>2,000	N	--	--	--	--	--	--	--
KH018C	500	20	N	200	N	>2,000	N	--	--	--	--	--	--	--
KH019C	500	50	N	200	N	>2,000	N	--	--	--	--	--	--	--
KH020C	500	30	N	500	N	>2,000	N	--	--	--	--	--	--	--
KH021C	300	20	N	100	N	>2,000	N	--	--	--	--	--	--	--
KH022C	500	20	N	150	N	>2,000	N	--	--	--	--	--	--	--
KH024C	500	30	N	100	N	>2,000	N	--	--	--	--	--	--	--
KH026C	700	30	N	500	N	>2,000	N	--	--	--	--	--	--	--
KH027C	500	30	N	20	N	>2,000	N	--	--	--	--	--	--	--
KH028C	500	30	N	100	N	>2,000	N	--	--	--	--	--	--	--
KH029C	500	30	N	70	N	>2,000	N	--	--	--	--	--	--	--
KH031C	500	30	N	70	N	>2,000	N	--	--	--	--	--	--	--
KH033C	700	20	N	70	N	>2,000	N	--	--	--	--	--	--	--
KH034C	700	20	N	50	N	>2,000	N	--	--	--	--	--	--	--
KH036C	500	30	N	100	N	>2,000	N	--	--	--	--	--	--	--
KH037C	700	50	N	50	N	>2,000	N	--	--	--	--	--	--	--
KH041C	500	30	N	100	N	>2,000	N	--	--	--	--	--	--	--

Table 5.-- Results of analyses of rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
KH004R	43 9 54	115 11 59	2.0	.07	.7	.20	200	N	N	N	<10	1,500
KH006R	43 9 9	115 12 54	1.0	.05	.5	.15	70	N	N	N	<10	1,500
KH013R	43 7 55	115 10 22	2.0	.20	.7	.20	300	N	N	N	<10	1,000
KH017R	43 10 42	115 13 27	3.0	.05	.7	.20	200	N	N	N	<10	1,500
KH023R	43 10 54	115 15 53	2.0	.15	1.0	.20	200	N	N	N	<10	2,000
KH027R	43 11 52	115 18 58	1.5	.07	.5	.20	150	N	N	N	<10	1,000
KDH007A	43 9 17	115 7 9	2.0	.15	1.5	.20	300	N	N	N	10	1,500
KDH008A	43 8 55	115 16 38	2.0	.15	1.0	.20	300	N	N	N	<10	1,000
KDH008B	43 8 55	115 16 38	2.0	.15	1.0	.20	300	N	N	N	<10	1,500
KDH009A	43 9 12	115 12 13	7.0	5.00	7.0	.50	700	N	N	N	<10	150
KDH010A	43 9 27	115 12 17	2.0	.30	1.0	.20	300	N	N	N	<10	700
KDH011A	43 10 1	115 13 11	2.0	.30	1.5	.20	300	N	N	N	<10	700
KDH012A	43 8 0	115 11 59	2.0	.15	1.0	.20	150	N	N	N	10	1,000
KDH012B	43 8 0	115 11 59	2.0	.30	1.0	.20	300	N	N	N	<10	1,000
KDH012C	43 8 0	115 11 59	7.0	7.00	7.0	.50	700	N	N	N	<10	150
KDH013A	43 8 39	115 12 53	7.0	5.00	7.0	.50	700	N	N	N	<10	150
KDH014B	43 8 39	115 12 53	2.0	.30	1.0	.20	300	N	N	N	<10	1,000
KDH014A	43 9 26	115 13 17	7.0	5.00	7.0	.50	700	N	N	N	<10	150
KDH014B	43 9 26	115 13 17	2.0	.15	1.0	.20	150	N	N	N	<10	1,500
KDH014C	43 9 26	115 13 17	2.0	.30	1.0	.30	300	N	N	N	<10	1,500
DKH015A	43 10 38	115 13 19	1.5	.07	.7	.15	300	N	N	N	<10	1,500
KDH016A	43 10 57	115 14 4	1.5	.07	.7	.15	150	N	N	N	<10	1,500
KDH017A	43 10 47	115 14 46	1.5	.05	.7	.15	150	N	N	N	<10	1,000
KDH018A	43 10 49	115 15 35	2.0	.03	.7	.15	150	N	N	N	<10	1,000
KDH019A	43 9 53	115 14 35	3.0	.15	.7	.20	150	N	N	N	<10	1,000
KDH020A	43 9 30	115 13 51	3.0	.20	.7	.30	300	N	N	N	<10	1,500
KDH020B	43 9 30	115 13 51	3.0	.15	1.0	.30	300	N	N	N	<10	700
KDH021A	43 9 41	115 13 57	7.0	3.00	7.0	.70	700	N	N	N	<10	150
KDH022A	43 10 17	115 14 19	3.0	.20	1.0	.20	300	N	N	N	<10	1,000
KDH022B	43 10 17	115 14 19	2.0	.10	.7	.20	200	N	N	N	<10	1,000
KMT001A	43 7 30	115 17 33	2.0	.30	1.5	.20	300	N	N	N	10	1,000
KMT001B	43 7 30	115 17 33	2.0	.20	1.0	.20	200	N	N	N	<10	1,000
KMT002A	43 11 28	115 18 55	1.5	.10	.7	.15	150	N	N	N	10	1,000
KMT003A	43 11 34	115 18 51	2.0	.15	.7	.20	150	N	N	N	<10	1,000
KMT004A	43 8 2	115 16 1	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT005A	43 8 30	115 15 56	7.0	5.00	7.0	.70	700	N	N	N	<10	700
KMT006A	43 8 24	115 14 46	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT007A	43 8 34	115 13 27	3.0	.07	.7	.30	300	N	N	N	10	1,500
KMT008A	43 8 57	115 15 48	7.0	3.00	7.0	.70	700	N	N	N	<10	700
KMT009A	43 7 39	115 15 21	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT010A	43 7 24	115 14 13	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT011A	43 7 35	115 14 12	2.0	.15	.7	.15	300	N	N	N	<10	700
KMT011B	43 7 35	115 14 12	1.5	.15	.7	.15	300	N	N	N	<10	700
KMT012A	43 7 18	115 13 24	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT013A	43 7 56	115 13 5	2.0	.20	.7	.20	150	N	N	N	10	700
KMT014A	43 6 47	115 14 14	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT015A	43 5 30	115 12 56	7.0	3.00	7.0	.70	700	N	N	N	<10	500
KMT016A	43 5 18	115 11 49	7.0	2.00	7.0	.70	700	N	N	N	<10	300
KMT017A	43 4 47	115 12 18	7.0	5.00	7.0	.70	700	N	N	N	<10	700
KMT018A	43 4 56	115 13 39	7.0	3.00	7.0	.30	700	N	N	N	<10	200

Table 5.-- Results of analyses of rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s
KH004R	1.5	N	N	<5	<10	5	70	<5	20	<5	15	N	7	N
KH006R	1.5	N	N	<5	<10	<5	70	N	20	<5	15	N	5	N
KH013R	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KH017R	1.5	N	N	<5	<10	7	70	<5	30	<5	15	N	7	N
KH023R	1.5	N	N	<5	<10	<5	100	<5	30	<5	15	N	7	N
KH027R	1.5	N	N	<5	<10	<5	100	<5	30	<5	15	N	7	N
KDH007A	3.0	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH008A	2.0	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH008B	2.0	N	N	<5	<10	<5	150	<5	30	<5	15	N	7	N
KDH009A	<1.0	N	N	50	100	15	<30	<5	<20	70	<10	N	30	N
KDH010A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH011A	1.5	N	N	<5	<10	<5	70	5	30	<5	15	N	7	N
KDH012A	1.5	N	N	<5	<10	<5	100	<5	30	<5	15	N	7	N
KDH012B	1.5	N	N	<5	<10	<5	70	5	30	<5	15	N	7	N
KDH012C	<1.0	N	N	50	100	15	<30	<5	<20	70	<10	N	30	N
KDH013A	<1.0	N	N	50	100	30	<30	<5	<20	70	<10	N	30	N
KDH014B	1.5	N	N	5	<10	<5	100	<5	30	<5	15	N	7	N
KDH014A	<1.0	N	N	50	150	20	<30	<5	<20	70	<10	N	30	N
KDH014B	1.5	N	N	<5	<10	5	70	<5	30	<5	15	N	7	N
KDH014C	1.5	N	N	<5	<10	5	70	<5	30	<5	15	N	7	N
DKH015A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH016A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH017A	1.5	N	N	5	<10	<5	100	<5	30	<5	15	N	7	N
KDH018A	1.5	N	N	<5	<10	<5	100	<5	30	<5	15	N	7	N
KDH019A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH020A	1.5	N	N	<5	<10	<5	100	<5	30	<5	15	N	7	N
KDH020B	1.5	N	N	<5	<10	5	70	<5	30	<5	15	N	7	N
KDH021A	<1.0	N	N	30	150	30	<30	<5	<20	70	<10	N	30	N
KDH022A	2.0	N	N	<5	<10	5	70	<5	30	<5	20	N	7	N
KDH022B	1.5	N	N	<5	<10	5	70	<5	30	<5	20	N	7	N
KMT001A	1.5	N	N	<5	<10	<5	70	<5	30	<5	20	N	7	N
KMT001B	1.5	N	N	<5	<10	<5	70	<5	30	<5	20	N	7	N
KMT002A	1.5	N	N	<5	<10	<5	70	<5	30	<5	20	N	7	N
KMT003A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KMT004A	<1.0	N	N	30	300	30	30	<5	<20	70	<10	N	50	N
KMT005A	<1.0	N	N	30	300	20	<30	<5	<20	50	<10	N	30	N
KMT006A	<1.0	N	N	30	300	15	<30	<5	<20	50	<10	N	30	N
KMT007A	1.5	N	N	<5	<10	5	70	<5	30	<5	15	N	7	N
KMT008A	<1.0	N	N	20	150	30	30	<5	<20	50	<10	N	30	N
KMT009A	<1.0	N	N	30	200	30	30	<5	<20	50	<10	N	30	N
KMT010A	<1.0	N	N	30	150	30	<30	<5	<20	70	<10	N	30	N
KMT011A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KMT011B	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KMT012A	<1.0	N	N	30	200	30	<30	<5	<20	70	<10	N	30	N
KMT013A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KMT014A	<1.0	N	N	20	200	30	<30	<5	<20	70	<10	N	30	N
KMT015A	<1.0	N	N	30	150	15	30	<5	<20	70	<10	N	30	N
KMT016A	<1.0	N	N	20	150	30	<30	<5	<20	70	<10	N	30	N
KMT017A	<1.0	N	N	30	150	15	<30	<5	<20	70	<10	N	30	N
KMT018A	<1.0	N	N	20	150	15	<30	<5	<20	70	<10	N	30	N

Table 5.-- Results of analyses of rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Au-ppm aa	Hg-ppm aa	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp
KH004R	150	15	N	50	N	300	N	<.1	.02	<5	<2	.3	<2	70
KH006R	<100	10	N	30	N	200	N	<.1	.02	<5	<2	.1	<2	68
KH013R	150	15	N	30	N	200	N	<.1	<.02	<5	<2	<.1	<2	29
KH017R	150	30	N	30	N	300	N	<.1	.03	7	<2	.3	<2	65
KH023R	150	20	N	50	N	300	N	<.1	<.02	<5	<2	<.1	<2	27
KH027R	<100	20	N	30	N	300	N	<.1	<.02	<5	<2	.2	<2	49
KDH007A	150	30	N	30	N	300	N	--	--	<5	<2	.2	<2	61
KDH008A	150	30	N	30	N	300	N	--	--	<5	<2	.4	<2	54
KDH008B	150	20	N	50	N	300	N	--	--	<5	<2	.6	<2	73
KDH009A	150	200	N	20	N	70	N	--	--	<5	<2	1.9	2	62
KDH010A	150	15	N	30	N	300	N	--	--	<5	<2	.2	<2	26
KDH011A	150	30	N	30	N	300	N	--	--	<5	<2	.2	<2	31
KDH012A	150	30	N	30	N	300	N	--	--	<5	<2	.5	<2	51
KDH012B	150	15	N	30	N	300	N	--	--	<5	<2	.2	<2	31
KDH012C	150	200	N	20	N	70	N	--	--	<5	<2	1.9	<2	66
KDH013A	150	200	N	20	N	70	N	--	--	<5	<2	1.5	<2	53
KDH014B	150	30	N	30	N	300	N	--	--	<5	<2	.5	<2	49
KDH014A	150	200	N	15	N	50	N	--	--	<5	2	2.0	4	63
KDH014B	150	30	N	30	N	300	N	--	--	<5	<2	.4	<2	55
KDH014C	150	30	N	30	N	300	N	--	--	<5	<2	.3	<2	30
DKH015A	150	10	N	30	N	300	N	--	--	<5	<2	.3	<2	54
KDH016A	150	10	N	30	N	300	N	--	--	<5	<2	.3	<2	55
KDH017A	100	15	N	30	N	200	N	--	--	<5	<2	1.0	<2	37
KDH018A	100	15	N	30	N	300	N	--	--	<5	<2	.3	<2	53
KDH019A	150	20	N	30	N	300	N	--	--	<5	<2	.4	<2	70
KDH020A	150	20	N	30	N	300	N	--	--	<5	<2	.3	<2	32
KDH020B	150	30	N	30	N	300	N	--	--	<5	<2	.5	<2	61
KDH021A	150	200	N	20	N	70	N	--	--	<5	<2	1.5	<2	66
KDH022A	150	20	N	50	N	300	N	--	--	<5	<2	.4	<2	51
KDH022B	100	15	N	30	N	300	N	--	--	<5	<2	.3	<2	38
KMT001A	150	30	N	30	N	300	N	--	--	--	--	--	--	--
KMT001B	150	30	N	50	N	300	N	--	--	--	--	--	--	--
KMT002A	150	15	N	50	N	300	N	--	--	--	--	--	--	--
KMT003A	150	30	N	50	N	300	N	--	--	--	--	--	--	--
KMT004A	300	300	N	30	N	70	N	--	--	--	--	--	--	--
KMT005A	300	300	N	15	N	70	N	--	--	--	--	--	--	--
KMT006A	300	300	N	15	N	70	N	--	--	--	--	--	--	--
KMT007A	150	30	N	30	N	300	N	--	--	--	--	--	--	--
KMT008A	200	150	N	30	N	70	N	--	--	--	--	--	--	--
KMT009A	300	150	N	30	N	70	N	--	--	--	--	--	--	--
KMT010A	150	150	N	15	N	70	N	--	--	--	--	--	--	--
KMT011A	<100	20	N	50	N	300	N	--	--	--	--	--	--	--
KMT011B	100	15	N	50	N	150	N	--	--	--	--	--	--	--
KMT012A	150	150	N	30	N	70	N	--	--	--	--	--	--	--
KMT013A	150	30	N	50	N	300	N	--	--	<5	<2	.5	<2	56
KMT014A	200	200	N	30	N	70	N	--	--	<5	<2	1.6	<2	63
KMT015A	200	300	N	30	N	100	N	--	--	<5	5	1.5	<2	67
KMT016A	150	300	N	30	N	70	N	--	--	<5	3	1.3	2	60
KMT017A	150	300	N	30	N	70	N	--	--	<5	<2	1.5	3	68
KMT018A	150	150	N	15	N	70	N	--	--	<5	<2	1.2	3	56

Table 5.-- Results of analyses of rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s
KMT019A	43 8 44	115 9 4	7.0	3.00	7.0	.50	700	N	N	N	<10	200
KMT020A	43 7 53	115 8 42	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT021A	43 6 55	115 9 11	7.0	5.00	7.0	.30	700	N	N	N	<10	700
KMT022A	43 5 47	115 9 14	7.0	5.00	7.0	.70	700	N	N	N	<10	300
KMT023A	43 5 15	115 8 42	7.0	5.00	7.0	.50	700	N	N	N	<10	700
KMT024A	43 9 53	115 10 30	1.5	.07	.7	.15	150	N	N	N	<10	700
KMT024B	43 9 53	115 10 30	1.5	.30	1.0	.15	300	N	N	N	<10	700
KMT025A	43 6 52	115 18 19	2.0	.15	.7	.20	150	N	N	N	<10	1,000
KMT027A	43 10 28	115 19 13	7.0	3.00	7.0	.70	700	N	N	N	<10	700
KMT028A	43 9 15	115 18 34	7.0	3.00	7.0	.70	700	N	N	N	<10	300
KMT029A	43 8 26	115 18 5	7.0	3.00	7.0	.70	700	N	N	N	<10	200
KDH001A	43 10 44	115 18 43	1.5	.03	.7	.15	100	N	N	N	<10	700
KDH002A	43 9 48	115 17 37	2.0	.15	.7	.15	300	N	N	N	<10	700
KDH003A	43 10 55	115 17 47	2.0	.10	.7	.15	200	N	N	N	<10	1,000
KDH003B	43 10 55	115 17 47	2.0	.15	1.0	.15	300	N	N	N	<10	700
KDH004A	43 10 17	115 16 45	2.0	.10	.7	.15	200	N	N	N	<10	700
KDH005A	43 10 16	115 17 56	1.5	.07	.7	.15	150	N	N	N	<10	700
KDH006A	43 10 5	115 17 49	1.5	.15	.7	.15	200	N	N	N	<10	700
KDH006B	43 10 5	115 17 43	3.0	.70	.3	.15	300	N	N	N	<10	500
KDH006C	43 10 5	115 17 49	.5	.03	.2	.02	100	N	N	N	<10	150

Table 5.-- Results of analyses of rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s
KMT019A	<1.0	N	N	20	300	30	<30	<5	<20	70	<10	N	30	N
KMT020A	<1.0	N	N	20	150	10	<30	<5	<20	70	<10	N	30	N
KMT021A	<1.0	N	N	20	100	20	<30	<5	<20	70	<10	N	30	N
KMT022A	<1.0	N	N	20	100	7	30	<5	<20	70	<10	N	30	N
KMT023A	<1.0	N	N	20	150	15	<30	<5	<20	70	<10	N	30	N
KMT024A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KMT024B	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KMT025A	1.5	N	N	<5	<10	<5	150	<5	30	<5	15	N	7	N
KMT027A	<1.0	N	N	20	150	15	<30	<5	<20	50	<10	N	30	N
KMT028A	<1.0	N	N	20	150	15	<30	<5	<20	30	<10	N	30	N
KMT029A	<1.0	N	N	20	150	15	<30	<5	<20	50	<10	N	30	N
KDH001A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH002A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH003A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH003B	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH004A	1.5	N	N	<5	<10	<5	100	<5	30	<5	15	N	7	N
KDH005A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH006A	1.5	N	N	<5	<10	<5	70	<5	30	<5	15	N	7	N
KDH006B	2.0	N	N	7	30	7	70	<5	20	10	30	N	10	N
KDH006C	<1.0	N	N	<5	<10	<5	<30	<5	<20	<5	<10	N	<5	N

Table 5.-- Results of analyses of rock samples from the King Hill Creek Wilderness Study Area, Elmore County, Idaho--Continued

Sample	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	Au-ppm aa	Hg-ppm aa	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp
KMT019A	150	150	N	30	N	70	N	--	--	<5	<2	1.5	<2	67
KMT020A	150	150	N	30	N	70	N	--	--	<5	<2	1.8	<2	75
KMT021A	150	150	N	20	N	50	N	--	--	<5	3	1.3	<2	61
KMT022A	150	300	N	30	N	100	N	--	--	<5	<2	1.9	3	92
KMT023A	150	150	N	30	N	70	N	--	--	<5	2	1.2	<2	60
KMT024A	100	20	N	50	N	300	N	--	--	<5	<2	.4	<2	63
KMT024B	150	30	N	50	N	300	N	--	--	<5	<2	.2	<2	33
KMT025A	150	30	N	50	N	200	N	--	--	<5	<2	.4	<2	63
KMT027A	200	150	N	20	N	70	N	--	--	<5	3	1.2	<2	70
KMT028A	200	300	N	30	N	70	N	--	--	<5	2	1.2	<2	71
KMT029A	200	200	N	30	N	70	N	--	--	<5	<2	1.3	<2	79
KDH001A	<100	20	N	50	N	300	N	--	--	<5	<2	.3	<2	62
KDH002A	100	30	N	50	N	200	N	--	--	<5	<2	.4	<2	54
KDH003A	100	15	N	50	N	150	N	--	--	<5	2	.4	<2	66
KDH003B	100	20	N	50	N	200	N	--	--	<5	<2	.2	<2	29
KDH004A	100	20	N	50	N	200	N	--	--	<5	<2	.3	<2	61
KDH005A	<100	20	N	50	N	200	N	--	--	<5	<2	.3	<2	44
KDH006A	100	15	N	50	N	200	N	--	--	<5	<2	.2	<2	25
KDH006B	<100	50	N	20	N	150	N	--	--	96	<2	.5	3	41
KDH006C	<100	<10	N	10	N	50	N	--	--	<5	2	.2	<2	9