

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 Fifteen Mile Creek, Twelve Mile Creek, Oregon Canyon,
and Willow Creek Wilderness Study Areas,
Harney and Malheur Counties, Oregon**

By

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This report is preliminary and has not been reviewed for conformity with U.S. Geological Survey editorial standards and stratigraphic nomenclature. Any use of trade names is for descriptive purposes only and does not imply endorsement by the USGS.

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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 combined results of the geochemical surveys of Fifteen Mile Creek, Twelve Mile Creek, Oregon Canyon, and Willow Creek Wilderness Study Areas (OR-003-156, OR-003-162, OR-003-157, and OR-003-152, respectively), Harney and Malheur Counties, Oregon.

INTRODUCTION

In August 1986, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the Fifteen Mile Creek, Twelve Mile Creek, Oregon Canyon, and Willow Creek Wilderness Study Areas, Oregon.

The Fifteen Mile Creek Wilderness Study Area (WSA) comprises about 51,290 acres (80.14 sq mi); the Twelve Mile Creek WSA about 25,340 acres (39.59 sq mi); the Oregon Canyon WSA about 42,900 acres (67 sq mi), and the Willow Creek WSA about 26,130 acres (40.83 sq mi). The study areas are located in southeastern Oregon, about 20 mi west of the town of McDermitt, Nevada (fig. 1). Access to the study areas can be obtained either from the east, off of U.S. route 95 about 15 mi north of McDermitt or from the northwest, off of a graded road about 5 mi south of Fields, Oregon, which follows Trout Creek Canyon and passes Whitehorse Ranch. From these main roads, the study areas may be accessed around their peripheries; in many cases these roads form study area boundaries. Limited access is available within some of the areas but the roads are, for the most part, four-wheel-drive roads or trails and may or may not be passable.

The topographic relief in the study areas as a whole is great, primarily consisting of a high plateau deeply incised by north- to northwest-trending streams. Many of the streams occupy narrow, steep-wall canyons with walls 1,000 ft high in places. Vegetation is varied with juniper and pinyon pine trees found in the upper regions and low-lying shrubs, such as sage, found at lower elevations. Some aspen, willow, and cottonwood trees are present along the stream courses.

The study areas lie within the northwestern part of the basin and range physiographic province, which is characterized predominantly by north-trending, normal-fault-bounded ranges, and intervening basins. The study areas, in general, are covered by Miocene volcanic rocks. These volcanic rocks consist largely of platy andesite and porphyritic olivine basalt which grade upward into welded tuffs and local dacite and rhyolitic flows. These flows cap the higher ridges within the study areas (written commun., T.J. Lovering, U.S. Geological Survey, 1986).

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.

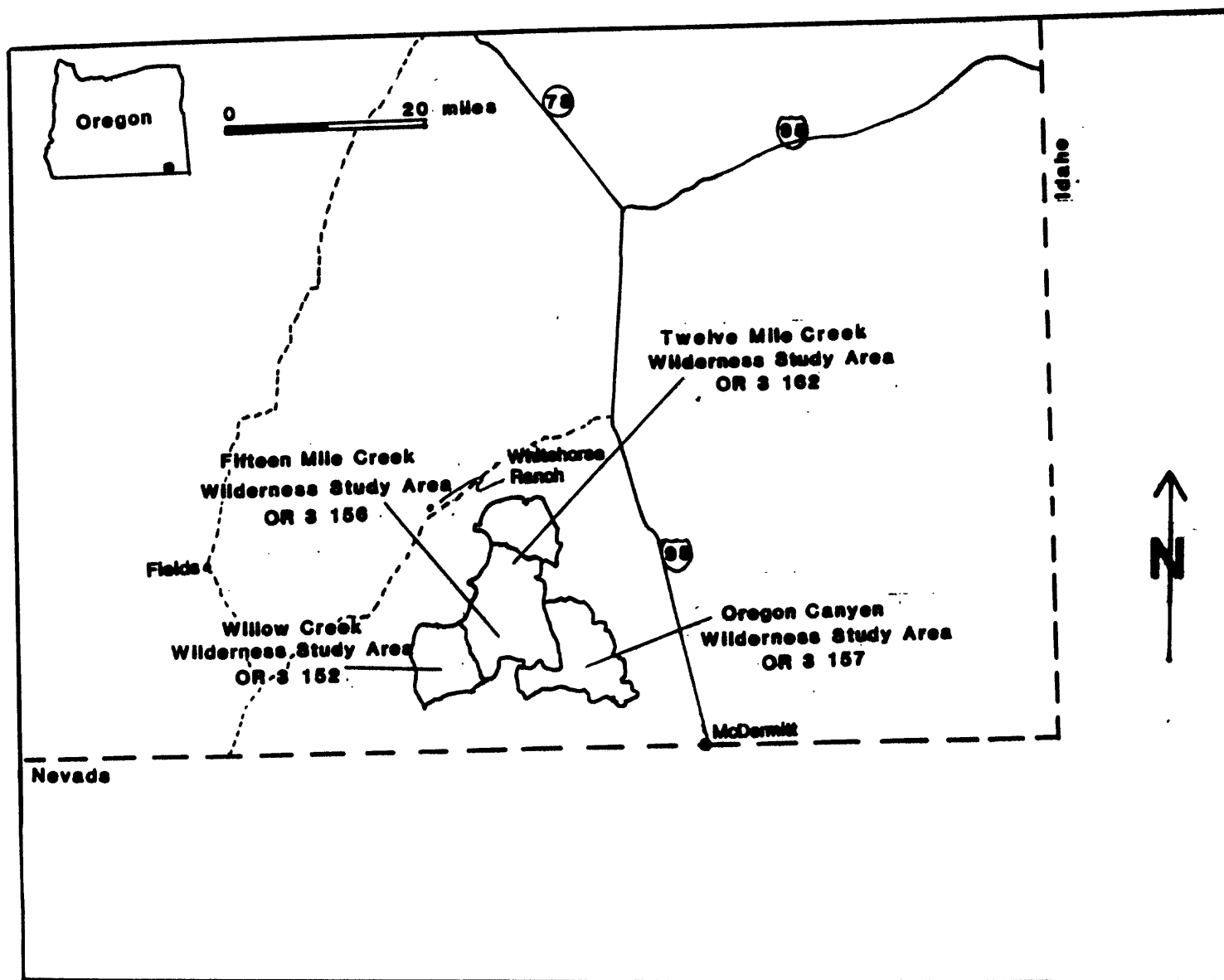


Figure 1. Location map of the Fifteen Mile Creek, Twelve Mile Creek, Oregon Canyon, and Willow Creek WSAs, Harney and Malheur Counties, Oregon.

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.

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 Fifteen Mile Creek WSA, 64 heavy-mineral-concentrate samples, 64 stream-sediment samples, and 1 rock sample were collected (plate 1). However, only 56 heavy-mineral concentrates were analyzed due to some samples being insufficient in size for analysis. In the Twelve Mile Creek WSA, 45 heavy-mineral-concentrate, 46 stream-sediment, and 3 rock samples were collected. In the Oregon Canyon WSA, 61 heavy-mineral-concentrate and stream-sediment samples and 9 rock samples were collected. In the Willow Creek WSA, 20 heavy-mineral-concentrate and 24 stream-sediment samples were taken. Sampling density for all of the areas averaged approximately one site per 1 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 1:24,000 topographic maps.

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 various types of occurrences in the vicinity of the plotted site location. Rock samples were collected from unaltered and/or altered and/or mineralized rock.

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 sieved using 35-mesh (.425 mm) stainless-steel sieves. Bromoform (specific gravity 2.8) was then 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 (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 Fifteen Mile Creek, Twelve Mile Creek, Oregon Canyon, and Willow Creek WSAs are listed in tables 3 through 13.

Chemical methods

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

DATA STORAGE SYSTEM

Upon completion of all analytical work, the analytical results were entered into either the Branch of Geochemistry computer data base called PLUTO or Rock Analysis Storage System (RASS). These data bases contain 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 3-13 list the results of analyses for the samples of stream sediment, heavy-mineral concentrate, and rock collected from the four WSA's. For the 11 tables, the data are arranged so that column 1 contains the USGS-assigned sample numbers. The prefix FM indicates samples collected in the Fifteen Mile Creek WSA; TC indicates samples collected in the Twelve Mile Creek WSA; OR indicates samples collected in the Oregon Canyon WSA; and WK indicates samples collected in the Willow Creek 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 to economize on space in plate 1. Columns in which the element headings show the letter "s" below the element symbol are emission spectrographic analyses; "icp" indicates inductively coupled plasma-atomic emission spectroscopy; and "aa" indicates atomic absorption analyses. A letter "N" in the tables indicates that a given element was looked for but not detected at the lower limit of determination shown for that element in table 1. 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 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. For heavy-mineral-concentrate samples where there was only enough sample to run a 2.5 mg sample rather than the standard 5 mg sample, the lower and upper limits of detection are doubled and rounded up to the next reporting interval. Because of the formatting used in the computer program that produced tables 3-13, 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, Steven Smith, Tracy Delaney, and Robert Turner; analyses, Paul Briggs, Kay R. Kennedy, Thomas M. McCollom, and Carol Gent.

REFERENCES CITED

- Crock, J.G., Briggs, P. H., Jackson, L.L., and Lichte, F.E., 1987, Analytical methods for the analysis of stream sediments and rocks from wilderness study areas: U.S. Geological Survey Open-File Report 87-84, p. 22-28.
- Grimes, D.J., and Marranzino, A.P., 1968, Direct-current arc and alternating-current spark emission spectrographic field methods for the semiquantitative analysis of geologic materials: U.S. Geological Survey Circular 591, 6 p.
- Koirtiyohann, S.R., and Khalil, Moheb, 1976, Variables in the determination of mercury by cold vapor atomic absorption: Analytical Chemistry 48, p. 136-139.

- Motooka, J.M., and Grimes, D.J., 1976, Analytical precision of one-sixth order semiquantitative spectrographic analyses: U.S. Geological Survey Circular 738, 25 p.
- Thompson, C.E., Nakagawa, H.M., and Van Sickle, G.H., 1968, Rapid analysis for gold in geologic materials, in Geological Survey research 1968: U.S. Geological Survey Professional Paper 600-B, p. B130-B132.
- VanTrump, George, Jr., and Miesch, A. T., 1977, The U.S. Geological Survey RASS-STATPAC system for management and statistical reduction of geochemical data: Computers and Geosciences, v. 3, p. 475-488.

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, 1968. 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	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.--Commonly used chemical methods

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

Element or constituent determined	Sample type	Method	Determination limit (micrograms/gram or ppm)	Reference
Gold (Au)	rock	AA	.1	<u>Modification of Thompson and others, 1968.</u>
Mercury (Hg)	rock	AA	0.02	Koirttyohann and Khalil, 1976.
Arsenic (As)	rock	ICP	5	Crock and others, 1987.
Antimony (Sb)	rock	ICP	2	
Zinc (Zn)	rock	ICP	2	
Bismuth (Bi)	rock	ICP	2	
Cadmium (Cd)	rock	ICP	0.1	

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, 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	R-ppm S	Ra-ppm S
86FM002S	42 16 9	118 6 26	5	1.0	.7	>1.0	1,000	N	N	N	30	500
86FM003S	42 26 7	118 6 27	5	1.0	1.0	>1.0	1,000	N	N	N	30	500
86FM004S	42 16 15	118 7 0	7	1.5	.7	>1.0	1,000	N	N	N	50	500
86FM005S	42 15 56	118 7 8	5	1.5	1.0	.7	1,500	N	N	N	50	500
86FM006S	42 15 53	118 7 9	3	1.0	.7	>1.0	700	N	N	N	30	500
86FM010S	42 7 43	118 2 36	2	.3	1.5	>1.0	700	N	N	N	50	300
86FM011S	42 8 3	118 1 37	10	.7	2.0	>1.0	2,000	N	N	N	15	1,000
86FM012S	42 8 1	118 1 46	7	.7	2.0	>1.0	1,000	N	N	N	50	1,000
86FM013S	42 8 25	118 1 49	7	.7	2.0	>1.0	1,000	N	N	N	50	700
86FM014S	42 8 50	118 2 7	7	.7	2.0	>1.0	1,000	N	N	N	30	700
86FM015S	42 9 33	118 2 47	10	.7	2.0	>1.0	1,000	N	N	N	50	1,000
86FM016S	42 9 49	118 3 16	5	.5	2.0	>1.0	1,500	N	N	N	50	1,000
86FM017S	42 9 58	118 3 22	5	.7	1.5	>1.0	700	N	N	N	50	500
86FM018S	42 10 7	118 3 15	5	1.0	1.0	>1.0	2,000	N	N	N	50	500
86FM019S	42 10 27	118 3 25	5	.7	1.0	>1.0	1,000	N	N	N	30	700
86FM020S	42 10 24	118 3 36	5	1.0	1.5	>1.0	1,500	N	N	N	70	700
86FM021S	42 10 53	118 3 27	5	.7	1.5	>1.0	700	N	N	N	50	700
86FM022S	42 11 30	118 3 13	3	1.0	2.0	1.0	1,000	N	N	N	50	700
86FM023S	42 12 48	118 3 20	10	1.0	2.0	>1.0	2,000	N	N	N	30	1,000
86FM024S	42 12 44	118 3 27	10	1.0	2.0	>1.0	2,000	N	N	N	30	1,000
86FM025S	42 13 5	118 3 7	10	.7	2.0	>1.0	1,500	N	N	N	30	1,000
86FM026S	42 13 25	118 3 10	10	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM027S	42 13 36	118 2 42	7	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM028S	42 13 29	118 2 43	5	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM029S	42 11 22	118 1 31	10	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM030S	42 11 27	118 1 22	10	1.0	2.0	>1.0	1,500	N	N	N	30	700
86FM031S	42 10 43	118 0 16	10	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM032S	42 9 16	118 0 28	7	.7	1.0	>1.0	3,000	N	N	N	50	700
86FM033S	42 7 11	118 6 51	5	1.0	1.0	>1.0	1,000	N	N	N	50	700
86FM034S	42 7 23	118 7 4	5	1.0	1.0	>1.0	100	N	N	N	100	1,000
86FM035S	42 7 55	118 7 23	5	1.0	1.5	>1.0	1,500	N	N	N	50	700
86FM036S	42 8 4	118 7 25	5	.7	1.0	>1.0	700	N	N	N	50	500
86FM037S	42 8 29	118 7 13	3	.7	1.5	1.0	1,000	N	N	N	50	500
86FM038S	42 8 8	118 7 17	5	1.0	1.0	>1.0	1,000	N	N	N	50	700
86FM039S	42 9 3	118 7 34	5	1.0	2.0	>1.0	1,000	N	N	N	50	700
86FM040S	42 9 18	118 9 18	5	.7	1.5	>1.0	1,000	N	N	N	50	700
86FM041S	42 8 57	118 8 16	5	1.0	1.5	>1.0	1,500	N	N	N	70	700
86FM042S	42 9 48	118 9 48	3	1.0	1.0	1.0	1,000	N	N	N	70	500
86FM043S	42 10 1	118 8 31	5	1.0	2.0	>1.0	1,500	N	N	N	50	1,000
86FM044S	42 11 28	118 8 4	5	1.0	1.5	>1.0	1,000	N	N	N	50	500
86FM045S	42 9 59	118 8 26	5	1.0	2.0	>1.0	1,000	N	N	N	70	700
86FM046S	42 12 29	118 8 0	5	1.0	2.0	>1.0	1,000	N	N	N	70	700
86FM047S	42 13 12	118 7 37	5	1.0	2.0	>1.0	2,000	N	N	N	70	500
86FM048S	42 12 46	118 7 50	5	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM049S	42 12 12	118 9 53	5	1.0	2.0	>1.0	1,500	N	N	N	50	700

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA,
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	Ra-ppm S
86FM002S	42 16 9	118 6 26	5	1.0	.7	>1.0	1,000	N	N	N	30	500
86FM003S	42 26 7	118 6 27	5	1.0	1.0	>1.0	1,000	N	N	N	30	500
86FM004S	42 16 15	118 7 0	7	1.5	.7	>1.0	1,000	N	N	N	50	500
86FM005S	42 15 56	118 7 8	5	1.5	1.0	.7	1,500	N	N	N	50	500
86FM006S	42 15 53	118 7 9	3	1.0	.7	>1.0	700	N	N	N	30	500
86FM010S	42 7 43	118 2 36	2	.3	1.5	>1.0	700	N	N	N	50	300
86FM011S	42 8 3	118 1 37	10	.7	2.0	>1.0	2,000	N	N	N	15	1,000
86FM012S	42 8 1	118 1 46	7	.7	2.0	>1.0	1,000	N	N	N	50	1,000
86FM013S	42 8 25	118 1 49	7	.7	2.0	>1.0	1,000	N	N	N	50	700
86FM014S	42 8 50	118 2 7	7	.7	2.0	>1.0	1,000	N	N	N	30	700
86FM015S	42 9 33	118 2 47	10	.7	2.0	>1.0	1,000	N	N	N	50	1,000
86FM016S	42 9 49	118 3 16	5	.5	2.0	>1.0	1,500	N	N	N	50	1,000
86FM017S	42 9 58	118 3 22	5	.7	1.5	>1.0	700	N	N	N	50	500
86FM018S	42 10 7	118 3 15	5	1.0	1.0	>1.0	2,000	N	N	N	50	500
86FM019S	42 10 27	118 3 25	5	.7	1.0	>1.0	1,000	N	N	N	30	700
86FM020S	42 10 24	118 3 36	5	1.0	1.5	>1.0	1,500	N	N	N	70	700
86FM021S	42 10 53	118 3 27	5	.7	1.5	>1.0	700	N	N	N	50	700
86FM022S	42 11 30	118 3 13	3	1.0	2.0	1.0	1,000	N	N	N	50	700
86FM023S	42 12 48	118 3 20	10	1.0	2.0	>1.0	2,000	N	N	N	30	1,000
86FM024S	42 12 44	118 3 27	10	1.0	2.0	>1.0	2,000	N	N	N	30	1,000
86FM025S	42 13 5	118 3 7	10	.7	2.0	>1.0	1,500	N	N	N	30	700
86FM026S	42 13 25	118 3 10	10	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM027S	42 13 36	118 2 42	7	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM028S	42 13 29	118 2 43	5	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM029S	42 11 22	118 1 31	10	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM030S	42 11 27	118 1 22	10	1.0	2.0	>1.0	1,500	N	N	N	30	700
86FM031S	42 10 43	118 0 16	10	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM032S	42 9 16	118 0 28	7	.7	1.0	>1.0	3,000	N	N	N	50	700
86FM033S	42 7 11	118 6 51	5	1.0	1.0	>1.0	1,000	N	N	N	50	700
86FM034S	42 7 23	118 7 4	5	1.0	1.0	>1.0	100	N	N	N	100	1,000
86FM035S	42 7 55	118 7 23	5	1.0	1.5	>1.0	1,500	N	N	N	50	700
86FM036S	42 8 4	118 7 25	5	.7	1.0	>1.0	700	N	N	N	50	500
86FM037S	42 8 29	118 7 13	3	1.0	1.5	1.0	1,000	N	N	N	50	700
86FM038S	42 8 8	118 7 17	5	1.0	1.0	>1.0	1,000	N	N	N	50	700
86FM039S	42 9 3	118 7 34	5	1.0	2.0	>1.0	1,000	N	N	N	50	700
86FM040S	42 9 18	118 9 18	5	.7	1.5	>1.0	1,000	N	N	N	50	700
86FM041S	42 8 57	118 8 16	5	1.0	1.5	>1.0	1,500	N	N	N	70	700
86FM042S	42 9 48	118 9 48	3	1.0	1.0	1.0	1,000	N	N	N	70	500
86FM043S	42 10 1	118 8 31	5	1.0	2.0	>1.0	1,500	N	N	N	50	1,000
86FM044S	42 11 28	118 8 4	5	1.0	1.5	>1.0	1,000	N	N	N	50	500
86FM045S	42 9 59	118 8 26	5	1.0	2.0	>1.0	1,000	N	N	N	70	700
86FM046S	42 12 29	118 8 0	5	1.0	2.0	>1.0	1,000	N	N	N	70	700
86FM047S	42 13 12	118 7 37	5	1.0	2.0	>1.0	2,000	N	N	N	70	500
86FM048S	42 12 46	118 7 50	5	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM049S	42 12 12	118 9 53	5	1.0	2.0	>1.0	1,500	N	N	N	50	700

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA,
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
86FM002S	1.0	N	N	15	30	30	50	<5	<20	10	20	N	10	N
86FM003S	1.0	N	N	15	50	20	50	<5	<20	10	50	N	15	N
86FM004S	1.0	N	N	15	50	50	50	N	<20	10	20	N	15	N
86FM005S	1.0	N	N	20	70	30	50	N	N	15	20	N	20	N
86FM006S	<1.0	N	N	5	15	10	20	5	20	10	20	N	10	N
86FM010S	2.0	N	N	10	20	15	70	5	20	7	30	N	10	N
86FM011S	1.0	N	N	20	50	20	30	<5	20	7	30	N	30	N
86FM012S	1.5	N	N	20	50	20	50	<5	20	10	30	N	20	N
86FM013S	2.0	N	N	15	50	30	70	5	20	10	50	N	20	N
86FM014S	1.5	N	N	20	50	30	50	<5	20	7	50	N	15	N
86FM015S	2.0	N	N	20	50	50	50	5	<20	10	50	N	20	N
86FM016S	2.0	N	N	15	50	30	70	<5	20	7	50	N	20	N
86FM017S	2.0	N	N	15	30	50	70	5	<20	10	30	N	20	N
86FM018S	2.0	N	N	15	70	50	70	<5	<20	15	30	N	15	N
86FM019S	2.0	N	N	10	50	30	70	5	<20	10	30	N	15	N
86FM020S	2.0	N	N	15	50	50	100	5	<20	15	50	N	15	N
86FM021S	2.0	N	N	10	50	30	70	<5	<20	10	30	N	15	N
86FM022S	2.0	N	N	15	50	20	50	5	<20	7	30	N	10	N
86FM023S	1.5	N	N	20	30	50	70	5	<20	7	30	N	20	N
86FM024S	1.5	N	N	20	20	50	70	5	<20	5	30	N	30	N
86FM025S	1.5	N	N	15	20	30	50	5	<20	7	30	N	20	N
86FM026S	2.0	N	N	20	20	50	50	<5	<20	10	30	N	20	N
86FM027S	2.0	N	N	15	50	50	50	<5	<20	15	50	N	15	N
86FM028S	2.0	N	N	20	70	50	70	5	<20	15	50	N	20	N
86FM029S	2.0	N	N	20	30	50	70	<5	<20	15	30	N	20	N
86FM030S	1.5	N	N	20	30	50	50	5	<20	10	30	N	20	N
86FM031S	1.5	N	N	20	20	30	70	5	20	7	50	N	20	N
86FM032S	1.5	N	N	15	30	50	100	7	30	10	30	N	15	N
86FM033S	2.0	N	N	15	70	50	70	5	<20	15	20	N	15	N
86FM034S	1.5	N	N	15	50	50	100	7	20	15	20	N	15	<10
86FM035S	2.0	N	N	15	50	50	100	7	20	15	30	N	15	N
86FM036S	2.0	N	N	15	70	30	50	N	20	20	30	N	15	N
86FM037S	2.0	N	N	15	70	50	50	N	N	20	50	N	10	N
86FM038S	2.0	N	N	15	100	50	30	5	<20	20	50	N	15	N
86FM039S	2.0	N	N	15	100	50	100	<5	<20	20	50	N	15	N
86FM040S	1.5	N	N	15	50	30	100	<5	<20	15	50	N	15	N
86FM041S	2.0	N	N	20	50	30	100	<5	<20	20	50	N	15	N
86FM042S	1.5	N	N	15	30	20	70	<5	N	20	30	N	10	N
86FM043S	1.5	N	N	15	100	50	100	5	<20	20	50	N	15	N
86FM044S	2.0	N	N	15	70	30	50	<5	<20	20	50	N	15	N
86FM045S	1.0	N	N	15	100	50	70	<5	20	20	50	N	15	N
86FM046S	1.5	N	N	15	100	50	100	<5	<20	20	50	N	15	N
86FM047S	1.5	N	N	15	50	30	70	<5	<20	15	50	N	10	N
86FM048S	2.0	N	N	15	100	50	100	5	<20	20	50	N	15	N
86FM049S	1.5	N	N	15	30	50	50	N	<20	20	50	N	10	N

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA,
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
86FM002 S	200	100	N	50	N	200	N	<.10	.04	10	<2	.2	<2	70
86FM003 S	300	100	N	50	N	150	N	<.10	.09	10	<2	.3	<2	60
86FM004 S	200	100	N	30	N	N	N	<.10	.02	7	<2	.3	<2	89
86FM005 S	500	100	N	50	N	500	N	<.10	.03	9	<2	.6	<2	81
86FM006 S	200	30	N	20	N	200	N	<.10	.03	<5	<2	<.1	<2	44
86FM010S	200	50	N	50	<200	200	N	N	N	<5	<2	.3	<2	51
86FM011S	200	300	N	30	<200	200	N	N	N	<5	3	.4	<2	100
86FM012S	300	100	N	50	<200	200	N	N	N	<5	<2	.5	<2	100
86FM013S	300	100	N	70	<200	200	N	N	.02	6	<2	.6	<2	100
86FM014S	300	70	N	30	<200	200	N	N	.02	6	<2	.6	<2	94
86FM015S	300	100	N	50	<200	200	N	N	.02	6	<2	.8	<2	120
86FM016S	300	100	N	50	<200	200	N	N	N	6	2	.4	<2	80
86FM017S	200	50	N	70	<200	200	N	N	.04	11	<2	.6	<2	110
86FM018S	200	70	N	50	200	300	N	N	.04	12	<2	.7	<2	100
86FM019S	200	50	N	70	<200	200	N	N	.06	11	<2	.5	<2	94
86FM020S	300	70	N	50	<200	150	N	N	.04	10	<2	.7	<2	110
86FM021S	200	50	N	50	<200	200	N	N	.06	6	<2	.5	<2	89
86FM022S	300	70	N	50	<200	200	N	N	.10	<5	<2	.6	<2	76
86FM023S	300	100	N	50	<200	200	N	N	.02	<5	<2	.9	<2	110
86FM024S	300	150	N	50	200	200	N	N	N	<5	<2	.7	<2	110
86FM025S	300	100	N	50	<200	200	N	N	.02	<5	<2	.5	<2	85
86FM026S	300	100	N	50	200	200	N	N	.04	6	<2	1.1	<2	100
86FM027S	200	100	N	50	200	150	N	N	.08	6	<2	.7	<2	100
86FM028S	200	100	N	70	<200	200	N	N	.04	7	<2	.6	<2	100
86FM029S	300	100	N	50	<200	200	N	N	.04	10	<2	.9	<2	100
86FM030S	200	150	N	50	<200	200	N	N	.04	6	<2	.9	<2	110
86FM031S	200	150	N	50	<200	200	N	N	.02	<5	<2	.7	<2	100
86FM032S	300	100	N	70	200	200	N	N	.02	<5	<2	.5	<2	120
86FM033S	300	100	N	50	<200	200	N	N	.04	5	<2	.5	<2	97
86FM034S	300	100	N	200	<200	200	N	N	.04	5	<2	.6	<2	99
86FM035S	300	100	N	50	<200	200	N	N	.02	7	<2	.8	<2	110
86FM036S	200	100	N	70	<200	200	N	N	.02	6	<2	.6	<2	98
86FM037S	200	100	N	50	<200	200	N	N	.04	6	<2	.7	<2	110
86FM038S	300	100	N	50	<200	200	N	N	.04	6	<2	.7	<2	110
86FM039S	300	100	N	50	<200	200	N	N	.02	7	<2	.6	<2	96
86FM040S	200	100	N	30	<200	200	N	N	.02	7	<2	.5	<2	73
86FM041S	300	100	N	50	<200	200	N	N	.02	13	<2	.3	<2	72
86FM042S	150	50	N	50	<200	200	N	N	.02	14	<2	.3	<2	57
86FM043S	300	100	N	70	<200	200	N	N	.02	11	<2	.3	<2	76
86FM044S	200	50	N	50	<200	200	N	N	.02	11	<2	.5	<2	72
86FM045S	300	70	N	70	<200	200	N	N	.06	11	<2	.5	3	83
86FM046S	300	70	N	50	<200	200	N	N	.06	9	<2	.5	<2	71
86FM047S	300	100	N	50	<200	200	N	N	.02	9	<2	.5	<2	64
86FM048S	300	100	N	50	<200	200	N	N	.02	8	<2	.5	<2	77
86FM049S	300	70	N	50	<200	200	N	N	.08	10	<2	.4	<2	57

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, OREGON--Continued

Sample	Latitude	Longitude	Fe-pct. S	Hg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	As-ppm S	Au-ppm S	P-ppm S	Ba-ppm S
86FM050S	42 13 47	118 8 37	7	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM051S	42 11 18	118 10 30	5	1.0	2.0	1.0	1,500	N	N	N	50	700
86FM052S	42 13 39	118 8 34	5	1.0	2.0	1.0	1,500	N	N	N	100	500
86FM053S	42 9 48	118 9 19	5	1.0	1.5	>1.0	1,500	N	N	N	50	1,000
86FM054S	42 13 0	118 9 16	7	1.0	2.0	>1.0	2,000	N	N	N	50	700
86FM055S	42 9 37	118 5 33	5	.7	2.0	>1.0	2,000	N	N	N	50	1,000
86FM056S	42 11 55	118 10 30	3	.7	1.5	1.0	1,000	N	N	N	50	500
86FM057S	42 9 51	118 4 39	5	.7	2.0	>1.0	1,500	N	N	N	50	700
86FM058S	42 10 43	118 9 37	5	.7	2.0	>1.0	1,000	N	N	N	50	700
86FM059S	42 10 27	118 7 39	3	1.0	2.0	1.0	700	N	N	N	100	500
86FM060S	42 8 21	118 4 27	5	1.0	2.0	>1.0	1,000	N	N	N	50	700
86FM061S	42 13 12	118 6 7	5	.7	2.0	>1.0	1,500	N	N	N	30	1,000
86FM062S	42 10 56	118 5 8	5	.7	2.0	>1.0	1,500	N	N	N	50	1,000
86FM063S	42 13 14	118 6 0	7	.7	2.0	>1.0	1,500	N	N	N	50	700
86FM064S	42 10 53	118 5 13	5	1.0	2.0	>1.0	1,000	N	N	N	50	700
86FM065S	42 13 24	118 5 8	5	1.0	2.0	>1.0	1,500	N	N	N	50	700
86FM066S	42 11 10	118 5 10	5	.7	2.0	>1.0	1,000	N	N	N	50	500
86FM068S	42 12 43	118 5 7	5	1.0	2.0	1.0	1,500	N	N	N	50	700
86FM070S	42 13 27	118 4 44	7	1.0	2.0	>1.0	1,000	N	N	N	50	700

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, 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
86FM050S	2.0	N	N	20	100	50	70	N	<20	20	50	N	15	N
86FM051S	2.0	N	N	15	50	50	70	5	<20	20	50	N	10	N
86FM052S	1.5	N	N	15	50	30	100	<5	<20	20	50	N	10	N
86FM053S	2.0	N	N	10	50	30	70	<5	<20	15	50	N	10	N
86FM054S	1.5	N	N	15	70	30	50	<5	<20	15	30	N	10	N
86FM055S	2.0	N	N	20	50	50	100	<5	<20	15	30	N	15	N
86FM056S	2.0	N	N	10	50	20	100	<5	<20	10	50	N	10	N
86FM057S	1.0	N	N	10	50	30	100	5	20	10	30	N	20	N
86FM058S	1.5	N	N	15	50	30	100	<5	<20	15	30	N	15	N
86FM059S	1.5	N	N	15	50	50	50	5	<20	20	30	N	10	N
86FM060S	2.0	N	N	15	50	50	100	5	20	15	50	N	15	N
86FM061S	2.0	N	N	15	100	20	50	N	<20	10	50	N	15	N
86FM062S	1.5	N	N	15	50	20	100	5	<20	10	30	N	20	N
86FM063S	1.5	N	N	15	100	50	100	<5	20	10	50	N	20	N
86FM064S	2.0	N	N	15	20	20	70	N	<20	10	30	N	15	N
86FM065S	1.5	N	N	15	30	30	100	5	20	10	50	N	15	N
86FM066S	2.0	N	N	15	50	30	50	N	<20	10	30	N	15	N
86FM068S	2.0	N	N	15	100	50	100	N	<20	10	50	N	15	N
86FM070S	2.0	N	N	15	30	50	70	5	<20	10	50	N	15	N

TABLE 3. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA,
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
86FM050S	300	100	N	50	<200	200	N	N	N	8	<2	.6	<2	57
86FM051S	300	100	N	50	<200	200	N	N	.02	6	<2	.4	<2	54
86FM052S	200	100	N	50	<200	200	N	N	N	11	<2	.5	<2	53
86FM053S	200	70	N	50	<200	200	N	N	N	14	<2	.5	<2	76
86FM054S	200	100	N	50	<200	200	N	N	N	7	<2	.5	<2	53
86FM055S	300	70	N	70	<200	200	N	N	.02	10	<2	.3	<2	56
86FM056S	150	50	N	50	<200	200	N	N	N	12	<2	.4	<2	69
86FM057S	200	100	N	50	<200	200	N	N	N	7	<2	.3	<2	69
86FM058S	200	100	N	50	<200	200	N	N	N	10	<2	.5	<2	83
86FM059S	200	100	N	50	<200	200	N	N	.02	14	<2	.6	<2	81
86FM060S	200	100	N	70	<200	200	N	N	.02	10	<2	.4	<2	81
86FM061S	300	70	N	30	<200	200	N	N	N	6	<2	.4	<2	71
86FM062S	200	70	N	50	<200	200	N	N	.02	9	<2	.4	<2	79
86FM063S	300	100	N	70	<200	200	N	N	.02	12	<2	.6	<2	77
86FM064S	300	50	N	70	<200	200	N	N	N	8	<2	.3	<2	61
86FM065S	500	100	N	50	<200	200	N	N	.08	11	<2	.7	<2	91
86FM066S	200	100	N	50	<200	200	N	N	.04	13	<2	.6	<2	84
86FM068S	500	50	N	70	<200	150	N	N	.02	17	<2	.5	<2	82
86FM070S	300	100	N	50	<200	200	N	N	.04	11	<2	.8	<2	87

TABLE 4. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, OREGON

Sample	Latitude	Longitude	Fe-pct.		Mg-pct.		Ca-pct.		Ti-pct.		Mn-dppm		Ag-dppm		As-dppm		Au-dppm	
			S		S		S		S		S		S		S		S	
86FM002H	42 16 9	118 6 26	2.0		.70		2.0		>2.0		700		N		N		N	
86FM003H	42 16 7	118 6 27	3.0		1.00		5.0		>2.0		1,000		N		N		N	
86FM004H	42 16 15	118 7 0	2.0		1.00		3.0		>2.0		700		N		N		N	
86FM005H	42 15 56	118 7 8	2.0		.70		2.0		>2.0		500		N		N		N	
86FM006H	42 15 53	118 7 9	2.0		1.00		3.0		>2.0		1,000		N		N		N	
86FM010H	42 7 43	118 2 36	2.0		.70		3.0		>2.0		1,000		N		N		N	
86FM011H	42 8 3	118 1 37	.5		.07		5.0		.2		300		N		N		N	
86FM012H	42 8 1	118 1 46	.7		.10		5.0		.2		150		N		N		N	
86FM013H	42 8 25	118 1 49	1.0		.10		2.0		>2.0		500		N		N		N	
86FM015H	42 9 33	118 2 47	2.0		.70		2.0		>2.0		1,000		N		N		N	
86FM016H	42 9 49	118 3 16	1.0		.10		2.0		.3		200		N		N		N	
86FM017H	42 9 58	118 3 22	1.0		.30		3.0		2.0		300		N		N		N	
86FM018H	42 10 7	118 3 15	1.0		.30		5.0		>2.0		1,000		N		N		N	
86FM020H	42 10 24	118 3 36	2.0		.30		2.0		>2.0		500		N		N		N	
86FM021H	42 10 53	118 3 27	1.5		.20		3.0		>2.0		500		N		N		N	
86FM023H	42 12 48	118 3 20	1.0		.20		5.0		2.0		500		N		N		N	
86FM024H	42 12 44	118 3 27	2.0		.30		7.0		2.0		700		N		N		N	
86FM025H	42 13 5	118 3 7	2.0		.20		10.0		>5.0		700		N		N		N	
86FM026H	42 13 25	118 3 10	3.0		.30		10.0		1.0		1,000		N		N		N	
86FM027H	42 13 36	118 2 42	.7		.15		7.0		>2.0		200		N		N		N	
86FM028H	42 13 29	118 2 43	1.0		.10		5.0		>2.0		300		N		N		N	
86FM030H	42 11 27	118 1 22	.7		.10		5.0		1.0		100		N		N		N	
86FM031H	42 10 43	118 0 16	1.0		.10		5.0		>2.0		500		N		N		N	
86FM032H	42 9 16	118 0 28	.5		.07		1.5		2.0		100		N		N		N	
86FM033H	42 7 11	118 6 51	2.0		.20		2.0		>2.0		500		N		N		N	
86FM035H	42 7 55	118 7 23	2.0		.20		5.0		>2.0		700		N		N		N	
86FM037H	42 8 29	118 7 13	2.0		.15		5.0		>2.0		500		N		N		N	
86FM038H	42 8 8	118 7 17	2.0		.20		5.0		>2.0		700		N		N		N	
86FM039H	42 9 3	118 7 34	1.0		.20		5.0		>2.0		500		N		N		N	
86FM040H	42 9 18	118 9 18	1.5		.30		5.0		>2.0		500		N		N		N	
86FM042H	42 9 48	118 9 48	2.0		.30		5.0		>2.0		700		N		N		N	
86FM043H	42 10 1	118 8 31	1.0		.20		7.0		>2.0		500		N		N		N	
86FM044H	42 11 28	118 8 4	1.5		.30		5.0		>2.0		500		N		N		N	
86FM045H	42 9 59	118 8 26	1.0		.20		3.0		>2.0		500		N		N		N	
86FM046H	42 12 29	118 8 0	.5		.15		5.0		2.0		200		N		N		N	
86FM047H	42 13 12	118 7 37	.5		.10		5.0		2.0		200		N		N		N	
86FM048H	42 12 46	118 7 50	.5		.10		5.0		1.5		200		N		N		N	
86FM049H	42 12 12	118 9 53	.5		.10		5.0		>2.0		200		N		N		N	
86FM050H	42 13 47	118 8 37	.5		.20		15.0		2.0		200		N		N		N	
86FM051H	42 11 18	118 10 30	.7		.20		7.0		>2.0		500		N		N		N	
86FM052H	42 13 39	118 8 34	.5		.20		10.0		>2.0		500		N		N		N	
86FM053H	42 9 48	118 9 19	.7		.20		5.0		>2.0		500		N		N		N	
86FM055H	42 9 37	118 5 33	.5		.15		3.0		>2.0		500		N		N		N	
86FM056H	42 11 55	118 10 30	1.0		.20		10.0		>2.0		500		N		N		N	
86FM057H	42 9 51	118 4 39	.5		.20		5.0		>2.0		300		N		N		N	

TABLE 4. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, 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
86FM002H	30	300	<2	N	N	<10	70	30	100	N	N
86FM003H	50	500	<2	N	N	<10	100	100	500	N	50
86FM004H	50	700	<2	N	N	<10	70	50	200	N	50
86FM005H	50	500	<2	N	N	<10	50	30	150	N	50
86FM006H	70	500	<2	N	N	10	100	100	500	N	50
86FM010H	70	500	3	500	N	N	200	<10	500	N	<50
86FM011H	50	1,000	<2	N	N	N	30	<10	50	N	N
86FM012H	50	700	<2	N	N	N	20	<10	50	N	N
86FM013H	30	500	2	N	N	N	20	<10	50	N	<50
86FM015H	30	700	2	N	N	N	100	<10	200	N	<50
86FM016H	30	700	<2	N	N	N	50	<10	50	N	N
86FM017H	30	700	3	N	N	N	50	<10	50	N	<50
86FM018H	30	1,000	2	N	N	N	100	<10	200	N	<50
86FM020H	30	700	2	N	N	N	50	<10	100	N	N
86FM021H	50	700	<2	N	N	N	50	<10	100	N	50
86FM023H	50	1,000	<2	N	N	N	20	<10	70	N	N
86FM024H	50	700	<2	N	N	N	30	<10	150	N	<50
86FM025H	100	700	<5	N	N	N	70	<20	300	N	N
86FM026H	70	10,000	<5	N	N	N	100	<20	100	N	N
86FM027H	70	500	<2	N	N	N	30	<10	100	N	N
86FM028H	50	500	<2	N	N	N	20	<10	100	N	N
86FM030H	50	700	<2	N	N	N	<20	<10	70	N	N
86FM031H	50	700	<2	700	N	N	700	<10	50	N	N
86FM032H	100	500	3	20	N	N	20	<10	N	N	N
86FM033H	50	1,000	3	500	N	N	20	<10	150	N	N
86FM035H	50	700	2	N	N	N	20	<10	200	N	N
86FM037H	100	1,000	<2	N	N	N	50	<10	100	N	N
86FM038H	70	1,000	2	20	N	N	20	<10	100	N	N
86FM039H	70	500	3	20	N	N	20	<10	150	N	N
86FM040H	50	700	2	N	N	N	200	<10	100	N	N
86FM042H	70	700	<2	>2,000	N	N	30	<10	150	N	<50
86FM043H	70	700	<2	500	N	N	20	<10	100	N	N
86FM044H	50	500	<2	50	N	N	30	<10	150	N	N
86FM045H	50	1,000	<2	20	N	N	30	50	100	N	<50
86FM046H	50	700	<2	<20	N	N	20	<10	100	N	N
86FM047H	30	500	N	<20	N	N	20	<10	100	N	N
86FM048H	50	500	N	20	N	N	20	<10	100	N	N
86FM049H	50	500	<2	<20	N	N	30	<10	100	N	<50
86FM050H	50	500	2	N	N	N	50	<10	200	N	N
86FM051H	50	700	N	<20	N	N	50	<10	200	N	<50
86FM052H	70	300	<2	<20	N	N	50	10	200	N	<50
86FM053H	50	1,000	N	N	N	N	20	<10	150	N	N
86FM055H	70	700	N	N	N	N	<20	<10	50	N	<50
86FM056H	50	700	<2	N	N	N	30	<10	200	N	<50
86FM057H	50	500	N	N	N	N	20	<10	150	N	<50

TABLE 4. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, 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
86FM002H	20	N	N	<10	N	300	100	N	200	N	>2,000	N
86FM003H	30	N	N	<10	N	300	150	N	700	N	>2,000	N
86FM004H	30	N	N	<10	N	500	100	N	100	N	>2,000	N
86FM005H	20	N	N	<10	N	500	100	N	100	N	>2,000	N
86FM006H	30	100	N	<10	200	300	200	N	500	N	>2,000	N
86FM010H	30	N	N	50	N	300	200	N	1,000	N	>2,000	N
86FM011H	<10	20	N	<10	300	700	30	100	500	N	>2,000	N
86FM012H	<10	N	N	<10	50	700	20	<100	300	N	>2,000	N
86FM013H	<10	N	N	<10	70	300	100	N	700	N	>2,000	N
86FM015H	15	100	N	<10	300	1,000	200	N	500	N	>2,000	N
86FM016H	10	N	N	<10	N	500	30	N	300	N	>2,000	N
86FM017H	15	N	N	<10	N	500	70	<100	500	N	>2,000	N
86FM018H	15	N	N	<10	N	700	100	<100	500	N	>2,000	N
86FM020H	30	N	N	<10	N	300	100	N	700	N	>2,000	N
86FM021H	10	N	N	<10	100	500	100	N	500	N	>2,000	N
86FM023H	10	20	N	<10	150	700	70	N	200	N	>2,000	N
86FM024H	10	N	N	<10	N	700	150	150	700	N	>2,000	N
86FM025H	20	N	N	<20	N	1,000	200	N	1,000	N	>5,000	N
86FM026H	30	N	N	<20	N	700	150	N	150	N	>5,000	N
86FM027H	30	N	N	<10	70	300	200	N	700	N	>2,000	N
86FM028H	10	N	N	<10	N	500	100	<100	700	N	>2,000	N
86FM030H	<10	N	N	<10	N	700	50	<100	700	N	>2,000	N
86FM031H	300	20	N	<10	500	500	50	<100	700	N	>2,000	N
86FM032H	20	N	N	<10	200	500	50	<100	700	N	>2,000	N
86FM033H	20	20	N	<10	>2,000	500	200	<100	500	N	>2,000	N
86FM035H	<10	N	N	<10	700	500	150	<100	500	N	>2,000	N
86FM037H	15	N	N	<10	N	500	150	<100	500	N	>2,000	N
86FM038H	15	N	500	<10	2,000	500	100	<100	500	N	>2,000	N
86FM039H	15	N	N	<10	200	700	150	<100	700	N	>2,000	N
86FM040H	15	N	N	<10	N	500	100	<100	1,000	N	>2,000	N
86FM042H	20	700	N	<10	N	700	150	<100	700	N	>2,000	N
86FM043H	10	N	N	<10	200	700	100	<100	500	N	>2,000	N
86FM044H	15	20,000	N	<10	N	500	150	<100	500	N	>2,000	N
86FM045H	15	30	N	<10	1,000	300	100	<100	200	N	>2,000	N
86FM046H	15	<20	N	<10	N	1,000	50	<100	200	N	>2,000	N
86FM047H	10	<20	N	<10	N	500	50	<100	200	N	>2,000	N
86FM048H	10	<20	N	<10	N	1,000	50	<100	200	N	>2,000	N
86FM049H	10	N	N	<10	N	700	100	<100	300	N	>2,000	N
86FM050H	15	N	N	<10	N	700	150	<100	700	N	>2,000	N
86FM051H	10	N	N	<10	N	500	100	<100	200	N	>2,000	N
86FM052H	15	N	N	<10	N	500	100	<100	500	N	>2,000	N
86FM053H	15	N	N	<10	N	700	100	<100	300	N	>2,000	N
86FM055H	10	N	N	<10	N	500	50	<100	700	N	>2,000	N
86FM056H	10	N	N	<10	N	500	200	<100	700	N	>2,000	N
86FM57AH	10	N	N	<10	N	500	100	<100	500	N	>2,000	N

TABLE 4. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, OREGON--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
86FM57BH	42 9 51	118 4 39	.5	.07	3.0	>2.0	200	N	N	N
86FM058H	42 10 43	118 9 37	1.0	.20	7.0	>2.0	300	N	N	N
86FM060H	42 8 21	118 4 27	1.0	.20	3.0	>2.0	500	N	N	N
86FM061H	42 13 12	118 6 7	3.0	1.00	10.0	>5.0	1,000	N	N	N
86FM062H	42 10 56	118 5 8	.7	.10	5.0	2.0	200	N	N	N
86FM063H	42 13 14	118 6 0	1.0	.15	10.0	>2.0	700	N	N	N
86FM064H	42 10 53	118 5 13	.7	.15	10.0	>2.0	500	N	N	N
86FM065H	42 13 24	118 5 8	1.5	.50	15.0	>2.0	700	5	N	20
86FM066H	42 11 10	118 5 10	1.0	.10	5.0	2.0	200	N	N	N
86FM068H	42 12 43	118 5 7	.5	.05	2.0	.5	150	N	N	N
86FM070H	42 13 27	118 4 44	.7	.20	10.0	>2.0	500	N	N	N

TABLE 4. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, OREGON--Continued

Sample	g-ppm S	Pa-ppm S	Pe-ppm S	Pi-ppm S	Cd-ppm S	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mo-ppm S	Nb-ppm S
86FM57BH	50	1,000	3	N	N	N	50	<10	100	N	N
86FM058H	70	700	<2	N	N	N	30	<10	100	N	<50
86FM060H	50	700	<2	N	N	N	30	<10	100	N	N
86FM061H	100	500	5	N	N	N	50	<20	200	N	N
86FM062H	50	1,000	<2	N	N	N	20	<10	70	N	N
86FM063H	50	700	<2	<20	N	N	20	10	100	N	<50
86FM064H	70	500	<2	N	N	N	30	<10	150	N	N
86FM065H	50	500	N	<20	N	N	100	15	500	N	<50
86FM066H	50	500	N	N	N	N	20	<10	150	N	N
86FM068H	70	1,000	N	500	N	N	20	<10	<50	N	N
86FM070H	50	500	N	N	N	N	50	10	200	N	N

TABLE 4. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, 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
86FM57PH	20	N	N	<10	300	500	100	<100	3,000	N	>2,000	300
86FM058H	20	N	N	<10	N	500	100	<100	500	N	>2,000	N
86FM060H	20	100	N	<10	N	300	100	<100	1,000	N	>2,000	N
86FM061H	50	100	N	<20	1,000	700	200	<200	1,500	N	>5,000	N
86FM062H	20	N	N	<10	500	500	50	<100	700	N	>2,000	N
86FM063H	20	N	N	<10	N	500	150	<100	500	N	>2,000	N
86FM064H	20	N	N	<10	N	700	100	<100	1,000	N	>2,000	<200
86FM065H	30	N	N	<10	N	500	200	<100	700	N	>2,000	N
86FM066H	15	N	N	<10	N	500	70	<100	1,000	N	>2,000	N
86FM068H	15	N	N	<10	N	300	30	<100	100	N	>2,000	N
86FM070H	15	N	N	<10	N	700	150	<100	200	N	>2,000	N

TABLE 5. ANALYTICAL RESULTS OF ROCK SAMPLE COLLECTED FROM THE FIFTEEN MILE CREEK WILDERNESS STUDY AREA, 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
86FM004R	42 16 14	118 7 0	3	.05	.1	.15	1,000	N	N	N	50	100

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	Sc-ppm S	Sn-ppm S
86FM004R	3	N	N	N	<10	5	150	N	30	5	70	N	<5

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
86FM004R	<100	10	N	150	<200	1,000	N	<.1	<.02	<5	<2	<.1	<2	12

TABLE 6. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDERNESS STUDY AREA, 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
86TC0001S	42 13 35	117 59 10	7	1.0	1.5	1.0	1,000	N	N	N	50	500
86TC0002S	42 13 10	117 59 30	7	1.0	1.0	1.0	1,000	N	N	N	30	500
86TC0003S	42 17 26	118 7 5	5	1.0	1.0	1.0	1,000	N	N	N	50	500
86TC0010S	42 15 37	118 8 11	3	1.0	1.5	1.0	1,000	N	N	N	50	500
86TC0011S	42 16 2	118 3 59	3	.5	1.0	>1.0	700	N	N	N	30	500
86TC0012S	42 15 29	118 2 28	5	.7	1.0	>1.0	1,500	N	N	N	50	500
86TC0013S	42 16 3	118 3 53	7	1.0	1.0	>1.0	1,000	N	N	N	30	500
86TC0014S	42 16 33	118 4 21	7	1.0	1.5	>1.0	1,000	N	N	N	50	500
86TC0015S	42 16 18	118 4 8	7	1.0	1.0	>1.0	1,000	N	N	N	50	500
86TC0016S	42 17 1	118 4 30	7	1.0	1.0	>1.0	1,000	N	N	N	70	500
86TC0017S	42 17 37	118 4 53	7	1.0	1.0	>1.0	1,500	N	N	N	50	500
86TC0018S	42 18 54	118 17 38	10	1.0	2.0	>1.0	1,500	N	N	N	20	1,000
86TC0019S	42 18 27	118 6 59	5	1.0	2.0	>1.0	2,000	N	N	N	50	500
86TC0020S	42 20 21	118 17 47	5	1.0	2.0	>1.0	1,500	N	N	N	100	500
86TC0021S	42 18 23	118 7 3	7	1.0	2.0	>1.0	2,000	N	N	N	100	700
86TC0022S	42 19 19	118 5 39	5	1.0	1.5	1.0	2,000	N	N	N	50	500
86TC0023S	42 20 3	118 18 18	10	1.5	1.5	>1.0	2,000	N	N	N	20	500
86TC0024S	42 17 42	118 4 1	5	1.0	1.0	>1.0	1,500	N	N	N	50	500
86TC0025S	42 19 28	118 6 47	5	1.0	1.5	.7	1,000	N	N	N	50	500
86TC0026S	42 20 28	118 6 17	5	1.0	2.0	>1.0	700	N	N	N	50	500
86TC0027S	42 18 37	118 4 56	5	1.0	2.0	>1.0	700	N	N	N	50	500
86TC0028S	42 20 24	118 6 22	3	.7	1.5	1.0	700	N	N	N	50	500
86TC0029S	42 20 45	118 6 27	3	1.0	2.0	>1.0	700	N	N	N	20	500
86TC0030S	42 21 8	118 5 55	5	1.0	2.0	>1.0	1,000	N	N	N	30	500
86TC0031S	42 21 0	118 6 22	5	.7	2.0	>1.0	700	N	N	N	30	500
86TC0032S	42 21 21	118 4 30	5	1.0	2.0	>1.0	700	N	N	N	50	500
86TC0033S	42 21 18	118 5 17	3	1.0	2.0	>1.0	700	N	N	N	30	500
86TC0034S	42 18 14	118 1 25	3	1.0	1.5	>1.0	1,000	N	N	N	100	500
86TC0035S	42 17 49	118 1 21	3	.7	1.0	1.0	1,000	N	N	N	50	500
86TC0036S	42 18 43	118 1 28	2	.7	2.0	1.0	1,000	N	N	N	100	500
86TC0037S	42 19 51	118 1 13	2	.7	1.0	>1.0	1,000	N	N	N	50	500
86TC0038S	42 20 28	118 1 10	2	.7	1.0	1.0	1,000	N	N	N	50	500
86TC0039S	42 19 54	118 1 7	5	1.0	2.0	>1.0	1,500	N	N	N	50	500
86TC0040S	42 20 52	118 2 16	5	1.0	2.0	>1.0	1,000	N	N	N	50	500
86TC0041S	42 21 3	118 1 42	5	.7	2.0	>1.0	1,000	N	N	N	50	500
86TC0042S	42 20 55	118 2 32	5	1.0	2.0	>1.0	1,000	N	N	N	50	500
86TC0043S	42 21 13	118 2 58	7	1.0	2.0	>1.0	1,000	N	N	N	50	500
86TC0044S	42 20 7	118 3 21	5	1.0	1.5	>1.0	1,000	N	N	N	50	500
86TC0045S	42 21 11	118 3 5	5	1.0	2.0	>1.0	1,000	N	N	N	50	500
86TC0047S	42 21 17	118 3 7	5	1.0	2.0	>1.0	1,500	N	N	N	30	500
86TC0050S	42 19 7	118 3 12	5	1.0	1.0	1.0	1,000	N	N	N	50	500
86TC0051S	42 19 18	118 2 59	5	1.0	1.0	1.0	1,000	N	N	N	50	500
86TC0052S	42 18 23	118 2 43	5	1.0	1.0	1.0	1,000	N	N	N	50	500
86TC0053S	42 17 42	118 2 15	5	1.0	1.0	1.0	1,000	N	N	N	50	500
86TC0054S	42 17 19	118 1 56	5	1.0	1.0	>1.0	1,000	N	N	N	30	500
86TC0055S	42 16 42	118 1 12	7	1.0	1.5	>1.0	1,000	N	N	N	50	500

TABLE 6. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDERNESS STUDY AREA,
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
86TC001S	1.0	N	N	20	30	30	50	N	N	10	20	N	20	N
86TC002S	1.0	N	N	20	20	30	30	N	N	10	50	N	15	N
86TC003S	1.0	N	N	20	70	30	50	N	<20	10	30	N	15	N
86TC010S	1.0	N	N	15	50	50	30	N	<20	10	15	N	15	N
86TC011S	1.0	N	N	10	50	20	30	N	<20	10	20	N	15	N
86TC012S	1.0	N	N	10	20	30	50	N	20	10	30	N	20	N
86TC013S	1.5	N	N	20	50	30	20	N	<20	10	30	N	20	N
86TC014S	1.5	N	N	20	70	30	50	N	20	15	20	N	20	N
86TC015S	1.5	N	N	20	30	30	50	N	<20	10	50	N	20	N
86TC016S	1.5	N	N	15	50	50	50	N	<20	10	50	N	15	N
86TC017S	1.5	N	N	20	50	30	50	N	<20	10	30	N	20	N
86TC018S	1.0	N	N	20	20	50	30	N	<20	7	30	N	20	N
86TC019S	1.5	N	N	20	50	50	50	N	<20	10	30	N	20	N
86TC020S	1.0	N	N	15	100	50	50	N	<20	10	30	N	15	N
86TC021S	1.5	N	N	20	50	50	50	N	20	10	50	N	15	N
86TC022S	1.5	N	N	20	50	50	70	N	<20	10	50	N	15	N
86TC023S	1.0	N	N	20	30	30	30	N	20	7	30	N	20	N
86TC024S	1.0	N	N	15	50	50	30	N	20	10	50	N	15	N
86TC025S	1.5	N	N	20	50	50	30	N	<20	15	30	N	15	N
86TC026S	1.0	N	N	20	70	50	50	N	<20	20	50	N	15	N
86TC027S	<1.0	N	N	15	70	50	50	N	<20	20	30	N	15	N
86TC028S	1.0	N	N	20	50	30	50	N	<20	10	30	N	15	N
86TC029S	1.0	N	N	20	70	50	30	N	N	20	30	N	15	N
86TC030S	1.0	N	N	20	50	30	50	N	N	15	30	N	15	N
86TC031S	1.0	N	N	20	100	50	70	N	<20	15	50	N	15	N
86TC032S	1.0	N	N	20	70	50	30	N	<20	15	50	N	15	N
86TC033S	1.0	N	N	20	50	30	50	N	<20	20	30	N	10	N
86TC034S	2.0	N	N	15	70	50	50	N	<20	20	30	N	10	N
86TC035S	2.0	N	N	10	70	30	50	N	<20	20	30	N	10	N
86TC036S	2.0	N	N	15	70	30	30	N	<20	15	30	N	15	N
86TC037S	1.5	N	N	10	50	20	30	5	<20	10	20	N	7	N
86TC038S	1.0	N	N	20	50	30	50	N	<20	10	50	N	10	N
86TC039S	1.5	N	N	20	100	50	50	N	<20	20	50	N	15	N
86TC040S	1.0	N	N	20	100	50	30	N	<20	20	20	N	15	N
86TC041S	1.0	N	N	15	50	30	50	N	N	15	20	N	10	N
86TC042S	1.0	N	N	20	100	50	30	N	<20	20	30	N	10	N
86TC043S	1.0	N	N	20	50	30	50	N	<20	20	20	N	10	N
86TC044S	1.0	N	N	10	50	20	50	N	<20	10	20	N	7	N
86TC045S	1.0	N	N	15	50	30	50	N	N	10	20	N	10	N
86TC047S	1.0	N	N	20	50	30	70	N	N	15	30	N	10	N
86TC050S	1.5	N	N	20	70	30	50	N	<20	10	20	N	15	N
86TC051S	1.5	N	N	15	50	30	50	N	20	10	50	N	15	N
86TC052S	1.0	N	N	15	50	20	50	5	20	10	20	N	15	N
86TC053S	1.0	N	N	15	50	30	50	N	20	10	30	N	15	N
86TC054S	1.0	N	N	15	30	30	50	5	<20	10	30	N	15	N
86TC055S	1.0	N	N	15	30	20	50	N	<20	10	30	N	10	N

TABLE 6. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDFIRE STUDY AREA, 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
86TC001S	300	100	N	50	N	100	N	<.1	.02	8	<2	.7	<2	90
86TC002S	300	100	N	30	N	150	N	<.1	.03	7	<2	.4	<2	77
86TC003S	300	100	N	50	N	500	N	<.1	.03	5	<2	.03	<2	56
86TC010S	300	100	N	30	N	150	N	<.1	<.02	<5	<2	.2	<2	45
86TC011S	200	50	N	30	N	150	N	<.1	<.02	<5	<2	<.1	<2	33
86TC012S	300	100	N	50	N	150	N	<.1	<.02	<5	<2	<.1	<2	40
86TC013S	300	100	N	50	N	150	N	<.1	.03	<5	<2	<.1	<2	35
86TC014S	300	100	N	50	N	200	N	<.1	.03	<5	<2	.1	<2	37
86TC015S	300	100	N	50	N	200	N	<.1	.04	<5	<2	.2	<2	49
86TC016S	200	100	N	70	N	150	N	<.1	.04	<5	<2	.2	<2	66
86TC017S	300	150	N	50	N	150	N	<.1	<.02	<5	<2	<.1	<2	42
86TC018S	500	150	N	30	N	150	N	<.1	<.02	<5	<2	.2	<2	34
86TC019S	500	100	N	30	N	200	N	<.1	.03	<5	2	.2	<2	45
86TC020S	300	100	N	30	N	200	N	<.1	<.02	<5	<2	.1	<2	56
86TC021S	500	100	N	30	N	200	N	<.1	<.02	<5	<2	<.1	<2	54
86TC022S	300	100	N	50	N	150	N	<.1	.03	8	<2	.2	<2	60
86TC023S	300	150	N	70	N	200	N	<.1	<.02	<5	<2	<.1	<2	41
86TC024S	300	50	N	50	N	200	N	<.1	.02	<5	<2	<.1	<2	41
86TC025S	300	100	N	30	N	200	N	<.1	.02	<5	<2	<.1	<2	34
86TC026S	500	100	N	30	N	150	N	<.1	.02	<5	<2	.1	<2	46
86TC027S	500	100	N	50	N	200	N	<.1	.03	5	<2	.2	<2	59
86TC028S	200	100	N	50	N	100	N	<.1	.03	<5	<2	.2	<2	53
86TC029S	500	100	N	30	N	150	N	<.1	<.02	<5	<2	<.1	<2	45
86TC030S	500	100	N	50	N	100	N	<.1	.02	<5	<2	<.1	<2	54
86TC031S	500	150	N	50	N	150	N	<.1	<.02	<5	<2	<.1	<2	43
86TC032S	500	150	N	30	N	150	N	<.1	<.02	<5	<2	<.1	<2	44
86TC033S	300	100	N	50	N	150	N	<.1	.02	<5	<2	.2	<2	59
86TC034S	300	100	N	50	N	200	N	<.1	.03	<5	<2	.4	<2	86
86TC035S	200	100	N	70	N	150	N	<.1	.03	<5	<2	.3	<2	90
86TC036S	200	100	N	50	N	200	N	<.1	.03	6	<2	.5	<2	82
86TC037S	200	100	N	50	N	200	N	<.1	.03	<5	<2	.2	<2	81
86TC038S	200	100	N	30	N	200	N	<.1	.05	6	<2	.5	<2	64
86TC039S	300	100	N	50	N	200	N	<.1	.04	8	<2	.6	<2	85
86TC040S	200	100	N	30	N	200	N	<.1	<.02	<5	<2	.2	<2	68
86TC041S	300	100	N	30	N	200	N	<.1	<.02	<5	<2	.1	<2	67
86TC042S	300	100	N	30	N	200	N	<.1	.02	<5	<2	.1	<2	60
86TC043S	300	100	N	30	N	200	N	<.1	<.02	<5	<2	.2	<2	53
86TC044S	300	50	N	30	N	200	N	<.1	<.02	<5	<2	<.1	<2	54
86TC045S	200	100	N	30	N	200	N	<.1	<.02	<5	<2	<.1	<2	61
86TC047S	300	100	N	30	N	150	N	<.1	.02	<5	2	.1	<2	53
86TC050S	300	100	N	50	N	150	N	<.1	.04	9	<2	.4	<2	82
86TC051S	300	100	N	50	N	200	N	<.1	.04	9	<2	.4	<2	81
86TC052S	200	100	N	50	N	200	N	--	.06	<5	<2	.3	<2	85
86TC053S	300	100	N	50	N	200	N	<.1	.02	10	<2	.4	<2	91
86TC054S	200	100	N	50	N	200	N	<.1	.03	6	<2	.3	<2	76
86TC055S	200	100	N	50	N	200	N	<.1	.02	<5	<2	<.1	<2	84

TABLE 7. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDERNESS STUDY AREA, 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-dpm S	As-dpm S	Au-dpm S
86TC001H	42 13 35	117 59 10	.7	.10	7	.2	150	N	N	N
86TC003H	42 17 26	118 7 5	1.0	.50	3	>2.0	300	N	N	N
86TC010H	42 15 37	118 8 11	.3	.10	7	1.0	500	N	N	N
86TC011H	42 16 2	118 3 59	.5	.10	2	>2.0	200	N	N	N
86TC012H	42 15 29	118 2 28	.7	.10	3	>2.0	500	N	N	N
86TC013H	42 16 3	118 3 53	.5	.05	2	.2	150	N	N	N
86TC014H	42 16 33	118 4 21	.7	.20	7	1.0	300	N	N	50
86TC015H	42 16 18	118 4 8	.5	.15	7	>2.0	500	N	N	N
86TC016H	42 17 1	118 4 30	1.5	.20	10	>3.0	1,000	N	N	N
86TC017H	42 17 37	118 4 53	1.0	.20	2	2.0	300	N	N	N
86TC018H	42 18 54	118 17 38	1.5	.50	5	2.0	500	N	N	N
86TC019H	42 18 27	118 6 59	1.5	.70	10	>2.0	700	N	N	N
86TC020H	42 20 21	118 17 47	.7	.20	15	>3.0	300	N	N	N
86TC021H	42 18 23	118 7 3	.7	.20	10	1.5	200	N	N	N
86TC022H	42 19 19	118 5 39	.7	.20	10	2.0	200	N	N	N
86TC023H	42 20 3	118 18 18	.5	.10	3	.3	150	N	N	N
86TC024H	42 17 42	118 4 1	.5	.10	3	2.0	150	10	N	N
86TC025H	42 19 28	118 6 47	2.0	.70	10	>5.0	1,000	2	N	N
86TC026H	42 20 28	118 6 17	1.0	.50	20	>5.0	500	N	N	N
86TC027H	42 18 37	118 4 56	1.0	.15	10	1.5	500	N	N	N
86TC028H	42 20 24	118 6 22	2.0	.50	15	>3.0	1,000	N	N	N
86TC029H	42 20 45	118 6 27	.5	.10	10	>2.0	300	N	N	N
86TC030H	42 21 8	118 5 55	1.5	.50	10	>2.0	500	N	N	N
86TC031H	42 21 0	118 6 22	.7	.20	7	2.0	200	N	N	N
86TC032H	42 21 21	118 4 30	.7	.20	10	2.0	200	N	N	N
86TC033H	42 21 18	118 5 17	.7	.10	10	>2.0	500	N	N	N
86TC034H	42 18 14	118 1 25	1.5	.70	10	2.0	500	N	N	N
86TC035H	42 17 49	118 1 21	2.0	.30	7	>2.0	1,000	N	N	N
86TC036H	42 18 43	118 1 28	2.0	.20	10	2.0	500	N	N	N
86TC037H	42 19 51	118 1 13	.7	.10	5	2.0	200	N	N	N
86TC038H	42 20 28	118 1 10	.7	.20	7	>2.0	300	N	N	N
86TC039H	42 19 54	118 1 7	2.0	.20	5	>2.0	2,000	N	N	N
86TC040H	42 20 52	118 2 16	.5	.15	10	>2.0	200	N	N	N
86TC041H	42 21 3	118 1 42	.7	.10	7	>2.0	300	N	N	N
86TC042H	42 20 55	118 2 32	.2	.07	5	>2.0	150	N	N	N
86TC043H	42 21 13	118 2 58	.2	.07	15	>2.0	300	N	N	N
86TC044H	42 20 7	118 3 21	.7	.15	10	>2.0	500	N	N	N
86TC045H	42 21 11	118 3 5	.7	.30	10	>2.0	500	N	N	N
86TC047H	42 21 17	118 3 7	1.0	.20	20	2.0	1,000	N	N	N
86TC050H	42 19 7	118 3 12	.7	.15	2	.5	200	N	N	N
86TC051H	42 19 18	118 2 59	1.5	.50	5	>2.0	500	N	N	N
86TC052H	42 18 23	118 2 43	10.0	2.00	3	>2.0	7,000	N	N	N
86TC053H	42 17 42	118 2 15	7.0	2.00	5	>2.0	1,500	N	N	N
86TC054H	42 17 19	118 1 56	20.0	2.00	2	>2.0	5,000	N	N	N
86TC055H	42 16 43	118 1 41	15.0	2.00	3	>2.0	2,000	N	N	N

TABLE 7. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDERNESS STUDY AREA, 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
86TC001H	50	700	<2	N	N	<10	20	15	N	N	N
86TC003H	50	500	<2	N	N	<10	30	20	70	N	<50
86TC010H	100	500	7	N	N	N	50	N	200	N	N
86TC011H	100	500	<2	<20	N	N	<20	N	150	N	N
86TC012H	70	300	5	N	N	N	50	<10	200	N	N
86TC013H	70	500	<2	N	N	N	30	N	N	N	N
86TC014H	100	500	<5	N	N	N	<50	N	150	N	N
86TC015H	50	700	5	70	N	N	50	<10	200	N	N
86TC016H	150	1,000	7	N	N	N	<50	N	150	N	N
86TC017H	100	500	3	<20	N	N	20	1,500	70	N	N
86TC018H	200	1,500	<5	N	N	N	70	N	100	N	N
86TC019H	150	700	7	N	N	N	150	N	500	N	N
86TC020H	100	200	3	N	N	N	20	N	300	N	N
86TC021H	70	700	2	N	N	N	20	N	150	N	N
86TC022H	70	700	2	N	N	N	30	N	150	N	N
86TC023H	50	700	2	N	N	N	<20	N	<50	N	N
86TC024H	70	700	3	N	N	N	<20	N	100	N	N
86TC025H	150	200	5	N	N	N	150	20	500	N	<100
86TC026H	70	200	3	N	N	N	70	15	200	N	<50
86TC027H	50	300	3	N	N	N	50	N	300	N	N
86TC028H	150	500	7	N	N	N	200	N	700	N	N
86TC029H	50	70	5	N	N	N	30	N	500	N	N
86TC030H	70	500	3	N	N	N	70	N	300	N	N
86TC031H	70	500	5	N	N	N	70	N	200	N	N
86TC032H	50	200	3	N	N	N	<20	N	200	N	N
86TC033H	50	150	5	N	N	N	20	N	300	N	N
86TC034H	100	300	2	N	N	N	100	N	200	N	N
86TC035H	50	500	2	N	N	N	50	N	100	N	N
86TC036H	100	200	<2	N	N	N	50	N	200	N	N
86TC037H	200	300	5	100	N	N	50	N	100	N	N
86TC038H	70	200	5	N	N	N	50	N	200	N	N
86TC039H	30	500	<2	N	N	N	50	N	100	N	N
86TC040H	50	200	5	200	70	N	50	N	200	N	N
86TC041H	50	500	5	N	N	N	30	N	300	N	N
86TC042H	50	50	7	N	N	N	20	N	200	N	N
86TC043H	70	100	5	N	N	N	50	N	300	N	N
86TC044H	70	200	3	N	N	N	70	10	300	N	<50
86TC045H	100	150	2	N	N	N	50	N	300	N	N
86TC047H	150	15,000	5	N	N	N	200	N	1,000	N	N
86TC050H	50	1,500	<2	N	N	<10	30	10	N	N	N
86TC051H	50	700	<2	20	N	<10	150	70	300	N	<50
86TC052H	70	700	<2	N	N	30	200	100	500	50	100
86TC053H	50	500	<2	N	N	20	300	100	300	10	50
86TC054H	70	200	<2	N	N	30	200	150	700	50	150
86TC055H	70	500	<2	N	N	30	200	150	500	30	70

TABLE 7. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDERNESS STUDY AREA, 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
86TC001H	10	N	N	<10	N	1,000	30	N	70	N	>2,000	N
86TC003H	10	N	N	<10	N	500	100	N	500	N	>2,000	N
86TC010H	50	N	N	100	N	500	100	N	1,500	N	>5,000	N
86TC011H	10	N	N	20	<20	500	100	N	700	N	>2,000	N
86TC012H	30	N	N	150	500	300	150	N	1,500	N	>2,000	300
86TC013H	<10	N	N	<10	--	500	30	N	500	N	>2,000	N
86TC014H	50	N	N	<20	--	700	100	N	700	N	>5,000	N
86TC015H	20	15,000	N	50	--	500	150	<100	1,000	N	>2,000	<200
86TC016H	70	N	N	70	--	700	200	N	1,500	N	>5,000	N
86TC017H	50	N	N	30	150	500	100	N	1,000	N	>2,000	500
86TC018H	50	N	N	<20	--	1,000	150	N	200	N	>5,000	N
86TC019H	100	N	N	100	--	700	300	N	2,000	N	>5,000	<200
86TC020H	30	N	N	30	300	500	100	<100	1,000	N	>2,000	500
86TC021H	20	N	N	50	--	700	100	N	1,000	N	>2,000	N
86TC022H	50	N	N	<10	--	700	100	200	500	N	>2,000	N
86TC023H	15	N	N	<10	--	1,000	50	<100	300	N	>2,000	N
86TC024H	20	N	N	<10	--	700	70	<100	500	N	>2,000	<200
86TC025H	70	N	N	50	100	700	500	N	1,000	N	>5,000	N
86TC026H	50	N	N	30	150	300	150	N	1,000	N	>2,000	N
86TC027H	30	N	N	50	20	1,000	100	<100	500	N	>2,000	N
86TC028H	30	N	N	70	N	700	700	<200	1,000	N	>5,000	N
86TC029H	20	N	N	70	N	300	100	<100	1,000	N	>2,000	<200
86TC030H	20	N	N	30	N	500	200	<100	700	N	>2,000	N
86TC031H	20	N	N	50	20	500	100	<100	1,000	N	>2,000	200
86TC032H	20	N	N	50	200	300	100	<100	1,000	N	>2,000	N
86TC033H	30	N	N	70	500	300	150	<100	1,500	N	>2,000	<200
86TC034H	20	N	N	50	100	300	150	<100	500	N	>2,000	N
86TC035H	15	N	N	<10	N	500	100	<100	500	N	>2,000	N
86TC036H	50	N	N	<20	N	700	200	200	700	N	>5,000	N
86TC037H	20	N	N	30	200	300	100	<100	500	N	>2,000	N
86TC038H	20	N	N	30	N	500	150	<100	700	N	>2,000	N
86TC039H	20	N	N	20	N	300	100	<100	500	N	>2,000	N
86TC040H	30	N	<200	50	N	500	150	<100	700	N	>2,000	<500
86TC041H	20	N	N	70	N	300	100	<100	1,000	N	>2,000	<200
86TC042H	20	N	N	50	70	300	100	<100	1,000	N	>2,000	N
86TC043H	20	N	N	70	<20	300	100	<100	1,000	N	>2,000	N
86TC044H	15	50	N	50	200	300	200	N	1,000	N	>2,000	<200
86TC045H	50	N	N	70	100	300	100	150	1,000	N	>2,000	N
86TC047H	20	N	N	<20	N	2,000	200	N	1,500	N	>5,000	N
86TC050H	10	N	N	<10	N	500	50	N	100	N	>2,000	N
86TC051H	30	N	N	<10	N	300	150	N	700	N	>2,000	N
86TC052H	50	30	N	<10	N	300	150	N	700	N	>2,000	N
86TC053H	50	20	N	<10	N	500	200	N	500	N	>2,000	N
86TC054H	70	30	N	<10	100	<200	150	N	500	N	>2,000	N
86TC055H	50	<20	N	<10	N	300	200	N	700	N	>2,000	N

TABLE 8. ANALYTICAL RESULTS OF ROCK SAMPLES COLLECTED FROM THE TWELVE MILE CREEK WILDERNESS STUDY AREA, 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	Hg-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
86TC003R	42 17 26	118 17 7	3.0	.50	.30	.70	1,500	N	N	N	50	500
86TC018R	42 18 54	118 17 38	.1	.05	.05	.01	50	N	N	N	15	100
86TC050R	42 19 7	118 3 13	2.0	.05	.15	.20	700	N	N	N	50	200

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	Sc-ppm S	Sn-ppm S
86TC003R	2	N	N	N	<10	20	70	N	<20	7	30	N	N
86TC018R	2	N	N	N	10	<5	N	N	N	5	N	<5	N
86TC050R	2	N	N	N	<10	7	100	<5	20	5	50	N	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
86TC003R	<100	30	N	100	<200	500	N	<.1	.04	<5	<2	.2	<2	41
86TC018R	<100	10	<50	N	N	<10	N	<.1	.02	<5	<2	<.1	<2	<2
86TC050R	<100	<10	N	70	<200	500	N	<.1	<.02	<5	<2	<.1	<2	46

TABLE 9. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, 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
86OR001S	42 3 19	117 55 1	7	1.0	1.5	1.0	1,000	N	N	N	30	700
86OR002S	42 3 51	117 56 2	10	1.0	1.5	>1.0	1,500	N	N	N	30	1,000
86OR003S	42 3 48	117 55 59	5	1.0	1.5	1.0	1,000	N	N	N	50	700
86OR004S	42 4 1	117 56 50	7	1.5	1.5	1.0	1,000	N	N	N	30	1,000
86OR005S	42 4 30	117 57 13	10	1.0	1.5	>1.0	1,000	N	N	N	30	1,000
86OR006S	42 4 37	117 58 25	10	1.0	1.5	>1.0	1,500	N	N	N	15	700
86OR007S	42 4 41	117 57 18	5	1.0	1.0	.7	1,000	N	N	N	30	500
86OR008S	42 4 35	117 58 13	7	1.5	1.5	>1.0	1,500	N	N	N	20	700
86OR009S	42 4 57	117 59 7	5	1.0	1.0	1.0	1,000	N	N	N	30	700
86OR010S	42 5 12	117 59 30	7	1.5	1.5	1.0	1,000	N	N	N	20	700
86OR011S	42 5 25	118 0 12	7	1.5	1.0	1.0	1,500	N	N	N	20	500
86OR012S	42 5 9	117 59 34	10	1.5	1.0	>1.0	1,500	N	N	N	30	700
86OR013S	42 5 24	118 0 16	7	1.0	1.5	>1.0	1,000	N	N	N	10	1,000
86OR014S	42 5 2	118 1 15	10	1.5	2.0	1.0	1,500	N	N	N	15	1,500
86OR015S	42 5 28	118 3 31	10	1.0	1.5	>1.0	1,500	N	N	N	20	1,000
86OR016S	42 5 26	118 2 10	10	1.0	1.5	>1.0	2,000	N	N	N	15	700
86OR017S	42 5 27	118 3 36	10	.7	1.5	>1.0	1,500	N	N	N	10	700
86OR018S	42 4 31	118 10 21	5	1.0	1.0	.7	1,000	N	N	N	50	700
86OR019S	42 4 24	118 3 16	10	1.0	2.0	>1.0	1,500	N	N	N	10	1,000
86OR020S	42 12 16	117 57 6	5	1.0	1.5	1.0	1,000	N	N	N	50	500
86OR021S	42 12 33	117 57 40	5	1.5	1.5	1.0	1,000	N	N	N	30	700
86OR022S	42 11 59	117 56 13	10	1.5	2.0	>1.0	2,000	N	N	N	20	700
86OR023S	42 11 18	117 55 56	5	1.0	1.5	1.0	1,000	N	N	N	50	700
86OR024S	42 11 34	117 55 48	7	1.0	1.5	1.0	1,000	N	N	N	30	700
86OR025S	42 10 49	117 54 52	7	1.0	2.0	>1.0	1,500	N	N	N	20	700
86OR026S	42 11 12	117 55 11	7	1.5	1.0	1.0	1,000	N	N	N	30	700
86OR027S	42 9 48	117 53 47	7	1.0	1.5	>1.0	1,500	N	N	N	30	700
86OR028S	42 10 18	117 53 56	5	1.0	1.5	>1.0	1,000	N	N	N	30	700
86OR029S	42 9 7	117 53 22	7	1.0	1.5	>1.0	2,000	N	N	N	20	700
86OR030S	42 8 25	117 53 16	10	1.5	2.0	>1.0	1,500	N	N	N	20	1,000
86OR031S	42 7 46	117 53 7	10	1.5	1.5	1.0	1,500	N	N	N	30	700
86OR032S	42 6 52	117 51 55	7	1.0	1.0	.7	1,500	N	N	N	30	500
86OR033S	42 6 30	117 51 59	10	1.0	1.5	1.0	1,000	N	N	N	30	700
86OR034S	42 6 25	117 52 1	10	1.0	1.5	>1.0	1,000	N	N	N	20	700
86OR035S	42 5 4	117 54 19	10	1.0	1.5	1.0	1,500	N	N	N	30	1,000
86OR036S	42 6 0	117 43 6	7	1.5	1.5	>1.0	1,500	N	N	N	20	700
86OR037S	42 6 4	117 43 0	5	.7	1.0	1.0	1,500	N	N	N	30	700
86OR038S	42 5 37	117 52 28	3	.7	1.0	.5	700	N	N	N	30	700
86OR039S	42 5 11	117 52 6	5	.7	1.0	1.0	2,000	N	N	N	30	700
86OR040S	42 5 30	117 52 28	3	.7	.7	1.0	1,000	N	N	N	30	500
86OR041S	42 5 29	117 52 26	5	.7	.7	>1.0	1,500	N	N	N	30	700
86OR042S	42 4 50	117 50 43	7	1.0	1.5	>1.0	1,500	N	N	N	30	700
86OR043S	42 4 4	117 51 5	3	.7	.7	.7	1,000	N	N	N	50	700
86OR045S	42 7 43	117 56 49	5	.7	1.0	1.0	1,000	N	N	N	30	700
86OR046S	42 7 50	117 55 55	5	1.0	.7	1.0	1,000	N	N	N	30	700

TABIF 9. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA,
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
86OR001S	1.5	N	N	10	20	15	50	N	N	5	20	N	15	N
86OR002S	1.5	N	N	15	30	15	70	N	20	7	30	N	20	N
86OR003S	1.5	N	N	10	30	20	50	N	N	15	30	N	15	N
86OR004S	1.5	N	N	10	30	20	50	N	<20	7	30	N	15	N
86OR005S	1.5	N	N	15	20	15	50	N	<20	7	30	N	20	N
86OR006S	1.5	N	N	15	30	15	50	N	N	7	30	N	20	N
86OR007S	1.5	N	N	10	10	20	<20	N	N	10	20	N	15	N
86OR008S	1.5	N	N	15	20	30	50	N	N	10	30	N	15	N
86OR009S	2.0	N	N	10	30	20	50	N	N	15	30	N	10	N
86OR010S	1.5	N	N	15	30	30	70	N	N	10	30	N	15	N
86OR011S	1.5	N	N	10	20	15	50	N	N	5	30	N	15	N
86OR012S	1.5	N	N	15	30	15	70	N	<20	7	30	N	15	N
86OR013S	1.0	N	N	10	20	5	50	N	N	<5	30	N	15	N
86OR014S	1.0	N	N	10	20	10	50	N	N	7	30	N	20	N
86OR015S	1.5	N	N	10	20	15	50	N	20	10	20	N	15	N
86OR016S	1.0	N	N	10	30	20	50	N	20	7	20	N	20	N
86OR017S	1.5	N	N	15	15	7	<20	<5	20	5	20	N	20	N
86OR018S	2.0	N	N	10	50	15	50	N	<20	10	20	N	10	N
86OR019S	<1.0	N	N	20	30	7	<20	N	20	5	20	N	30	N
86OR020S	1.5	N	N	20	70	50	30	N	N	20	20	N	20	N
86OR021S	1.5	N	N	20	100	50	50	N	N	20	20	N	20	N
86OR022S	1.5	N	N	30	50	70	50	N	N	20	30	N	20	N
86OR023S	1.5	N	N	20	70	50	30	N	N	20	30	N	15	N
86OR024S	1.5	N	N	30	70	100	30	N	N	30	20	N	15	N
86OR025S	1.0	N	N	30	50	70	50	N	<20	20	30	N	20	N
86OR026S	1.0	N	N	20	70	70	30	N	N	30	30	N	15	N
86OR027S	1.5	N	N	20	50	30	30	N	N	15	30	N	15	N
86OR028S	1.0	N	N	20	50	30	30	N	N	20	20	N	15	N
86OR029S	2.0	N	N	20	50	50	30	N	<20	30	20	N	15	N
86OR030S	1.0	N	N	30	70	30	30	N	<20	20	20	N	20	N
86OR031S	1.5	N	N	30	30	30	50	N	N	20	30	N	15	N
86OR032S	1.5	N	N	20	30	30	50	N	<20	15	20	N	10	N
86OR033S	1.5	N	N	20	30	30	50	N	N	15	20	N	15	N
86OR034S	1.5	N	N	20	50	20	50	N	<20	15	20	N	20	N
86OR035S	1.5	N	N	20	20	15	50	N	N	7	20	N	20	N
86OR036S	2.0	N	N	30	70	50	30	N	N	30	30	N	20	N
86OR037S	1.5	N	N	20	30	30	<20	<5	N	15	20	N	15	N
86OR038S	1.5	N	N	7	50	15	<20	N	N	15	30	N	10	N
86OR039S	2.0	N	N	10	50	20	<20	N	<20	10	20	N	15	N
86OR040S	1.0	N	N	10	50	15	<20	N	N	10	20	N	10	N
86OR041S	2.0	N	N	10	70	30	70	N	<20	10	30	N	10	N
86OR042S	1.5	N	N	20	30	15	50	N	N	15	30	N	15	N
86OR043S	1.0	N	N	10	20	50	50	N	N	15	30	N	10	N
86OR045S	1.5	N	N	15	10	10	50	N	N	7	30	N	10	N
86OR046S	1.5	N	N	15	10	15	50	N	N	10	30	N	15	N

TABLE 9. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA,
OREGON--Continued

Sample	Cr-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	Pb-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp
86OR001S	200	150	N	50	N	150	N	<.1	.30	11	<2	<.1	<2	83
86OR002S	200	200	N	50	N	200	N	<.1	<.02	6	<2	.2	<2	76
86OR003S	200	100	N	50	N	200	N	<.1	.04	10	<2	.3	<2	79
86OR004S	200	100	N	50	N	150	N	<.1	.03	9	<2	.3	<2	93
86OR005S	200	150	N	50	N	150	N	<.1	<.02	6	<2	.3	<2	97
86OR006S	200	200	N	50	N	150	N	<.1	.03	<5	<2	.3	<2	93
86OR007S	150	150	N	30	N	150	N	<.1	.03	10	<2	.7	<2	94
86OR008S	200	200	N	50	N	150	N	<.1	.03	<5	<2	.3	<2	88
86OR009S	200	150	N	70	N	1,000	N	<.1	.08	6	<2	.3	<2	99
86OR010S	150	150	N	70	N	150	N	<.1	.04	5	<2	.3	<2	100
86OR011S	150	150	N	50	N	150	N	<.1	.15	6	<2	.2	<2	90
86OR012S	150	200	N	70	N	200	N	<.1	.03	12	<2	.3	<2	92
86OR013S	200	150	N	30	N	100	N	<.1	.02	6	<2	.2	<2	88
86OR014S	200	150	N	50	N	100	N	<.1	.04	6	<2	.3	<2	99
86OR015S	200	200	N	50	N	150	N	<.1	.02	6	<2	.3	<2	92
86OR016S	200	200	N	30	N	150	N	<.1	<.02	5	<2	.3	<2	95
86OR017S	200	300	N	30	N	150	N	<.1	<.02	<5	<2	.3	<2	94
86OR018S	200	100	N	30	N	<200	N	<.1	.02	<5	<2	.4	<2	91
86OR019S	200	300	N	30	N	200	N	<.1	<.02	<5	<2	.4	<2	89
86OR020S	200	200	N	50	N	150	N	<.1	<.02	<5	<2	.4	<2	97
86OR021S	200	200	N	50	N	150	N	<.1	<.02	<5	<2	.4	<2	87
86OR022S	200	200	N	50	N	200	N	<.1	<.02	10	<2	.2	<2	90
86OR023S	200	150	N	30	N	200	N	<.1	<.02	11	<2	.5	<2	79
86OR024S	200	200	N	30	N	150	N	<.1	<.02	8	<2	.4	<2	85
86OR025S	200	200	N	50	N	150	N	<.1	.07	6	<2	.3	<2	99
86OR026S	200	150	N	30	N	150	N	<.1	.02	6	<2	.4	<2	98
86OR027S	200	150	N	50	N	150	N	<.1	.04	<5	<2	.4	<2	86
86OR028S	200	200	N	30	N	150	N	<.1	.03	<5	<2	.3	<2	85
86OR029S	200	200	N	50	N	150	N	--	.03	<5	<2	.3	<2	94
86OR030S	200	200	N	50	N	150	N	<.1	<.02	<5	<2	.4	<2	89
86OR031S	200	200	N	50	N	150	N	<.1	.03	6	<2	<.1	<2	78
86OR032S	300	150	N	20	N	200	N	<.1	.02	7	3	<.1	<2	65
86OR033S	200	150	N	30	N	100	N	<.1	<.02	9	3	.2	<2	81
86OR034S	200	300	N	30	N	150	N	<.1	.02	9	2	<.1	<2	82
86OR035S	200	150	N	50	N	100	N	<.1	.07	9	<2	.5	<2	96
86OR036S	200	200	N	50	N	150	N	<.1	.02	6	<2	.4	<2	84
86OR037S	150	150	N	30	N	100	N	<.1	.03	7	<2	.3	<2	87
86OR038S	200	100	N	50	N	1,000	N	<.1	<.02	<5	<2	.2	<2	57
86OR039S	200	150	N	50	N	150	N	<.1	.03	9	<2	.5	<2	85
86OR040S	150	150	N	20	N	300	N	<.1	<.02	10	<2	.5	<2	86
86OR041S	200	150	N	30	N	200	N	<.1	.03	10	<2	.5	<2	84
86OR042S	200	150	N	30	N	150	N	<.1	.04	6	<2	.5	<2	79
86OR043S	150	70	N	50	N	700	N	<.1	.04	11	<2	.4	<2	81
86OR045S	150	100	N	30	N	150	N	<.1	.03	6	<2	.5	<2	85
86OR046S	150	150	N	50	N	150	N	<.1	.03	7	<2	.6	<2	84

TABLE 9. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA,
OREGON--Continued

Sample	Latitude	Longitude	Fe-pct. S	Hg-pct. S	Ca-pct. S	Ti-pct. S	Mn-ppm S	Ag-ppm S	As-ppm S	Au-ppm S	R-ppm S	Ba-ppm S
86OR047S	42 8 9	117 58 5	7	.7	1.0	>1.0	1,000	N	N	N	10	700
86OR049S	42 8 43	117 56 6	7	1.0	1.0	>1.0	1,000	N	N	N	20	700
86OR050S	42 8 39	117 57 56	5	1.0	1.0	>1.0	1,500	N	N	N	20	700
86OR051S	42 10 7	117 58 49	5	1.0	1.0	.5	1,000	N	N	N	30	700
86OR052S	42 8 47	117 56 30	5	1.0	2.0	>1.0	1,000	N	N	N	30	1,000
86OR053S	42 9 25	117 58 30	5	1.0	2.0	>1.0	1,000	N	N	N	30	1,000
86OR054S	42 9 1	117 58 25	7	.7	1.5	>1.0	1,000	N	N	N	30	1,000
86OR055S	42 9 16	117 56 44	7	1.0	2.0	>1.0	3,000	N	N	N	50	1,000
86OR056S	42 11 26	117 59 22	5	.7	2.0	>1.0	1,000	N	N	N	30	1,000
86OR057S	42 11 13	117 59 15	5	1.0	2.0	>1.0	1,500	N	N	N	50	1,000
86OR058S	42 10 45	117 58 48	7	1.0	2.0	>1.0	2,000	N	N	N	50	1,000
86OR059S	42 12 5	117 59 23	5	1.0	2.0	>1.0	1,000	N	N	N	30	1,000
86OR061S	42 10 52	117 58 4	5	1.0	2.0	>1.0	1,000	N	N	N	50	1,000
86OR062S	42 12 19	117 59 29	5	1.0	2.0	>1.0	1,000	N	N	N	20	1,000
86OR100S	42 13 35	117 57 52	5	1.5	3.0	>1.0	1,000	N	N	N	70	1,000
86OR101S	42 12 24	117 59 20	10	1.0	2.0	>1.0	1,500	N	N	N	20	1,000

TABLE 9. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA,
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
86OR047S	1.0	N	N	7	10	7	<20	N	<20	5	20	N	15	N
86OR049S	1.5	N	N	15	15	10	<20	N	<20	7	30	N	20	N
86OR050S	2.0	N	N	15	10	10	100	N	N	7	20	N	15	N
86OR051S	1.5	N	N	10	10	50	<20	N	N	15	20	N	10	N
86OR052S	1.5	N	N	20	20	50	50	N	<20	10	50	N	30	N
86OR053S	1.5	N	N	20	10	30	30	N	<20	7	30	N	20	N
86OR054S	1.0	N	N	20	10	50	50	N	<20	7	20	N	20	N
86OR055S	1.5	N	N	30	20	70	50	N	<20	10	30	N	30	N
86OR056S	1.5	N	N	20	10	50	30	N	<20	7	30	N	20	N
86OR057S	2.0	N	N	20	50	70	70	N	<20	30	50	N	20	N
86OR058S	1.5	<10	N	30	30	50	30	N	<20	30	50	N	20	N
86OR059S	1.5	N	N	20	20	20	30	N	N	10	50	N	15	N
86OR061S	2.0	N	N	20	50	50	50	N	<20	15	50	N	20	N
86OR062S	1.0	N	N	15	20	50	30	N	<20	7	30	N	20	N
86OR100S	1.5	N	N	20	100	70	50	N	<20	30	30	N	20	N
86OR101S	1.0	N	N	20	20	70	100	N	N	10	30	N	20	N

TABLE 9. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA,
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
86OR047S	200	150	N	30	N	100	N	<.1	.02	<5	<2	.6	<2	97
86OR049S	200	150	N	30	N	200	N	<.1	.02	<5	<2	.6	<2	100
86OR050S	200	200	N	50	N	100	N	<.1	.02	<5	<2	.7	<2	99
86OR051S	200	100	N	50	N	100	N	<.1	.03	7	<2	.7	<2	100
86OR052S	300	150	N	30	<200	150	N	<.1	.02	5	<2	.5	<2	91
86OR053S	300	100	N	30	<200	150	N	<.1	<.02	<5	<2	.3	<2	91
86OR054S	300	150	N	30	200	100	N	<.1	<.02	<5	<2	.3	<2	110
86OR055S	500	150	N	30	200	200	N	<.1	<.02	<5	<2	.3	<2	87
86OR056S	500	100	N	30	<200	200	N	<.1	.13	<5	<2	.3	<2	86
86OR057S	500	100	N	100	<200	200	N	<.1	.03	11	<2	.4	<2	86
86OR058S	500	150	N	50	200	200	N	<.1	.02	7	<2	.4	<2	97
86OR059S	500	100	N	50	<200	150	N	<.1	.03	5	<2	.2	<2	80
86OR061S	500	100	N	50	<200	150	N	<.1	.02	7	<2	.2	<2	88
86OR062S	300	100	N	20	200	100	N	<.1	.02	<5	<2	.3	<2	90
86OR100S	500	100	N	50	<200	100	N	<.1	.04	5	<2	.5	<2	79
86OR101S	300	150	N	30	300	100	N	<.1	<.02	<5	<2	.4	<2	140

TABLE 10. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY

[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-dpm S
86OR001H	42 3 19	117 55 1	7.0	1.00	7	>2.00	2,000	N	N	N
86OR002H	42 3 51	117 56 2	10.0	2.00	10	>2.00	1,500	N	N	N
86OR003H	42 3 48	117 55 59	2.0	.50	7	>2.00	500	N	N	N
86OR004H	42 4 1	117 56 50	5.0	2.00	7	>2.00	1,000	N	N	N
86OR005H	42 4 30	117 57 13	2.0	.30	5	2.00	300	N	N	N
86OR006H	42 4 37	117 58 25	3.0	1.00	7	2.00	1,000	N	N	N
86OR008H	42 4 35	117 58 13	7.0	2.00	7	>2.00	1,500	N	N	N
86OR009H	42 4 57	117 59 7	5.0	1.50	5	>2.00	1,000	N	N	N
86OR010H	42 5 12	117 59 30	2.0	1.00	5	2.00	700	N	N	N
86OR011H	42 5 25	118 0 12	3.0	2.00	3	>2.00	1,500	N	N	N
86OR012H	42 5 9	117 59 34	2.0	.50	5	>2.00	500	N	N	N
86OR013H	42 5 24	118 0 16	15.0	3.00	7	>2.00	3,000	N	N	N
86OR014H	42 5 2	118 1 15	15.0	2.00	7	>2.00	2,000	N	N	N
86OR015H	42 5 28	118 3 31	7.0	1.00	3	1.50	700	N	N	N
86OR016H	42 5 26	118 2 10	10.0	1.50	3	>2.00	1,500	N	N	N
86OR017H	42 5 27	118 3 36	1.5	.50	7	.70	200	N	N	N
86OR018H	42 4 31	118 10 21	15.0	3.00	7	>2.00	2,000	N	N	N
86OR019H	42 4 24	118 3 16	10.0	2.00	7	>2.00	700	N	N	N
86OR020H	42 12 16	117 57 6	7.0	3.00	5	2.00	500	N	N	N
86OR021H	42 12 33	117 57 40	3.0	1.00	7	.20	200	N	N	N
86OR022H	42 11 59	117 56 13	15.0	7.00	10	>2.00	2,000	N	N	N
86OR023H	42 11 18	117 55 56	7.0	3.00	10	>2.00	1,000	N	N	N
86OR024H	42 11 34	117 55 48	5.0	2.00	5	>2.00	700	N	N	N
86OR025H	42 10 49	117 54 52	7.0	1.50	5	>2.00	1,500	N	N	N
86OR026H	42 11 12	117 55 11	2.0	.50	5	2.00	300	N	N	N
86OR027H	42 9 48	117 53 47	10.0	2.00	7	>2.00	1,000	N	N	N
86OR028H	42 10 18	117 53 56	2.0	.70	5	>2.00	500	N	N	N
86OR029H	42 9 7	117 53 22	3.0	1.00	5	>2.00	1,500	N	N	N
86OR030H	42 8 25	117 53 16	3.0	1.50	3	>2.00	200	N	N	N
86OR031H	42 7 46	117 53 7	3.0	.50	3	2.00	500	N	N	N
86OR032H	42 6 52	117 51 55	2.0	.50	3	>2.00	300	N	N	N
86OR033H	42 6 30	117 51 59	7.0	1.50	3	>2.00	1,000	N	N	N
86OR034H	42 6 25	117 52 1	5.0	1.50	5	>2.00	2,000	N	N	N
86OR035H	42 5 4	117 54 19	10.0	1.00	5	>2.00	1,500	N	N	N
86OR036H	42 6 0	117 43 6	1.0	.70	3	2.00	500	N	N	N
86OR037H	42 6 4	117 43 0	5.0	1.00	7	>2.00	1,000	N	N	N
86OR038H	42 5 37	117 52 28	1.5	.70	5	>2.00	700	N	N	N
86OR039H	42 5 11	117 52 6	1.0	.50	5	>2.00	300	N	N	N
86OR040H	42 5 30	117 52 28	10.0	2.00	7	>2.00	2,000	N	N	N
86OR041H	42 5 29	117 52 26	3.0	1.00	5	>2.00	500	N	N	N
86OR042H	42 4 50	117 50 43	5.0	1.50	10	>2.00	1,000	N	N	N
86OR043H	42 4 4	117 51 5	1.5	.70	7	>2.00	500	N	N	N
86OR044H	42 8 10	117 58 10	2.0	.50	10	2.00	300	N	N	N
86OR045H	42 7 43	117 56 49	1.0	.10	2	1.00	150	N	N	N
86OR046H	42 7 50	117 55 55	1.0	.30	3	1.50	200	N	N	N

TABLE 10. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, OREGON--Continued

Sample	B-ppm S	Ba-ppm S	Re-ppm S	Ri-ppm S	Cd-ppm S	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mo-ppm S	Nb-ppm S
86OR001H	70	2,000	3	N	N	10	50	20	200	N	50
86OR002H	50	2,000	5	N	N	<10	100	70	300	N	70
86OR003H	70	1,000	3	N	N	<10	50	15	150	N	<50
86OR004H	70	1,500	2	N	N	<10	50	20	100	N	<50
86OR005H	70	1,500	5	N	N	<10	20	100	100	N	N
86OR006H	30	1,000	2	N	N	<10	20	15	150	N	N
86OR008H	70	700	7	N	N	<10	50	50	200	N	<50
86OR009H	100	500	7	N	N	<10	30	50	300	N	<50
86OR010H	50	1,000	5	N	N	<10	100	20	300	N	N
86OR011H	50	200	20	N	N	<10	<20	30	300	N	N
86OR012H	30	1,000	7	N	N	<10	<20	20	200	N	N
86OR013H	50	1,000	5	N	N	30	100	100	300	N	50
86OR014H	50	700	2	50	N	20	70	30	200	N	<50
86OR015H	70	700	<2	N	N	<10	20	15	70	N	N
86OR016H	30	700	<2	N	N	15	70	50	150	N	<50
86OR017H	70	1,000	2	N	N	<10	<20	10	150	N	N
86OR018H	50	700	3	N	N	30	150	100	300	N	50
86OR019H	50	1,000	2	N	N	15	100	50	200	N	50
86OR020H	70	500	<2	N	N	30	300	30	70	N	N
86OR021H	50	300	<2	N	N	<10	50	15	N	N	N
86OR022H	50	700	3	N	N	50	500	70	100	N	<50
86OR023H	70	500	2	N	N	15	150	50	200	N	<50
86OR024H	50	700	<2	N	N	10	200	30	100	N	N
86OR025H	30	700	3	N	N	10	100	50	150	N	N
86OR026H	70	500	3	N	N	<10	20	20	100	N	N
86OR027H	100	1,000	3	N	N	30	150	100	200	N	<50
86OR028H	50	1,000	5	N	N	<10	20	20	200	N	N
86OR029H	70	700	7	N	N	<10	50	200	200	N	N
86OR030H	50	500	5	N	N	N	<20	15	<50	N	<50
86OR031H	70	500	5	N	N	N	<20	20	70	N	N
86OR032H	100	500	5	N	N	N	<20	15	200	N	<50
86OR033H	100	700	5	N	N	10	50	50	200	N	N
86OR034H	70	500	5	N	N	<10	50	30	300	N	N
86OR035H	100	1,000	3	N	N	10	20	30	200	N	<50
86OR036H	100	700	3	N	N	<10	50	20	100	N	<50
86OR037H	100	1,000	7	N	N	<10	50	100	200	N	<50
86OR038H	100	5,000	7	N	N	<10	150	70	1,000	N	50
86OR039H	100	1,000	7	N	N	<10	50	15	500	N	<50
86OR040H	100	700	7	N	N	30	200	150	1,000	N	<50
86OR041H	70	700	5	N	N	<10	200	50	500	N	50
86OR042H	70	700	3	N	N	<10	70	50	500	N	50
86OR043H	70	700	15	N	N	<10	100	15	500	N	N
86OR044H	70	1,000	N	N	N	<10	30	10	50	N	N
86OR045H	50	1,000	N	N	N	<10	<20	<10	N	N	N
86OR046H	50	1,000	2	N	N	<10	20	10	N	N	N

TABLE 10. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, 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
86OR001H	30	100	N	<10	1,000	1,000	200	N	500	N	>2,000	N
86OR002H	50	<20	N	<10	200	1,000	200	N	500	N	>2,000	N
86OR003H	<10	N	N	<10	150	700	200	N	500	N	>2,000	N
86OR004H	20	N	N	<10	2,000	500	100	N	300	N	>2,000	N
86OR005H	20	200	2,000	<10	1,500	1,500	100	200	500	N	>2,000	N
86OR006H	<10	N	N	<10	>2,000	1,500	150	200	500	N	>2,000	N
86OR008H	30	N	N	<10	1,500	1,000	200	N	1,000	N	>2,000	N
86OR009H	50	N	N	<10	2,000	700	200	N	1,500	N	>2,000	N
86OR010H	30	100	N	<10	1,000	1,000	100	N	1,500	N	>2,000	N
86OR011H	50	N	N	<10	2,000	700	100	N	2,000	N	>2,000	300
86OR012H	20	<20	N	<10	>2,000	1,500	100	N	1,500	N	>2,000	N
86OR013H	50	N	N	<10	700	1,000	300	N	500	N	>2,000	N
86OR014H	30	<20	N	<10	200	500	500	N	200	N	>2,000	N
86OR015H	20	<20	N	<10	200	300	150	N	70	N	>2,000	N
86OR016H	20	N	N	<10	<20	500	200	N	100	N	>2,000	200
86OR017H	20	<20	N	<10	100	1,000	50	N	150	N	>2,000	N
86OR018H	50	N	N	<10	N	500	200	N	300	N	>2,000	N
86OR019H	30	N	N	50	20	1,000	200	<100	300	N	>2,000	N
86OR020H	50	N	N	50	N	700	200	<100	200	N	>2,000	N
86OR021H	15	N	N	<10	N	700	70	<100	50	N	>2,000	N
86OR022H	70	N	N	100	100	500	500	<100	700	N	>2,000	N
86OR023H	50	N	N	50	N	500	200	<100	500	N	>2,000	N
86OR024H	30	N	N	30	N	700	300	<100	300	N	>2,000	N
86OR025H	30	N	N	<10	N	700	200	<100	700	N	>2,000	N
86OR026H	20	N	N	<10	N	1,000	100	<100	500	N	>2,000	N
86OR027H	70	30	N	<10	70	700	300	<100	500	N	>2,000	N
86OR028H	20	N	N	<10	50	700	200	<100	1,000	N	>2,000	N
86OR029H	30	N	N	<10	2,000	700	150	<100	700	N	>2,000	N
86OR030H	20	30	N	<10	700	500	100	<100	1,500	N	>2,000	200
86OR031H	20	700	N	<10	2,000	1,000	100	<100	700	N	>2,000	<200
86OR032H	20	N	N	<10	1,000	1,000	150	<100	500	N	>2,000	<200
86OR033H	30	N	N	100	2,000	1,000	200	<100	1,000	N	>2,000	200
86OR034H	15	20	N	30	50	700	100	<100	500	N	>2,000	<200
86OR035H	30	<20	N	<10	200	1,000	200	<100	500	N	>2,000	<200
86OR036H	30	N	N	<10	1,000	700	100	<100	500	N	>2,000	<200
86OR037H	30	300	N	100	2,000	700	200	<100	1,500	N	>2,000	500
86OR038H	30	N	N	<10	1,000	500	200	<100	1,000	N	>2,000	200
86OR039H	20	N	N	<10	1,000	700	100	<100	700	N	>2,000	<200
86OR040H	50	150	N	50	2,000	500	200	<100	1,000	N	>2,000	N
86OR041H	50	N	N	<10	500	700	200	<100	700	N	>2,000	<200
86OR042H	70	N	N	<10	N	700	200	<100	500	N	>2,000	<200
86OR043H	70	100	N	50	2,000	500	200	200	1,000	N	>2,000	200
86OR044H	50	N	N	<10	2,000	1,000	150	<100	500	N	>2,000	<200
86OR045H	20	N	N	<10	300	500	30	<100	150	N	>2,000	N
86OP046H	20	N	N	<10	500	700	50	<100	1,000	N	>2,000	<200

TABLE 10. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, OREGON--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
86OR047H	42 8 9	117 58 5	1.0	.30	5	2.00	300	N	N	N
86OR049H	42 8 43	117 56 6	1.0	.20	5	.30	150	N	N	N
86OR050H	42 8 39	117 57 56	1.0	.30	7	>2.00	200	N	N	N
86OR051H	42 10 7	117 58 49	2.0	.70	7	2.00	700	N	N	N
86OR052H	42 8 47	117 56 30	1.5	1.00	7	>2.00	500	N	N	N
86OR053H	42 9 25	117 58 30	.7	.20	7	.30	150	N	N	N
86OR054H	42 9 1	117 58 25	1.5	.50	7	.50	500	N	N	N
86OR055H	42 9 16	117 56 44	1.0	.30	7	>2.00	200	N	N	N
86OR056H	42 11 26	117 59 22	30.0	3.00	5	>2.00	7,000	N	N	N
86OR057H	42 11 19	117 59 15	1.5	.20	5	2.00	300	N	N	N
86OR058H	42 10 45	117 58 48	.7	.20	5	.50	150	N	N	N
86OR059H	42 12 5	117 59 23	.5	.05	2	.15	100	N	N	N
86OR061H	42 10 52	117 58 4	2.0	.20	5	1.00	500	15	N	N
86OR062H	42 12 19	117 59 29	1.0	.30	7	1.50	300	N	N	N
86OR100H	42 13 35	117 57 52	1.5	1.00	10	2.00	500	N	N	N
86OR101H	42 12 24	117 59 20	1.5	.30	7	1.50	300	N	N	N

TABLE 10. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, OREGON--Continued

Sample	B-ppm S	Ra-ppm S	Re-ppm S	Pi-ppm S	Cd-ppm S	Co-ppm S	Cr-ppm S	Cu-ppm S	La-ppm S	Mo-ppm S	Nb-ppm S
86OR047H	70	1,000	3	N	N	<10	<20	10	70	N	<50
86OR049H	100	700	N	N	N	<10	20	10	N	N	N
86OR050H	50	1,000	3	N	N	<10	20	10	70	N	N
86OR051H	70	700	5	N	N	<10	20	15	70	N	N
86OR052H	50	1,000	<2	N	N	<10	50	50	150	N	N
86OR053H	30	1,000	<2	N	N	<10	30	10	N	N	N
86OR054H	20	1,000	<2	N	N	N	20	10	70	N	N
86OR055H	50	700	<2	N	N	<10	50	15	100	N	N
86OR056H	70	500	<2	N	N	100	200	100	N	N	50
86OR057H	50	500	3	N	N	N	20	10	100	N	N
86OR058H	50	500	3	N	N	N	20	10	50	N	N
86OR059H	50	300	<2	N	N	<10	20	<10	50	N	N
86OR061H	70	1,000	3	N	N	<10	20	10	N	N	N
86OR062H	50	700	2	N	N	<10	100	15	50	N	N
86OR100H	70	500	<2	N	N	<10	100	30	150	N	N
86OR101H	50	700	5	N	N	<10	20	15	100	N	N

TABLE 10. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, 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
86OR047H	20	N	N	<10	500	1,000	100	<100	500	N	>2,000	<200
86OR049H	20	N	N	<10	N	700	30	<100	500	N	>2,000	<200
86OR050H	20	N	N	<10	1,500	1,000	100	<100	500	N	>2,000	N
86OR051H	30	N	N	30	N	1,000	100	<100	500	N	>2,000	300
86OR052H	20	N	N	<10	70	2,000	200	<100	500	N	>2,000	N
86OR053H	15	N	N	100	50	1,500	30	100	200	N	>2,000	N
86OR054H	30	N	N	30	70	2,000	50	<100	150	N	>2,000	N
86OR055H	20	N	N	<10	N	2,000	70	<100	500	N	>2,000	N
86OR056H	70	N	N	<10	150	300	500	<100	300	N	>2,000	N
86OR057H	30	N	N	<10	N	1,500	100	<100	700	N	>2,000	300
86OR058H	20	N	N	<10	N	1,000	70	100	700	N	>2,000	<200
86OR059H	10	N	N	<10	N	1,500	20	<100	200	N	>2,000	N
86OR061H	10	N	N	<10	N	1,500	100	<100	300	N	>2,000	<200
86OR062H	20	N	N	<10	N	2,000	100	<100	300	N	>2,000	N
86OR100H	50	N	N	<10	150	2,000	150	<100	700	N	>2,000	N
86OR101H	20	N	N	<10	N	2,000	100	<100	700	N	>2,000	300

TABLE 11. ANALYTICAL RESULTS OF ROCK SAMPLES COLLECTED FROM THE OREGON CANYON WILDERNESS STUDY AREA, 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-dpm S	Ag-dpm S	As-dpm S	Au-dpm S	B-dpm S	Ra-dpm S
86OR008R	42 4 35	117 58 13	1.5	1.00	2.00	.15	70	N	N	N	20	300
86OR044R	42 8 10	117 58 10	5.0	1.00	2.00	>1.00	2,000	N	N	N	50	500
86OR045R	42 7 43	117 56 49	2.0	.20	.50	.20	500	N	N	N	50	500
86OR047R	42 8 9	117 58 5	10.0	1.50	5.00	>1.00	2,000	N	N	N	10	2,000
86OR048R	42 8 11	117 57 18	7.0	2.00	5.00	>1.00	1,000	N	N	N	50	500
86OR053R	42 9 25	117 58 30	2.0	.05	.15	.20	100	N	N	N	15	70
86OR59R1	42 12 5	117 59 23	5.0	.30	1.00	.50	700	N	N	N	20	2,000
86OR59R2	42 12 5	117 59 23	2.0	.05	.05	.15	300	N	N	N	50	20
86OR062R	42 12 18	117 59 29	7.0	3.00	10.00	>1.00	1,000	N	N	N	10	300

Sample	Be-dpm S	Bi-dpm S	Cd-dpm S	Co-dpm S	Cr-dpm S	Cu-dpm S	La-dpm S	Mo-dpm S	Nb-dpm S	Ni-dpm S	Pb-dpm S	Sb-dpm S	Sc-dpm S
86OR008R	3.0	N	N	<5	<10	5	30	N	<20	5	10	N	7
86OR044R	2.0	N	N	30	<10	50	N	N	20	10	50	N	20
86OR045R	2.0	N	N	<5	<10	7	50	<5	<20	5	50	N	7
86OR047R	1.5	<10	N	20	<10	50	50	N	<20	5	30	N	30
86OR048R	2.0	N	N	30	<10	50	20	N	20	15	50	N	30
86OR053R	2.0	N	N	N	<10	5	70	<5	N	5	30	N	10
86OR59R1	1.5	N	N	<5	<10	15	100	N	<20	5	50	N	15
86OR59R2	2.0	N	N	<5	<10	5	150	N	20	5	50	N	<5
86OR062R	<1.0	N	N	30	70	200	N	N	N	30	<10	N	50

Sample	Sn-dpm S	Sr-dpm S	V-dpm S	W-dpm S	Y-dpm S	Zn-dpm S	Zr-dpm S	Th-dpm S	Au-dpm aa	Hg-dpm aa	As-dpm lcp	Sb-dpm lcp	Zn-dpm lcp
86OR008R	N	200	50	N	70	N	1,000	N	<.1	.38	<5	<2	21
86OR044R	N	300	150	N	70	N	100	N	<.1	.02	<5	<2	99
86OR045R	N	100	20	N	70	N	200	N	<.1	<.02	<5	<2	96
86OR047R	N	500	100	N	50	N	150	N	<.1	<.02	<5	<2	48
86OR048R	N	500	200	N	100	N	100	N	<.1	<.02	<5	<2	99
86OR053R	N	100	<10	N	20	N	200	N	<.1	<.02	<5	<2	77
86OR59R1	N	200	10	N	50	N	200	N	<.1	<.02	<5	<2	62
86OR59R2	N	<100	10	N	100	N	500	N	<.1	<.02	<5	<2	62
86OR062R	N	700	200	N	50	N	70	N	<.1	<.02	<5	<2	81

TABLE 12. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE WILLOW CREEK WILDERNESS STUDY AREA,
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	R-ppm S	Ba-ppm S
86WK001S	42 5 50	118 9 5	5	1.0	2.0	1	1,000	N	N	N	70	700
86WK002S	42 5 52	118 8 55	5	1.0	1.5	1	1,000	N	N	N	50	700
86WK003S	42 5 42	118 10 25	5	1.0	2.0	1	1,500	N	N	N	50	700
86WK004S	42 5 43	118 10 32	5	1.0	1.5	>1	1,000	N	N	N	50	700
86WK050S	42 5 2	118 11 58	10	1.5	1.5	>1	1,000	N	N	N	50	700
86WK051S	42 6 33	118 10 15	5	1.0	1.5	>1	1,000	N	N	N	50	500
86WK052S	42 5 42	118 12 11	5	1.0	1.0	>1	1,000	N	N	N	50	500
86WK053S	42 6 32	118 10 19	3	1.0	1.0	>1	1,000	N	N	N	50	700
86WK054S	42 5 28	118 12 10	7	2.0	2.0	>1	2,000	N	N	N	20	500
86WK055S	42 6 48	118 10 7	3	1.0	1.0	1	1,000	N	N	N	50	500
86WK056S	42 6 13	118 14 5	10	1.5	.1	>1	2,000	N	N	N	50	1,000
86WK057S	42 4 55	118 13 52	15	2.0	2.0	>1	5,000	N	N	N	50	500
86WK058S	42 6 8	118 14 5	10	2.0	1.5	>1	3,000	N	N	N	20	700
86WK059S	42 5 19	118 14 41	7	1.5	3.0	>1	700	N	N	N	50	500
86WK060S	42 9 40	118 10 44	3	1.0	2.0	1	700	N	N	N	50	500
86WK061S	42 6 22	118 15 12	7	1.0	2.0	>1	2,000	N	N	N	70	500
86WK062S	42 10 40	118 11 22	5	1.0	2.0	>1	700	N	N	N	70	500
86WK063S	42 8 32	118 10 32	5	.7	1.0	>1	1,000	N	N	N	70	500
86WK064S	42 9 48	118 12 29	5	1.0	1.0	>1	700	N	N	N	100	500
86WK065S	42 8 42	118 10 31	3	1.0	2.0	1	1,000	N	N	N	100	500
86WK066S	42 8 50	118 12 14	7	.7	2.0	>1	700	N	N	N	50	700
86WK067S	42 10 29	118 12 18	5	1.0	1.5	>1	1,000	N	N	N	100	500
86WK069S	42 10 17	118 13 18	5	1.0	2.0	>1	1,000	N	N	N	100	500
86WK071S	42 7 5	118 12 22	5	1.0	1.5	>1	1,000	N	N	N	70	500

TABLE 12. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE WILLOW CREEK WILDERNESS STUDY AREA,
OREGON--Continued

Sample	Re-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
86WK001S	1.5	N	N	15	50	50	50	N	<20	30	15	N	15
86WK002S	1.5	N	N	15	50	30	50	N	<20	20	10	N	15
86WK003S	1.5	N	N	15	70	30	50	N	<20	20	30	N	15
86WK004S	1.5	N	N	15	20	30	50	N	<20	10	15	N	10
86WK050S	1.0	N	N	30	50	50	50	N	<20	10	30	N	20
86WK051S	1.5	N	N	20	50	30	70	N	<20	15	30	N	15
86WK052S	1.5	N	N	20	50	50	70	N	<20	15	30	N	15
86WK053S	1.0	N	N	20	30	30	30	N	<20	10	20	N	15
86WK054S	1.5	N	N	20	20	50	N	N	<20	7	20	N	15
86WK055S	1.5	N	N	15	30	20	70	N	<20	10	30	N	10
86WK056S	1.0	N	N	50	50	70	N	N	20	7	50	N	30
86WK057S	1.0	N	N	70	50	70	N	N	20	7	50	N	50
86WK058S	1.0	N	N	50	50	70	30	N	<20	10	30	N	30
86WK059S	1.0	N	N	20	50	70	30	<5	20	20	50	N	30
86WK060S	1.0	N	N	20	100	50	50	<5	20	20	50	N	10
86WK061S	1.0	N	N	30	100	100	20	N	20	20	50	N	20
86WK062S	1.5	N	N	15	70	30	50	5	20	15	30	N	10
86WK063S	1.0	N	N	15	50	20	70	N	20	15	30	N	15
86WK064S	1.5	N	N	20	100	30	50	N	<20	15	30	N	15
86WK065S	1.5	N	N	20	50	30	50	N	N	15	30	N	10
86WK066S	1.5	N	N	20	20	50	50	10	30	10	30	N	15
86WK067S	2.0	N	N	20	100	50	70	N	<20	20	30	N	20
86WK069S	1.5	N	N	20	100	50	30	N	<20	20	30	N	15
86WK071S	1.5	N	N	20	50	50	70	N	20	20	30	N	20

TABLE 12. ANALYTICAL RESULTS OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE WILLOW CREEK WILDERNESS STUDY AREA,
OREGON--Continued

Sample	Sn-ppm s	Str-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	Sb-ppm icp	Zn-ppm icp
86WK001S	N	500	100	N	50	<200	200	N	<.1	.02	<5	<2	97
86WK002S	N	300	70	N	50	<200	200	N	<.1	.04	<5	<2	80
86WK003S	N	300	100	N	50	<200	150	N	<.1	.02	<5	<2	93
86WK004S	N	200	100	N	30	<200	100	N	<.1	.05	<5	<2	92
86WK050S	N	300	150	N	30	N	100	N	<.1	<.02	<5	<2	84
86WK051S	N	300	100	N	50	N	200	N	<.1	<.02	<5	<2	69
86WK052S	N	200	100	N	70	N	200	N	<.1	<.02	<5	<2	79
86WK053S	N	200	100	N	50	N	200	N	<.1	<.02	<5	<2	51
86WK054S	N	500	150	N	15	N	70	N	<.1	<.02	<5	<2	63
86WK055S	N	200	100	N	200	N	150	N	<.1	.04	<5	<2	66
86WK056S	N	500	200	N	30	N	150	N	<.1	<.02	<5	<2	110
86WK057S	N	300	100	N	15	N	150	N	<.1	<.02	<5	<2	110
86WK058S	N	700	100	N	20	N	100	N	<.1	<.02	<5	<2	69
86WK059S	N	200	70	N	30	N	200	N	<.1	.02	6	<2	88
86WK060S	P	300	100	N	30	N	200	N	<.1	.04	<5	<2	53
86WK061S	N	500	100	N	30	N	200	N	<.1	<.02	<5	<2	84
86WK062S	N	300	100	N	30	N	200	N	<.1	<.02	<5	<2	70
86WK063S	N	300	100	N	50	N	300	N	<.1	<.02	<5	<2	87
86WK064S	N	500	100	N	30	N	200	N	<.1	<.02	6	<2	73
86WK065S	N	300	100	N	30	N	150	N	<.1	.03	8	<2	70
86WK066S	N	200	100	N	50	200	150	N	<.1	<.02	6	<2	120
86WK067S	N	500	100	N	50	N	200	N	<.1	<.02	7	<2	77
86WK069S	N	500	100	N	30	N	200	N	<.1	<.02	7	<2	77
86WK071S	N	300	100	N	50	N	200	N	<.1	<.02	8	<2	90

TABLE 13. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE WILLOW CREEK WILDERNESS STUDY AREA, 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	Hg-pct. S	Ca-pct. S	Ti-pct. S	Mn-pdm S	Ag-pdm S	As-pdm S	Au-pdm S
86HK001H	42 5 50	118 9 5	5.0	1.00	10	>2.0	1,500	N	N	N
86HK002H	42 5 52	118 8 55	5.0	1.00	7	>2.0	1,500	N	N	N
86HK003H	42 5 42	118 10 25	2.0	.50	5	>2.0	1,000	N	N	N
86HK004H	42 5 43	118 10 32	2.0	.70	10	>2.0	700	N	N	N
86HK050AH	42 5 1	118 11 58	.5	.10	5	>2.0	500	N	N	N
6HK050BH	42 5 1	118 11 58	1.0	.20	5	.5	200	N	N	N
86HK051H	42 6 33	118 10 15	.7	.10	5	.7	200	N	N	N
86HK052H	42 5 42	118 12 10	1.0	.15	3	2.0	200	N	N	N
86HK053H	42 6 32	118 10 19	1.5	.50	20	>2.0	700	<1	N	N
86HK054H	42 5 38	118 12 10	.7	.15	7	>2.0	500	N	N	N
86HK056H	42 6 13	118 14 5	3.0	.70	7	>2.0	1,000	<1	N	N
86HK057H	42 4 56	118 13 51	1.5	.50	10	>2.0	700	N	N	N
86HK059H	42 5 19	118 14 40	2.0	.50	7	>2.0	700	N	N	N
86HK060H	42 9 40	118 10 44	1.0	.70	20	>2.0	700	N	N	N
86HK061H	42 6 23	118 15 11	3.0	.50	15	>2.0	700	150	N	N
86HK062H	42 10 40	118 11 21	2.0	.50	10	>2.0	1,000	2	N	N
86HK063H	42 8 32	118 10 32	2.0	.50	7	>2.0	1,500	2	N	N
86HK064H	42 9 18	118 12 28	3.0	1.00	10	>2.0	1,000	N	N	N
86HK065H	42 8 41	118 10 31	1.5	1.00	10	>2.0	1,000	2	N	N
86HK066H	42 8 50	118 12 14	2.0	.20	5	>2.0	1,000	N	N	N

TABLE 13. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE WILLOW CREEK WILDERNESS STUDY AREA, 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
86WK001H	70	700	<2	N	N	<10	100	70	500	N	<50
86WK002H	70	700	<2	N	N	<10	100	100	500	N	70
86WK003H	70	1,000	<2	500	N	<10	50	50	300	N	70
86WK004H	100	700	<2	N	N	<10	70	70	500	N	50
86WK050AH	70	700	<2	N	N	N	50	<10	100	N	N
86WK050BH	70	500	<2	N	N	N	30	10	70	N	N
86WK051H	50	700	<2	N	N	N	30	10	50	N	N
86WK052H	70	2,000	<2	N	N	N	20	<10	100	N	N
86WK053H	100	500	2	N	N	N	100	15	1,000	N	50
86WK054H	70	300	3	N	N	N	50	10	300	N	N
86WK056H	70	1,000	<2	N	N	15	70	15	700	N	N
86WK057H	70	150	<2	N	N	<10	50	15	700	N	<50
86WK059H	100	200	5	N	N	N	50	15	300	N	70
86WK060H	100	200	2	N	N	N	100	15	700	N	<50
86WK061H	70	500	<2	N	N	10	50	20	500	N	<50
86WK062H	100	7,000	5	N	N	N	70	15	700	N	<50
86WK063H	100	300	7	N	N	N	70	20	500	N	50
86WK064H	100	300	2	N	N	N	100	30	500	N	50
86WK065H	100	1,000	<2	N	N	N	150	30	1,000	N	50
86WK066H	50	300	7	70	N	N	50	15	300	N	N

TABLE 13. ANALYTICAL RESULTS OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE WILLOW CREEK WILDERNESS STUDY AREA, 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
86WK001H	50	N	N	N	50	500	150	<100	500	N	>2,000	N
86WK002H	30	70	N	30	>2,000	500	150	<100	700	N	>2,000	N
86WK003H	30	N	N	N	700	700	150	<100	500	N	>2,000	N
86WK004H	30	N	N	30	500	700	150	<100	500	N	>2,000	N
86WK050AH	<10	<20	N	<10	N	1,500	100	N	100	N	>2,000	N
86WK050BH	<10	<20	N	<10	N	1,000	70	<100	50	N	>2,000	N
86WK051H	<10	70	N	<10	N	1,500	70	<100	70	N	>2,000	N
86WK052H	10	N	N	<10	N	500	100	<100	700	N	>2,000	<200
86WK053H	20	N	N	30	30	300	200	N	500	N	>2,000	N
86WK054H	20	N	N	50	<20	500	150	N	700	N	>2,000	<200
86WK056H	20	N	N	50	20	300	300	N	700	N	>2,000	N
86WK057H	15	N	N	<10	50	200	200	N	700	N	>2,000	N
86WK059H	50	N	N	30	500	300	150	N	700	N	>2,000	<200
86WK060H	<10	N	N	20	30	200	200	N	500	N	>2,000	N
86WK061H	30	N	N	50	20	300	200	N	700	N	>2,000	N
86WK062H	30	N	N	50	500	500	200	N	1,000	N	>2,000	<200
86WK063H	20	N	N	20	100	500	200	N	1,000	N	>2,000	<200
86WK064H	30	N	N	<10	70	300	200	200	500	N	>2,000	N
86WK065H	30	N	N	20	50	300	200	N	700	N	>2,000	N
86WK066H	30	N	N	70	100	300	100	<100	1,500	N	>2,000	200