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 South Warner Contiguous Wilderness Study Area, Modoc County, California

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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 South Warner Contiguous Wilderness Study Area (CA-020-708), Modoc County, California.

INTRODUCTION

The South Warner Contiguous WSA consists of nine small parcels of BLM land located north and south of Eagleville in Modoc County, California (fig. 1). The areas, totaling 4,330 acres (6.8mi^2, 18 km^2), are contiguous with the South Warner Wilderness Area (U.S. Forest Service) and are located in the eastern foothills of the Warner Mountain Range. These areas can be accessed by ranch and county roads leading west from the Surprise Valley Road. Elevations within the BLM WSA range from 4,600 ft to 6,753 ft.

Bedrock of the region consists of coarse clastic sedimentary rocks of Oligocene age overlain by rhyolitic to basaltic volcanic rock of Miocene age. The entire bedrock stratigraphic section is conformable and dips 25° west. The Surprise Valley fault runs through or near the various segments of the WSA and forms the eastern boundary of the Warner Mountain fault block. Duffield and Weldin (1976) described the geology of the South Warner Wilderness area and conducted a reconnaissance geochemical sampling program that included a number of sample sites lying within or near the contiguous areas. Data from samples collected at these sites are included in this report along with data from samples collected by the U.S. Geological Survey in 1986 and 1987 to provide more complete sample coverage of the nine parcels and of gold and mercury prospects north of the Granger Creek parcel plus a few samples from the Hayden Hill gold mine.

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 but may also reveal areas of well exposed mineralization. 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 and may reveal the presence of poorly exposed mineralization.

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.

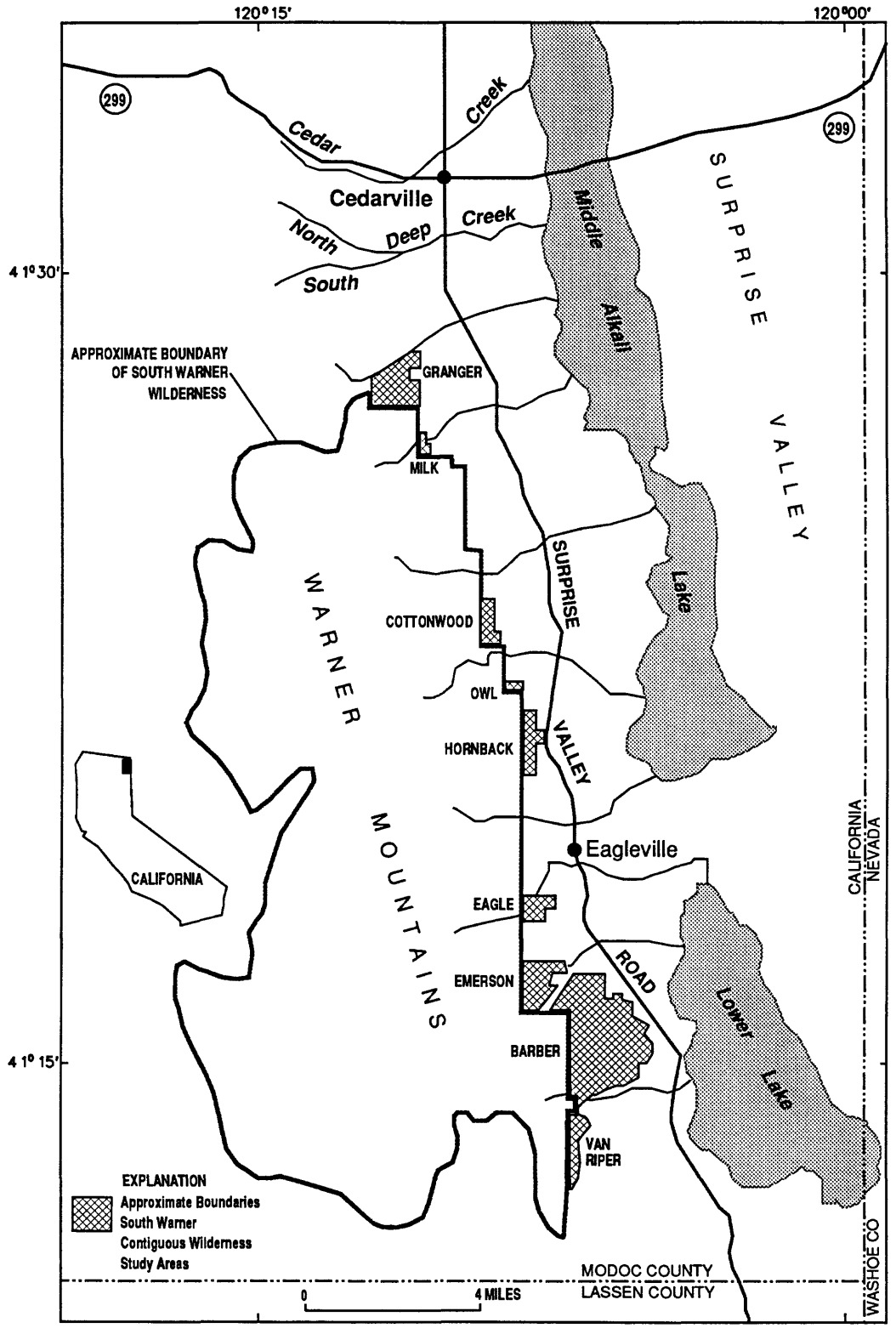

Figure 1. Index map of the South Warner Contiguous Wilderness Study Area, Modoc County, California.

Sample Collection

Twenty-five stream sediments and 24 panned concentrates were collected from major streams transecting the study areas and from small local creeks, primarily draining only the study areas. In addition, nine rock samples were collected from outcrops or as stream cobbles to check for mineralization. An additional 229 rocks were collected primarily from outcrops during geologic mapping studies. Most of the latter rock samples were collected in the Chambers Creek area to evaluate a prospect detected by the U.S. Bureau of Mines and to see if geochemical anomalies north of Chambers creek continue south of the creek into the South Warner Contiguous WSA.

Stream-sediment samples

The stream-sediment samples consisted of active alluvium collected primarily from first-order (unbranched) and second-order (below the junction of two first-order) streams as shown on USGS topographic map (figs. 2-6). Each sample was composited from several localities within an area that may extend as much as 20 ft from the site plotted on the map.

Heavy-mineral-concentrate samples

Heavy-mineral-concentrate samples were collected from 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. Descriptions of rock samples are in table 6.

Sample Preparation

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

After air drying, bromoform (specific gravity 2.8) was used to remove the remaining quartz and feldspar from the heavy-mineral-concentrate samples that had been panned in the field. The resultant heavy-mineral sample was separated into three fractions using a large electromagnet (in this case a modified Frantz Isodynamic Separator). The most magnetic material, primarily magnetite, was not analyzed. The second fraction, largely ferromagnesian silicates and iron oxides, was saved for archival storage. The third fraction (the least magnetic material which may include the nonmagnetic ore minerals, zircon, sphene, etc.) was split using a Jones splitter. One split was hand ground for spectrographic analysis; the other split was saved for mineralogical analysis. These magnetic separates are the same separates that would be produced by using a Frantz Isodynamic Separator set at a slope of 15° and a tilt of 10° with a current of 0.2 ampere to remove the magnetite and ilmenite, and a current of 0.6 ampere to split the remainder of the sample into paramagnetic and nonmagnetic fractions.

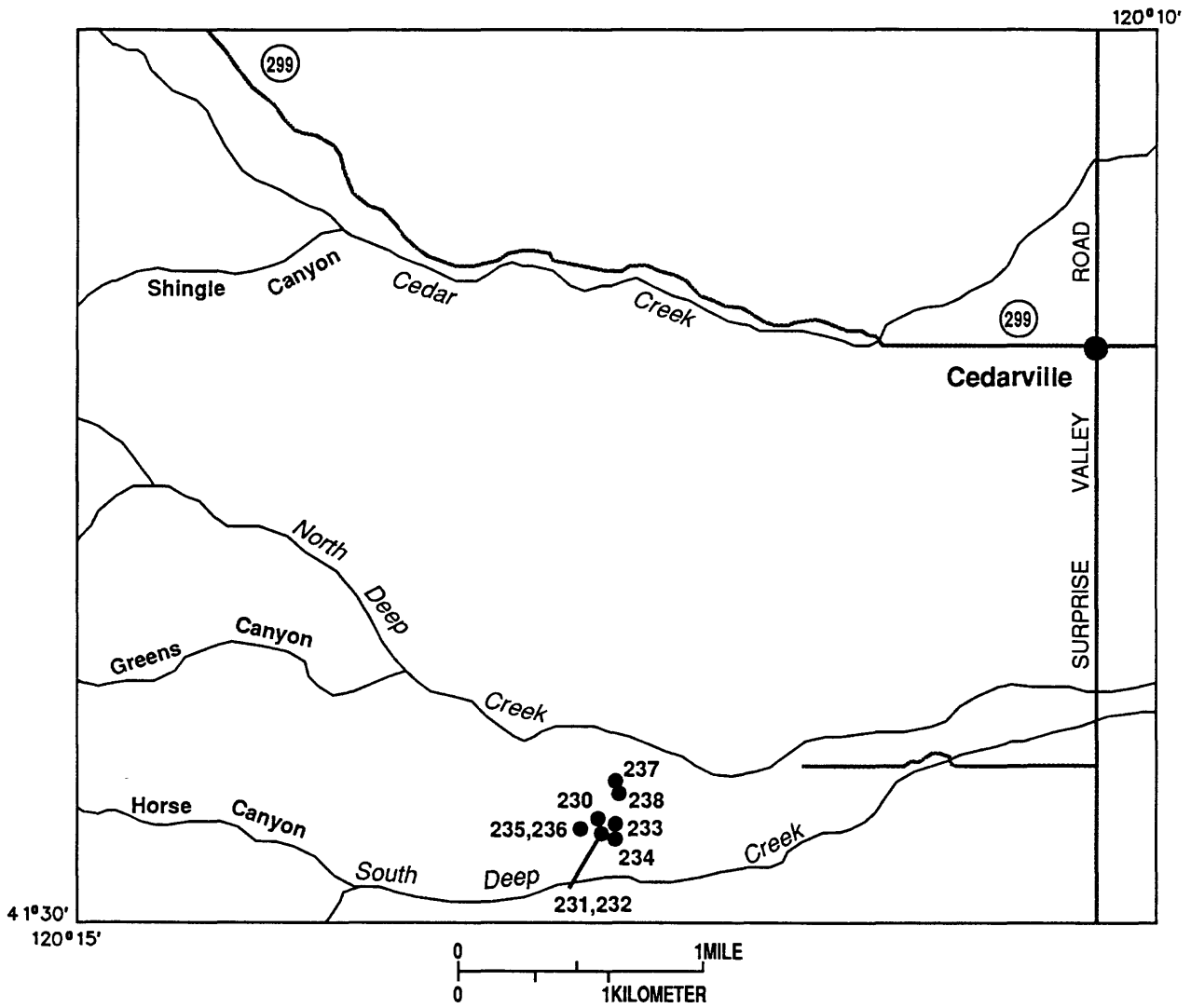

Figure 2. Localities of rock samples from the South Warner Contiguous Wilderness Study Area (Deep Creek Prospect), Modoc County, California.

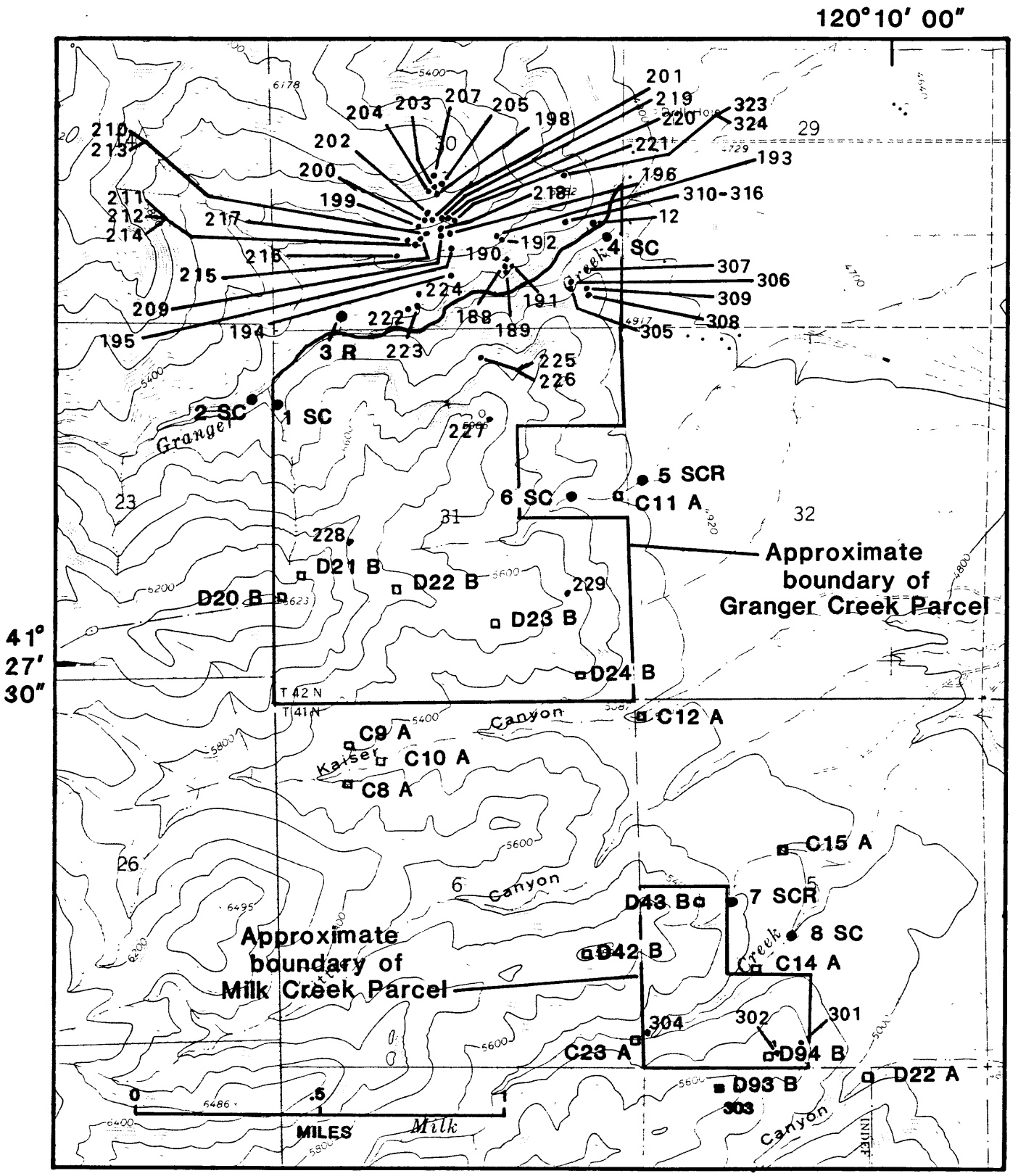

Figure 3. Localities of heavy-mineral-concentrate (C), stream-sediment (S or A), and rock samples from the South Warner Contiguous Wilderness Study Area (Granger Creek and Milk Creek Parcels), Modoc County, California.

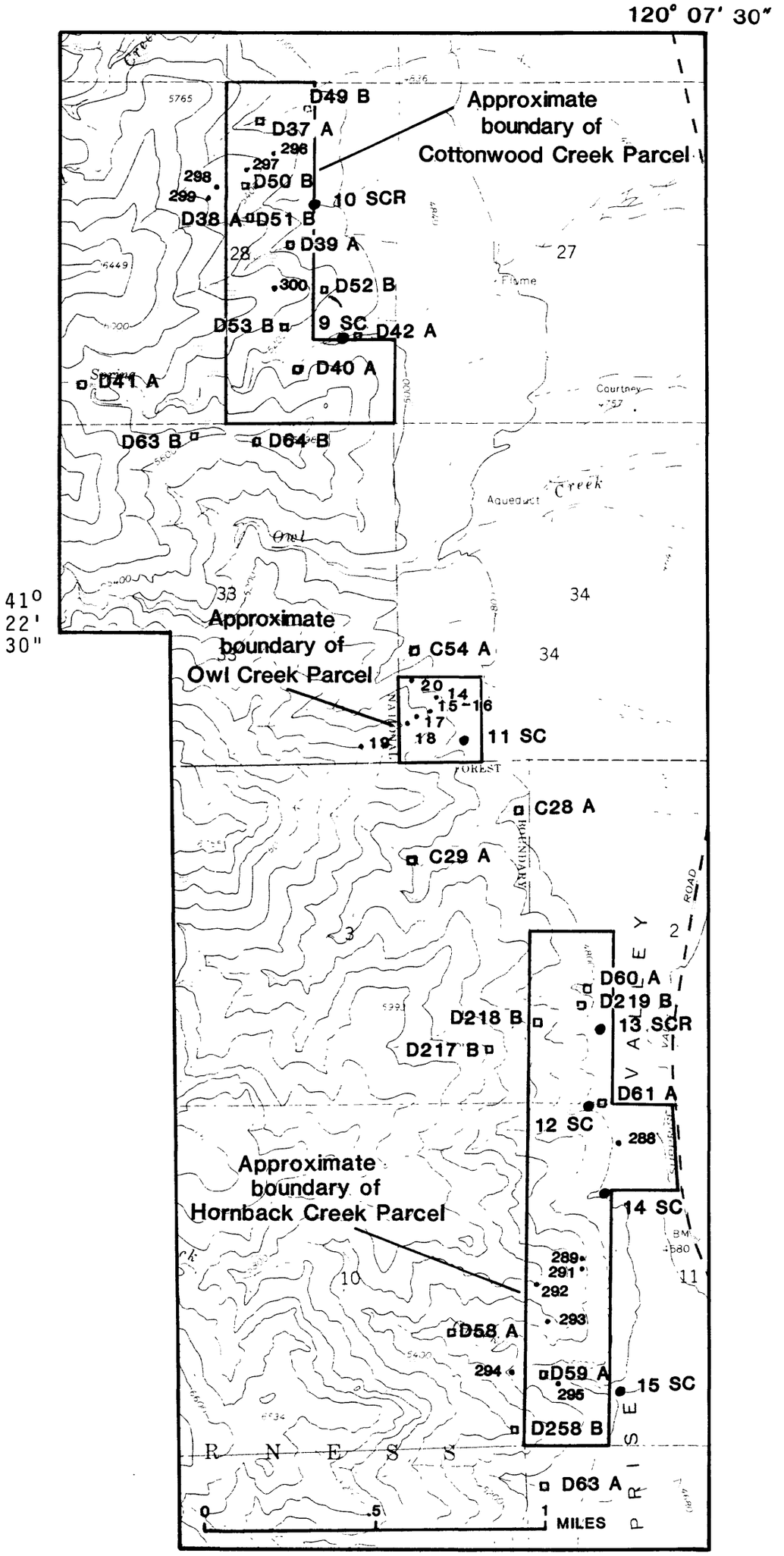

Figure 4. Localities of heavy-mineral-concentrate (C), stream-sediment (S or A), and rock samples from the South Warner Contiguous Wilderness Study Area (Cottonwood Creek, Owl Creek, and Hornback Creek Parcels), Modoc County, California.

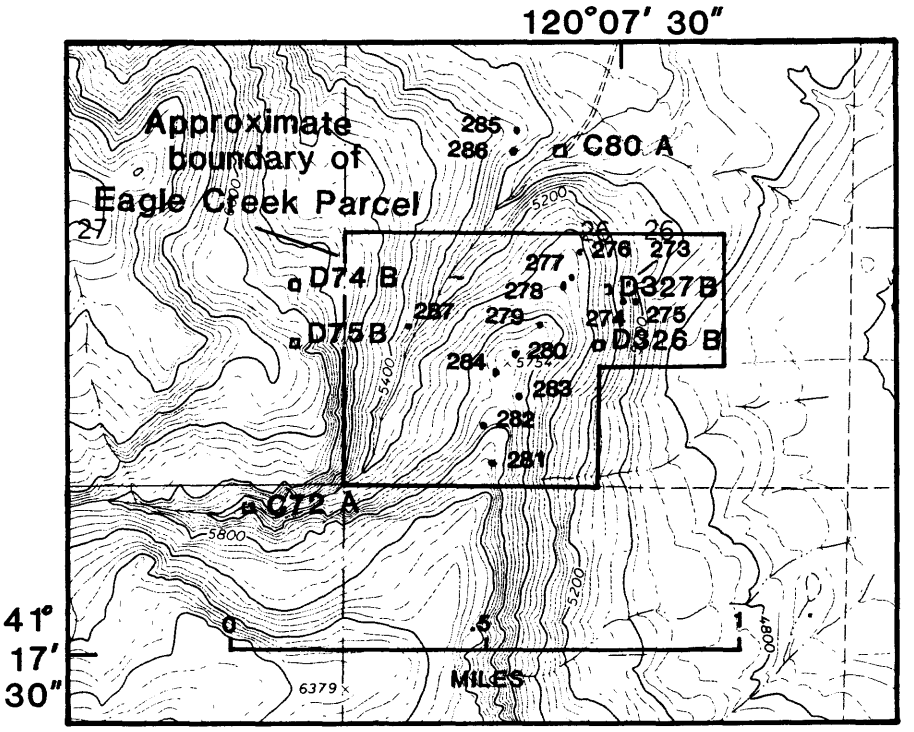

Figure 5. Localities of heavy-mineral-concentrate (C), stream-sediment (S or A), and rock samples from the South Warner Contiguous Wilderness Study Area (Eagle Creek Parcel), Modoc County, California.

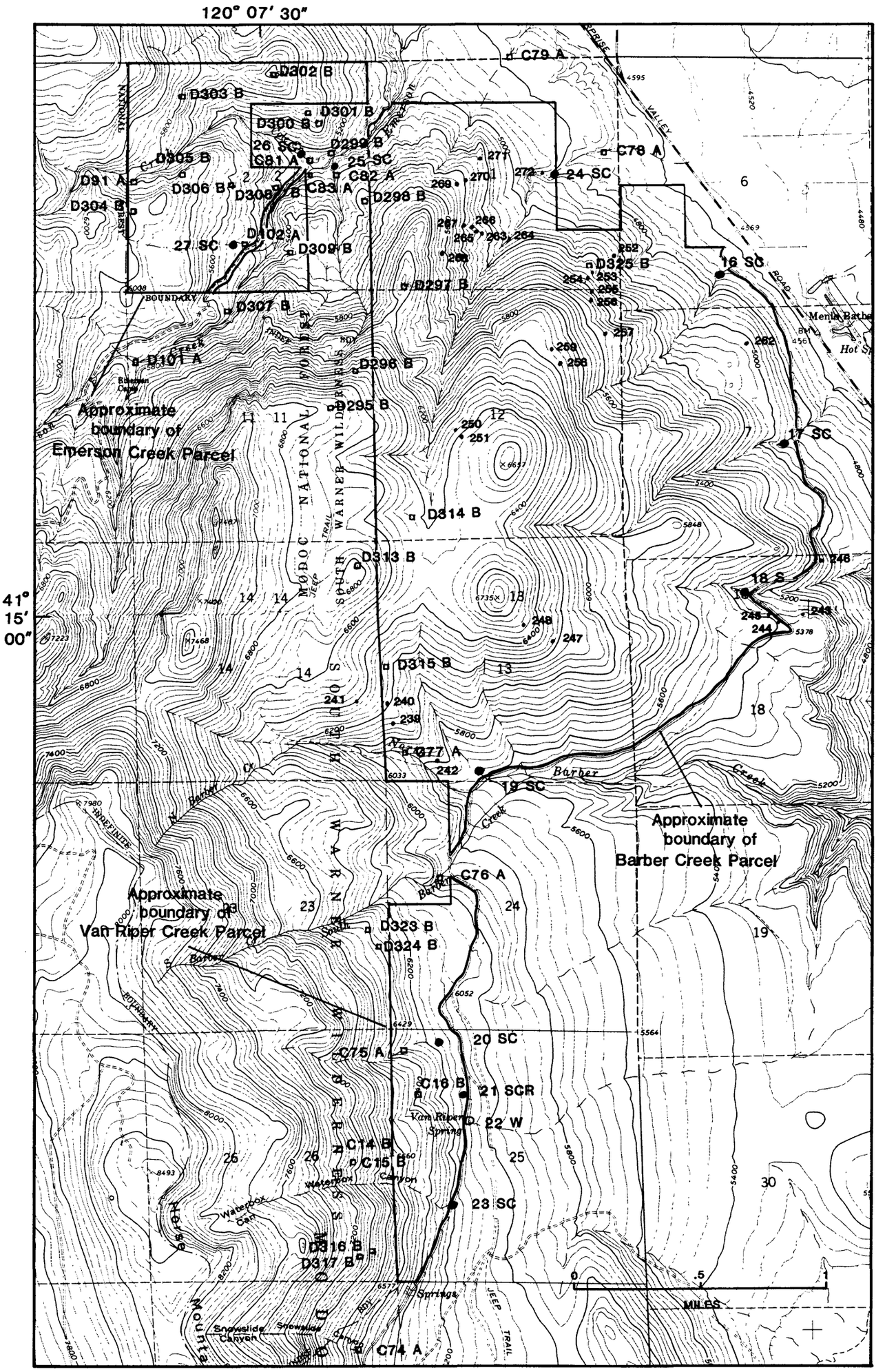

Figure 6. Localities of heavy-mineral-concentrate (C), stream-sediment (S or A), and rock samples from the South Warner Contiguous Wilderness Study Area (Emerson Creek, Barber Creek, and VanRiper Creek Parcels), Modoc County, California.

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 either 31 or 35 elements using a semiquantitative, direct-current arc emission spectrographic method (modification of Grimes and Marranzino, 1968, and Myers and others, 1961). 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 South Warner Contiguous Wilderness Study Area are listed in tables 3, 4, and 5.

Chemical methods

Samples from this study area were also analyzed by other analytical methods. Rocks and stream sediments were analyzed for mercury (Hg) using atomic absorption spectroscopy, for gold (Au) using flameless atomic absorption spectroscopy, and for arsenic (As), antimony (Sb), bismuth (Bi), cadmium (Cd), and zinc (Zn) using inductively coupled plasma-atomic emission spectroscopy (ICP). Stream sediments were also analyzed for thorium (Th) and uranium (U) by delayed neutron activation analyses. Selected rocks were analyzed for gold using atomic absorption spectroscopy. See table 2 for a more detailed summary of these other chemical methods used.

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

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 RASS (Rock Analysis Storage System). 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 3-5 list the results of analyses for the samples of stream sediment, heavy-mineral concentrate, and rock, respectively. For the three tables, the data are arranged so that column 1 contains the USGS-assigned

sample numbers. These numbers correspond to the numbers shown on the site location maps (figs. 2-6). 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; "faa" indicates flameless atomic absorption analyses; and "dn" indicates delayed neutron activation 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 AA and ICP analyses, a "less than" symbol (<) entered in the tables in front of the lower limit of determination indicates that an element was below the lowest reporting value. If an element was observed but was above the highest reporting value, a "greater than" symbol (>) was entered in the tables in front of the upper limit of determination. If an element was not looked for in a sample, two dashes (--) are entered in tables 3-5 in place of an analytical value. Because of the formatting used in the computer program that produced tables 3-5, some of the elements listed in these tables (Fe, Mg, Ca, Ti, Ag, and Be) carry one or more nonsignificant digits to the right of the significant digits. The analysts did not determine these elements to the accuracy suggested by the extra zeros.

ACKNOWLEDGMENTS

We would like to thank R.B Vaughn who also participated in the analyses of these samples.

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

[The values shown are the lower limits of determination assigned by the Grimes and Marranzino method, except for those values in parentheses, which are the lower values assigned by the Myers and others method. The spectrographic limits of determination for heavy-mineral-concentrate samples are based on a 5-mg sample, and are therefore two reporting intervals higher than the limits given for rocks.]

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

TABLE 2.--Chemical methods used

[AA = atomic absorption; ICP = inductively coupled plasma spectroscopy; DN = delayed neutron; CM = colorimetric; and FAA = flameless atomic absorption]

Element or constituent determined	Sample type	Method	Determination limit (micrograms/ gram or ppm)	Reference
Gold (Au)	rock and sediment	AA	.1	Modification of Thompson and others, 1968.
Gold (Au)	rock and sediment	AA	.002	Meier, A. L. 1980.
Mercury (Hg)	rock and sediment	AA	0.02	Koirtyohann and Khalil, 1976.
Arsenic (As)	rock and sediment	ICP	5	Crock and others, 1987.
Antimony (Sb)	rock and sediment	ICP	2	
Zinc (Zn)	rock and sediment	ICP	2	
Bismuth (Bi)	rock and sediment	ICP	2	
Cadmium (Cd)	rock and sediment	ICP	0.1	
Thorium (Th)	rock and sediment	DN		Millard, 1976.
Uranium (U)	rock and sediment	DN		Millard, 1976.
Tungsten (W)	conc	CM	.5	Welsch, 1983.

Table 3. Results of analyses of stream-sediment samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.

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	Be-ppm s
C10A	41 27 16	120 11 36	7	3.0	2.0	.3	1,000	N	N	N	<10	300	<1.0
C11A	41 27 54	120 10 51	7	3.0	1.5	.3	500	N	N	N	<10	200	N
C12A	41 27 23	120 10 47	10	3.0	2.0	.5	1,000	N	N	N	10	300	N
C14A	41 26 46	120 10 26	7	2.0	1.5	.3	1,000	N	N	N	10	300	<1.0
C15A	41 27 3	120 10 20	7	3.0	1.5	.5	1,000	N	N	N	10	200	<1.0
C23A	41 26 37	120 10 47	7	2.0	1.5	.7	1,000	N	N	N	<10	200	<1.0
C28A	41 22 3	120 8 9	7	2.0	2.0	.3	1,000	N	N	N	<10	300	1.0
C29A	41 21 55	120 8 30	7	3.0	2.0	.3	1,000	N	N	N	10	200	<1.0
C54A	41 22 28	120 8 30	7	3.0	1.5	.3	1,000	N	N	N	10	200	<1.0
C72A	41 17 45	120 8 23	15	5.0	7.0	1.0	1,500	N	N	N	10	500	1.0
C74A	41 12 28	120 7 5	10	5.0	7.0	1.0	1,500	N	N	N	10	700	1.0
C75A	41 13 31	120 6 53	7	3.0	3.0	.7	2,000	N	N	N	10	700	1.0
C76A	41 14 6	120 6 44	7	3.0	3.0	.7	1,500	N	N	N	10	700	1.0
C77A	41 14 32	120 6 55	7	1.5	2.0	.5	1,500	N	N	N	15	1,000	1.0
C78A	41 16 36	120 5 58	10	5.0	7.0	.7	2,000	N	N	N	10	1,000	1.0
C79A	41 16 56	120 6 22	10	3.0	5.0	1.0	2,000	N	N	N	10	700	1.0
C80A	41 18 22	120 7 39	7	3.0	5.0	.7	1,500	N	N	N	10	500	1.0
C81A	41 16 37	120 7 20	7	5.0	7.0	1.0	2,000	N	N	N	15	500	1.0
C82A	41 16 34	120 7 10	7	3.0	3.0	.7	2,000	N	N	N	<10	700	1.0
C83A	41 16 30	120 7 21	7	3.0	7.0	1.0	2,000	N	N	N	<10	500	1.0
C8A	41 27 14	120 11 40	7	3.0	2.0	.3	1,000	N	N	N	<10	200	<1.0
C9A	41 27 18	120 11 40	7	2.0	1.5	.3	700	N	N	N	<10	200	<1.0
D101A	41 15 53	120 8 5	7	3.0	3.0	.5	1,000	<.5	N	N	10	500	<1.0
D102A	41 16 17	120 7 35	5	1.5	1.0	.2	700	N	N	N	<10	300	1.0
D22A	41 26 31	120 10 5	3	1.5	1.5	.2	500	N	N	N	10	300	<1.0
D37A	41 23 49	120 9 1	7	3.0	5.0	.3	1,000	N	N	N	10	500	<1.0
D38A	41 23 34	120 9 3	7	3.0	2.0	.2	700	N	N	N	10	700	N
D39A	41 23 29	120 8 57	7	3.0	3.0	.3	1,000	N	N	N	10	700	<1.0
D40A	41 23 11	120 8 55	7	3.0	3.0	.3	1,000	N	N	N	10	700	<1.0
D41A	41 23 12	120 9 38	7	3.0	3.0	.3	1,000	N	N	N	10	300	<1.0
D42A	41 23 17	120 8 41	7	2.0	2.0	.2	1,000	N	N	N	10	500	N
D58A	41 20 42	120 8 22	5	1.5	2.0	.2	500	N	N	N	<10	300	<1.0
D59A	41 20 35	120 8 3	5	2.0	2.0	.2	700	N	N	N	10	300	<1.0
D60A	41 21 35	120 7 56	5	3.0	3.0	.3	1,000	N	N	N	10	500	<1.0
D61A	41 21 18	120 7 54	5	3.0	3.0	.2	1,000	N	N	N	30	500	1.0
D63A	41 20 18	120 8 4	5	3.0	5.0	.2	1,000	N	N	N	15	700	1.0
D91A	41 16 31	120 8 7	7	3.0	3.0	.5	1,000	N	N	N	10	500	1.0
HH001S	41 0 0	120 25 15	5	1.5	.5	.7	2,000	20.0	N	N	<10	700	1.5
HH002S	40 59 21	120 50 55	5	2.0	1.0	1.0	1,500	2.0	N	N	10	1,000	1.0
SW001S	41 28 8	120 11 56	10	5.0	3.0	.5	1,000	N	N	N	15	500	N
SW002S	41 28 9	120 12 0	10	3.0	2.0	1.0	1,500	N	N	N	10	700	N
SW004S	41 28 31	120 10 54	10	5.0	3.0	1.0	1,000	N	N	N	10	700	N
SW005S	41 27 56	120 10 48	10	7.0	3.0	.7	1,000	N	N	N	30	300	N
SW006S	41 27 53	120 11 3	10	5.0	3.0	1.0	1,500	N	N	N	10	300	N
SW007S	41 26 56	120 10 30	10	5.0	3.0	.5	1,000	N	N	N	20	700	N

Table 3. Results of analyses of stream-sediment samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	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	Sr-ppm s	V-ppm s
C10A	N	N	20	70	70	20	N	N	50	20	N	20	N	700	150
C11A	N	N	20	150	50	N	N	N	50	10	N	20	N	300	100
C12A	N	N	30	100	70	20	N	<20	50	20	N	20	N	500	150
C14A	N	N	10	70	50	20	N	N	20	20	N	10	N	300	100
C15A	N	N	20	150	70	20	N	N	50	15	N	20	N	500	200
C23A	N	N	10	70	20	30	N	N	20	10	N	10	N	500	100
C28A	N	N	20	100	50	N	N	<20	50	15	N	15	N	500	200
C29A	N	N	30	150	50	N	N	<20	70	15	N	20	N	500	150
C54A	N	N	15	100	70	20	N	N	50	15	N	10	N	500	100
C72A	N	N	50	200	100	20	N	N	100	20	N	50	N	500	500
C74A	N	N	50	300	100	<20	N	N	70	10	N	30	N	1,000	300
C75A	N	N	30	150	70	20	N	<20	70	20	N	30	N	500	300
C76A	N	N	30	200	70	20	N	N	70	20	N	20	N	700	200
C77A	N	N	20	100	50	50	N	<20	30	30	N	15	N	500	150
C78A	N	N	70	200	100	30	N	N	100	20	N	30	N	500	300
C79A	N	N	50	300	70	20	N	N	100	15	N	30	N	700	200
C80A	N	N	50	150	70	20	N	N	70	20	N	30	N	700	200
C81A	N	N	50	200	100	20	N	N	100	15	N	30	N	700	300
C82A	N	N	50	200	70	20	N	N	70	15	N	30	N	500	200
C83A	N	N	50	300	100	20	N	N	100	20	N	30	N	700	300
C8A	N	N	30	100	70	20	N	<20	50	15	N	20	N	500	150
C9A	N	N	20	70	50	20	N	N	30	10	N	15	N	300	100
D101A	N	N	20	300	50	<20	N	<20	100	15	N	30	N	500	200
D102A	N	N	20	50	20	20	N	<20	30	15	N	15	N	300	100
D22A	N	N	20	200	30	20	N	<20	30	10	N	20	N	500	150
D37A	N	N	30	1,000	50	20	N	N	50	20	N	30	N	700	200
D38A	N	N	30	300	50	<20	N	<20	70	15	N	20	N	500	200
D39A	N	N	30	700	50	20	N	<20	70	20	N	30	N	700	200
D40A	N	N	30	700	50	20	20	<20	70	20	N	30	N	700	200
D41A	N	N	30	300	50	20	N	<20	50	20	N	30	N	700	200
D42A	N	N	30	1,000	30	<20	N	<20	50	15	N	30	N	500	200
D58A	N	N	20	150	30	20	N	N	50	15	N	20	N	150	150
D59A	N	N	20	150	50	<20	N	N	50	15	N	20	N	200	200
D60A	N	N	30	150	50	20	N	N	50	20	N	20	N	200	150
D61A	N	N	30	150	70	20	N	<20	50	20	N	20	N	500	150
D63A	N	N	30	100	70	20	N	<20	50	20	N	20	N	700	150
D91A	N	N	50	200	70	<20	N	<20	100	10	N	20	N	500	200
HH001S	N	N	10	20	20	50	N	N	7	20	N	20	N	200	100
HH002S	N	N	10	50	10	50	N	N	10	30	N	20	N	300	150
SW001S	N	N	30	150	100	N	N	N	70	20	N	30	N	700	200
SW002S	N	N	30	70	50	N	N	N	20	20	N	20	N	500	500
SW004S	N	N	20	100	70	N	N	N	30	20	N	20	N	700	300
SW005S	N	N	30	200	70	N	N	N	70	20	N	30	N	300	200
SW006S	N	N	30	500	70	N	N	N	100	20	N	30	N	500	300
SW007S	N	N	20	100	70	N	N	N	30	20	N	20	N	500	300

Table 3. Results of analyses of stream-sediment samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	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	Au-ppm faa	Th-ppm dn	U-ppm dn
C10A	N	15	N	50	--	N	.06	--	--	--	--	--	--	--	--
C11A	N	10	N	50	--	N	.04	--	--	--	--	--	--	--	--
C12A	N	15	N	70	--	N	.06	--	--	--	--	--	--	--	--
C14A	N	15	N	70	--	N	.08	--	--	--	--	--	--	--	--
C15A	N	15	N	50	--	N	.10	--	--	--	--	--	--	--	--
C23A	N	15	N	70	--	N	.04	--	--	--	--	--	--	--	--
C28A	N	15	N	70	--	N	.04	--	--	--	--	--	--	--	--
C29A	N	10	N	50	--	N	.06	--	--	--	--	--	--	--	--
C54A	N	10	N	50	--	N	.04	--	--	--	--	--	--	--	--
C72A	N	30	N	150	--	N	.02	--	--	--	--	--	--	--	--
C74A	N	20	N	150	--	N	.02	--	--	--	--	--	--	--	--
C75A	N	30	N	150	--	N	.02	--	--	--	--	--	--	--	--
C76A	N	30	N	150	--	N	.04	--	--	--	--	--	--	--	--
C77A	N	30	N	200	--	N	.06	--	--	--	--	--	--	--	--
C78A	N	30	N	100	--	N	.02	--	--	--	--	--	--	--	--
C79A	N	30	N	150	--	N	.04	--	--	--	--	--	--	--	--
C80A	N	30	N	150	--	N	.04	--	--	--	--	--	--	--	--
C81A	N	30	N	150	--	N	.02	--	--	--	--	--	--	--	--
C82A	N	30	N	150	--	N	.02	--	--	--	--	--	--	--	--
C83A	N	30	N	100	--	N	.06	--	--	--	--	--	--	--	--
C8A	N	10	N	70	--	N	.04	--	--	--	--	--	--	--	--
C9A	N	10	N	50	--	N	.06	--	--	--	--	--	--	--	--
D101A	N	20	N	100	--	N	.14	--	--	--	--	--	--	--	--
D102A	N	15	N	50	--	N	.04	--	--	--	--	--	--	--	--
D22A	N	15	N	70	--	N	.04	--	--	--	--	--	--	--	--
D37A	N	15	N	50	--	N	.02	--	--	--	--	--	--	--	--
D38A	N	15	N	70	--	N	.04	--	--	--	--	--	--	--	--
D39A	N	20	N	70	--	N	.04	--	--	--	--	--	--	--	--
D40A	N	15	N	70	--	N	<.02	--	--	--	--	--	--	--	--
D41A	N	20	N	70	--	N	.04	--	--	--	--	--	--	--	--
D42A	N	15	N	50	--	N	.06	--	--	--	--	--	--	--	--
D58A	N	15	N	50	--	N	.02	--	--	--	--	--	--	--	--
D59A	N	10	N	50	--	N	.02	--	--	--	--	--	--	--	--
D60A	N	15	N	70	--	N	.04	--	--	--	--	--	--	--	--
D61A	N	15	N	70	--	N	.18	--	--	--	--	--	--	--	--
D63A	N	15	N	70	--	N	.04	--	--	--	--	--	--	--	--
D91A	N	30	N	100	--	N	.06	--	--	--	--	--	--	--	--
HH001S	N	30	N	150	N	--	3.40	28	<2	.3	5	45	2.050	5.67	2.130
HH002S	N	30	N	150	N	--	.23	7	<2	.2	<2	29	.120	5.96	2.500
SW001S	N	20	N	70	N	--	.03	<5	<2	.5	3	52	.003	3.00	1.100
SW002S	N	20	N	100	N	--	.03	<5	<2	.7	<2	65	.005	4.00	2.220
SW004S	N	15	N	70	N	--	.02	6	<2	.5	<2	57	<.002	3.60	1.750
SW005S	N	20	N	70	N	--	.02	<5	<2	.7	<2	53	.002	2.70	.992
SW006S	N	20	N	70	N	--	.03	<5	<2	.7	3	61	.003	2.50	.835
SW007S	N	20	N	70	N	--	.10	10	<2	.6	<2	69	<.002	5.68	1.870

Table 3. Results of analyses of stream-sediment samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s	Ba-ppm s	Be-ppm s
SW008S	41 26 52	120 10 19	15	3.0	2.0	>1.0	1,000	N	N	N	10	700	N
SW009S	41 23 15	120 8 43	7	7.0	7.0	1.0	1,500	N	N	N	10	700	N
SW010S	41 23 36	120 8 51	10	5.0	5.0	1.0	1,500	N	N	N	15	700	N
SW011S	41 22 13	120 8 20	10	5.0	5.0	.7	1,500	N	N	N	10	700	N
SW012S	41 21 18	120 7 55	10	5.0	7.0	.7	1,000	N	N	N	10	700	N
SW013S	41 21 29	120 7 53	10	7.0	5.0	.7	1,000	N	N	N	20	700	N
SW014S	41 21 4	120 7 51	7	5.0	3.0	.5	1,000	N	N	N	15	500	N
SW015S	41 20 33	120 7 49	10	5.0	3.0	1.0	1,000	N	N	N	10	700	N
SW016S	41 16 10	120 5 24	7	3.0	5.0	1.0	1,000	N	N	N	10	700	N
SW017S	41 15 35	120 5 6	10	2.0	1.5	>1.0	1,500	N	N	N	15	700	N
SW018S	41 15 4	120 5 18	5	.7	1.0	1.0	1,000	N	N	N	20	1,000	<1.0
SW019S	41 14 26	120 6 31	7	1.5	2.0	1.0	1,000	N	N	N	10	1,000	N
SW020S	41 13 31	120 16 13	10	2.0	2.0	1.0	1,500	N	N	N	15	700	N
SW021S	41 13 20	120 6 37	10	7.0	2.0	.7	1,000	N	N	N	10	200	N
SW023S	41 12 56	120 6 39	10	2.0	2.0	1.0	1,000	N	N	N	10	700	N
SW024S	41 16 32	120 6 8	10	5.0	2.0	1.0	1,000	N	N	N	10	700	N
SW025S	41 16 32	120 7 9	15	5.0	2.0	1.0	700	N	N	N	10	300	N
SW026S	41 16 35	120 7 19	7	3.0	7.0	1.0	1,000	N	N	N	10	1,000	<1.0
SW027S	41 16 17	120 7 36	15	5.0	2.0	>1.0	1,500	N	N	N	10	500	N

Sample	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	Sr-ppm s	V-ppm s
SW008S	N	N	30	70	50	N	N	N	30	20	N	20	N	500	300
SW009S	N	N	20	200	70	N	N	N	30	20	N	30	N	1,000	200
SW010S	N	N	20	200	70	N	N	N	30	20	N	20	N	700	300
SW011S	N	N	30	200	70	N	N	N	50	20	N	30	N	700	200
SW012S	N	N	30	150	70	N	N	N	30	20	N	30	N	700	300
SW013S	N	N	30	150	100	N	N	N	70	20	N	20	N	700	200
SW014S	N	N	30	100	70	N	N	N	50	15	N	30	N	700	200
SW015S	N	N	30	70	70	N	N	N	50	15	N	20	N	500	300
SW016S	N	N	30	150	70	N	N	N	70	15	N	20	N	700	150
SW017S	N	N	30	150	70	N	N	N	70	15	N	20	N	300	200
SW018S	N	N	20	50	20	30	N	N	15	50	N	15	N	200	100
SW019S	N	N	20	70	30	<20	N	N	15	20	N	20	N	500	200
SW020S	N	N	20	70	50	N	N	N	50	10	N	20	N	300	200
SW021S	N	N	50	50	150	N	N	N	150	10	N	20	N	150	200
SW023S	N	N	30	70	70	<20	N	N	30	15	N	30	N	300	200
SW024S	N	N	30	50	100	N	N	N	100	10	N	20	N	300	200
SW025S	N	N	30	100	100	N	N	N	100	10	N	30	N	150	300
SW026S	N	N	20	100	50	<20	N	N	50	15	N	20	N	500	100
SW027S	N	N	30	100	100	N	N	N	70	15	N	20	N	500	200

Table 3. Results of analyses of stream-sediment samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	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	Au-ppm faa	Th-ppm dn	U-ppm dn
SW008S	N	15	N	100	N	--	.03	<5	<2	.7	<2	79	.006	4.10	1.920
SW009S	N	15	N	70	N	--	.02	<5	<2	.7	<2	60	.008	3.10	1.180
SW010S	N	20	N	100	N	--	.05	5	<2	.7	<2	68	.005	4.83	1.520
SW011S	N	15	N	70	N	--	.03	<5	<2	.5	<2	50	<.002	3.40	1.190
SW012S	N	15	N	50	N	--	.03	<5	<2	.5	<2	52	.002	3.73	1.180
SW013S	N	15	N	50	N	--	<.02	<5	<2	.7	<2	54	.004	3.84	1.340
SW014S	N	20	N	70	N	--	<.02	<5	<2	.7	<2	53	<.002	4.63	1.260
SW015S	N	20	N	70	N	--	<.02	<5	<2	.9	<2	67	.017	3.40	1.490
SW016S	N	20	N	70	N	--	<.02	<5	<2	.8	<2	63	<.002	3.47	1.180
SW017S	N	30	<200	100	N	--	<.02	<5	<2	.9	<2	80	.003	4.00	1.730
SW018S	N	50	N	200	N	--	.02	<5	<2	.6	<2	54	<.002	10.10	3.530
SW019S	N	30	N	200	N	--	.03	<5	<2	.6	<2	59	<.002	6.58	2.120
SW020S	N	20	200	100	N	--	.05	<5	<2	.9	<2	93	.002	4.74	1.470
SW021S	N	20	N	70	N	--	.02	<5	<2	1.0	<2	52	<.002	<1.40	.367
SW023S	N	50	N	150	N	--	.04	<5	<2	1.0	<2	86	.002	2.50	1.370
SW024S	N	30	N	100	N	--	<.02	<5	<2	.9	<2	65	<.002	3.20	1.270
SW025S	N	30	N	200	N	--	.02	<5	<2	.9	<2	65	<.002	2.40	1.390
SW026S	N	30	N	150	N	--	.02	<5	<2	.8	<2	70	<.002	4.92	2.220
SW027S	N	20	N	100	N	--	.05	<5	<2	1.4	<2	92	<.002	2.60	1.020

Table 4. Results of analyses of heavy-mineral-concentrate samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.

[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
HH001C	41 0 0	120 52 15	3.0	.50	3	>2.00	7,000	1,000	N	>1,000
HH002C	40 59 21	120 50 55	1.0	.30	15	>2.00	500	3	N	<20
SW001C	41 28 8	120 11 56	1.5	1.50	10	.20	500	N	N	N
SW002C	41 28 9	120 12 0	1.0	.50	7	.30	300	N	N	N
SW004C	41 28 31	120 10 54	1.0	.50	10	.15	200	N	N	N
SW005C	41 27 56	120 10 48	.7	.70	15	.10	200	2	N	N
SW006C	41 27 53	120 11 3	1.0	.50	10	.15	300	N	N	N
SW007C	41 26 56	120 10 30	1.0	.50	7	.15	200	N	N	N
SW008C	41 26 52	120 10 19	1.0	.70	10	.15	200	N	N	N
SW009C	41 23 15	120 8 43	1.5	1.00	10	.15	200	7	N	N
SW010C	41 23 36	120 8 51	1.0	.50	10	.15	200	N	N	N
SW011C	41 22 13	120 8 20	1.5	1.00	7	.15	200	7	N	N
SW012C	41 21 18	120 7 55	7.0	.70	5	.20	150	N	N	N
SW013C	41 21 29	120 7 53	2.0	1.50	7	.15	500	N	N	N
SW014C	41 21 4	120 7 51	1.5	.70	7	.20	150	N	N	N
SW015C	41 20 33	120 7 49	1.0	.70	7	.10	150	N	N	N
SW016C	41 16 10	120 5 24	.7	.20	7	.15	200	N	N	N
SW017C	41 15 35	120 5 6	1.0	.30	7	.15	200	N	N	N
SW019C	41 14 26	120 6 31	1.0	.20	5	.20	200	N	N	N
SW020C	41 13 31	120 6 13	1.0	.20	7	.10	150	N	N	N
SW021C	41 13 20	120 6 37	1.5	1.50	5	.15	300	N	N	N
SW023C	41 12 56	120 6 39	3.0	1.00	15	1.00	700	N	N	N
SW024C	41 16 32	120 6 8	1.0	.30	10	.10	150	N	N	N
SW025C	41 16 32	120 7 9	1.0	.50	3	.15	200	N	N	N
SW026C	41 16 35	120 7 19	.7	.15	7	.10	100	N	N	N
SW027C	41 16 17	120 7 36	1.0	.50	10	.15	200	N	N	N

Table 4. Results of analyses of heavy-mineral-concentrate samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
HH001C	20	1,000	2	N	N	15	70	50	150	N	N
HH002C	70	500	2	N	N	<10	N	<10	200	N	50
SW001C	300	700	N	N	N	10	300	15	<50	N	N
SW002C	30	1,500	N	N	N	<10	20	200	150	100	N
SW004C	200	5,000	N	N	N	<10	20	10	70	700	N
SW005C	>5,000	500	<2	N	N	<10	<20	200	100	N	N
SW006C	200	1,500	N	N	N	<10	<20	700	100	N	N
SW007C	500	1,000	N	N	N	<10	N	50	70	20	N
SW008C	20	1,000	N	N	N	<10	50	10	<50	200	N
SW009C	1,500	10,000	N	N	N	<10	100	500	N	500	N
SW010C	300	700	N	N	N	<10	20	15	100	N	N
SW011C	500	700	N	N	N	<10	70	5,000	N	N	N
SW012C	1,500	10,000	N	N	N	15	70	3,000	N	10	N
SW013C	>5,000	>10,000	N	N	N	10	200	50	N	N	N
SW014C	1,500	>10,000	N	N	N	<10	<20	10,000	<50	N	N
SW015C	700	>10,000	N	N	N	<10	70	1,500	<50	100	N
SW016C	50	3,000	N	N	N	<10	N	10	<50	N	N
SW017C	30	1,000	N	N	N	N	<20	10	<50	N	N
SW019C	50	1,000	<2	N	N	N	70	<10	70	N	N
SW020C	50	1,000	N	N	N	<10	N	<10	<50	N	N
SW021C	30	1,000	N	N	N	10	<20	20	N	N	N
SW023C	20	500	N	N	N	15	200	100	150	N	N
SW024C	20	1,500	2	N	N	<10	N	10	100	N	N
SW025C	30	1,000	3	N	N	N	20	<10	70	N	N
SW026C	30	1,500	N	N	N	N	N	10	70	N	N
SW027C	20	1,000	N	N	N	N	<20	<10	70	N	N

Table 4. Results of analyses of heavy-mineral-concentrate samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
HH001C	15	2,000	200	20	200	500	150	N	100	N	>2,000	N
HH002C	<10	100	N	70	N	500	150	N	200	N	>2,000	N
SW001C	20	50	N	<10	N	2,000	70	N	100	N	>2,000	N
SW002C	<10	N	N	N	N	1,500	50	N	150	N	>2,000	N
SW004C	<10	300	N	N	N	2,000	30	N	100	N	>2,000	N
SW005C	10	1,500	N	N	N	1,000	30	N	70	N	>2,000	N
SW006C	10	N	N	N	N	1,500	30	N	100	N	>2,000	N
SW007C	10	30	N	N	N	2,000	50	N	70	N	>2,000	N
SW008C	<10	20	N	N	100	1,500	30	N	70	N	>2,000	N
SW009C	15	50	N	N	N	2,000	50	N	50	N	>2,000	N
SW010C	<10	50	N	N	N	1,500	30	N	100	N	>2,000	N
SW011C	10	N	N	N	N	2,000	50	N	20	N	2,000	N
SW012C	15	N	N	N	N	2,000	50	N	30	N	2,000	N
SW013C	30	N	N	N	N	1,500	100	N	30	N	2,000	N
SW014C	10	500	N	N	N	2,000	70	N	50	N	>2,000	N
SW015C	10	100	N	N	N	2,000	70	N	50	N	>2,000	N
SW016C	10	<20	N	N	20	1,000	20	N	100	N	>2,000	N
SW017C	10	1,500	N	N	N	1,000	30	N	150	N	>2,000	N
SW019C	10	20	N	N	N	1,000	30	N	200	N	>2,000	N
SW020C	<10	<20	N	N	100	1,500	20	N	100	N	>2,000	N
SW021C	30	15,000	N	N	N	1,000	70	N	50	N	>2,000	N
SW023C	30	200	N	N	N	1,000	100	N	200	N	>2,000	N
SW024C	<10	2,000	N	N	N	1,000	20	N	300	N	>2,000	N
SW025C	10	20	N	N	N	700	20	N	500	N	>2,000	N
SW026C	<10	<20	N	N	N	1,000	20	N	100	N	>2,000	N
SW027C	10	20	N	N	N	2,000	30	N	100	N	>2,000	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.

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
C14B	41 13 10	120 7 11	7.00	3.00	5.00	.500	1,500	N	N	N
C15B	41 13 7	120 7 8	7.00	3.00	7.00	.500	1,500	N	N	N
C16B	41 13 22	120 6 50	7.00	5.00	7.00	.300	1,500	N	N	N
D20B	41 27 39	120 11 55	15.00	2.00	2.00	.300	1,000	N	N	N
D217B	41 21 26	120 8 17	10.00	3.00	3.00	.300	700	N	N	N
D218B	41 21 30	120 8 6	15.00	5.00	5.00	.700	1,000	N	N	N
D219B	41 21 33	120 7 56	15.00	5.00	5.00	.700	1,000	N	N	N
D21B	41 27 44	120 11 49	15.00	3.00	3.00	.500	1,000	N	N	N
D22B	41 27 40	120 11 32	10.00	3.00	1.50	.500	700	N	N	N
D23B	41 27 36	120 11 14	15.00	7.00	7.00	.700	2,000	N	N	N
D24B	41 27 29	120 10 56	10.00	3.00	5.00	.500	1,000	N	N	N
D258B	41 20 27	120 8 9	10.00	5.00	5.00	.300	1,000	N	N	N
D295B	41 15 45	120 7 11	3.00	.30	<.05	.200	500	N	N	N
D296B	41 15 52	120 7 6	5.00	.15	.05	.300	1,000	N	N	N
D297B	41 16 9	120 6 52	15.00	1.50	3.00	1.000	1,500	N	N	N
D298B	41 16 27	120 7 2	20.00	7.00	5.00	.700	1,500	N	N	N
D299B	41 16 37	120 7 11	7.00	5.00	7.00	.500	2,000	N	N	N
D300B	41 16 45	120 7 17	7.00	5.00	10.00	.500	2,000	N	N	N
D301B	41 16 46	120 7 19	10.00	3.00	7.00	1.000	2,000	.7	N	N
D302B	41 16 54	120 7 28	10.00	3.00	5.00	.700	1,500	N	N	N
D303B	41 16 47	120 7 53	10.00	3.00	7.00	1.000	1,000	N	N	N
D304B	41 16 25	120 8 9	5.00	1.50	1.00	.500	1,000	N	N	N
D305B	41 16 32	120 7 52	10.00	3.00	7.00	1.000	1,500	N	N	N
D306B	41 16 30	120 7 39	7.00	5.00	10.00	.700	2,000	N	N	N
D307B	41 16 4	120 7 40	7.00	3.00	2.00	.700	1,500	N	N	N
D308B	41 16 28	120 7 28	2.00	.70	1.00	.150	500	N	N	N
D309B	41 16 17	120 7 24	3.00	1.50	1.50	.200	700	N	N	N
D313B	41 15 10	120 7 6	7.00	1.00	2.00	.500	1,000	N	N	N
D314B	41 15 22	120 6 52	5.00	1.00	2.00	.500	1,000	N	N	N
D315B	41 14 50	120 6 59	7.00	2.00	5.00	1.000	2,000	N	N	N
D316B	41 12 47	120 7 2	10.00	3.00	5.00	1.000	2,000	N	N	N
D317B	41 12 46	120 7 6	10.00	5.00	7.00	.500	1,500	N	N	N
D323B	41 13 55	120 7 3	10.00	5.00	10.00	.700	1,500	N	N	N
D324B	41 13 52	120 7 1	7.00	3.00	7.00	.700	1,500	N	N	N
D325B	41 16 13	120 6 1	7.00	3.00	1.50	.200	500	N	N	N
D326B	41 18 4	120 7 34	2.00	.70	2.00	1.000	300	N	N	N
D327B	41 18 8	120 7 32	10.00	.70	7.00	.500	1,000	.5	N	N
D42B	41 26 49	120 10 55	15.00	5.00	7.00	.500	2,000	N	N	N
D43B	41 26 57	120 10 36	15.00	5.00	5.00	.700	1,500	N	N	N
D49B	41 23 51	120 8 53	15.00	5.00	3.00	.500	700	N	N	N
D50B	41 23 38	120 9 3	7.00	2.00	1.00	.300	500	N	N	N
D51B	41 23 34	120 9 3	3.00	.50	3.00	.300	200	N	N	N
D52B	41 23 23	120 8 47	15.00	3.00	2.00	.300	700	N	N	N
D53B1	41 23 19	120 8 54	10.00	1.00	3.00	.500	700	N	N	N
D63B	41 23 0	120 9 16	10.00	2.00	3.00	.200	700	N	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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	Ga-ppm	Ge-ppm	La-ppm s
C14B	10	700	1.0	N	N	50	30	70	--	--	20
C15B	<10	500	<1.0	N	N	50	200	70	--	--	30
C16B	<10	300	<1.0	N	N	50	70	70	--	--	N
D20B	20	1,500	<1.0	N	N	30	70	50	--	--	30
D217B	10	1,500	<1.0	N	N	30	10	500	--	--	N
D218B	20	1,500	<1.0	N	N	50	50	150	--	--	50
D219B	15	200	<1.0	N	N	50	100	70	--	--	20
D21B	20	700	<1.0	N	N	50	150	100	--	--	20
D22B	15	1,500	N	N	N	50	70	150	--	--	N
D23B	20	1,000	<1.0	N	N	50	500	150	--	--	20
D24B	50	700	<1.0	N	N	30	20	200	--	--	20
D258B	10	700	N	N	N	50	70	100	--	--	20
D295B	20	1,000	1.5	N	N	N	N	<5	--	--	30
D296B	30	1,500	1.0	N	N	N	N	<5	--	--	70
D297B	20	1,000	<1.0	N	N	10	N	5	--	--	50
D298B	<10	300	N	N	N	100	150	100	--	--	N
D299B	<10	300	<1.0	N	N	70	300	150	--	--	N
D300B	<10	700	1.0	N	N	50	200	100	--	--	20
D301B	10	1,000	2.0	N	N	50	<10	300	--	--	70
D302B	<10	500	<1.0	N	N	70	30	200	--	--	20
D303B	<10	500	<1.0	N	N	50	<10	150	--	--	20
D304B	10	700	<1.0	N	N	10	<10	5	--	--	50
D305B	10	700	<1.0	N	N	70	20	150	--	--	30
D306B	<10	500	<1.0	N	N	70	70	100	--	--	N
D307B	<10	700	<1.0	N	N	30	<10	70	--	--	20
D308B	20	300	3.0	N	N	7	<10	15	--	--	30
D309B	20	1,000	1.5	N	N	15	<10	30	--	--	50
D313B	10	1,000	1.0	N	N	20	15	50	--	--	100
D314B	20	1,000	1.5	N	N	15	<10	20	--	--	50
D315B	10	1,000	1.0	N	N	30	<10	7	--	--	50
D316B	15	1,000	<1.0	N	N	15	<10	5	--	--	50
D317B	10	700	<1.0	N	N	70	300	100	--	--	20
D323B	<10	300	<1.0	N	N	100	100	200	--	--	20
D324B	15	700	1.0	N	N	20	50	70	--	--	50
D325B	10	500	N	N	N	20	300	70	--	--	N
D326B	10	1,000	3.0	N	N	5	<10	5	--	--	50
D327B	10	1,000	1.0	N	N	30	10	50	--	--	30
D42B	20	1,500	<1.0	N	N	50	150	100	--	--	30
D43B	20	700	<1.0	N	N	50	150	150	--	--	20
D49B	N	300	N	N	N	50	300	100	--	--	N
D50B	50	700	N	N	N	20	20	20	--	--	N
D51B	10	70	1.0	N	N	10	10	50	--	--	30
D52B	10	500	N	N	N	50	300	70	--	--	N
D53B1	10	500	<1.0	N	N	15	20	100	--	--	30
D63B	10	500	<1.0	N	N	15	50	30	--	--	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	Mo-ppm s	Na-pct	Nb-ppm s	Ni-ppm s	P-pct	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s
C14B	N	--	N	100	--	20	N	20	N	700	200
C15B	N	--	N	100	--	15	N	30	N	700	200
C16B	N	--	N	150	--	10	N	20	N	700	200
D20B	N	--	N	20	--	50	N	15	N	700	100
D217B	N	--	N	15	--	30	N	20	N	1,000	200
D218B	N	--	N	50	--	50	N	50	N	2,000	500
D219B	N	--	N	50	--	50	N	30	N	1,000	300
D21B	N	--	N	50	--	50	N	30	N	700	200
D22B	N	--	N	50	--	20	N	20	N	300	200
D23B	N	--	N	100	--	50	N	50	N	1,000	300
D24B	N	--	N	20	--	70	N	30	N	700	200
D258B	N	--	N	30	--	30	N	20	N	1,000	200
D295B	N	--	N	5	--	20	N	7	N	100	10
D296B	N	--	N	7	--	30	N	10	N	100	10
D297B	N	--	N	5	--	50	N	20	N	700	70
D298B	N	--	N	150	--	N	N	50	N	500	200
D299B	N	--	N	200	--	10	N	30	N	300	200
D300B	N	--	N	100	--	20	N	30	N	700	200
D301B	N	--	N	20	--	20	N	50	N	500	200
D302B	N	--	N	100	--	15	N	30	N	500	200
D303B	N	--	N	30	--	10	N	50	N	2,000	500
D304B	N	--	N	5	--	30	N	15	N	300	50
D305B	N	--	N	100	--	10	N	20	N	700	500
D306B	N	--	N	200	--	10	N	30	N	1,500	200
D307B	N	--	N	10	--	20	N	30	N	300	300
D308B	5	--	<20	10	--	30	N	5	N	100	50
D309B	N	--	N	10	--	50	N	10	N	500	100
D313B	N	--	<20	<5	--	20	N	30	N	500	200
D314B	N	--	<20	<5	--	20	N	20	N	300	150
D315B	N	--	N	5	--	20	N	30	N	700	200
D316B	N	--	N	<5	--	30	N	30	N	1,000	100
D317B	N	--	N	150	--	15	N	30	N	1,000	200
D323B	N	--	N	200	--	15	N	50	N	700	200
D324B	7	--	<20	50	--	20	N	30	N	700	300
D325B	N	--	N	100	--	20	N	15	N	150	150
D326B	N	--	20	7	--	30	N	5	N	2,000	30
D327B	N	--	N	5	--	20	N	15	N	1,000	200
D42B	N	--	N	70	--	50	N	30	N	1,000	300
D43B	N	--	N	50	--	30	N	30	N	1,000	300
D49B	N	--	N	70	--	<10	N	30	N	500	300
D50B	N	--	N	15	--	<10	N	7	N	200	150
D51B	N	--	N	10	--	20	N	10	N	200	70
D52B	N	--	N	50	--	20	N	20	N	1,000	200
D53B1	N	--	N	15	--	20	N	15	N	200	150
D63B	N	--	N	20	--	30	N	10	N	2,000	150

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp	Au-ppm faa	Hg-ppm aa
C14B	N	20	N	100	--	N	--	--	--	--	--	.04
C15B	N	30	N	100	--	N	--	--	--	--	--	.04
C16B	N	20	N	70	--	N	--	--	--	--	--	.02
D20B	N	15	N	50	--	N	--	--	--	--	--	.02
D217B	N	15	N	50	--	N	--	--	--	--	--	.08
D218B	N	20	N	100	--	N	--	--	--	--	--	.08
D219B	N	20	N	70	--	N	--	--	--	--	--	.14
D21B	N	20	N	70	--	N	--	--	--	--	--	.04
D22B	N	10	N	50	--	N	--	--	--	--	--	<.02
D23B	N	20	N	100	--	N	--	--	--	--	--	.02
D24B	N	20	N	150	--	N	--	--	--	--	--	.04
D258B	N	20	N	70	--	N	--	--	--	--	--	.06
D295B	N	30	N	200	--	N	--	--	--	--	--	.08
D296B	N	50	N	200	--	N	--	--	--	--	--	.06
D297B	N	50	N	150	--	N	--	--	--	--	--	.08
D298B	N	20	N	150	--	N	--	--	--	--	--	.06
D299B	N	30	N	70	--	N	--	--	--	--	--	.06
D300B	N	30	N	100	--	N	--	--	--	--	--	.02
D301B	N	100	N	200	--	N	--	--	--	--	--	.02
D302B	N	30	N	100	--	N	--	--	--	--	--	.02
D303B	N	30	N	100	--	N	--	--	--	--	--	<.02
D304B	N	30	N	150	--	N	--	--	--	--	--	<.02
D305B	N	30	N	150	--	N	--	--	--	--	--	.08
D306B	N	30	N	100	--	N	--	--	--	--	--	.02
D307B	N	50	N	150	--	N	--	--	--	--	--	.06
D308B	N	10	N	70	--	N	--	--	--	--	--	.04
D309B	N	20	N	150	--	N	--	--	--	--	--	.02
D313B	N	70	N	200	--	N	--	--	--	--	--	.02
D314B	N	50	N	200	--	N	--	--	--	--	--	.02
D315B	N	50	N	150	--	N	--	--	--	--	--	.02
D316B	N	50	N	150	--	N	--	--	--	--	--	<.02
D317B	N	30	N	100	--	N	--	--	--	--	--	.02
D323B	N	30	N	70	--	N	--	--	--	--	--	<.02
D324B	N	50	N	150	--	N	--	--	--	--	--	.06
D325B	N	20	N	100	--	N	--	--	--	--	--	<.02
D326B	N	20	N	150	--	N	--	--	--	--	--	<.02
D327B	N	20	N	150	--	N	--	--	--	--	--	.04
D42B	N	20	N	70	--	N	--	--	--	--	--	.06
D43B	N	20	N	70	--	N	--	--	--	--	--	.04
D49B	N	20	N	50	--	N	--	--	--	--	--	.02
D50B	N	<10	N	50	--	N	--	--	--	--	--	.04
D51B	N	20	N	150	--	N	--	--	--	--	--	.02
D52B	N	15	N	50	--	N	--	--	--	--	--	.04
D53B1	N	20	N	100	--	N	--	--	--	--	--	.02
D63B	N	10	N	50	--	N	--	--	--	--	--	.02

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
D64B	41 22 59	120 8 59	10.00	3.00	1.50	.300	1,000	N	N	N
D74B	41 18 8	120 8 15	1.50	.30	.05	.050	150	N	N	N
D75B	41 18 3	120 8 14	5.00	2.00	1.00	.200	700	N	N	N
D93B	41 26 29	120 10 35	7.00	3.00	3.00	.300	1,000	N	N	N
D94B	41 26 34	120 10 24	5.00	2.00	2.00	.200	700	N	N	N
HH001R1	41 0 0	120 52 15	10.00	.20	.05	.200	150	20.0	<200	N
HH001R2	41 0 0	120 52 15	5.00	.20	.07	.500	500	30.0	N	N
HH001R3	41 0 0	120 52 15	.50	.10	.07	.150	100	30.0	N	N
HH001R4	41 0 0	120 52 15	10.00	5.00	5.00	.500	1,000	N	N	N
SW003R1	41 28 20	120 11 43	.20	.05	.10	.070	10	N	N	N
SW005R1	41 27 56	120 10 48	3.00	2.00	2.00	.500	700	N	N	N
SW005R2	41 27 56	120 10 48	3.00	2.00	1.00	.200	700	N	N	N
SW005R3	41 27 56	120 10 48	2.00	1.50	20.00	.100	500	N	N	N
SW007R1	41 26 56	120 10 30	15.00	.02	.05	.002	500	N	N	N
SW010R1	41 23 36	120 8 51	10.00	5.00	15.00	.150	5,000	N	N	N
SW013R1	41 21 29	120 7 53	2.00	1.50	2.00	.200	200	N	N	N
SW021R1	41 13 20	120 6 37	.50	.50	5.00	.050	100	N	N	N
SW021R2	41 13 20	120 6 37	.15	.20	3.00	.015	20	N	N	N
WMS12	41 28 32	120 10 56	3.00	2.00	1.00	.500	700	<.5	N	N
WMS14B	41 22 19	120 8 36	5.00	3.00	3.00	.500	700	N	N	N
WMS14C	41 22 19	120 8 36	2.00	.70	2.00	.200	700	N	N	N
WMS15	41 22 18	120 8 28	3.00	3.00	5.00	.300	1,000	N	N	N
WMS16	41 22 18	120 8 28	3.00	5.00	5.00	.700	2,000	N	N	N
WMS17	41 22 17	120 8 30	7.00	2.00	2.00	.500	500	N	<200	N
WMS188C	41 28 25	120 11 13	1.00	.07	2.00	.005	300	N	N	N
WMS188D	41 28 25	120 11 13	3.00	.10	3.00	.150	700	N	N	N
WMS188E	41 28 25	120 11 13	5.00	.30	5.00	.700	700	N	N	N
WMS188F	41 28 25	120 11 13	5.00	.20	1.00	.700	500	N	N	N
WMS189	41 28 24	120 11 13	5.00	3.00	3.00	.700	1,000	N	N	N
WMS18A	41 22 15	120 8 34	2.00	.50	5.00	.100	300	N	N	N
WMS19	41 22 12	120 8 42	.10	.10	5.00	.020	100	N	N	N
WMS190A	41 28 27	120 11 13	15.00	2.00	5.00	.500	5,000	N	N	N
WMS191A	41 28 26	120 11 12	2.00	.20	.70	.150	200	<.5	N	N
WMS192	41 28 30	120 11 15	7.00	5.00	3.00	.500	1,500	N	N	N
WMS193	41 28 30	120 11 17	7.00	3.00	3.00	.500	1,500	N	N	N
WMS194	41 28 25	120 11 23	5.00	3.00	3.00	.500	700	N	N	N
WMS195A	41 28 28	120 11 23	2.00	.20	>20.00	.150	2,000	N	N	N
WMS195C	41 28 28	120 11 23	1.00	.50	1.50	.100	300	N	N	N
WMS196A	41 28 31	120 11 23	5.00	1.00	2.00	.700	300	N	200	N
WMS196B	41 28 31	120 11 23	7.00	2.00	3.00	.700	100	N	N	N
WMS198A	41 28 37	120 11 25	.10	.05	.15	.020	15	N	N	N
WMS198B	41 28 37	120 11 25	3.00	.07	.15	.500	20	N	N	N
WMS199	41 28 32	120 11 29	5.00	5.00	2.00	.500	1,500	N	N	N
WMS200	41 28 33	120 11 28	10.00	5.00	3.00	.700	2,000	N	N	N
WMS201A	41 28 33	120 11 27	5.00	2.00	2.00	.300	1,000	N	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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	Ga-ppm	Ge-ppm	La-ppm s
D64B	10	700	N	N	N	30	N	30	--	--	N
D74B	<10	700	<1.0	N	N	5	15	<5	--	--	N
D75B	10	700	1.0	N	N	20	70	20	--	--	20
D93B	20	700	<1.0	N	N	30	150	100	--	--	20
D94B	15	500	<1.0	N	N	20	10	50	--	--	20
HH001R1	<10	700	1.0	N	N	N	10	5	--	--	N
HH001R2	<10	700	1.5	N	N	<5	10	7	--	--	<20
HH001R3	10	500	1.0	N	N	N	N	5	--	--	N
HH001R4	<10	700	N	N	N	30	100	50	--	--	<20
SW003R1	20	50	1.0	N	N	N	20	5	--	--	N
SW005R1	15	1,000	1.0	N	N	7	N	50	--	--	<20
SW005R2	30	300	1.0	N	N	10	<10	20	--	--	N
SW005R3	>2,000	<20	<1.0	N	N	7	30	7	--	--	N
SW007R1	200	N	1.5	N	N	5	10	7	--	--	N
SW010R1	100	1,000	1.0	N	N	10	70	5	--	--	100
SW013R1	20	500	1.5	N	N	7	30	30	--	--	N
SW021R1	10	N	N	N	N	5	N	10	--	--	N
SW021R2	10	N	N	N	N	N	N	5	--	--	N
WMS12	50	700	1.0	N	N	10	20	30	50	N	<50
WMS14B	15	700	2.0	N	N	20	150	50	30	N	<50
WMS14C	30	1,000	2.0	N	N	<10	20	30	20	N	50
WMS15	10	50	2.0	N	N	<10	10	30	50	N	50
WMS16	10	700	2.0	N	N	10	150	70	50	N	<50
WMS17	10	700	3.0	N	N	10	100	70	30	N	<50
WMS188C	10	30	1.5	N	N	<10	N	5	5	N	N
WMS188D	10	50	1.0	N	N	15	50	50	10	N	N
WMS188E	10	70	1.5	N	N	20	200	50	30	N	50
WMS188F	20	50	1.5	N	N	15	200	70	15	N	N
WMS189	10	1,000	1.0	N	N	50	100	70	50	N	50
WMS18A	<10	70	N	N	N	<10	<10	7	15	N	N
WMS19	<10	<20	<1.0	N	N	N	N	<5	<5	N	N
WMS190A	10	1,000	1.5	N	N	30	100	50	50	N	N
WMS191A	15	100	1.5	N	N	<10	500	500	10	N	N
WMS192	10	500	1.5	N	N	30	500	70	20	N	N
WMS193	15	1,000	1.5	N	N	20	100	50	50	N	N
WMS194	10	500	2.0	N	N	30	100	70	15	N	N
WMS195A	50	20	1.0	N	N	<10	70	20	15	N	N
WMS195C	30	300	3.0	N	N	<10	30	7	N	N	N
WMS196A	<10	700	<1.0	N	N	<10	70	50	20	N	N
WMS196B	10	700	1.5	N	N	50	70	70	20	N	N
WMS198A	10	200	2.0	N	N	N	N	<5	N	N	N
WMS198B	10	100	2.0	N	N	<10	50	50	5	<10	N
WMS199	<10	300	1.0	N	N	20	70	70	20	N	N
WMS200	<10	500	1.0	N	N	50	100	70	50	N	N
WMS201A	10	500	1.0	N	N	15	70	50	10	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	Mo-ppm s	Na-pct	Nb-ppm s	Ni-ppm s	P-pct	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s
D64B	N	--	N	5	--	10	N	20	N	500	200
D74B	N	--	<20	5	--	20	N	<5	N	N	20
D75B	N	--	<20	30	--	10	N	10	N	300	100
D93B	N	--	<20	30	--	10	N	30	N	500	200
D94B	N	--	<20	7	--	20	N	15	N	500	150
HH001R1	10	--	N	<5	--	10	N	10	N	100	150
HH001R2	5	--	N	<5	--	20	N	15	N	100	100
HH001R3	N	--	N	5	--	N	N	5	N	<100	20
HH001R4	N	--	N	70	--	10	N	20	N	500	200
SW003R1	N	--	N	5	--	N	N	5	N	<100	50
SW005R1	N	--	N	<5	--	10	N	10	N	700	70
SW005R2	N	--	N	5	--	10	N	15	N	200	70
SW005R3	N	--	N	20	--	N	N	15	N	100	70
SW007R1	N	--	N	10	--	N	N	N	N	100	100
SW010R1	N	--	N	50	--	N	N	15	N	150	100
SW013R1	10	--	N	15	--	N	N	10	N	1,000	150
SW021R1	N	--	N	10	--	N	N	5	N	500	15
SW021R2	N	--	N	<5	--	N	N	N	N	700	10
WMS12	N	2.0	N	5	<.2	70	N	15	N	1,000	150
WMS14B	N	2.0	N	70	<.2	50	N	15	N	500	150
WMS14C	N	2.0	N	5	<.2	30	N	10	N	500	100
WMS15	N	.3	N	<5	<.2	50	N	10	N	300	70
WMS16	N	2.0	N	30	<.2	30	N	15	N	500	200
WMS17	100	2.0	N	10	<.2	30	N	15	N	700	150
WMS188C	N	<.2	N	5	N	N	N	<5	N	N	30
WMS188D	N	<.2	N	10	N	10	N	10	N	N	100
WMS188E	N	N	N	20	.2	30	N	20	N	<100	300
WMS188F	N	<.2	N	7	.2	15	N	20	N	N	200
WMS189	N	3.0	N	50	.2	20	N	20	N	300	200
WMS18A	N	<.2	N	<5	N	<10	N	5	N	100	70
WMS19	N	<.2	N	<5	N	N	N	<5	N	<100	20
WMS190A	N	3.0	N	50	.2	20	N	20	N	500	200
WMS191A	N	<.2	N	5	<.2	20	N	10	N	N	100
WMS192	N	1.5	N	70	<.2	20	N	20	N	300	200
WMS193	N	3.0	N	20	<.2	30	N	15	N	500	200
WMS194	N	2.0	N	30	<.2	20	N	15	N	500	200
WMS195A	N	.2	N	20	<.2	50	N	10	N	100	150
WMS195C	N	1.0	N	<5	<.2	N	N	5	N	3,000	30
WMS196A	20	2.0	N	5	<.2	20	N	30	N	3,000	200
WMS196B	N	1.5	N	5	<.2	15	N	20	N	700	200
WMS198A	N	N	N	<5	N	N	N	N	N	100	50
WMS198B	N	N	N	<5	<.2	10	N	7	N	N	150
WMS199	N	3.0	N	10	<.2	15	N	20	N	500	200
WMS200	N	2.0	N	50	<.2	20	N	30	N	500	200
WMS201A	N	1.0	N	7	<.2	10	N	15	N	500	150

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp	Au-ppm faa	Hg-ppm aa
D64B	N	15	N	70	--	N	--	--	--	--	--	<.02
D74B	N	<10	N	30	--	N	--	--	--	--	--	.26
D75B	N	20	N	100	--	N	--	--	--	--	--	.30
D93B	N	20	N	30	--	N	--	--	--	--	--	.04
D94B	N	20	N	50	--	N	--	--	--	--	--	.02
HH001R1	N	20	N	100	N	38.00	<2	<.1	6	18	--	--
HH001R2	N	30	N	150	N	190.00	<2	.4	30	35	--	--
HH001R3	N	10	N	100	N	79.00	<2	.3	3	43	--	--
HH001R4	N	20	N	70	N	21.00	<2	.1	<2	18	--	--
SW003R1	N	<10	N	<10	N	7.00	<2	<.1	<2	3	.140	--
SW005R1	N	10	N	50	N	<5.00	<2	.2	<2	41	.015	--
SW005R2	N	15	N	100	N	<5.00	<2	<.1	<2	12	.060	--
SW005R3	N	N	N	20	N	12.00	<2	.5	5	20	<.002	--
SW007R1	N	N	N	N	N	33.00	<2	.8	<2	8	.002	--
SW010R1	N	100	200	70	N	22.00	<2	<.1	<2	9	<.002	--
SW013R1	N	10	N	30	N	31.00	<2	.6	<2	46	<.002	--
SW021R1	N	<10	N	N	N	<5.00	<2	<.1	<2	4	.002	--
SW021R2	N	<10	N	N	N	<5.00	<2	<.1	<2	<2	<.002	--
WMS12	N	20	<200	100	N	<5.00	<2	1.1	<2	100	--	--
WMS14B	N	15	<200	100	N	5.00	<2	.4	<2	49	--	--
WMS14C	N	15	N	100	N	<5.00	<2	.1	<2	58	--	--
WMS15	N	20	N	200	N	<5.00	<2	.3	<2	35	--	--
WMS16	N	15	<200	100	N	<5.00	<2	.6	<2	55	--	--
WMS17	N	15	<200	70	N	99.00	<2	.9	2	42	--	--
WMS188C	N	<10	N	N	N	<5.00	<2	<.1	<2	18	--	--
WMS188D	N	15	N	50	N	<5.00	<2	.4	<2	27	--	--
WMS188E	N	20	N	100	N	12.00	<2	1.0	<2	39	--	--
WMS188F	N	20	N	100	N	9.00	<2	.7	<2	32	--	--
WMS189	N	20	<200	100	N	9.00	<2	.9	<2	69	--	--
WMS18A	N	10	N	20	N	<5.00	<2	<.1	<2	22	--	--
WMS19	N	10	N	<10	N	<5.00	<2	<.1	<2	3	--	--
WMS190A	N	30	N	100	N	10.00	<2	1.2	<2	54	--	--
WMS191A	N	N	N	50	N	9.00	<2	.2	<2	12	--	--
WMS192	N	20	N	70	N	8.00	<2	1.0	<2	64	--	--
WMS193	N	20	N	150	N	<5.00	<2	.5	<2	66	--	--
WMS194	N	20	N	100	N	7.00	<2	.9	<2	41	--	--
WMS195A	N	20	N	70	N	<5.00	<2	.5	<2	13	--	--
WMS195C	N	<10	N	50	N	<5.00	<2	<.1	<2	9	--	--
WMS196A	N	10	N	70	N	170.00	<2	1.0	<2	40	--	--
WMS196B	N	15	N	70	N	6.00	<2	1.0	<2	63	--	--
WMS198A	N	<10	N	N	N	<5.00	<2	<.1	<2	<2	--	--
WMS198B	N	15	N	150	N	<5.00	<2	.1	<2	6	--	--
WMS199	N	20	<200	70	N	10.00	<2	1.0	<2	77	--	--
WMS200	N	30	<200	100	N	6.00	<2	1.0	<2	74	--	--
WMS201A	N	15	N	50	N	<5.00	<2	.3	<2	26	--	--

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
WMS201B	41 28 33	120 11 27	5.00	2.00	2.00	.500	1,000	<.5	N	N
WMS201C	41 28 33	120 11 27	2.00	1.00	.20	.020	500	N	N	N
WMS202	41 28 34	120 11 27	3.00	3.00	3.00	.500	1,000	N	N	N
WMS203A	41 28 37	120 11 26	1.50	.20	.20	.200	150	N	N	N
WMS203B	41 28 37	120 11 36	.05	.02	.10	<.002	100	N	N	N
WMS204	41 28 37	120 11 27	3.00	1.50	1.50	.300	700	N	N	N
WMS205	41 28 38	120 11 25	5.00	3.00	1.00	.500	700	N	N	N
WMS207A	41 28 39	120 11 26	1.50	.10	.10	.200	50	N	N	N
WMS207B	41 28 39	120 11 26	1.00	.20	.20	.100	50	N	N	N
WMS209	41 28 30	120 11 25	5.00	1.50	1.50	.500	500	N	N	N
WMS20A	41 22 23	120 8 31	10.00	3.00	2.00	.500	500	N	N	N
WMS20B	41 22 23	120 8 31	10.00	2.00	3.00	.500	500	N	N	N
WMS20C	41 22 23	120 8 31	5.00	3.00	3.00	.700	1,000	N	N	N
WMS210	41 28 31	120 11 27	5.00	.10	.15	.500	200	N	N	N
WMS211	41 28 30	120 11 28	5.00	.15	.15	.150	50	N	N	N
WMS212	41 28 30	120 11 28	5.00	.20	.20	.500	200	N	N	N
WMS213	41 28 31	120 11 27	5.00	.30	.20	.200	300	N	N	N
WMS214A	41 28 30	120 11 28	3.00	.15	.15	.300	150	<.5	N	N
WMS214B	41 28 30	120 11 28	1.00	.10	.20	.150	100	<.5	N	N
WMS214C	41 28 30	120 11 28	3.00	.07	.20	.700	50	N	N	N
WMS214D	41 28 30	120 11 28	2.00	.15	.15	.700	150	N	N	N
WMS215	41 28 29	120 11 30	1.00	.02	.15	.100	30	N	300	N
WMS216	41 28 28	120 11 33	1.00	.05	.07	.200	50	N	N	N
WMS217	41 28 30	120 11 30	3.00	1.00	20.00	.150	2,000	N	N	N
WMS218A	41 28 32	120 11 25	2.00	.10	.50	.200	200	N	N	N
WMS218B	41 28 32	120 11 25	.05	.02	.20	.002	20	N	N	N
WMS219A	41 28 33	120 11 25	5.00	1.00	.15	.200	500	<.5	N	N
WMS219B	41 28 33	120 11 25	7.00	5.00	2.00	.500	1,000	N	N	N
WMS220	41 28 33	120 11 23	3.00	.20	3.00	.200	1,000	N	N	N
WMS221	41 28 33	120 11 22	15.00	.10	.20	.150	20	N	1,000	N
WMS222	41 28 20	120 11 31	5.00	.10	.20	.500	150	N	N	N
WMS223	41 28 20	120 11 29	10.00	5.00	2.00	.700	2,000	N	N	N
WMS224A	41 28 22	120 11 29	10.00	.70	1.50	.700	300	N	700	N
WMS224B	41 28 22	120 11 29	10.00	5.00	2.00	.700	2,000	N	N	N
WMS225	41 28 13	120 11 27	10.00	3.00	3.00	.700	1,000	N	N	N
WMS226	41 28 13	120 11 27	.07	.05	.20	.030	15	N	N	N
WMS227A	41 28 5	120 11 15	2.00	1.00	2.00	.200	700	N	N	N
WMS227B	41 28 5	120 11 15	3.00	1.00	2.00	.200	500	N	N	N
WMS228	41 27 47	120 11 42	5.00	3.00	3.00	.500	1,000	N	N	N
WMS229A	41 27 40	120 11 1	5.00	3.00	2.00	.500	1,000	N	N	N
WMS229B	41 27 40	120 11 1	5.00	2.00	3.00	.500	1,000	N	N	N
WMS230A	41 30 16	120 12 37	1.00	.02	.05	.200	10	N	200	N
WMS230B	41 30 16	120 12 37	1.50	.05	.05	.500	20	N	N	N
WMS230C1	41 20 16	120 11 37	7.00	.10	.20	.700	1,000	N	<200	N
WMS230C2	41 30 16	120 12 37	3.00	.05	.15	.200	700	N	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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	Ga-ppm	Ge-ppm	La-ppm s
WMS201B	10	300	2.0	N	N	30	70	70	30	N	N
WMS201C	100	100	1.0	N	N	10	N	<5	N	N	N
WMS202	<10	300	1.5	N	N	30	100	100	50	N	N
WMS203A	10	100	2.0	N	N	<10	15	10	10	<10	N
WMS203B	10	150	2.0	N	N	N	N	<5	N	N	N
WMS204	15	700	3.0	N	N	<10	N	30	20	N	<50
WMS205	10	300	1.0	N	N	20	50	70	30	N	N
WMS207A	10	50	2.0	N	N	<10	50	20	5	<10	50
WMS207B	10	100	3.0	N	N	<10	30	5	5	N	N
WMS209	20	500	1.0	N	N	<10	30	50	20	N	N
WMS20A	<10	700	1.5	N	N	<10	150	50	20	N	N
WMS20B	<10	300	2.0	N	N	<10	100	50	50	N	N
WMS20C	20	700	1.5	N	N	20	100	100	50	N	<50
WMS210	<10	70	2.0	N	N	N	150	30	15	N	N
WMS211	10	50	1.5	N	N	N	200	15	10	N	N
WMS212	10	50	3.0	N	N	20	200	100	15	N	N
WMS213	<10	5,000	1.5	N	N	15	100	70	10	N	N
WMS214A	<10	200	2.0	N	N	15	50	150	15	N	N
WMS214B	<10	>5,000	1.0	N	N	<10	20	100	10	N	N
WMS214C	<10	300	1.5	N	N	<10	100	50	20	N	N
WMS214D	<10	50	1.5	N	N	10	30	100	15	N	<50
WMS215	10	50	1.0	N	N	30	30	20	5	<10	N
WMS216	<10	100	1.5	N	N	<10	100	30	10	<10	N
WMS217	N	50	1.0	N	N	20	100	20	20	N	N
WMS218A	10	70	3.0	N	N	10	200	20	10	<10	N
WMS218B	<10	150	2.0	N	N	N	N	N	N	N	<50
WMS219A	<10	50	3.0	N	N	50	200	70	20	N	N
WMS219B	<10	700	1.5	N	N	30	70	70	30	N	N
WMS220	<10	20	2.0	N	N	10	50	50	10	N	N
WMS221	<10	20	<1.0	N	N	N	50	50	10	N	N
WMS222	10	50	1.5	N	N	10	200	70	15	N	N
WMS223	<10	700	1.0	N	N	30	50	50	50	N	N
WMS224A	<10	1,500	1.0	N	N	10	200	50	20	N	N
WMS224B	<10	500	1.0	N	N	20	200	100	50	N	N
WMS225	10	300	1.0	N	N	30	100	50	30	N	N
WMS226	10	1,000	1.5	N	N	N	N	15	15	N	50
WMS227A	15	1,000	2.0	N	N	10	10	15	20	N	<50
WMS227B	10	1,000	3.0	N	N	10	<10	20	15	N	<50
WMS228	10	700	2.0	N	N	30	50	100	30	N	N
WMS229A	<10	500	2.0	N	N	30	30	70	15	N	N
WMS229B	15	500	2.0	N	N	15	<10	100	20	N	N
WMS230A	50	>5,000	1.0	N	N	N	20	7	10	<10	<50
WMS230B	50	500	1.0	N	N	N	50	10	15	<10	N
WMS230C1	50	700	2.0	N	N	20	10	70	10	<10	N
WMS230C2	30	500	1.5	N	N	20	<10	20	10	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	Mo-ppm s	Na-pct	Nb-ppm s	Ni-ppm s	P-pct	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s
WMS201B	N	2.0	N	20	<.2	15	N	20	N	500	200
WMS201C	N	.2	N	5	N	N	N	N	N	200	30
WMS202	N	2.0	N	30	<.2	15	N	20	N	500	200
WMS203A	N	<.2	N	5	<.2	N	N	7	N	N	70
WMS203B	N	<.2	N	<5	<.2	N	N	N	N	N	10
WMS204	N	1.0	N	5	.2	20	N	10	N	5,000	50
WMS205	N	2.0	N	30	.2	15	N	15	N	300	150
WMS207A	N	N	<20	5	<.2	<10	N	7	N	N	100
WMS207B	N	N	N	5	<.2	N	N	5	N	N	100
WMS209	10	2.0	N	5	<.2	20	N	15	N	700	200
WMS20A	100	2.0	N	10	<.2	50	N	15	N	1,000	150
WMS20B	30	2.0	N	5	<.2	50	N	15	N	500	200
WMS20C	N	3.0	N	30	<.2	30	N	20	N	700	200
WMS210	<5	<.2	N	5	N	10	N	10	N	N	150
WMS211	N	<.2	N	<5	<.2	20	N	10	N	N	150
WMS212	<5	N	N	50	<.2	10	N	20	N	N	200
WMS213	<5	<.2	N	15	<.2	N	N	15	N	200	100
WMS214A	<5	<.2	N	10	<.2	<10	N	15	N	N	150
WMS214B	N	<.2	N	5	N	N	N	7	N	1,000	70
WMS214C	5	<.2	N	5	<.2	15	N	15	N	N	200
WMS214D	N	<.2	N	7	<.2	10	N	15	N	N	100
WMS215	20	<.2	N	15	N	50	N	<5	<10	N	150
WMS216	N	<.2	N	<5	<.2	10	N	10	N	N	100
WMS217	N	<.2	N	30	N	20	N	15	N	200	100
WMS218A	N	<.2	N	10	<.2	15	N	15	N	N	100
WMS218B	N	<.2	N	<5	N	N	N	N	N	<100	10
WMS219A	N	<.2	N	70	<.2	15	N	20	N	N	200
WMS219B	N	2.0	N	30	<.2	20	N	20	N	500	200
WMS220	N	<.2	N	5	<.2	<10	N	15	N	100	150
WMS221	100	.5	N	<5	N	N	N	10	N	N	200
WMS222	N	N	N	5	<.2	10	N	15	N	N	200
WMS223	N	3.0	N	15	N	20	N	20	N	500	200
WMS224A	30	2.0	N	5	<.2	20	N	20	N	5,000	200
WMS224B	N	3.0	N	30	<.2	30	N	20	N	700	200
WMS225	N	2.0	N	30	<.2	15	N	20	N	500	200
WMS226	N	2.0	N	<5	N	20	N	<5	N	100	<10
WMS227A	N	2.0	N	5	<.2	20	N	10	N	2,000	100
WMS227B	N	1.0	N	<5	<.2	20	N	10	N	2,000	50
WMS228	N	2.0	N	50	.2	30	N	15	N	700	200
WMS229A	N	1.5	N	30	<.2	15	N	15	N	500	150
WMS229B	N	2.0	N	5	<.2	15	N	15	N	5,000	200
WMS230A	N	<.2	N	<5	<.2	50	N	N	N	1,000	30
WMS230B	N	<.2	N	<5	<.2	30	N	N	N	300	70
WMS230C1	10	<.2	N	20	<.2	30	N	10	N	500	150
WMS230C2	5	<.2	N	10	<.2	15	N	5	N	200	100

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp	Au-ppm faa	Hg-ppm aa
WMS201B	N	20	<200	100	N	<5.00	<2	1.0	<2	60	--	--
WMS201C	N	N	N	15	N	<5.00	<2	<.1	<2	3	--	--
WMS202	N	20	200	100	N	7.00	<2	.8	<2	60	--	--
WMS203A	N	10	<200	100	N	<5.00	<2	<.1	<2	22	--	--
WMS203B	N	N	N	<10	N	<5.00	<2	<.1	<2	2	--	--
WMS204	N	15	N	150	N	6.00	<2	.5	<2	58	--	--
WMS205	N	10	N	70	N	7.00	<2	.8	<2	60	--	--
WMS207A	N	20	N	200	N	6.00	<2	.1	<2	11	--	--
WMS207B	N	N	N	30	N	6.00	<2	<.1	<2	11	--	--
WMS209	N	10	<200	70	N	79.00	<2	1.1	<2	63	--	--
WMS20A	N	10	N	70	N	45.00	<2	.9	<2	37	--	--
WMS20B	N	10	N	100	N	37.00	<2	.8	<2	38	--	--
WMS20C	N	20	N	70	N	12.00	<2	.6	<2	69	--	--
WMS210	N	10	N	70	N	7.00	<2	.1	<2	6	--	--
WMS211	N	10	N	50	N	6.00	<2	.2	2	3	--	--
WMS212	N	15	N	100	N	15.00	<2	.4	3	35	--	--
WMS213	N	10	N	70	N	14.00	<2	.2	<2	21	--	--
WMS214A	N	10	N	70	N	9.00	<2	.2	<2	22	--	--
WMS214B	N	<10	N	50	N	6.00	<2	.1	<2	17	--	--
WMS214C	N	10	N	100	N	16.00	<2	.2	<2	7	--	--
WMS214D	N	20	N	100	N	<5.00	<2	.1	<2	23	--	--
WMS215	N	N	N	30	N	190.00	<2	.2	4	18	--	--
WMS216	N	<10	N	70	N	<5.00	<2	.1	<2	32	--	--
WMS217	N	20	N	50	N	<5.00	<2	1.4	<2	28	--	--
WMS218A	N	15	N	70	N	6.00	<2	.3	<2	11	--	--
WMS218B	N	<10	N	N	N	<5.00	<2	<.1	<2	<2	--	--
WMS219A	N	15	<200	70	N	16.00	<2	.6	<2	46	--	--
WMS219B	N	20	<200	100	N	<5.00	<2	1.4	<2	67	--	--
WMS220	N	15	N	70	N	<5.00	<2	.5	2	25	--	--
WMS221	N	<10	N	50	N	670.00	<2	2.0	12	19	--	--
WMS222	N	10	N	70	N	18.00	<2	.5	3	22	--	--
WMS223	N	20	N	70	N	16.00	<2	1.1	<2	62	--	--
WMS224A	N	10	N	100	N	500.00	<2	1.3	<2	40	--	--
WMS224B	N	20	<200	100	N	11.00	<2	1.4	<2	77	--	--
WMS225	N	20	<200	100	N	<5.00	<2	.9	<2	49	--	--
WMS226	N	15	N	70	N	<5.00	<2	<.1	<2	4	--	--
WMS227A	N	10	N	70	N	5.00	<2	.4	<2	34	--	--
WMS227B	N	20	N	150	N	15.00	<2	.4	<2	45	--	--
WMS228	N	15	<200	100	N	5.00	<2	.8	<2	62	--	--
WMS229A	N	15	N	100	N	<5.00	<2	.8	<2	64	--	--
WMS229B	N	20	N	100	N	9.00	<2	.7	<2	47	--	--
WMS230A	N	10	N	100	N	6.00	<2	<.1	5	<2	--	--
WMS230B	N	<10	N	70	N	10.00	<2	<.1	10	4	--	--
WMS230C1	N	15	200	150	N	42.00	<2	.4	13	110	--	--
WMS230C2	N	<10	<200	70	N	40.00	<2	.7	16	120	--	--

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
WMS231A	41 30 14	120 12 35	3.00	.30	.50	.300	700	N	N	N
WMS231B	41 30 14	120 12 35	2.00	.05	.15	.300	50	N	N	N
WMS232	41 30 14	120 12 35	3.00	.50	1.00	.200	1,000	N	N	N
WMS233	41 30 16	120 12 31	5.00	.30	.20	.300	1,000	N	N	N
WMS234	41 30 13	120 12 30	3.00	.07	.20	.500	1,500	<.5	N	N
WMS235	41 30 15	120 12 40	3.00	.50	1.50	.500	1,000	N	N	N
WMS236Z	41 30 15	120 12 40	3.00	2.00	2.00	.500	1,000	N	N	N
WMS237	41 30 23	120 12 30	3.00	.70	1.00	.150	700	N	N	N
WMS238	41 30 22	120 12 30	5.00	.10	.30	.700	1,500	N	N	N
WMS239	41 14 37	120 6 56	1.50	.10	.30	.100	300	<.5	N	N
WMS240A	41 14 42	120 6 57	5.00	1.00	2.00	.500	1,000	N	N	N
WMS240B	41 14 42	120 6 57	5.00	.50	1.50	.500	1,000	N	N	N
WMS241	41 14 42	120 7 6	5.00	1.00	1.50	.500	1,000	N	N	N
WMS242	41 14 30	120 6 44	1.50	.20	.50	.150	300	N	N	N
WMS243	41 14 59	120 5 2	1.50	.20	.30	.150	700	N	N	N
WMS244	41 14 57	120 5 9	1.50	.20	.30	.150	700	N	N	N
WMS245A	41 14 59	120 5 11	1.50	.20	.20	.150	700	N	N	N
WMS245B	41 14 59	120 5 11	3.00	.30	.20	.200	100	N	N	N
WMS246Z	41 15 10	120 4 58	5.00	1.50	2.00	.700	3,000	N	N	N
WMS247Z	41 14 53	120 6 12	2.00	.10	.20	.150	700	<.5	N	N
WMS248Z	41 14 57	12 6 20	3.00	.50	1.50	.500	1,000	N	N	N
WMS250Z	41 15 38	120 6 38	5.00	1.00	2.00	.700	700	N	N	N
WMS252A	41 16 15	120 5 54	5.00	3.00	2.00	.200	700	N	N	N
WMS252B	41 16 15	120 5 54	.50	.30	.30	.050	100	N	N	N
WMS253	41 16 11	120 6 0	5.00	3.00	3.00	.500	1,000	N	N	N
WMS254	41 16 10	120 6 1	7.00	3.00	3.00	.500	1,000	N	N	N
WMS255	41 16 6	120 6 0	10.00	5.00	3.00	.700	1,500	N	N	N
WMS256	41 16 5	120 6 0	7.00	2.00	2.00	.500	1,000	N	N	N
WMS257	41 15 58	120 5 57	5.00	1.00	2.00	.500	1,500	N	N	N
WMS258	41 15 52	120 6 9	10.00	1.00	2.00	.500	2,000	N	N	N
WMS259	41 15 55	120 6 11	5.00	1.00	2.00	.500	2,000	N	N	N
WMS262	41 15 55	120 5 17	15.00	3.00	3.00	.500	1,000	N	N	N
WMS263	41 16 19	120 6 30	3.00	.50	1.00	.100	700	N	N	N
WMS264	41 16 19	120 6 30	2.00	.15	.70	.070	1,000	N	N	N
WMS265	41 16 19	120 6 32	2.00	.10	5.00	.150	500	N	N	N
WMS266	41 16 20	120 6 33	10.00	5.00	3.00	1.000	1,000	N	N	N
WMS267	41 16 21	120 6 35	15.00	3.00	3.00	1.000	1,000	N	N	N
WMS268	41 16 15	120 6 42	7.00	2.00	2.00	1.000	700	N	N	N
WMS269	41 16 30	120 6 38	15.00	5.00	3.00	1.000	1,000	N	N	N
WMS270A	41 16 30	120 6 35	1.00	.20	.20	.150	500	N	N	N
WMS270B	41 16 30	120 6 35	1.00	.70	1.00	.150	500	N	N	N
WMS271	41 16 35	120 6 30	5.00	1.00	2.00	.300	700	10.0	N	N
WMS272	41 16 31	120 6 13	3.00	.70	1.50	.200	500	10.0	N	N
WMS273A	41 18 8	120 7 29	5.00	1.50	3.00	.500	1,000	N	N	N
WMS273B	41 18 8	120 7 29	5.00	3.00	2.00	.500	1,000	N	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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	Ga-ppm	Ge-ppm	La-ppm s
WMS231A	20	700	2.0	N	N	10	<10	15	30	N	<50
WMS231B	20	500	1.0	N	N	10	<10	20	15	N	N
WMS232	20	300	1.5	N	N	10	<10	70	15	N	N
WMS233	20	1,000	2.0	N	N	15	30	50	20	N	<50
WMS234	70	1,000	1.5	N	N	20	20	150	15	<10	<50
WMS235	70	1,000	3.0	N	N	10	<10	15	50	N	50
WMS236Z	100	1,000	3.0	N	N	<10	10	30	50	N	50
WMS237	15	700	1.0	N	N	10	N	7	15	N	N
WMS238	20	300	2.0	N	N	15	50	70	15	N	N
WMS239	10	1,000	1.5	N	N	N	100	<5	20	N	70
WMS240A	10	1,000	1.5	N	N	10	<10	5	30	N	<50
WMS240B	10	1,000	1.5	N	N	10	<10	5	30	N	50
WMS241	<10	1,000	1.5	N	N	10	<10	7	20	N	<50
WMS242	20	1,000	3.0	N	N	N	<10	<5	20	N	50
WMS243	20	1,000	3.0	N	N	N	N	70	20	N	70
WMS244	30	1,000	3.0	N	N	N	<10	<5	30	N	70
WMS245A	30	1,000	3.0	N	N	N	<10	<5	30	N	70
WMS245B	15	300	5.0	N	N	<10	50	20	20	N	50
WMS246Z	20	700	3.0	N	N	<10	10	<5	50	N	50
WMS247Z	20	700	3.0	N	N	N	N	5	30	N	50
WMS248Z	10	700	2.0	N	N	N	<10	<5	50	N	<50
WMS250Z	15	1,000	1.5	N	N	<10	10	<5	50	N	50
WMS252A	<10	700	1.5	N	N	30	100	50	20	N	<50
WMS252B	30	150	1.0	N	N	<10	N	10	N	N	N
WMS253	<10	1,000	1.5	N	N	50	150	70	30	N	<50
WMS254	<10	500	<1.0	N	N	30	100	100	50	N	N
WMS255	<10	700	1.0	N	N	50	20	150	50	N	N
WMS256	10	700	1.5	N	N	20	<10	20	30	N	N
WMS257	10	1,000	2.0	N	N	<10	<10	<5	50	N	50
WMS258	10	1,000	1.5	N	N	20	<10	<5	50	N	50
WMS259	10	1,000	1.5	N	N	10	<10	<5	50	N	50
WMS262	N	300	N	N	N	50	100	200	20	N	N
WMS263	15	200	3.0	N	N	N	<10	<5	70	N	100
WMS264	30	150	5.0	N	N	N	N	<5	50	N	70
WMS265	N	30	N	N	N	10	<10	15	N	N	N
WMS266	<10	700	<1.0	N	N	50	10	200	30	N	N
WMS267	<10	700	3.0	N	N	30	10	30	20	N	50
WMS268	<10	700	1.0	N	N	15	10	30	30	N	N
WMS269	<10	700	1.0	N	N	50	10	200	30	N	N
WMS270A	15	500	3.0	N	N	N	N	<5	20	N	50
WMS270B	10	500	3.0	N	N	N	N	5	20	N	50
WMS271	15	1,000	1.5	N	N	20	20	50	30	N	50
WMS272	20	700	2.0	N	N	<10	10	15	30	N	50
WMS273A	<10	500	1.5	N	N	10	10	50	50	N	<50
WMS273B	10	1,000	2.0	N	N	15	20	50	50	N	<50

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	Mo-ppm s	Na-pct	Nb-ppm s	Ni-ppm s	P-pct	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s
WMS231A	N	1.5	N	<5	.3	70	N	7	N	<100	100
WMS231B	<5	1.0	N	<5	.2	50	N	5	N	<100	70
WMS232	N	N	N	<5	<.2	10	N	7	N	N	100
WMS233	<5	<.2	N	5	.2	15	N	15	N	N	150
WMS234	<5	<.2	N	7	.2	30	N	10	N	1,000	100
WMS235	N	3.0	N	5	.2	50	N	10	N	500	50
WMS236Z	7	3.0	<20	<5	<.2	70	N	15	N	500	70
WMS237	N	1.5	N	<5	<.2	15	N	<5	N	300	20
WMS238	10	<.2	N	5	.2	20	N	10	N	N	150
WMS239	<5	3.0	<20	<5	N	30	N	7	N	100	10
WMS240A	N	2.0	N	<5	.2	20	N	15	N	500	100
WMS240B	N	2.0	N	<5	.2	20	N	15	N	500	70
WMS241	N	2.0	N	<5	.2	15	N	10	N	500	70
WMS242	<5	3.0	N	<5	<.2	30	N	5	N	100	10
WMS243	<5	3.0	N	<5	<.2	50	N	5	N	100	10
WMS244	<5	3.0	N	<5	<.2	50	N	5	N	100	10
WMS245A	<5	2.0	N	<5	N	50	N	5	N	<100	10
WMS245B	N	.3	N	10	N	20	N	20	N	<100	70
WMS246Z	<5	2.0	<20	<5	.2	50	N	15	N	500	50
WMS247Z	N	3.0	<20	<5	N	70	N	<5	N	N	10
WMS248Z	<5	2.0	N	<5	<.2	20	N	10	N	300	30
WMS250Z	<5	3.0	<20	<5	<.2	20	N	15	N	300	50
WMS252A	N	3.0	N	70	<.2	15	N	15	N	200	100
WMS252B	N	.7	N	7	N	N	N	N	N	N	15
WMS253	N	2.0	N	100	N	20	N	20	N	500	150
WMS254	N	2.0	N	50	<.2	N	N	30	N	500	200
WMS255	N	2.0	N	70	<.2	10	N	20	N	500	200
WMS256	N	2.0	N	5	<.2	15	N	20	N	500	150
WMS257	N	3.0	N	<5	.2	30	N	15	N	500	50
WMS258	N	3.0	N	<5	.2	20	N	20	N	500	100
WMS259	N	3.0	N	<5	.2	20	N	15	N	500	100
WMS262	N	1.5	N	100	<.2	N	N	20	N	500	200
WMS263	5	5.0	<20	<5	N	50	N	10	N	N	15
WMS264	10	3.0	<20	<5	N	70	N	10	<10	N	N
WMS265	N	1.0	N	20	N	N	N	5	N	<100	50
WMS266	N	2.0	N	70	<.2	10	N	20	N	500	200
WMS267	N	1.5	N	<5	.3	15	N	30	N	500	200
WMS268	N	2.0	N	5	.2	10	N	20	N	500	100
WMS269	N	2.0	N	70	.2	10	N	30	N	700	300
WMS270A	N	2.0	N	<5	N	50	N	5	N	N	10
WMS270B	N	2.0	N	<5	N	50	N	5	N	200	10
WMS271	N	3.0	N	10	<.2	15	N	15	N	300	150
WMS272	N	1.5	N	<5	<.2	50	N	7	N	300	50
WMS273A	N	2.0	N	5	<.2	15	N	15	N	700	200
WMS273B	N	2.0	N	5	<.2	50	N	15	N	700	200

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp	Au-ppm faa	Hg-ppm aa
WMS231A	N	20	N	100	N	19.00	<2	.9	6	53	--	--
WMS231B	N	<10	N	150	N	23.00	<2	.2	5	10	--	--
WMS232	N	10	N	150	N	7.00	<2	.5	3	35	--	--
WMS233	N	20	<200	150	N	6.00	<2	.7	2	84	--	--
WMS234	N	15	<200	150	N	19.00	<2	.9	24	96	--	--
WMS235	N	30	<200	200	N	6.00	<2	.4	<2	74	--	--
WMS236Z	N	50	N	500	N	7.00	<2	.2	<2	19	--	--
WMS237	N	10	N	100	N	<5.00	<2	.6	<2	55	--	--
WMS238	N	15	N	150	N	20.00	<2	.8	<2	76	--	--
WMS239	N	30	N	150	N	<5.00	<2	.1	<2	30	--	--
WMS240A	N	50	<200	150	N	<5.00	<2	.6	<2	64	--	--
WMS240B	N	50	<200	150	N	<5.00	<2	.8	<2	79	--	--
WMS241	N	30	<200	150	N	<5.00	<2	.4	<2	55	--	--
WMS242	N	30	N	150	N	<5.00	<2	<.1	<2	41	--	--
WMS243	N	30	N	200	N	<5.00	<2	<.1	<2	23	--	--
WMS244	N	30	N	100	N	<5.00	<2	<.1	<2	9	--	--
WMS245A	N	30	N	150	N	<5.00	<2	<.1	<2	13	--	--
WMS245B	N	20	N	200	N	6.00	<2	.3	<2	34	--	--
WMS246Z	N	50	200	200	N	<5.00	<2	.1	<2	35	--	--
WMS247Z	N	20	N	150	N	<5.00	<2	<.1	<2	51	--	--
WMS248Z	N	30	N	150	N	<5.00	<2	.3	<2	64	--	--
WMS250Z	N	50	N	200	N	<5.00	<2	.3	<2	65	--	--
WMS252A	N	20	<200	100	N	<5.00	<2	.3	<2	34	--	--
WMS252B	N	N	N	30	N	<5.00	<2	<.1	<2	3	--	--
WMS253	N	30	<200	100	N	<5.00	<2	.6	<2	39	--	--
WMS254	N	20	200	50	N	<5.00	<2	1.2	<2	55	--	--
WMS255	N	20	200	70	N	<5.00	<2	1.8	<2	79	--	--
WMS256	N	20	<200	100	N	<5.00	<2	.6	<2	46	--	--
WMS257	N	30	200	150	N	<5.00	<2	.4	<2	39	--	--
WMS258	N	30	<200	100	N	<5.00	<2	.8	<2	52	--	--
WMS259	N	50	<200	150	N	<5.00	<2	.2	<2	14	--	--
WMS262	N	15	<200	50	N	<5.00	<2	1.2	<2	49	--	--
WMS263	N	50	<200	200	N	<5.00	<2	.2	<2	78	--	--
WMS264	N	50	N	200	N	<5.00	<2	<.1	<2	4	--	--
WMS265	N	10	N	15	N	<5.00	<2	.4	<2	16	--	--
WMS266	N	20	200	70	N	<5.00	<2	1.6	<2	76	--	--
WMS267	N	50	200	150	N	<5.00	<2	2.0	<2	110	--	--
WMS268	N	30	200	100	N	<5.00	<2	1.2	<2	100	--	--
WMS269	N	30	200	100	N	<5.00	<2	1.3	<2	84	--	--
WMS270A	N	15	N	70	N	<5.00	<2	<.1	<2	22	--	--
WMS270B	N	15	N	100	N	<5.00	<2	<.1	<2	13	--	--
WMS271	N	20	N	100	N	<5.00	<2	.2	<2	31	--	--
WMS272	N	15	N	150	N	8.00	<2	.2	<2	34	--	--
WMS273A	N	20	N	100	N	<5.00	<2	.8	<2	38	--	--
WMS273B	N	20	N	150	N	<5.00	<2	.8	<2	39	--	--

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
WMS274	41 18 7	120 7 30	3.00	.70	1.00	.300	1,000	N	N	N
WMS275A	41 18 6	120 7 29	5.00	.30	3.00	.700	2,000	N	N	N
WMS275B	41 18 6	120 7 29	10.00	.70	3.00	.700	1,000	N	N	N
WMS276	41 18 12	120 7 36	2.00	.70	1.50	.150	500	<.5	N	N
WMS277	41 18 9	120 7 28	5.00	.50	2.00	.700	700	N	N	N
WMS278	41 18 8	120 7 39	2.00	.50	1.50	.300	700	N	N	N
WMS279	41 18 2	120 7 42	3.00	2.00	1.50	.200	700	N	N	N
WMS280	41 18 4	120 7 45	3.00	1.00	1.50	.200	700	N	N	N
WMS281	41 17 50	120 7 48	5.00	5.00	5.00	.500	2,000	N	N	N
WMS282	41 17 53	120 7 50	1.00	.20	1.00	.100	1,000	N	N	N
WMS283	41 17 57	120 7 45	5.00	1.00	3.00	.700	2,000	N	N	N
WMS284	41 17 58	120 7 47	2.00	.30	.70	.200	300	N	N	N
WMS285	41 18 23	120 7 46	3.00	.70	5.00	.700	3,000	N	N	N
WMS286A	41 18 21	120 7 46	5.00	.70	3.00	.700	2,000	N	N	N
WMS286B	41 18 21	120 7 46	10.00	.50	1.50	.700	700	<.5	N	N
WMS287	41 18 3	120 7 59	10.00	3.00	3.00	.700	3,000	1.0	N	N
WMS288	41 21 12	120 7 49	5.00	2.00	3.00	.200	1,000	N	N	N
WMS289A	41 20 54	120 7 55	5.00	3.00	2.00	.200	700	N	N	N
WMS289B	41 20 54	120 7 55	5.00	3.00	2.00	.200	700	N	N	N
WMS289C	41 20 54	120 7 55	7.00	5.00	5.00	.300	700	N	N	N
WMS289D	41 20 54	120 7 55	5.00	3.00	3.00	.700	700	N	N	N
WMS291	41 20 52	120 7 55	7.00	3.00	3.00	.700	2,000	N	N	N
WMS292A	41 20 50	120 8 7	5.00	2.00	2.00	.500	1,000	N	N	N
WMS292B	41 20 50	120 8 7	2.00	.50	3.00	.100	300	5.0	N	N
WMS293	41 20 44	120 8 4	3.00	3.00	3.00	.300	1,000	N	N	N
WMS294	41 20 37	120 8 12	5.00	3.00	2.00	.700	3,000	N	N	N
WMS295A	41 20 35	120 8 2	3.00	.70	1.50	.200	700	N	N	N
WMS295B	41 20 35	120 8 2	3.00	.15	5.00	.500	1,000	<.5	N	N
WMS296A	41 23 43	120 8 59	10.00	3.00	2.00	.500	1,000	N	N	N
WMS296B	41 23 43	120 8 59	3.00	1.00	2.00	.500	500	N	N	N
WMS297	41 23 41	120 9 5	15.00	3.00	3.00	.700	1,000	N	N	N
WMS298	41 23 30	120 23 38	5.00	2.00	3.00	.700	1,000	N	N	N
WMS299	41 23 32	120 23 36	10.00	3.00	7.00	.700	1,000	N	N	N
WMS300	41 23 22	120 8 59	15.00	5.00	5.00	.700	5,000	N	N	N
WMS301	41 26 35	120 10 17	5.00	3.00	3.00	.700	2,000	N	N	N
WMS302	41 26 34	120 10 22	5.00	7.00	5.00	.300	2,000	N	N	N
WMS303A	41 26 30	120 10 33	10.00	5.00	5.00	.700	5,000	N	N	N
WMS304	41 26 37	120 10 47	5.00	2.00	.30	.500	1,000	N	N	N
WMS305A	41 28 22	120 11 0	2.00	.30	.30	.200	500	<.5	N	N
WMS305B	41 28 22	120 11 0	3.00	.30	.20	.200	200	N	N	N
WMS305C	41 28 22	120 11 0	3.00	.30	.20	.150	500	N	N	N
WMS305D	41 28 22	120 11 0	5.00	.50	1.00	.700	700	N	N	N
WMS305E	41 28 22	120 11 0	10.00	7.00	3.00	.700	1,500	N	N	N
WMS306	41 28 24	120 11 0	3.00	.20	.50	.200	300	N	N	N
WMS307	41 27 55	120 10 57	3.00	.30	.50	.200	300	N	N	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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	Ga-ppm	Ge-ppm	La-ppm s
WMS274	10	1,000	2.0	N	N	<10	N	<5	50	N	50
WMS275A	10	1,000	5.0	N	N	10	10	20	50	N	50
WMS275B	10	1,000	1.5	N	N	15	20	70	50	N	50
WMS276	15	1,000	5.0	N	N	N	N	5	20	N	50
WMS277	15	1,000	3.0	N	N	10	30	20	50	<10	50
WMS278	15	700	5.0	N	N	<10	30	15	30	<10	50
WMS279	20	700	1.5	N	N	10	50	30	30	N	50
WMS280	15	700	1.5	N	N	10	50	10	30	N	50
WMS281	20	1,000	1.0	N	N	20	70	70	30	N	50
WMS282	15	700	1.5	N	N	<10	<10	10	20	N	50
WMS283	<10	700	1.0	N	N	10	<10	10	30	N	50
WMS284	20	700	1.5	N	N	<10	20	5	30	N	<50
WMS285	10	1,000	1.5	N	N	10	10	7	30	N	70
WMS286A	10	1,000	1.5	N	N	10	10	15	30	N	<50
WMS286B	10	1,000	1.0	N	N	20	20	30	30	N	<50
WMS287	10	1,000	1.5	N	N	10	10	10	30	N	50
WMS288	10	700	2.0	N	N	10	10	30	50	N	<50
WMS289A	10	500	1.5	N	N	30	100	70	20	N	<50
WMS289B	20	700	1.5	N	N	10	70	50	30	N	<50
WMS289C	15	2,000	1.0	N	N	20	200	70	10	N	<50
WMS289D	20	700	1.5	N	N	20	70	70	30	N	<50
WMS291	20	1,000	1.5	N	N	20	20	50	50	N	50
WMS292A	10	700	1.5	N	N	10	<10	30	30	N	N
WMS292B	10	500	<1.0	N	N	<10	N	7	30	N	N
WMS293	<10	500	1.5	N	N	10	<10	30	30	N	<50
WMS294	10	1,000	1.5	N	N	15	<10	30	50	N	<50
WMS295A	10	150	1.5	N	N	<10	10	20	15	<10	<50
WMS295B	10	1,000	1.0	N	N	70	10	30	15	N	<50
WMS296A	20	1,000	2.0	N	N	20	100	100	30	N	50
WMS296B	<10	300	<1.0	N	N	<10	150	15	20	N	50
WMS297	10	300	N	N	N	50	200	100	30	N	N
WMS298	10	700	3.0	N	N	15	20	150	20	N	<50
WMS299	10	700	1.0	N	N	30	20	200	50	N	<50
WMS300	15	2,000	1.0	N	N	30	50	70	70	N	50
WMS301	<10	1,000	3.0	N	N	20	150	70	50	N	50
WMS302	50	500	<1.0	N	N	20	150	100	30	N	N
WMS303A	<10	500	1.0	N	N	20	30	70	70	N	<50
WMS304	15	300	2.0	N	N	15	30	70	15	N	N
WMS305A	<10	70	2.0	N	N	10	50	30	10	10	N
WMS305B	<10	50	2.0	N	N	10	50	20	10	10	N
WMS305C	<10	50	2.0	N	N	10	50	15	10	<10	N
WMS305D	10	50	<1.0	N	N	10	500	50	15	<10	N
WMS305E	<10	700	1.0	N	N	30	100	70	30	N	N
WMS306	10	70	1.5	N	N	<10	30	30	7	10	N
WMS307	10	50	1.0	N	N	10	10	20	5	<10	N

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	Mo-ppm s	Na-pct	Nb-ppm s	Ni-ppm s	P-pct	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s
WMS274	N	3.0	<20	N	<.2	50	N	10	N	500	30
WMS275A	<5	2.0	<20	<5	.5	70	N	15	N	500	100
WMS275B	70	2.0	<20	<5	.5	20	N	15	N	300	100
WMS276	N	1.5	<20	<5	<.2	30	N	<5	N	1,000	20
WMS277	N	2.0	<20	<5	.2	50	N	10	N	500	150
WMS278	N	2.0	N	5	<.2	70	N	10	N	500	100
WMS279	N	3.0	N	5	<.2	50	N	10	N	300	70
WMS280	N	3.0	N	7	<.2	70	N	7	N	300	70
WMS281	N	3.0	N	5	<.2	10	N	20	N	700	200
WMS282	N	1.5	N	50	<.2	100	N	<5	N	150	20
WMS283	N	2.0	N	<5	.2	20	N	15	N	300	70
WMS284	N	1.5	<20	<5	<.2	50	N	5	N	100	50
WMS285	N	3.0	N	<5	.3	70	N	15	N	700	70
WMS286A	N	3.0	N	<5	.2	10	N	15	N	200	150
WMS286B	5	3.0	N	<5	.2	15	N	15	N	200	150
WMS287	N	3.0	N	<5	.3	30	N	15	N	500	100
WMS288	N	3.0	N	<5	.2	50	N	7	N	700	100
WMS289A	N	1.5	N	20	<.2	15	N	15	N	500	150
WMS289B	N	2.0	N	15	<.2	50	N	10	N	500	100
WMS289C	N	1.5	N	50	<.2	15	N	15	N	700	150
WMS289D	N	2.0	N	20	<.2	30	N	20	N	1,000	200
WMS291	N	3.0	N	<5	.2	30	N	10	N	1,000	200
WMS292A	N	2.0	N	<5	.2	30	N	10	N	500	200
WMS292B	N	3.0	N	<5	<.2	15	N	5	N	700	50
WMS293	N	2.0	N	<5	<.2	15	N	10	N	700	150
WMS294	N	3.0	N	<5	.2	15	N	15	N	700	200
WMS295A	100	<.2	N	<5	<.2	N	N	7	N	200	100
WMS295B	100	<.2	N	7	<.2	70	N	7	N	500	200
WMS296A	N	2.0	N	30	.2	50	N	15	N	1,000	200
WMS296B	N	3.0	N	10	<.2	30	N	10	N	300	150
WMS297	N	2.0	N	70	<.2	20	N	30	N	500	300
WMS298	N	1.5	N	7	.2	20	N	15	N	700	150
WMS299	N	3.0	N	10	<.2	30	N	15	N	200	200
WMS300	N	3.0	N	10	.2	70	N	20	N	700	300
WMS301	N	2.0	N	20	.2	50	N	10	N	700	150
WMS302	N	2.0	N	30	N	N	N	20	N	500	200
WMS303A	N	3.0	N	10	<.2	30	N	15	N	500	200
WMS304	N	1.5	N	7	<.2	10	N	15	N	700	200
WMS305A	N	N	N	5	<.2	<10	N	7	N	<100	150
WMS305B	N	N	N	5	<.2	N	N	10	N	<100	150
WMS305C	N	N	N	5	N	<10	N	10	N	<100	100
WMS305D	N	N	N	7	<.2	15	N	30	N	100	500
WMS305E	N	2.0	N	20	N	20	N	30	N	500	300
WMS306	N	<.2	N	5	<.2	N	N	7	N	<100	150
WMS307	N	N	N	5	<.2	<10	N	7	N	<100	150

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp	Au-ppm faa	Hg-ppm aa
WMS274	N	20	<200	100	N	8.00	<2	.4	<2	59	--	--
WMS275A	N	30	<200	200	N	<5.00	<2	1.0	<2	74	--	--
WMS275B	N	30	<200	150	N	6.00	<2	1.1	<2	51	--	--
WMS276	N	20	N	100	N	<5.00	<2	<.1	<2	17	--	--
WMS277	N	30	N	150	N	<5.00	<2	.3	<2	35	--	--
WMS278	N	20	N	150	N	<5.00	<2	.3	<2	39	--	--
WMS279	N	20	N	100	N	10.00	<2	.2	<2	39	--	--
WMS280	N	20	N	150	N	<5.00	<2	.1	<2	38	--	--
WMS281	N	20	N	150	N	<5.00	<2	.4	<2	31	--	--
WMS282	N	10	N	50	N	53.00	<2	.2	<2	27	--	--
WMS283	N	30	N	100	N	<5.00	<2	.8	<2	69	--	--
WMS284	N	15	N	100	N	<5.00	<2	<.1	<2	23	--	--
WMS285	N	50	N	150	N	6.00	<2	.3	<2	63	--	--
WMS286A	N	30	N	100	N	22.00	<2	.7	<2	18	--	--
WMS286B	N	20	N	70	N	12.00	<2	.5	<2	23	--	--
WMS287	N	30	N	150	N	<5.00	<2	.8	<2	74	--	--
WMS288	N	10	N	70	N	<5.00	<2	.6	<2	71	--	--
WMS289A	N	10	N	50	N	22.00	2	.8	<2	44	--	--
WMS289B	N	10	N	50	N	37.00	<2	.8	<2	42	--	--
WMS289C	N	10	N	50	N	<5.00	<2	.3	<2	25	--	--
WMS289D	N	20	N	100	N	<5.00	<2	.5	<2	48	--	--
WMS291	N	20	N	100	N	<5.00	<2	.6	<2	69	--	--
WMS292A	N	20	N	100	N	<5.00	<2	.9	<2	61	--	--
WMS292B	N	10	N	30	N	<5.00	<2	.1	<2	13	--	--
WMS293	N	15	N	100	N	<5.00	<2	.8	<2	61	--	--
WMS294	N	20	N	100	N	5.00	<2	1.2	<2	65	--	--
WMS295A	N	10	N	150	N	9.00	<2	.3	<2	20	--	--
WMS295B	N	10	N	70	N	23.00	<2	.4	<2	30	--	--
WMS296A	N	20	N	150	N	8.00	<2	.8	<2	67	--	--
WMS296B	N	15	N	100	N	<5.00	<2	.2	<2	35	--	--
WMS297	N	20	N	50	N	7.00	<2	.7	<2	56	--	--
WMS298	N	20	N	100	N	<5.00	<2	.7	<2	55	--	--
WMS299	N	20	N	100	N	27.00	<2	1.3	<2	66	--	--
WMS300	N	20	N	100	N	<5.00	<2	.6	<2	70	--	--
WMS301	N	20	<200	150	N	7.00	<2	.7	<2	80	--	--
WMS302	N	15	N	50	N	<5.00	<2	1.1	<2	50	--	--
WMS303A	N	20	N	100	N	12.00	<2	.9	<2	67	--	--
WMS304	N	15	N	50	N	<5.00	<2	.5	<2	29	--	--
WMS305A	N	10	N	30	N	<5.00	<2	.1	<2	40	--	--
WMS305B	N	10	N	50	N	<5.00	<2	<.1	<2	25	--	--
WMS305C	N	10	N	15	N	<5.00	<2	.4	<2	21	--	--
WMS305D	N	15	<200	70	N	<5.00	<2	.4	<2	120	--	--
WMS305E	N	20	N	70	N	<5.00	<2	1.3	<2	65	--	--
WMS306	N	10	N	20	N	<5.00	<2	.1	<2	24	--	--
WMS307	N	10	N	20	N	<5.00	<2	.1	<2	27	--	--

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--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
WMS308	41 27 52	120 10 57	3.00	.20	20.00	.070	300	<.5	N	N
WMS309	41 27 53	120 10 57	7.00	7.00	5.00	.500	2,000	N	N	N
WMS310	41 28 32	120 11 1	10.00	.70	.70	.500	500	N	N	N
WMS311	41 28 32	120 11 1	5.00	3.00	3.00	.500	1,000	N	N	N
WMS312	41 28 32	120 11 1	10.00	.70	10.00	.700	5,000	N	N	N
WMS313	41 28 32	120 11 1	1.00	.10	2.00	.070	700	<.5	N	N
WMS314A	41 28 32	120 11 1	3.00	.10	.20	.500	100	N	N	N
WMS314B	41 28 32	120 11 1	3.00	.20	.30	.200	300	N	N	N
WMS315	41 28 32	120 11 1	3.00	.70	2.00	.100	1,000	N	N	N
WMS316	41 28 32	120 11 1	5.00	3.00	5.00	.150	1,000	N	N	N
WMS323	41 28 38	120 11 2	5.00	2.00	.20	.150	500	N	N	N
WMS324	41 28 38	120 11 2	3.00	.50	.50	.500	1,000	<.5	N	N
WMX251Z	41 15 37	120 6 35	5.00	3.00	3.00	.700	5,000	N	N	N

Sample	B-ppm s	Ba-ppm s	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	Ga-ppm	Ge-ppm	La-ppm s
WMS308	150	<20	<1.0	N	N	<10	30	<5	50	10	N
WMS309	<10	300	1.0	N	N	20	50	70	50	N	N
WMS310	50	700	3.0	N	N	10	100	50	30	N	<50
WMS311	10	1,000	2.0	N	N	20	100	50	50	N	<50
WMS312	20	300	1.5	N	N	30	100	50	20	N	<50
WMS313	10	>5,000	1.0	N	N	N	<10	70	N	N	N
WMS314A	20	2,000	1.0	N	N	N	70	<5	7	N	N
WMS314B	20	700	1.5	N	N	<10	70	<5	7	N	N
WMS315	10	700	1.0	N	N	<10	30	50	7	<10	N
WMS316	10	1,000	<1.0	N	N	20	70	7	10	N	N
WMS323	20	2,000	2.0	N	N	15	70	10	15	N	N
WMS324	10	150	1.5	N	N	10	150	30	15	<10	N
WMX251Z	20	1,000	2.0	N	N	<10	20	5	70	N	50

Sample	Mo-ppm s	Na-pct	Nb-ppm s	Ni-ppm s	P-pct	Pb-ppm s	Sb-ppm s	Sc-ppm s	Sn-ppm s	Sr-ppm s	V-ppm s
WMS308	N	<.2	N	<5	N	15	N	7	N	150	70
WMS309	N	2.0	N	20	<.2	15	N	20	N	700	200
WMS310	N	N	N	20	.2	20	N	10	N	N	200
WMS311	N	2.0	N	20	.2	30	N	15	N	700	150
WMS312	N	N	N	50	<.2	30	N	15	N	200	200
WMS313	N	N	N	<5	N	<10	N	<5	N	3,000	30
WMS314A	N	N	N	<5	<.2	<10	N	<5	N	200	100
WMS314B	N	N	N	5	<.2	<10	N	7	N	<100	100
WMS315	N	N	N	5	<.2	<10	N	5	N	100	100
WMS316	N	N	N	20	N	15	N	7	N	100	100
WMS323	N	N	N	10	<.2	20	N	10	N	150	150
WMS324	N	<.2	N	7	<.2	15	N	10	N	100	200
WMX251Z	5	3.0	N	<5	.2	50	N	15	N	500	70

Table 5. Results of analyses of rock samples from the South Warner Contiguous Wilderness Study Area, Modoc County, California.--Continued

Sample	W-ppm s	Y-ppm s	Zn-ppm s	Zr-ppm s	Th-ppm s	As-ppm icp	Bi-ppm icp	Cd-ppm icp	Sb-ppm icp	Zn-ppm icp	Au-ppm faa	Hg-ppm aa
WMS308	N	10	N	10	N	<5.00	<2	.4	<2	6	--	--
WMS309	N	20	N	50	N	5.00	<2	1.3	<2	61	--	--
WMS310	N	15	N	100	N	<5.00	<2	.7	<2	37	--	--
WMS311	N	15	<200	100	N	11.00	<2	1.2	<2	61	--	--
WMS312	N	20	<200	100	N	<5.00	<2	1.8	<2	85	--	--
WMS313	N	<10	N	<10	N	<5.00	<2	.4	<2	9	--	--
WMS314A	N	10	<200	50	N	<5.00	<2	.2	<2	3	--	--
WMS314B	N	<10	N	50	N	<5.00	<2	.2	<2	9	--	--
WMS315	N	<10	N	20	N	<5.00	<2	.4	<2	20	--	--
WMS316	N	10	200	50	N	<5.00	<2	2.5	<2	140	--	--
WMS323	N	<10	N	30	N	<5.00	<2	.8	<2	59	--	--
WMS324	N	<10	N	30	N	<5.00	<2	.2	<2	19	--	--
WMX251Z	N	50	N	200	N	<5.00	<2	.1	<2	45	--	--

Table 6. Description of rock samples

Sample number	Description	Parcel or area
HH001R1	Composite sample of quartz vein material	Hayden Hill Mine
HH001R2	Composite sample of brecciated, silicified tuff	Hayden Hill Mine
HH001R3	Composite sample of finely brecciated weathered tuff	Hayden Hill Mine
HH001R4	Composite sample of banded, siliceous, iron-stained tuff	Hayden Hill Mine
SW003R1	Vein quartz; stream cobbles	Granger
SW005R1	Diorite; large boulders on hillside	Granger
SW005R2	Dark blue-green aphanitic rock	Granger
SW005R3	Calcite vein	Granger
SW007R1	Siliceous claystone, limonitic	Milk
SW010R1	Aphanitic, greenish quartzite	Cottonwood
SW013R1	Iron stained, intermediate volcanic breccia	Hornback
SW021R1	Quartz vein, vuggy	Van Riper
SW021R2	Quartz vein	Van Riper
87WMS12	Grey-green Hb-Plag andesite	Granger
87WMS14b	Pyroxene-plagioclase andesite dike	Owl
87WMS14c	Pyroxene-plagioclase andesite	Owl
87WMS15	Finely porphyritic, Hb dacite	Owl
87WMS16	Dk. reddish-brown breccia	Owl
87WMS17	Fe-stained sandstone	Owl
87WMS18a	Calcareous rock	Owl
87WMS19	Quartz box work around calcite spar	Owl
87WMS20a	White, tufaceous sandstone	Owl
87WMS20b	White, tufaceous sandstone	Owl
87WMS20c	Tuff breccia	Owl
87WMS187c	Pink-gray chalcedony	Granger
87WMS188d	Silicified breccia	Granger
87WMS188e	Tuff breccia wall rock	Granger
87WMS188f	Tuff breccia wall rock	Granger
87WMS189	Tuff breccia	Granger
87WMS190a	Dk. green conglomerate	Granger
87WMS191a	Silicified breccia	Granger
87WMS192	Dk. brown tuff breccia	Granger
87WMS193	Pyroxene andesite	Granger
87WMS194	Brown conglomerate	Granger
87WMS195a	Calcite-zeolite vein	Granger
87WMS195c	Opaline quartz vein	Granger
87WMS196a	Sandstone	Granger
87WMS196b	Greenish-grey pebble conglomerate	Granger
87WMS198a	Quartz vein	Granger
87WMS198b	Silicified breccia	Granger

Table 6.--Continued

87WMS199	Dk. greenish brown conglomerate	Granger
87WMS200	Dk. greenish brown conglomerate	Granger
87WMS201a	Quartz vein	Granger
87WMS201b	Tuff breccia	Granger
87WMS201c	Chalcedony	Granger
87WMS202	Pebble conglomerate	Granger
87WMS203a	Silicified breccia	Granger
87WMS203b	Quartz vein	Granger
87WMS204	Tuff breccia	Granger
87WMS205	Tuff breccia	Granger
87WMS207a	Silicified breccia	Granger
87WMS207b	Quartz vein breccia	Granger
87WMS209	Fe-stained sandstone	Granger
87WMS210	Silicified quartz-veined breccia	Granger
87WMS211	Grey silicified breccia	Granger
87WMS212	Partially silicified breccia	Granger
87WMS213	Silicified tuff breccia	Granger
87WMS214a	Silicif. pebble conglom.-breccia	Granger
87WMS214b	Silicif. pebble conglom.-breccia	Granger
87WMS214c	Silicified pebble conglomerate	Granger
87WMS214d	Pale greasy-grey rock	Granger
87WMS215	Silicified breccia	Granger
87WMS216	Quartz-veined silicif. rock	Granger
87WMS217	Calcite & barite-veined rock	Granger
87WMS218a	Silicified rock	Granger
87WMS218b	Quartz veins	Granger
87WMS219a	Fe-stained crumbly rock	Granger
87WMS219b	Green crumbly rock	Granger
87WMS220	Silicified rock	Granger
87WMS221	Sandstone	Granger
87WMS222	Silicified tuff box	Granger
87WMS223	Tuff breccia	Granger
87WMS224a	Fe-stained sandstone	Granger
87WMS224b	Sandstone	Granger
87WMS225	Andesite dike	Granger
87WMS226	Granitoid clast	Granger
87WMS227a	Rhyolite dike	Granger
87WMS227b	Tuff breccia	Granger
87WMS228	Tuff breccia	Granger
87WMS229a	Pebble conglomerate	Granger
87WMS229b	Tuff breccia	Granger
87WMS230a	Silicified rock	Deep Ck
87WMS230b	Part. silicified rock	Deep Ck
87WMS230c	Tuff breccia	Deep Ck
87WMS231a	Tuff breccia	Deep Ck

Table 6.--Continued

87WMS231b	Silicified unoxidized rock	Deep Ck
87WMS232	Tuff breccia/conglomerate	Deep Ck
87WMS233	Tuff	Deep Ck
87WMS234	Silica veins	Deep Ck
87WMS235	Ignimbrite	Deep Ck
87WMS236	Ignimbrite	Deep Ck
87WMS237	Rhyolite	Deep Ck
87WMS238	Tuff	Deep Ck
87WMS239	Aphyric rhyolite	Barber
87WMS240a	Rhyolite	Barber
87WMS240b	Rhyolite flow breccia	Barber
87WMS241	Rhyolite breccia	Barber
87WMS242	Rhyolite	Barber
87WMS243	Rhyolite	Barber
87WMS244	Rhyolite	Barber
87WMS245a	Pumice tuff	Barber
87WMS245b	Clay-rich vein	Barber
87WMS246	Rhyolite	Barber
87WMS247	Phyric rhyolite	Barber
87WMS248	Andesite	Barber
87WMS250	Andesite	Barber
87WMS251	Tuff	Barber
87WMS252a	Basalt	Barber
87WMS252b	Chalcedony pod	Barber
87WMS253	Olivine basalt	Barber
87WMS254	Amygdaloidal basalt	Barber
87WMS255	Aphyric basalt	Barber
87WMS256	Tufaceous conglomerate	Barber
87WMS257	Rhyolite	Barber
87WMS258	Basaltic andesite	Barber
87WMS259	Ignimbrite	Barber
87WMS262	Olivine basalt	Barber
87WMS263	Aphyric rhyolite	Barber
87WMS264	Rhyolite obsidian	Barber
87WMS265	Calcite network-veined rock	Barber
87WMS266	Basalt	Barber
87WMS267	Base of basalt flow	Barber
87WMS268	Tuff	Barber
87WMS269	Tuff	Barber
87WMS270a	Silicified, biotite-sanidine quartz ignimbrite	Barber
87WMS270b	Br-San-Qtz ignimbrite	Barber
87WMS271	Altered ignimbrite	Barber
87WMS272	Yellow-white, altered ignimbrite	Barber
87WMS273a	Andesite	Eagle
87WMS273b	Basaltic-andesite dike	Eagle

Table 6.--Continued

87WMS274	Hornblende-plagioclase andesite dike	Eagle
87WMS275a	Aphyric basalt	Eagle
87WMS275b	Basalt	Eagle
87WMS276	Ignimbrite	Eagle
87WMS277	Silicified volcanic conglomerate	Eagle
87WMS278	Pebble conglomerate	Eagle
87WMS279	Ignimbrite	Eagle
87WMS280	Ignimbrite	Eagle
87WMS281	Hornblende dacite	Eagle
87WMS282	Ignimbrite	Eagle
87WMS283	Andesite	Eagle
87WMS284	Tuff	Eagle
87WMS285	Ignimbrite	Eagle
87WMS286a	Andesite	Eagle
87WMS286b	Andesite	Eagle
87WMS287	Andesite dike	Eagle
87WMS288	Hornblende andesite dike	Hornback
87WMS289a	Black andesite	Hornback
87WMS289b	Andesite	Hornback
87WMS289c	White chalcedonic quartz veins	Hornback
87WMS289d	Andesite	Hornback
87WMS291	Andesite	Hornback
87WMS292a	Andesite	Hornback
87WMS292b	Quartz veins	Hornback
87WMS293	Andesite	Hornback
87WMS294	Aphyric basaltic-andesite	Hornback
87WMS295a	Chalcedony	Hornback
87WMS295b	Silicic(?) volcaniclastic(?) rock	Hornback
87WMS296a	Tuff breccia	Cottonwood
87WMS296b	Andesite clast	Cottonwood
87WMS297	Volcanic sandstone	Cottonwood
87WMS298	Tuff breccia	Cottonwood
87WMS299	Andesite dike	Cottonwood
87WMS300	Andesite dike	Cottonwood
87WMS301	Tuff breccia	Milk
87WMS302	Andesite sill	Milk
87WMS303a	Tuff breccia	Milk
87WMS304	Chalcedony-veined and vein breccia of tuff breccia	Milk
87WMS305a	Quartz vein breccia	Granger
87WMS305b	Vein breccia	Granger
87WMS305c	Quartz & Kaolinite vein breccia	Granger
87WMS305d	Tuff breccia	Granger
87WMS305e	Tuff breccia	Granger
87WMS306	Tuff breccia	Granger

Table 6.--Continued

87WMS307	Tuff breccia	Granger
87WMS308	Tuff breccia	Granger
87WMS309	Tuff breccia	Granger
87WMS310	Sandstone	Granger
87WMS311	Pebble conglomerate	Granger
87WMS312	Pebble conglomerate	Granger
87WMS313	Pebble conglomerate	Granger
87WMS314a	Pebble conglomerate	Granger
87WMS314b	Pebble conglomerate	Granger
87WMS315	Silicified conglomerate	Granger
87WMS316	Silicified conglomerate	Granger
87WMS323	Conglomerate	Granger
87WMS324	White quartz vein breccia	Granger
C14B	Sedimentary tuff	Van Riper
C15B	Mafic igneous extrusive	Van Riper
C16B	Basalt	Van Riper
D20B	Sedimentary breccia	Granger
D21B	Conglomerate	Granger
D22B	Sedimentary breccia	Granger
D23B	Sedimentary breccia	Granger
D24B	Andesite	Granger
D42B	Conglomerate	Milk
D43B	Sandstone	Milk
D49B	Basalt dike	Cottonwood
D50B	Andesite dike	Cottonwood
D51B	Sandstone	Cottonwood
D52B	Sandstone	Cottonwood
D53B1	Basalt dike	Cottonwood
D63B	Sandstone	Cottonwood
D64B	Igneous dike	Cottonwood
D74B	Felsic igneous extrusive	Eagle
D75B	Andesite	Eagle
D93B	Igneous dike	Eagle
D94B	Sedimentary breccia	Milk
D217B	Sedimentary breccia	Hornback
D218B	Sedimentary breccia	Hornback
D219B	Sandstone	Hornback
D258B	Sedimentary breccia	Hornback
D295B	Intermediate igneous extrusive	Barber
D296B	Andesite	Barber
D297B	Basalt	Barber
D298B	Basalt	Barber
D299B	Basalt	Emerson
D300B	Basalt	Emerson
D301B	Basalt dike	Emerson
D302B	Basalt	Emerson

Table 6.--Continued

D303B	Basalt	Emerson
D304B	Sandstone	Emerson
D305B	Basalt	Emerson
D306B	Basalt	Emerson
D307B	Basalt	Emerson
D308B	Felsic igneous tuff	Emerson
D309B	Felsic igneous tuff	Emerson
D313B	Intermediate igneous breccia	Barber
D314B	Intermediate igneous extrusive	Barber
D315B	Intermediate igneous extrusive	Barber
D316B	Basalt	Van Riper
D317B	Sandstone	Van Riper
D323B	Basalt	Van Riper
D324B	Basalt dike	Van Riper
D325B	Basalt	Barber
D326B	Sedimentary tuff	Eagle
D327B	Andesite	Eagle