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 Sheepshead Mountains (002-072C), Wildcat Canyon (002-072D), and Table Mountain (002-072I) Wilderness Study Areas, Malheur and Harney Counties, Oregon

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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 Sheepshead Mountain, Table Mountain, and Wildcat Canyon Wilderness Study Areas, Malheur and Harney Counties, Oregon.

INTRODUCTION

In the summer of 1986, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the Sheepshead Mountain, Table Mountain, and Wildcat Canyon Wilderness Study Areas. The Sheepshead Mountains, (OR-002-072C), Wildcat Canyon (OR-002-072D), and Table Mountain (OR-002-072I) Wilderness Study Areas are located about 65 miles southeast of Burns, Oregon in the Sheepshead Mountains of Malheur and Harney Counties (fig. 1). The Sheepshead Wilderness Study Area (WSA) comprises about 45,705 acres (71.4 sq mi); the Wildcat Canyon WSA 34,830 acres (54.4 sq mi); and the Table Mountain WSA 25,185 acres (39.35 sq mi). The areas are in the Basin and Range physiographic province and adjacent to the Owyhee Uplands and High Lava Plains provinces (Dicken, 1965). The Sheepshead Mountains are mainly an upland of gentle relief with steep escarpments along the major faults in the area. Elevations in the three areas range from approximately 3,900 ft at a playa in the Table Mountain study area to 6,000 ft towards the center of the three areas.

The wilderness study areas are predominantly underlain by gently east and southeast-dipping Miocene lava flows ranging from basalt to andesite in composition. A few thin-bedded ash flow tuffs and tuffaceous sedimentary rocks are locally interbedded with and overlie the lava flows. Quaternary basalt covers the northeast edge of the Sheepshead Mountains and numerous normal faults cut the Miocene strata (Sherrod, 1988).

The climate of the area is semiarid, characteristic of southeastern Oregon. The areas are nearly treeless, except for a few cottonwoods along some of the washes, and vegetation is generally sparse consisting of desert shrubs such as sagebrush, and rabbitbrush, (Sherrod, 1988).

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.

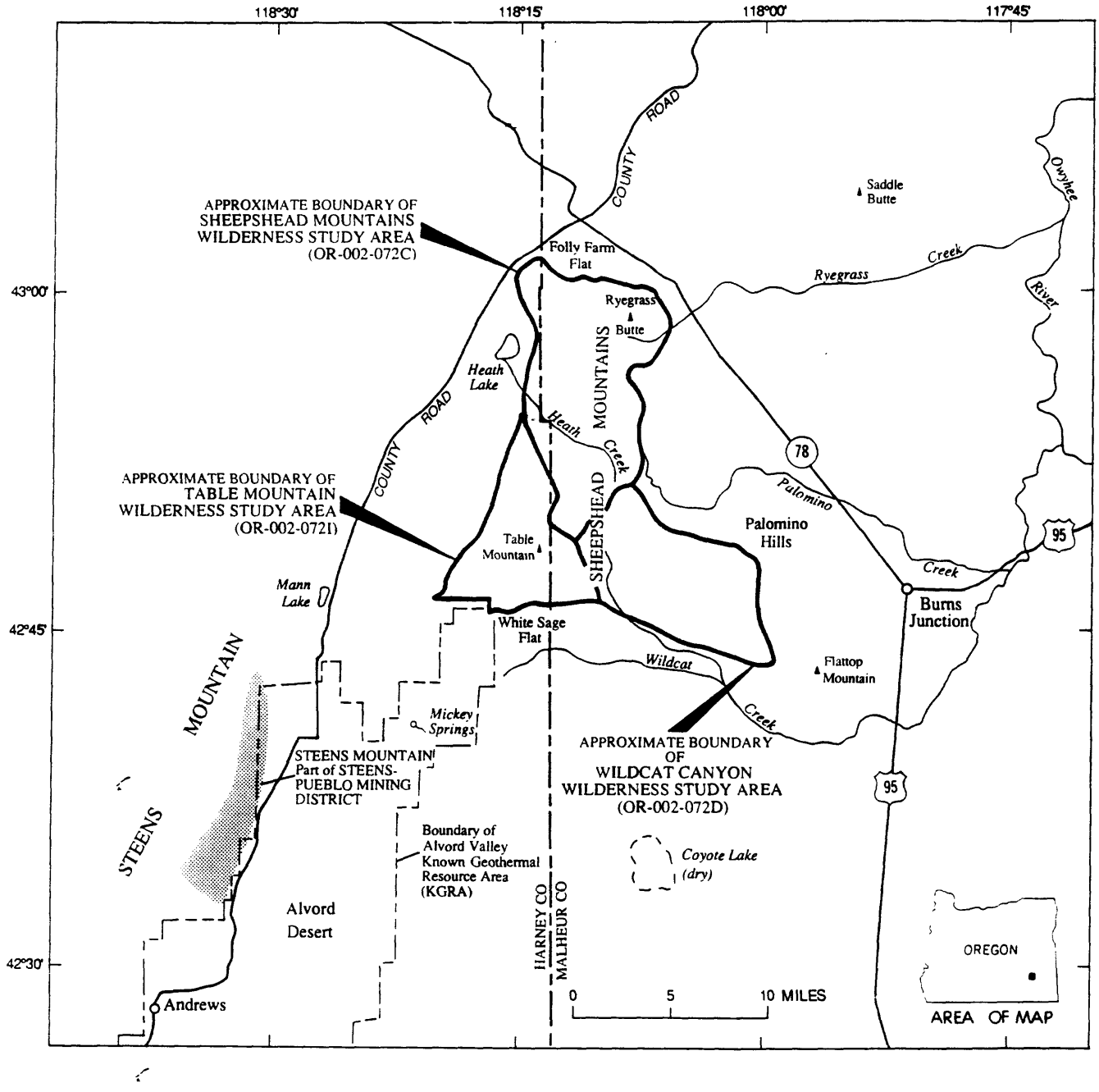

Figure 1. Location map of the Sheepshead Mountain, Table Mountain, and Wildcat Canyon Wilderness Study Areas, Malheur and Harney Counties, Oregon. (Source: Sherrod, 1988)

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

In the Sheepshead Mountains WSA, 46 stream-sediment samples, 45 heavy-mineral concentrate samples, and 1 rock sample were collected (plate 1). In the Table Mountain WSA, 25 stream-sediment samples, 23 heavy-mineral concentrate samples and 3 rock samples were collected. In the Wildcat Canyon WSA, 44 stream-sediment samples, 40 heavy-mineral concentrate samples, and 1 rock sample was taken. Sampling density for all of the areas averaged approximately 1 sample site per 1.5 sq mi for heavy-mineral concentrates and stream sediments.

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 maps 1:24,000.

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.

Rock samples

Rock samples were collected from outcrops or exposures in the vicinity of the plotted site location. Samples were collected from unaltered, altered, and mineralized rocks.

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, samples were seived using 35-mesh (.425 mm) stainless-steel sieves. 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 or saved. The second fraction, largely ferromagnesian silicates and iron oxides, was saved for archival storage but not analyzed.. The third fraction (the least magnetic material which may include the nonmagnetic ore minerals, zircon, sphene, sulfides, 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 (Grimes and Marranzino, 1968). The elements analyzed and their lower limits of determination are listed in table 1. 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 Sheepshead Mountain, Table Mountain, and Wildcat Canyon Wilderness Study Areas are listed in tables 3-11.

Chemical methods

Other methods of analysis used on samples from the Sheepshead Mountain, Table Mountain, and Wildcat Canyon Wilderness Study Areas are summarized in table 2.

DATA 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 3-11 list the results of analyses for the samples of stream sediment, heavy-mineral concentrate, and rock, from the three WSA's. For the nine tables, the data are arranged so that column 1 contains the USGS-assigned sample numbers. The prefix SH indicates samples collected in the Sheepshead Mountain WSA; TM indicates samples collected in the Table Mountain WSA; and WC indicates samples collected in the Wildcat Canyon WSA. The suffixes H, S, or R indicate whether the sample taken was a heavy-mineral concentrate, stream

sediment, or rock sample, respectively. Numbers correspond to the numbers shown on the site location map. The suffixes H, S, and R and the prefix 86, however, have been deleted from plate 1 to economize on space. 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 1. For emission spectrographic analyses, a "less than" symbol (<) entered in the table 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 table 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 table in front of the upper limit of determination. If an element was not looked for in a sample, two dashes (--) are entered in tables 3-11 in place of an analytical value. Because of the formatting used in the computer program that produced tables 3-11, some of the elements listed in the table (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

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

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	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)	5	2,000
Chromium (Cr)	10	5,000
Copper (Cu)	5	20,000
Lanthanum (La)	20	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	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	.1	Modification of Thompson and others, 1968,
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	modification of O'Leary and Viets, 1986.
Bismuth (Bi)		ICP	2	
Cadmium (Cd)		ICP	0.1	

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON

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

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
86SH001S	42 59 26	118 11 28	5	1.0	3.0	>1	1,000	N	N	N	30	700
86SH002S	42 59 49	118 12 52	3	1.0	3.0	>1	2,000	N	N	N	<10	500
86SH003S	42 58 36	118 12 6	5	1.0	3.0	>1	700	N	N	N	20	500
86SH004S	42 57 27	118 12 27	5	1.0	3.0	>1	1,000	N	N	N	30	500
86SH005S	42 57 52	118 11 57	7	1.0	2.0	>1	1,000	N	N	N	50	500
86SH006S	42 59 57	118 10 5	5	1.0	2.0	>1	1,000	N	N	N	30	500
86SH007S	42 59 45	118 7 42	5	1.0	2.0	>1	1,500	N	N	N	20	500
86SH008S	43 00 10	118 15 19	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH009S	42 59 59	118 6 54	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH010S	42 57 37	118 13 43	7	1.5	3.0	>1	1,000	N	N	N	50	700
86SH011S	42 59 38	118 14 5	7	1.5	2.0	>1	1,500	N	N	N	20	500
86SH012S	42 56 46	118 13 39	5	1.0	2.0	>1	1,000	N	N	N	30	500
86SH013S	42 55 47	118 13 39	5	1.0	3.0	>1	1,000	N	N	N	30	500
86SH014S	42 55 26	118 13 37	7	1.0	2.0	>1	1,000	N	N	N	50	500
86SH015S	42 55 42	118 13 38	5	1.0	2.0	>1	1,000	N	N	N	30	500
86SH016S	42 54 57	118 14 38	5	1.0	3.0	>1	1,000	N	N	N	30	500
86SH017S	42 53 33	118 13 54	7	2.0	2.0	>1	1,500	N	N	N	30	500
86SH018S	42 52 34	118 13 13	7	1.5	2.0	>1	2,000	N	N	N	50	500
86SH019S	42 51 37	118 12 45	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH020S	42 50 26	118 12 37	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH021S	42 58 10	118 6 14	5	1.0	2.0	>1	1,000	N	N	N	30	500
86SH022S	42 57 42	118 7 31	7	1.0	2.0	>1	700	N	N	N	30	500
86SH023S	42 57 57	118 7 38	7	1.0	2.0	>1	1,000	N	N	N	20	700
86SH024S	42 58 0	118 7 40	7	1.0	2.0	>1	1,000	N	N	N	50	700
86SH025S	42 58 1	118 9 37	5	1.0	2.0	>1	700	N	N	N	50	500
86SH026S	42 56 39	118 7 55	7	1.0	2.0	>1	1,000	N	N	N	50	500
86SH027S	42 56 8	118 9 47	7	1.0	2.0	>1	1,000	N	N	N	50	500
86SH028S	42 55 30	118 9 49	5	1.0	2.0	>1	1,000	N	N	N	50	1,500
86SH029S	42 55 13	118 8 39	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH030S	42 54 59	118 9 21	2	.7	1.5	1	500	N	N	N	30	300
86SH031S	42 55 13	118 8 24	5	1.5	2.0	>1	700	N	N	N	100	500
86SH032S	42 52 16	118 7 2	5	1.5	2.0	>1	700	N	N	N	50	500
86SH033S	42 52 5	118 7 3	3	1.0	2.0	>1	700	N	N	N	50	500
86SH035S	42 51 50	118 9 1	5	1.5	2.0	>1	1,500	N	N	N	50	500
86SH036S	42 50 53	118 9 49	3	1.0	2.0	>1	700	N	N	N	70	500
86SH037S	42 52 46	118 11 2	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH038S	42 52 34	118 10 46	5	1.0	2.0	>1	1,000	N	N	N	30	500
86SH039S	42 53 23	118 11 29	5	1.0	2.0	>1	700	N	N	N	30	500
86SH040S	42 52 38	118 10 46	5	1.0	2.0	>1	700	N	N	N	50	500
86SH041S	42 53 7	118 11 37	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH042S	42 53 4	118 11 40	5	1.0	2.0	>1	1,000	N	N	N	50	5,000
86SH043S	42 53 59	118 12 11	5	1.0	2.0	>1	1,000	N	N	N	50	300
86SH044S	42 53 57	118 12 33	5	1.0	2.0	>1	1,500	N	N	N	50	300
86SH045S	42 54 38	118 13 24	5	1.0	2.0	>1	1,000	N	N	N	50	500
86SH046S	42 54 8	118 9 19	5	1.0	2.0	>1	1,500	N	N	N	50	500
86SH047S	42 53 18	118 8 25	5	1.0	2.0	>1	1,500	N	N	N	50	500

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON--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
86SH001S	1.0	N	N	30	100	70	50	N	N	20	20	N	15	N
86SH002S	1.0	N	N	20	100	70	30	N	N	20	15	N	15	N
86SH003S	<1.0	N	N	20	100	70	30	N	<20	20	30	N	20	N
86SH004S	<1.0	N	N	20	100	50	N	N	N	20	30	N	20	N
86SH005S	1.0	N	N	30	100	70	30	N	N	20	30	N	20	N
86SH006S	1.0	N	N	30	100	50	30	N	N	20	20	N	20	N
86SH007S	1.0	N	N	30	100	50	30	N	N	20	20	N	20	N
86SH008S	1.0	N	N	30	100	50	30	N	<20	20	30	N	20	N
86SH009S	1.5	N	N	30	70	50	50	N	<20	20	30	N	20	N
86SH010S	1.0	N	N	30	100	70	20	N	N	20	30	N	20	N
86SH011S	1.0	N	N	30	100	70	N	N	N	20	20	N	20	N
86SH012S	1.0	N	N	20	70	50	20	N	N	20	20	N	20	N
86SH013S	1.0	N	N	30	100	50	30	N	N	20	30	N	20	N
86SH014S	1.0	N	N	30	150	70	50	N	N	20	30	N	20	N
86SH015S	1.0	N	N	30	100	70	N	N	N	20	20	N	20	N
86SH016S	1.0	N	N	30	100	70	20	N	N	20	20	N	20	N
86SH017S	1.0	N	N	50	100	100	30	N	<20	30	30	N	20	N
86SH018S	1.0	N	N	30	100	70	30	N	N	30	30	N	20	N
86SH019S	1.0	N	N	20	70	50	50	N	<20	30	20	N	15	N
86SH020S	1.0	N	N	20	70	70	30	N	<20	30	20	N	20	N
86SH021S	1.0	N	N	20	100	50	30	N	<20	30	20	N	20	N
86SH022S	1.0	N	N	20	100	70	30	N	N	30	30	N	20	N
86SH023S	1.0	N	N	20	100	70	50	N	<20	30	30	N	30	N
86SH024S	1.0	N	N	30	100	70	30	N	<20	30	30	N	20	N
86SH025S	1.0	N	N	30	100	70	N	N	<20	30	30	N	20	N
86SH026S	1.0	N	N	20	100	70	30	N	<20	30	30	N	20	N
86SH027S	1.0	N	N	30	100	70	30	N	<20	30	30	N	20	N
86SH028S	1.0	N	N	30	50	70	50	N	N	20	30	N	20	N
86SH029S	1.0	N	N	30	70	70	50	N	N	20	30	N	15	N
86SH030S	<1.0	N	N	20	30	50	N	N	N	20	20	N	10	N
86SH031S	1.0	N	N	20	50	70	30	N	<20	30	20	N	20	N
86SH032S	1.5	N	N	20	70	50	50	N	<20	30	30	N	15	N
86SH033S	1.5	N	N	15	100	50	50	N	<20	15	30	N	15	N
86SH035S	1.5	N	N	20	100	70	50	N	N	20	20	N	20	N
86SH036S	1.0	N	N	15	20	70	50	N	N	20	20	N	20	N
86SH037S	1.0	N	N	20	70	70	30	N	<20	20	20	N	20	N
86SH038S	1.0	N	N	30	100	50	30	N	<20	20	30	N	20	N
86SH039S	1.0	N	N	20	70	50	30	N	N	30	20	N	20	N
86SH040S	1.0	N	N	20	100	50	50	N	<20	15	20	N	20	N
86SH041S	1.0	N	N	30	100	50	50	N	<20	30	30	N	20	N
86SH042S	1.0	N	N	20	70	50	30	N	<20	20	30	N	20	N
86SH043S	1.0	N	N	20	100	70	30	N	<20	20	30	N	20	N
86SH044S	1.0	N	N	20	70	50	20	N	<20	20	30	N	20	N
86SH045S	1.0	N	N	30	70	30	20	N	<20	20	30	N	20	N
86SH046S	1.0	N	N	30	100	50	50	N	<20	20	30	N	20	N
86SH047S	1.0	N	N	20	100	50	30	N	<20	20	30	N	20	N

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON--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
86SH001S	500	150	N	30	N	200	N	<.10	.05	7	<2	.2	<2	60
86SH002S	500	150	N	30	N	200	N	<.10	.03	<5	<2	.2	<2	50
86SH003S	500	150	N	30	N	200	N	<.10	.03	<5	<2	.1	<2	58
86SH004S	300	100	N	30	N	150	N	<.10	<.02	<5	<2	.1	<2	61
86SH005S	300	150	N	50	N	200	N	<.10	.02	6	<2	.4	<2	69
86SH006S	300	100	N	50	N	150	N	<.10	.04	6	<2	.3	<2	69
86SH007S	500	100	N	50	N	150	N	<.10	.08	5	<2	.4	<2	65
86SH008S	500	150	N	30	N	200	N	<.10	.04	<5	<2	.4	<2	66
86SH009S	300	100	N	30	N	100	N	<.10	.03	<5	<2	.4	<2	67
86SH010S	500	150	N	20	N	150	N	<.10	<.02	<5	<2	.3	<2	74
86SH011S	500	150	N	20	N	100	N	<.10	.03	<5	<2	.2	<2	64
86SH012S	500	100	N	20	N	100	N	<.10	.02	<5	<2	.3	<2	58
86SH013S	500	150	N	30	N	100	N	<.10	.02	<5	<2	.3	<2	60
86SH014S	500	150	N	30	N	100	N	<.10	.05	8	<2	.3	<2	67
86SH015S	500	150	N	20	N	100	N	<.10	.06	6	<2	.4	<2	68
86SH016S	500	100	N	30	N	100	N	<.10	.04	5	<2	.4	<2	65
86SH017S	500	200	N	20	N	200	N	<.10	.08	<5	<2	.4	<2	78
86SH018S	500	150	N	20	N	150	N	<.10	.09	6	<2	.4	<2	63
86SH019S	200	150	N	20	N	150	N	<.10	.04	6	<2	.4	<2	68
86SH020S	500	150	N	15	N	200	N	<.10	.03	8	<2	.3	<2	65
86SH021S	300	150	N	15	N	150	N	--	.61	10	<2	.2	<2	57
86SH022S	500	150	N	20	N	150	N	<.10	.05	8	<2	.3	<2	65
86SH023S	500	150	N	20	N	150	N	<.10	.02	10	<2	.4	<2	64
86SH024S	500	100	N	20	N	150	N	<.10	.02	8	<2	.3	<2	63
86SH025S	500	150	N	20	N	200	N	<.10	.02	<5	<2	.4	<2	71
86SH026S	500	100	N	20	N	150	N	<.10	.02	<5	<2	.5	<2	87
86SH027S	300	100	N	20	N	200	N	--	.08	<5	<2	.6	<2	81
86SH028S	500	100	N	20	N	200	N	<.10	<.02	6	<2	.4	<2	75
86SH029S	300	100	N	15	N	200	N	<.10	<.02	6	<2	.4	<2	80
86SH030S	200	100	N	15	N	100	N	<.10	<.02	9	<2	.4	<2	79
86SH031S	200	100	N	20	N	200	N	<.10	<.02	<5	<2	.3	<2	51
86SH032S	200	100	N	20	N	200	N	<.10	.02	7	<2	.3	<2	51
86SH033S	500	100	N	30	<200	150	N	<.10	<.02	7	<2	.3	<2	52
86SH035S	500	150	N	30	<200	150	N	<.10	.02	15	<2	.4	<2	61
86SH036S	500	100	N	20	<200	100	N	<.10	.02	13	<2	.4	<2	59
86SH037S	300	150	N	30	N	150	N	N	.04	9	<2	.8	<2	67
86SH038S	300	150	N	30	N	150	N	N	.04	13	<2	.8	<2	76
86SH039S	300	100	N	30	N	150	N	N	.04	11	<2	.9	<2	68
86SH040S	500	100	N	30	N	150	N	N	.04	16	<2	.9	<2	57
86SH041S	500	100	N	30	N	150	N	N	.04	11	<2	.8	<2	66
86SH042S	500	100	N	30	N	150	N	N	.04	8	<2	.9	<2	66
86SH043S	300	100	N	30	N	150	N	N	.04	10	<2	1.1	<2	65
86SH044S	300	100	N	30	N	150	N	N	.04	8	<2	1.1	<2	67
86SH045S	300	100	N	30	N	150	N	N	.02	10	<2	1.1	<2	69
86SH046S	500	100	N	30	N	150	N	N	.04	12	<2	1.1	<2	76
86SH047S	500	100	N	30	N	150	N	N	.02	12	<2	1.0	<2	72

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON

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

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
86SH001H	42 59 26	118 11 28	1.5	.70	10	2.00	200	N	N	N
86SH002H	42 59 49	118 12 52	1.0	.20	10	.30	150	N	N	N
86SH003H	42 58 36	118 12 6	.5	.30	7	.50	200	N	N	N
86SH004H	42 57 27	118 12 27	.7	.20	7	.20	150	N	N	N
86SH005H	42 57 52	118 11 57	.7	.70	10	.70	300	N	N	N
86SH006H	42 59 57	118 10 5	1.0	.30	7	1.00	200	N	N	N
86SH007H	42 59 45	118 7 42	20.0	10.00	7	>2.00	3,000	N	N	N
86SH008H	42 0 10	118 15 19	.7	.20	7	.20	150	N	N	N
86SH009H	42 59 59	118 6 54	.7	.50	10	.70	200	N	N	N
86SH010H	42 57 37	118 13 43	.5	.20	10	.50	150	N	N	N
86SH011H	42 59 38	118 14 5	.5	.15	7	.15	100	N	N	N
86SH012H	42 56 46	118 13 39	.5	.30	10	.50	150	N	N	N
86SH013H	42 55 47	118 13 39	1.0	1.00	15	2.00	200	N	N	N
86SH014H	42 55 26	118 13 37	1.0	.50	7	.70	300	N	N	N
86SH015H	42 55 42	118 13 38	.7	.50	10	.30	200	N	N	N
86SH016H	42 54 57	118 14 38	.5	.20	7	.15	150	N	N	N
86SH017H	42 53 33	118 13 54	.7	.50	10	.30	300	N	N	N
86SH018H	42 52 34	118 13 13	1.0	1.00	15	1.00	300	N	N	N
86SH019H	42 51 37	118 12 45	1.0	.70	10	1.00	200	N	N	N
86SH020H	42 50 26	118 12 37	.5	.50	10	1.50	200	N	N	N
86SH021H	42 58 10	118 6 14	20.0	5.00	5	>2.00	2,000	N	N	N
86SH022H	42 57 42	118 7 31	2.0	1.50	10	2.00	500	N	N	N
86SH023H	42 57 57	118 7 38	30.0	5.00	3	>2.00	2,000	N	N	N
86SH024H	42 58 0	118 7 40	.7	.50	10	.50	150	N	N	N
86SH025H	42 58 1	118 9 37	.5	.30	10	2.00	200	N	N	N
86SH026H	42 56 39	118 7 55	.7	.50	15	1.00	200	N	N	N
86SH027H	42 56 8	118 9 47	7.0	7.00	15	>2.00	1,500	N	N	N
86SH028H	42 55 30	118 9 49	1.0	.70	10	1.50	300	N	N	N
86SH029H	42 55 13	118 8 39	5.0	2.00	15	>2.00	1,000	1.5	N	N
86SH030H	42 54 59	118 9 21	2.0	1.50	7	>2.00	700	N	N	N
86SH031H	42 55 13	118 8 24	5.0	3.00	10	>2.00	1,000	10.0	N	N
86SH032H	42 52 16	118 7 2	.7	.70	15	>2.00	500	N	N	N
86SH033H	42 52 5	118 7 3	2.0	1.50	10	>2.00	700	N	N	N
86SH035H	42 51 50	118 9 1	1.0	1.00	7	2.00	500	N	N	N
86SH036H	42 50 53	118 9 49	3.0	2.00	7	>7.00	1,000	7.0	N	N
86SH038H	42 52 34	118 10 46	1.0	.50	20	5.00	1,000	N	N	N
86SH039H	42 53 23	118 11 29	.7	.70	15	2.00	500	N	N	N
86SH040H	42 52 38	118 10 46	1.0	.30	10	>5.00	700	N	N	N
86SH041H	42 53 7	118 11 37	.7	.20	10	>2.00	200	N	N	N
86SH042H	42 53 4	118 11 40	.7	.70	15	.20	500	N	N	N
86SH043H	42 53 59	118 12 11	2.0	.70	10	>5.00	700	N	N	N
86SH044H	42 53 57	118 12 33	.7	.15	7	>2.00	100	N	N	N
86SH045H	42 54 38	118 13 24	2.0	1.00	20	.70	1,000	10.0	N	100
86SH046H	42 54 8	118 9 19	1.0	.30	10	>2.00	500	N	N	N
86SH047H	42 53 18	118 9 25	1.0	.30	10	>2.00	200	N	N	N

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON--Continued

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	La-ppm s	Mo-ppm s	Nb-ppm s
86SH001H	30	500	<2	N	N	<10	50	50	100	N	N
86SH002H	20	500	<2	N	N	<10	20	15	<50	N	N
86SH003H	20	500	<2	N	N	<10	30	20	50	N	N
86SH004H	20	500	<2	N	N	<10	30	15	<50	N	N
86SH005H	20	500	<2	N	N	<10	100	30	<50	N	N
86SH006H	20	700	<2	N	N	<10	20	20	50	N	N
86SH007H	70	500	<2	N	N	150	300	200	<50	N	<50
86SH008H	20	500	<2	N	N	<10	20	15	<50	N	N
86SH009H	20	1,000	<2	N	N	<10	20	15	100	N	N
86SH010H	20	500	<2	N	N	<10	20	10	70	N	N
86SH011H	20	500	<2	N	N	<10	20	10	N	N	N
86SH012H	20	300	<2	N	N	<10	50	20	70	N	N
86SH013H	20	500	<2	N	N	N	100	20	100	N	N
86SH014H	50	700	<7	N	N	<30	30	30	200	N	N
86SH015H	30	500	<2	N	N	<10	30	15	100	N	N
86SH016H	50	500	<2	N	N	<10	20	<10	50	N	N
86SH017H	30	300	<2	N	N	<10	30	15	100	N	N
86SH018H	30	300	<2	N	N	<10	50	20	150	N	N
86SH019H	50	500	<2	N	N	<10	50	20	100	N	N
86SH020H	50	500	<2	N	N	<10	20	<10	100	N	N
86SH021H	70	700	<2	N	N	70	100	150	N	N	N
86SH022H	30	500	<2	N	N	10	100	20	150	N	N
86SH023H	50	300	<2	N	N	100	100	150	N	N	50
86SH024H	30	500	<2	N	N	<10	20	10	50	N	N
86SH025H	30	200	<2	N	N	<10	20	10	150	N	N
86SH026H	30	300	<2	N	N	<10	20	10	70	N	N
86SH027H	20	200	<2	N	N	30	200	200	200	N	50
86SH028H	30	2,000	<2	N	N	N	50	20	100	N	N
86SH029H	30	2,000	<2	N	N	30	200	150	700	N	N
86SH030H	30	1,000	<2	N	N	10	200	50	200	N	N
86SH031H	30	500	<2	N	N	50	300	200	500	N	N
86SH032H	20	500	<2	N	N	N	100	100	500	N	N
86SH033H	30	700	<2	N	N	15	200	100	300	N	N
86SH035H	20	700	<2	N	N	10	200	30	100	N	N
86SH036H	50	700	<7	N	N	20	300	100	300	N	N
86SH038H	100	200	10	N	N	N	100	<20	700	N	N
86SH039H	100	700	<2	N	N	N	50	<10	200	N	N
86SH040H	70	700	<5	N	N	N	70	<20	500	N	N
86SH041H	100	700	<2	N	N	N	20	<10	70	N	N
86SH042H	70	1,000	5	N	N	N	50	<10	500	N	N
86SH043H	100	200	<5	N	N	N	100	<20	700	N	N
86SH044H	70	700	<2	N	N	N	70	<10	<50	N	N
86SH045H	200	2,000	<5	N	N	N	100	<20	300	N	N
86SH046H	50	200	5	N	N	N	200	<10	500	N	70
86SH047H	70	1,000	<2	N	N	N	30	<10	100	N	N

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON--Continued

Sample	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s
86SH001H	30	N	N	<10	N	2,000	100	<100	200	N	>2,000	N
86SH002H	15	N	N	<10	N	2,000	50	<100	150	N	>2,000	N
86SH003H	10	N	N	<10	N	2,000	70	<100	150	N	>2,000	N
86SH004H	15	N	N	<10	100	2,000	50	<100	100	N	>2,000	N
86SH005H	20	N	N	<10	N	2,000	100	<100	100	N	>2,000	N
86SH006H	15	N	N	<10	N	2,000	100	<100	300	N	>2,000	N
86SH007H	200	20	N	50	N	500	500	<100	70	N	>2,000	N
86SH008H	10	N	N	<10	N	2,000	20	<100	100	N	>2,000	N
86SH009H	20	N	N	<10	N	2,000	70	<100	300	N	>2,000	N
86SH010H	15	N	N	<10	N	2,000	50	<100	200	N	>2,000	N
86SH011H	10	N	N	<10	N	1,500	20	<100	100	N	>2,000	N
86SH012H	20	N	N	<10	150	2,000	50	<100	500	N	>2,000	N
86SH013H	20	N	N	<10	N	2,000	100	<100	500	N	>2,000	N
86SH014H	30	N	N	<30	N	3,000	70	<300	700	N	>7,000	N
86SH015H	30	N	N	<10	N	2,000	50	<100	500	N	>2,000	N
86SH016H	<10	N	N	<10	N	1,000	30	<100	200	N	>2,000	N
86SH017H	20	N	N	<10	N	2,000	50	<100	700	N	>2,000	N
86SH018H	30	N	N	<10	N	1,500	100	<100	500	N	>2,000	N
86SH019H	30	N	N	<10	N	1,500	100	<100	500	N	>2,000	N
86SH020H	20	N	N	<10	20	1,500	70	<100	500	N	>2,000	N
86SH021H	200	20	N	50	N	500	500	<100	100	N	>2,000	N
86SH022H	30	N	N	<10	N	1,000	150	<100	500	N	>2,000	N
86SH023H	150	20	N	50	N	300	500	<100	100	N	>2,000	N
86SH024H	20	N	N	<10	N	1,500	50	<100	150	N	>2,000	N
86SH025H	30	N	N	<10	N	1,000	70	<100	1,000	N	>2,000	N
86SH026H	20	N	N	<10	N	1,500	50	<100	300	N	>2,000	N
86SH027H	50	N	N	<10	N	1,000	500	<100	700	N	>2,000	N
86SH028H	20	N	N	100	N	1,500	100	<100	100	N	>2,000	N
86SH029H	70	N	N	50	N	1,000	300	<100	700	N	>2,000	N
86SH030H	50	N	N	50	N	1,500	200	<100	500	N	>2,000	N
86SH031H	50	N	N	<10	N	1,500	300	<100	700	N	>2,000	N
86SH032H	30	N	N	<10	N	2,000	200	<100	1,000	N	>2,000	N
86SH033H	50	N	N	<10	100	2,000	200	<100	700	N	>2,000	N
86SH035H	30	N	N	<10	N	2,000	100	<100	300	N	>2,000	N
86SH036H	50	N	N	<10	N	3,000	300	<300	300	N	>7,000	N
86SH038H	30	N	N	<20	N	2,000	200	<200	1,500	N	>5,000	N
86SH039H	15	N	N	<10	N	1,500	100	<100	700	N	>2,000	N
86SH040H	30	N	N	<20	N	1,500	300	<200	1,500	N	>5,000	N
86SH041H	10	N	N	<10	N	1,500	50	<100	500	N	>2,000	N
86SH042H	15	N	N	<10	N	1,000	150	<100	1,000	N	>2,000	N
86SH043H	30	N	N	<20	N	1,000	300	<200	1,500	N	>5,000	N
86SH044H	<10	N	N	<10	N	1,000	30	<100	150	N	>2,000	N
86SH045H	30	N	N	<20	N	2,000	300	<200	700	N	>2,000	N
86SH046H	15	N	N	<10	N	1,500	150	<100	1,000	N	>2,000	N
86SH047H	10	N	N	<10	N	1,500	150	<100	200	N	>2,000	N

TABLE 5. RESULTS OF ANALYSES OF ROCK SAMPLE FROM THE SHEEPSHEAD MOUNTAINS WILDERNESS STUDY AREA, MALHEUR AND HARNEY COUNTIES, OREGON

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

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
86SH018R	42 52 34	118 13 13	20	5	7	>1	1,500	N	N	N	<10	500

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
86SH018R	<1	N	N	30	50	150	N	N	N	50	N	N	30	N

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
86SH018R	500	200	N	30	N	100	N	<.1	<.02	<5	4	.7	<2	67

Table 6. Results of analyses of stream-sediment samples from the Table Mountain Wilderness Study Area, Malheur and Harney counies, Oregon--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
86TM001S	1.0	N	N	30	100	70	N	N	N	20	15	N	20	N
86TM002S	1.0	N	N	30	100	70	N	N	<20	50	20	N	30	N
86TM003S	1.5	N	N	20	100	70	30	N	<20	30	20	N	20	N
86TM004S	1.0	N	N	20	100	70	N	N	N	30	20	N	20	N
86TM005S	1.5	N	N	20	100	70	N	N	<20	30	20	N	20	N
86TM006S	1.0	N	N	30	100	50	N	N	<20	30	20	N	20	N
86TM007S	<1.0	N	N	20	100	70	N	N	<20	50	20	N	20	N
86TM008S	1.0	N	N	20	100	100	N	N	N	50	30	N	20	N
86TM009S	1.0	N	N	30	70	50	N	N	N	30	15	N	15	N
86TM010S	1.0	N	N	20	100	70	N	N	N	30	15	N	15	N
86TM011S	1.0	N	N	20	100	70	N	N	N	50	30	N	20	N
86TM012S	1.0	N	N	20	70	70	N	N	N	50	10	N	15	N
86TM013S	1.0	N	N	20	100	70	N	N	N	50	15	N	15	N
86TM014S	1.0	N	N	20	150	100	N	N	N	50	20	N	20	N
86TM015S	1.0	N	N	30	100	70	30	N	N	50	20	N	15	N
86TM016S	1.0	N	N	20	100	100	N	N	N	50	15	N	15	N
86TM017S	<1.0	N	N	30	150	100	N	N	<20	50	20	N	20	N
86TM018S	1.0	N	N	30	100	100	N	N	N	50	20	N	20	N
86TM020S	1.0	N	N	30	100	100	N	N	N	50	20	N	20	N
86TM021S	1.0	N	N	30	100	70	N	N	N	30	15	N	20	N
86TM022S	1.0	N	N	20	100	70	20	N	N	30	20	N	20	N
86TM023S	<1.0	N	N	20	100	100	N	N	N	30	15	N	20	N
86TM050S	1.0	N	N	30	100	100	N	N	<20	30	30	N	20	N
86TM051S	<1.0	N	N	30	100	100	N	N	<20	30	30	N	20	N
86TM052S	<1.0	N	N	30	100	100	20	N	<20	30	30	N	20	N

Table 6. Results of analyses of stream-sediment samples from the Table Mountain Wilderness Study Area, Malheur and Harney counies, Oregon

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

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
86TM001S	42 50 21	118 13 4	7	2.0	2	>1	2,000	N	N	N	20	500
86TM002S	42 53 31	118 14 2	10	3.0	2	>1	2,000	N	N	N	30	500
86TM003S	42 48 11	118 14 16	10	2.0	2	>1	2,000	N	N	N	30	500
86TM004S	42 48 25	118 13 0	7	2.0	2	>1	1,500	N	N	N	20	500
86TM005S	42 47 52	118 11 13	7	1.5	2	>1	1,500	N	N	N	50	700
86TM006S	42 47 14	118 11 21	10	2.0	2	>1	1,500	N	N	N	30	500
86TM007S	42 46 52	118 11 0	10	2.0	2	>1	1,500	N	N	N	30	500
86TM008S	42 53 2	118 15 18	10	2.0	3	>1	2,000	N	N	N	15	500
86TM009S	42 51 33	118 16 12	5	2.0	2	>1	1,500	N	N	N	20	300
86TM010S	42 50 30	118 16 12	10	2.0	2	>1	1,000	N	N	N	50	500
86TM011S	42 48 41	118 17 22	10	2.0	2	1	1,000	N	N	N	50	500
86TM012S	42 49 14	118 16 29	7	2.0	2	1	1,000	N	N	N	50	500
86TM013S	42 47 28	118 18 11	7	2.0	2	1	1,000	N	N	N	100	500
86TM014S	42 47 17	118 18 48	10	3.0	2	>1	2,000	N	N	N	50	500
86TM015S	42 46 31	118 19 25	10	2.0	2	1	2,000	N	N	N	100	500
86TM016S	42 45 56	118 18 1	10	2.0	2	>1	2,000	N	N	N	100	500
86TM017S	42 46 35	118 16 22	15	2.0	2	>1	2,000	N	N	N	50	500
86TM018S	42 46 26	118 16 39	10	2.0	2	1	1,000	N	N	N	70	500
86TM020S	42 46 2	118 15 35	15	3.0	10	>1	1,000	N	N	N	50	500
86TM021S	42 46 49	118 14 19	10	2.0	2	>1	1,000	N	N	N	50	500
86TM022S	42 46 39	118 14 32	10	2.0	2	1	1,500	N	N	N	50	500
86TM023S	42 46 22	118 12 50	10	2.0	2	1	1,000	N	N	N	50	500
86TM050S	42 52 18	118 15 18	10	1.5	5	>1	1,000	N	N	N	50	500
86TM051S	42 52 2	118 15 7	7	2.0	5	>1	1,500	N	N	N	50	500
86TM052S	42 51 2	118 14 48	10	2.0	5	>1	1,000	N	N	N	50	500

Table 6. Results of analyses of stream-sediment samples from the Table Mountain Wilderness Study Area, Malheur and Harney counies, Oregon--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
86TM001S	500	200	N	20	<200	100	N	<.10	.02	6	<2	1.2	<2	82
86TM002S	500	200	N	20	<200	100	N	<.10	.04	<5	<2	1.7	<2	90
86TM003S	500	150	N	30	<200	150	N	<.10	.06	5	<2	1.1	<2	67
86TM004S	500	150	N	20	<200	100	N	<.10	.03	<5	<2	1.3	<2	70
86TM005S	300	150	N	20	<200	150	N	<.10	<.02	<5	<2	1.3	<2	79
86TM006S	500	150	N	20	<200	100	N	<.10	.06	<5	<2	1.5	<2	78
86TM007S	500	150	N	20	<200	100	N	<.10	.03	<5	<2	1.4	<2	75
86TM008S	700	200	N	20	<200	100	N	<.10	<.02	<5	<2	1.6	<2	73
86TM009S	500	150	N	20	<200	70	N	<.10	.02	<5	<2	1.6	<2	75
86TM010S	500	150	N	20	<200	100	N	<.10	.02	<5	<2	1.3	<2	72
86TM011S	700	150	N	20	<200	100	N	<.10	.03	<5	<2	1.2	<2	65
86TM012S	500	100	N	20	<200	100	N	<.10	.02	<5	<2	1.6	<2	77
86TM013S	500	100	N	20	<200	100	N	<.10	.03	<5	<2	1.4	<2	74
86TM014S	300	200	N	20	<200	150	N	<.10	<.02	<5	<2	2.2	<2	85
86TM015S	500	150	N	20	<200	100	N	<.10	.02	<5	<2	1.2	<2	67
86TM016S	500	150	N	20	<200	100	N	<.10	<.02	8	<2	1.3	<2	68
86TM017S	500	200	N	20	<200	100	N	<.10	<.02	<5	<2	1.6	<2	73
86TM018S	500	150	N	20	<200	100	N	<.10	.03	8	<2	1.6	<2	75
86TM020S	700	150	N	30	<200	100	N	<.10	<.02	13	<2	1.9	<2	71
86TM021S	500	200	N	20	<200	100	N	<.10	.02	<5	<2	1.5	<2	75
86TM022S	500	150	N	20	<200	100	N	<.10	.03	6	<2	1.2	<2	64
86TM023S	500	200	N	20	<200	100	N	<.10	.02	<5	<2	1.2	<2	70
86TM050S	500	150	N	50	N	150	N	N	.02	7	<2	.3	<2	72
86TM051S	500	200	N	50	N	150	N	N	.04	5	<2	.5	<2	71
86TM052S	500	150	N	50	N	150	N	N	.02	<5	<2	.6	<2	71

Table 7. Results of analyses of heavy-mineral-concentrate samples from the Table Mountain Wilderness Study Area, Malheur andHarney counties, Oregon

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

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
86TM001H	42 50 21	118 13 4	2.0	1.0	10	>2.0	700	N	N	N
86TM002H	42 53 31	118 14 2	1.0	.5	7	2.0	200	N	N	N
86TM003H	42 48 0	118 14 16	2.0	2.0	10	>2.0	700	N	N	N
86TM004H	42 48 25	118 13 0	5.0	3.0	10	>2.0	1,000	N	N	N
86TM005H	42 47 52	118 11 13	7.0	5.0	10	>2.0	1,000	N	N	N
86TM007H	42 46 52	118 11 0	2.0	1.5	10	>2.0	500	N	N	N
86TM008H	42 53 2	118 15 18	1.5	1.0	10	>2.0	500	N	N	N
86TM009H	42 51 33	118 16 12	1.0	.5	7	>2.0	300	N	N	N
86TM010H	42 50 30	118 16 12	1.5	1.0	7	>2.0	500	N	N	N
86TM011H	42 48 41	118 17 22	1.0	1.0	10	2.0	500	N	N	N
86TM012H	42 49 14	118 16 29	1.5	.7	7	1.5	300	N	N	N
86TM013H	42 47 28	118 18 11	1.0	.7	5	.7	200	N	N	N
86TM014H	42 47 17	118 18 48	1.0	.5	5	2.0	200	N	N	N
86TM015H	42 46 31	118 19 25	3.0	3.0	20	>2.0	700	N	N	N
86TM016H	42 45 56	118 18 1	1.5	1.5	10	>2.0	500	N	N	N
86TM017H	42 46 35	118 16 22	1.0	1.0	7	>2.0	500	N	N	N
86TM018H	42 46 26	118 16 39	1.0	.7	7	1.5	300	N	N	N
86TM020H	42 46 2	118 15 35	1.0	1.0	10	>2.0	500	N	N	N
86TM021H	42 46 49	118 14 19	1.0	.7	10	2.0	500	N	N	N
86TM022H	42 46 39	118 14 32	1.0	.7	7	.7	200	N	N	N
86TM023H	42 46 22	118 12 50	1.5	1.0	10	1.5	300	N	N	N
86TM050H	42 52 18	118 15 18	.7	.5	3	1.0	200	N	N	N
86TM052H	42 51 2	118 14 48	.5	.3	5	.3	150	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	La-ppm s	Mo-ppm s	Nb-ppm s
86TM001H	70	200	3	N	N	<10	150	70	500	N	N
86TM002H	50	300	<2	N	N	<10	70	50	150	N	N
86TM003H	70	200	<2	N	N	30	200	70	300	N	<50
86TM004H	100	200	<2	N	N	50	500	200	500	N	50
86TM005H	70	200	<2	N	N	30	700	150	500	N	<50
86TM007H	30	300	<2	N	N	10	200	100	300	N	<50
86TM008H	50	200	<2	N	N	<10	150	70	500	N	N
86TM009H	50	500	<2	N	N	<10	100	30	150	N	N
86TM010H	70	300	<2	N	N	<10	100	20	200	N	N
86TM011H	70	500	<2	N	N	<10	150	30	150	N	N
86TM012H	100	700	<2	N	N	<10	50	30	70	N	N
86TM013H	50	300	<2	N	N	<10	70	15	70	N	N
86TM014H	100	1,000	<2	N	N	<10	70	15	70	N	N
86TM015H	100	500	<2	N	N	30	300	150	500	N	<50
86TM016H	70	500	<2	N	N	<10	150	50	150	N	N
86TM017H	70	500	<2	N	N	<10	50	30	150	N	N
86TM018H	70	500	<2	N	N	<10	50	20	100	N	N
86TM020H	70	500	<2	N	N	<10	70	20	150	N	N
86TM021H	50	700	<2	N	N	<10	30	15	100	N	N
86TM022H	70	500	<2	N	N	<10	30	15	70	N	N
86TM023H	50	500	<2	N	N	<10	50	30	70	N	N
86TM050H	50	500	<2	N	N	<10	20	15	N	N	N
86TM052H	50	200	<2	N	N	<10	20	10	N	N	N

Table 7. Results of analyses of heavy-mineral-concentrate samples from the Table Mountain Wilderness Study Area, Malheur andHarney counties, Oregon--Continued

Sample	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s
86TM001H	50	N	N	50	70	2,000	200	N	1,000	N	>2,000	N
86TM002H	20	N	N	30	N	2,000	100	N	500	N	>2,000	N
86TM003H	50	N	N	30	N	1,000	200	N	500	N	>2,000	N
86TM004H	70	N	N	<10	N	700	300	N	500	N	>2,000	N
86TM005H	50	N	N	<10	N	700	500	N	300	N	>2,000	N
86TM007H	30	N	N	50	N	1,500	200	N	700	N	>2,000	N
86TM008H	30	N	N	50	N	1,500	200	N	700	N	>2,000	N
86TM009H	20	N	N	30	N	1,500	100	N	300	N	>2,000	N
86TM010H	20	N	N	30	N	1,500	100	N	300	N	>2,000	N
86TM011H	30	N	N	30	N	1,500	100	N	200	N	>2,000	N
86TM012H	30	N	N	20	N	1,500	70	N	200	N	>2,000	N
86TM013H	30	N	N	<10	N	1,500	70	N	100	N	>2,000	N
86TM014H	20	N	N	<10	N	1,000	100	N	150	N	>2,000	N
86TM015H	70	N	N	50	N	2,000	200	N	700	N	>2,000	N
86TM016H	30	N	N	30	N	1,500	150	<100	200	N	>2,000	N
86TM017H	20	N	N	30	N	1,000	100	<100	200	N	>2,000	N
86TM018H	30	N	N	20	N	1,500	100	N	200	N	>2,000	N
86TM020H	30	N	N	20	N	1,500	100	N	200	N	>2,000	N
86TM021H	30	N	N	30	N	1,500	100	<100	100	N	>2,000	N
86TM022H	30	N	N	<10	N	1,500	70	N	70	N	>2,000	N
86TM023H	30	N	N	<10	N	1,500	100	<100	100	N	>2,000	N
86TM050H	<10	N	N	<10	N	700	50	N	70	N	>1,000	N
86TM052H	<10	N	N	<10	N	500	50	<100	100	N	>1,000	N

Table 8. Results of analyses of rock samples from the Table Mountain Wilderness Study Area, Malheur and Harney counties, Oregon

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

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
86TM009R	42 51 33	118 16 12	10.0	5	7	>1	1,000	N	N	N	<10	500
86TM010R	42 50 30	118 16 12	15.0	5	5	>1	2,000	N	N	N	<10	500
86TM019R	42 45 27	118 17 23	1.5	2	>20	1	1,500	N	N	N	50	300

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
86TM009R	<1	N	N	30	50	150	20	N	N	50	<10	N	30	N
86TM010R	1	N	N	50	150	200	50	N	20	50	<10	N	30	N
86TM019R	N	N	N	10	50	20	20	N	N	10	<10	N	10	N

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
86TM009R	500	150	N	50	N	100	N	<.1	<.02	<5	<2	1.5	<2	82
86TM010R	700	200	N	50	<200	200	N	<.1	<.02	<5	<2	2.0	<2	93
86TM019R	1,500	100	N	70	<200	50	N	<.1	.09	33	<2	.6	<2	16

Table 9. Results of analyses of stream-sediment samples from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon

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

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
86WC001S	42 47 2	118 10 11	7	1.5	3	>1	1,000	N	N	N	50	700
86WC002S	42 47 4	118 10 26	5	1.5	3	>1	1,500	N	N	N	50	500
86WC003S	42 45 53	118 5 21	7	2.0	3	1	1,500	N	N	N	20	500
86WC004S	42 45 55	118 5 16	5	2.0	3	>1	1,500	N	N	N	30	500
86WC005S	42 51 28	118 7 48	5	1.0	2	>1	1,000	N	N	N	50	500
86WC006S	42 51 7	118 7 27	3	1.0	2	1	700	N	N	N	50	500
86WC007S	42 50 43	118 7 11	5	1.0	2	>1	1,000	N	N	N	50	500
86WC008S	42 50 17	118 6 50	5	1.5	2	>1	1,000	N	N	N	50	500
86WC009S	42 49 22	118 5 48	5	1.0	2	>1	700	N	N	N	30	500
86WC010S	42 49 20	118 5 50	5	1.0	2	>1	1,000	N	N	N	50	500
86WC011S	42 47 51	118 5 26	5	1.0	3	>1	1,000	N	N	N	50	500
86WC012S	42 47 59	118 1 6	5	1.0	2	>1	1,000	N	N	N	50	500
86WC013S	42 47 40	118 1 22	5	1.0	3	>1	1,000	N	N	N	30	500
86WC014S	42 46 47	118 2 28	5	1.0	2	>1	1,000	N	N	N	20	500
86WC015S	42 45 54	118 1 43	7	1.0	3	>1	1,500	N	N	N	50	700
86WC016S	42 44 22	117 59 49	5	1.0	2	1	700	N	N	N	50	500
86WC017S	42 51 51	118 8 55	7	1.0	3	>1	1,000	N	N	N	70	700
86WC018S	42 44 19	118 1 38	5	1.0	2	>1	1,000	N	N	N	50	500
86WC019S	42 43 46	118 0 53	5	1.0	2	>1	1,000	N	N	N	50	500
86WC050S	42 49 26	118 10 0	5	1.0	2	>1	1,000	N	N	N	50	500
86WC051S	42 49 23	118 10 5	5	1.0	2	>1	700	N	N	N	50	500
86WC052S	42 49 3	118 9 37	5	1.0	2	>1	1,500	N	N	N	50	500
86WC053S	42 48 41	118 9 48	5	1.0	2	>1	1,000	N	N	N	30	500
86WC054S	42 48 18	118 9 23	5	1.0	2	>1	1,000	N	N	N	50	500
86WC055S	42 48 47	118 9 47	5	1.0	2	>1	1,000	N	N	N	30	500
86WC056S	42 47 14	118 9 19	5	1.5	2	>1	1,000	N	N	N	50	500
86WC057S	42 48 8	118 9 16	5	1.5	3	>1	1,000	N	N	N	50	700
86WC058S	42 46 44	118 8 49	5	1.5	3	>1	1,500	N	N	N	50	700
86WC059S	42 47 10	118 9 17	3	1.0	2	>1	1,000	N	N	N	30	500
86WC060S	42 46 27	118 7 23	5	1.5	2	>1	700	N	N	N	50	500
86WC061S	42 46 42	118 8 7	7	2.0	3	>1	1,000	N	N	N	50	500
86WC062S	42 47 8	118 6 12	7	2.0	3	>1	1,000	N	N	N	30	500
86WC063S	42 47 17	118 5 58	5	1.5	2	>1	1,000	N	N	N	50	500
86WC064S	42 47 13	118 6 13	7	1.5	2	>1	1,000	N	N	N	30	500
86WC066S	42 46 36	118 5 17	5	1.5	2	>1	700	N	N	N	50	500
86WC067S	42 45 40	118 4 32	7	2.0	5	>1	1,500	N	N	N	30	700
86WC068S	42 45 46	118 3 37	7	1.0	3	>1	1,000	N	N	N	30	500
86WC069S	42 47 23	118 2 59	5	1.0	3	>1	1,000	N	N	N	50	500
86WC070S	42 47 10	118 2 22	5	1.0	3	>1	1,500	N	N	N	50	500
86WC071S	42 48 3	118 4 44	5	1.0	3	>1	1,000	N	N	N	50	500
86WC072S	42 48 5	118 3 30	5	1.0	2	>1	700	N	N	N	50	500
86WC073S	42 48 31	118 3 36	5	1.0	2	>1	700	N	N	N	50	500
86WC074S	42 48 35	118 3 33	5	1.0	2	>1	700	N	N	N	50	500
86WC075S	42 44 33	118 2 11	5	1.0	2	>1	1,000	N	N	N	50	500

Table 9. Results of analyses of stream-sediment samples from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon--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
86WC001S	1.5	N	N	30	100	100	N	N	<20	30	30	N	15	N
86WC002S	1.5	N	N	30	100	70	N	N	N	30	30	N	20	N
86WC003S	1.5	N	N	30	70	70	30	N	N	30	50	N	15	N
86WC004S	1.5	N	N	30	100	70	70	N	<20	30	20	N	20	N
86WC005S	1.5	N	N	30	100	50	30	N	<20	30	30	N	15	N
86WC006S	1.5	N	N	15	50	50	50	N	N	20	20	N	15	N
86WC007S	1.5	N	N	20	50	50	N	N	<20	20	20	N	15	N
86WC008S	1.5	N	N	30	100	70	30	N	N	20	30	N	15	N
86WC009S	1.5	N	N	15	100	50	N	N	<20	15	30	N	15	N
86WC010S	1.5	N	N	20	100	50	N	N	N	20	50	N	15	N
86WC011S	1.5	N	N	30	150	70	50	N	<20	20	30	N	20	N
86WC012S	1.5	N	N	20	100	50	50	N	<20	20	30	N	15	N
86WC013S	1.5	N	N	30	100	50	30	N	N	30	30	N	15	N
86WC014S	1.5	N	N	20	50	50	30	N	N	20	30	N	15	N
86WC015S	1.5	N	N	30	100	70	30	N	N	30	30	N	15	N
86WC016S	1.0	N	N	30	50	50	N	N	N	30	20	N	15	N
86WC017S	1.5	N	N	30	100	70	30	N	<20	50	20	N	20	N
86WC018S	1.0	N	N	20	100	50	N	N	<20	20	30	N	20	N
86WC019S	1.0	N	N	20	100	70	N	N	<20	20	30	N	20	N
86WC050S	1.0	N	N	20	100	70	N	N	<20	20	30	N	20	N
86WC051S	1.0	N	N	20	100	70	N	<5	<20	20	30	N	15	N
86WC052S	1.0	N	N	20	100	50	30	N	<20	20	30	N	15	N
86WC053S	1.0	N	N	30	100	50	N	N	<20	20	20	N	20	N
86WC054S	1.0	N	N	20	100	70	30	N	<20	20	30	N	15	N
86WC055S	1.0	N	N	20	100	50	30	N	<20	20	30	N	20	N
86WC056S	1.0	N	N	30	100	50	N	N	<20	30	20	N	20	N
86WC057S	1.0	N	N	30	100	70	N	N	<20	30	30	N	20	N
86WC058S	1.0	N	N	30	150	100	N	N	<20	30	30	N	20	N
86WC059S	1.0	N	N	20	70	50	N	N	<20	20	20	N	15	N
86WC060S	1.0	N	N	30	100	50	N	N	<20	30	30	N	20	N
86WC061S	1.0	N	N	30	100	70	N	N	<20	30	50	N	20	N
86WC062S	1.0	N	N	30	150	70	N	N	<20	30	30	N	20	N
86WC063S	1.0	N	N	20	100	50	N	N	<20	30	20	N	15	N
86WC064S	1.0	N	N	20	100	50	N	N	<20	30	15	N	20	N
86WC066S	1.0	N	N	20	70	50	N	N	<20	30	20	N	20	N
86WC067S	1.0	N	N	30	100	70	N	N	20	30	30	N	20	N
86WC068S	1.0	N	N	30	70	70	N	N	<20	30	20	N	20	N
86WC069S	1.0	N	N	30	100	70	N	N	<20	30	30	N	20	N
86WC070S	1.0	N	N	30	100	50	N	N	<20	30	30	N	20	N
86WC071S	1.0	N	N	20	100	50	N	N	<20	30	30	N	20	N
86WC072S	1.0	N	N	20	50	30	N	N	<20	30	30	N	20	N
86WC073S	1.0	N	N	20	100	70	N	N	<20	30	30	N	20	N
86WC074S	1.0	N	N	20	100	50	N	N	<20	30	30	N	20	N
86WC075S	1.0	N	N	20	100	70	20	N	20	20	30	N	20	N

Table 9. Results of analyses of stream-sediment samples from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon--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
86WC001S	500	150	N	30	<200	100	N	<.10	.04	5	<2	1.2	<2	67
86WC002S	500	200	N	20	<200	150	N	<.10	.03	<5	<2	1.2	<2	73
86WC003S	500	150	N	20	<200	100	N	<.10	.02	<5	<2	1.0	<2	66
86WC004S	500	200	N	30	<200	150	N	<.10	.04	<5	<2	1.2	<2	74
86WC005S	500	150	N	30	<200	150	N	<.10	.02	<5	<2	1.0	<2	73
86WC006S	500	100	N	30	<200	100	N	<.10	<.02	17	<2	.8	<2	66
86WC007S	500	100	N	30	<200	150	N	<.10	.02	12	<2	.9	<2	73
86WC008S	500	150	N	30	<200	150	N	<.10	.03	10	<2	.9	<2	63
86WC009S	500	100	N	20	<200	150	N	<.10	.02	<5	<2	.6	<2	40
86WC010S	500	100	N	20	<200	100	N	--	<.02	<5	<2	.9	<2	53
86WC011S	500	150	N	30	<200	100	N	<.10	<.02	<5	<2	1.3	<2	71
86WC012S	300	150	N	20	<200	100	N	<.10	<.02	<5	<2	1.0	<2	70
86WC013S	500	150	N	30	<200	100	N	<.10	<.02	<5	<2	1.0	<2	57
86WC014S	500	100	N	30	<200	100	N	<.10	<.02	<5	<2	1.3	<2	80
86WC015S	500	150	N	30	<200	100	N	<.10	<.02	<5	<2	.9	<2	50
86WC016S	200	100	N	20	<200	100	N	<.10	.02	6	<2	.7	<2	68
86WC017S	500	150	N	30	<200	150	N	<.10	<.02	<5	<2	1.1	<2	78
86WC018S	500	100	N	30	N	150	N	N	.02	6	<2	.8	<2	58
86WC019S	500	100	N	30	N	150	N	N	.02	6	<2	1.0	<2	68
86WC050S	500	100	N	30	N	150	N	N	.02	11	<2	.9	<2	68
86WC051S	500	100	N	30	N	150	N	N	.02	8	<2	.8	<2	67
86WC052S	500	100	N	30	N	150	N	N	.02	8	<2	1.1	<2	74
86WC053S	500	100	N	30	N	150	N	N	N	10	<2	1.0	<2	74
86WC054S	500	100	N	30	N	150	N	N	.02	13	<2	.9	<2	70
86WC055S	500	100	N	30	N	100	N	N	.02	13	<2	1.0	<2	68
86WC056S	300	100	N	30	N	100	N	N	N	8	<2	1.3	<2	74
86WC057S	500	150	N	50	N	150	N	N	.02	10	<2	.9	<2	76
86WC058S	500	150	N	50	N	150	N	N	.02	11	<2	1.1	<2	68
86WC059S	300	100	N	30	N	100	N	N	.02	9	<2	1.1	<2	73
86WC060S	500	100	N	50	N	150	N	N	.02	6	<2	1.1	<2	69
86WC061S	700	150	N	50	N	100	N	N	.04	<5	<2	1.3	<2	75
86WC062S	500	150	N	50	N	150	N	N	.02	6	<2	1.2	<2	72
86WC063S	500	100	N	30	N	100	N	N	.02	10	<2	1.2	<2	74
86WC064S	500	150	N	50	N	100	N	N	N	13	<2	1.1	<2	76
86WC066S	300	150	N	30	N	150	N	N	.02	12	<2	1.0	<2	72
86WC067S	500	150	N	50	N	200	N	N	.02	<5	<2	.3	<2	59
86WC068S	500	100	N	30	N	100	N	N	.02	<5	<2	.3	<2	63
86WC069S	500	100	N	50	N	150	N	N	N	6	<2	.4	<2	58
86WC070S	500	100	N	50	N	150	N	N	.04	<5	<2	.4	<2	58
86WC071S	500	100	N	50	N	200	N	N	N	6	<2	.2	<2	48
86WC072S	300	100	N	30	N	150	N	N	.04	5	<2	.3	<2	56
86WC073S	500	100	N	50	N	150	N	N	.02	<5	<2	.5	<2	68
86WC074S	500	100	N	50	N	150	N	N	.02	6	<2	.4	<2	60
86WC075S	500	100	N	30	N	150	N	N	N	<5	<2	.9	<2	56

Table 10. Results of analyses of heavy-mineral-concentrate samples from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon

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

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
86WC002H	42 47 4	118 10 26	3.0	2.00	10	>5.0	1,000	N	N	N
86WC003H	42 45 53	118 5 21	2.0	1.50	10	>2.0	700	N	N	N
86WC004H	42 45 55	118 5 16	1.5	.70	7	>2.0	500	N	N	N
86WC005H	42 51 28	118 7 48	1.0	.70	10	>2.0	500	N	N	N
86WC007H	42 50 43	118 7 11	2.0	1.50	7	>2.0	700	N	N	N
86WC008H	42 50 17	118 6 50	3.0	3.00	10	>5.0	1,000	N	N	N
86WC009H	42 49 22	118 5 48	1.0	.50	10	>2.0	700	N	N	N
86WC011H	42 47 51	118 5 26	3.0	2.00	10	>5.0	1,500	N	N	N
86WC012H	42 47 59	118 1 6	2.0	1.00	15	>2.0	700	N	N	N
86WC013H	42 47 40	118 1 22	1.0	.50	7	>2.0	200	N	N	N
86WC015H	42 45 54	118 1 43	1.5	1.00	15	>2.0	500	N	N	N
86WC016H	42 51 51	118 8 55	2.0	1.50	7	>2.0	700	N	N	N
86WC017H	42 44 22	117 59 49	1.0	.50	10	>2.0	500	N	N	N
86WC018H	42 44 19	118 1 38	.5	.20	10	>2.0	300	N	N	N
86WC019H	42 43 46	118 0 53	.7	.30	7	2.0	200	N	N	N
86WC050H	42 49 26	118 10 0	1.0	.30	10	>2.0	200	N	N	N
86WC052H	42 49 3	118 9 37	1.0	.50	10	>2.0	500	N	N	N
86WC053H	42 48 41	118 9 48	2.0	1.00	15	>2.0	500	N	N	N
86WC054H	42 48 18	118 9 23	1.0	.50	10	>2.0	300	N	N	N
86WC055H	42 48 47	118 9 47	.5	.07	10	1.5	500	N	N	N
86WC056H	42 47 14	118 9 19	.5	.20	10	>2.0	300	N	N	N
86WC057H	42 48 8	118 9 16	.7	.30	20	>2.0	500	N	N	N
86WC058H	42 46 44	118 8 49	.7	.20	7	.3	100	N	N	N
86WC060H	42 46 27	118 7 23	1.0	.20	10	>2.0	300	N	N	N
86WC061H	42 46 42	118 8 7	.7	.20	10	.7	150	N	N	N
86WC062H	42 47 8	118 6 12	1.0	.30	20	>2.0	500	N	N	N
86WC063H	42 47 17	118 5 58	1.5	.50	15	>5.0	500	N	N	N
86WC064H	42 47 13	118 6 13	.7	.15	5	2.0	200	N	N	N
86WC065H	42 46 34	118 5 12	1.0	.30	15	>2.0	300	N	N	N
86WC066H	42 46 36	118 5 17	.7	.30	7	2.0	200	N	N	N
86WC067H	42 45 40	118 4 22	.5	.10	10	2.0	200	N	N	N
86WC068H	42 45 46	118 3 37	1.0	.50	10	1.0	200	N	N	N
86WC069H	42 47 23	118 2 59	2.0	1.00	15	>2.0	700	N	N	N
86WC070H	42 47 10	118 2 22	1.0	.70	20	>2.0	500	N	N	N
86WC071H	42 48 3	118 4 44	1.5	.50	15	>2.0	300	N	N	N
86WC072H	42 48 5	118 3 30	1.5	.30	10	>2.0	700	N	N	N
86WC073H	42 48 31	118 3 36	.5	.15	7	2.0	200	N	N	N
86WC074H	42 48 35	118 3 33	1.5	.50	20	>2.0	700	N	N	N
86WC59AH	42 47 10	118 9 17	1.5	.20	7	2.0	500	N	N	N
86WC59BH	42 47 10	118 9 17	.5	.15	7	.5	100	N	N	N

Table 10. Results of analyses of heavy-mineral-concentrate samples from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon--Continued

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	La-ppm s	Mo-ppm s	Nb-ppm s
86WC002H	100	1,000	<5	N	N	20	200	70	500	N	<100
86WC003H	70	300	<2	N	N	10	300	100	700	N	<50
86WC004H	100	300	<2	N	N	<10	200	70	500	N	50
86WC005H	50	500	<2	N	N	<10	70	50	500	N	<50
86WC007H	70	200	<2	N	N	10	300	70	700	N	<50
86WC008H	150	700	<5	N	N	50	700	200	1,000	N	<100
86WC009H	100	700	<2	N	N	<10	70	70	700	N	<50
86WC011H	100	700	<5	N	N	<20	500	70	1,000	N	<100
86WC012H	100	300	<2	N	N	<10	200	200	1,000	N	<50
86WC013H	70	500	<2	N	N	<10	50	20	200	N	<50
86WC015H	100	500	<2	N	N	<10	70	30	500	N	<50
86WC016H	50	300	<2	N	N	20	300	100	500	N	50
86WC017H	50	500	<2	N	N	<10	50	20	500	N	<50
86WC018H	100	100	3	N	N	N	30	N	300	N	N
86WC019H	50	500	<2	N	N	N	20	10	300	N	<50
86WC050H	50	500	<2	N	N	N	30	<10	300	N	N
86WC052H	50	500	<2	N	N	N	50	<10	300	N	N
86WC053H	50	300	<2	N	N	N	150	20	500	N	50
86WC054H	100	500	<2	N	N	N	50	<10	200	N	N
86WC055H	30	150	3	N	N	N	50	N	200	N	N
86WC056H	50	300	2	N	N	N	50	N	300	N	N
86WC057H	30	200	10	N	N	N	50	10	500	N	N
86WC058H	50	300	<2	N	N	N	20	<10	N	N	N
86WC060H	70	>10,000	2	N	N	N	50	N	300	N	N
86WC061H	70	500	<2	N	N	N	20	<10	N	N	N
86WC062H	70	150	2	N	N	N	70	10	500	N	N
86WC063H	100	100	<5	N	N	N	70	20	3,000	N	50
86WC064H	100	300	2	N	N	N	50	N	150	N	N
86WC065H	70	500	<2	N	N	N	20	<10	300	N	N
86WC066H	50	500	<2	N	N	N	20	<10	70	N	N
86WC067H	70	200	3	N	N	N	50	N	200	N	N
86WC068H	50	700	<2	N	N	N	20	<10	50	N	N
86WC069H	30	200	<2	N	N	10	200	100	1,000	N	<50
86WC070H	70	300	<2	N	N	N	50	20	500	N	<50
86WC071H	70	300	3	N	N	N	70	N	300	N	50
86WC072H	200	150	<2	N	N	N	70	N	700	N	<100
86WC073H	70	10,000	2	N	N	N	30	N	200	N	N
86WC074H	300	500	<2	N	N	N	50	20	700	N	N
86WC59AH	100	700	<2	700	N	N	50	<10	200	N	N
86WC59BH	70	500	<2	N	N	N	20	<10	N	N	N

Table 10. Results of analyses of heavy-mineral-concentrate samples from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon--Continued

Sample	Ni-ppm s	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s
86WC002H	70	N	N	N	N	700	500	N	500	N	>5,000	N
86WC003H	50	N	N	30	>2,000	500	200	N	700	N	>2,000	N
86WC004H	50	N	N	N	N	500	150	N	500	N	>2,000	N
86WC005H	30	500	N	N	300	700	150	N	500	N	>2,000	N
86WC007H	50	N	N	50	<20	700	200	N	500	N	>2,000	N
86WC008H	100	N	N	70	<50	1,000	500	N	1,000	N	>5,000	N
86WC009H	20	N	N	50	N	700	300	N	700	N	>2,000	N
86WC011H	70	N	N	100	N	1,500	500	N	1,000	N	>5,000	N
86WC012H	70	N	N	50	200	700	300	N	700	N	>2,000	N
86WC013H	20	200	N	N	N	1,000	100	N	200	N	>2,000	N
86WC015H	70	N	N	N	N	1,000	150	N	500	N	>2,000	N
86WC016H	50	N	N	N	N	700	150	N	300	N	>2,000	N
86WC017H	30	N	N	N	1,000	700	150	<100	300	N	>2,000	N
86WC018H	20	N	N	30	50	300	150	100	700	N	>2,000	N
86WC019H	15	N	N	<10	N	1,500	150	<100	500	N	>2,000	N
86WC050H	10	N	N	<10	N	1,500	100	<100	700	N	>2,000	N
86WC052H	15	N	N	<10	N	1,500	150	<100	700	N	>2,000	N
86WC053H	20	N	N	<10	N	1,500	200	N	1,000	N	>2,000	N
86WC054H	15	N	N	<10	N	1,500	200	N	500	N	>2,000	N
86WC055H	20	N	N	50	20	500	100	N	1,000	N	>2,000	N
86WC056H	30	N	N	50	70	700	150	N	1,000	N	>2,000	N
86WC057H	20	N	N	30	50	1,000	150	N	1,000	N	>2,000	N
86WC058H	10	N	N	<10	N	1,000	30	N	100	N	>2,000	N
86WC060H	20	N	N	50	100	2,000	100	N	1,000	N	>2,000	N
86WC061H	10	N	N	<10	N	1,000	50	N	70	N	>2,000	N
86WC062H	30	N	N	70	<20	500	150	N	1,000	N	>2,000	N
86WC063H	70	N	N	<20	200	1,000	500	<200	1,500	N	>5,000	N
86WC064H	15	N	N	<10	50	500	100	N	700	N	>2,000	N
86WC065H	10	N	N	<10	N	1,000	150	<100	500	N	>2,000	N
86WC066H	10	100	N	<10	N	1,000	100	<100	150	N	>2,000	N
86WC067H	30	N	N	50	N	1,000	100	N	700	N	>2,000	N
86WC068H	15	<20	N	<10	N	1,000	50	<100	100	N	>2,000	N
86WC069H	100	N	N	<10	20	1,000	300	<100	700	N	>2,000	N
86WC070H	10	N	N	<10	N	1,000	200	<100	700	N	>2,000	N
86WC071H	30	N	N	50	50	700	150	<100	700	N	>2,000	N
86WC072H	50	N	N	<20	N	1,000	500	700	1,000	N	>5,000	N
86WC073H	15	N	N	<10	N	1,500	100	N	500	N	>2,000	N
86WC074H	15	N	N	<10	N	1,000	300	<100	700	N	>2,000	N
86WC59AH	15	20	N	<10	N	700	100	N	700	N	>2,000	N
86WC59BH	10	N	N	<10	N	1,000	30	N	70	N	>2,000	N

Table 11. Results of analysis of the rock sample from the Wildcat Canyon Wilderness Study Area, Malheur and Harney counties, Oregon

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

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
86WC013R	42 47 40	118 1 22	5	1	2	1	500	N	N	N	20	500

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
86WC013R	1	N	N	10	<10	10	50	5	<20	7	30	N	15	N

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
86WC013R	150	100	N	30	N	200	N	<.1	<.02	<5	<2	.5	<2	78