UNITED STATES DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

Analytical results and sample locality map for stream-sediment and heavy-mineral-concentrate samples from the Desolation Canyon Wilderness Study Area (UT-060-068A), Emery and Carbon Counties, Utah

By

D.E. Detra*, J.E. Kilburn*, and J.L. Jones*

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*U.S. Geological Survey, DFC, Box 25046, MS 973, Denver, CO 80225

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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 resource potential. Results must be made available to the public and be submitted to the President and the Congress. This report presents the results of a geochemical survey of the Desolation Canyon Wilderness Study Area, Emery and Carbon Counties, Utah.

INTRODUCTION

In July 1986, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the Desolation Canyon Wilderness Study Area, Emery and Carbon Counties, Utah.

The Desolation Canyon (UT-060-068A) Wilderness Study Area lies in an L-shaped plain that encompasses parts of the southwestern and southern margins of the Uinta Basin, adjacent to the Green River in east-central Utah (see fig. 1). The study area contains about 287,465 acres (449.2 sq mi; 1,163.3 sq km) of rugged, arid to semiarid terrain that includes the western side of Desolation Canyon and segments of the Book Cliffs and Roan Cliffs immediately east and west of the Green River. Elevations range from approximately 4,000 ft on the Green River in the southeastern part of the study area to approximately 9,500 ft on the crest of the Roan Cliffs.

Settlements near the study areas are Green River, Woodside, and Sunnyside, which are located a few miles outside the areas and south of and west of the areas. Small segments of the area are traversable by unpaved roads or trails that may be reached by traveling northward from U.S. Interstate 70 or eastward from U.S. Highway 6. The northernmost part of the Wilderness Study Area is accessible from the north by way of Nine Mile Canyon.

The study area lies on the southern and southwestern structural limbs of the Uinta Basin and the surface rocks in the region dip (approximately 1° to 10°) northward and northeastward toward the trough of the basin. The structural attitude of these rocks is relatively uniform, interrupted by only minor faults and folds.

All rocks exposed in the study area are of sedimentary origin, deposited in marine, lacustrine, and continental environments. Surface strata range in age from Late Cretaceous to Middle Eocene (Cashion, 1967).

Resources that may be of interest are oil and gas, coal, tar sands, uranium, and oil shale. Rocks of Tertiary age produce gas in an area immediately adjacent to the northernmost part of the Desolation Canyon area (Fouch, 1975). Also, in the northernmost part of the Desolation Canyon area, the Green River Formation contains oil shale in a sequence 15 ft or more thick that will yield 15 gallons of oil per ton. Sandstone sequences in the lower part of the Green River Formation contain significant amounts of bitumen near Sunnyside and there is probably some bitumen in equivalent rocks in the Desolation Canyon study area (Cashion, 1967). Within the study area, the Blackhawk Formation is the principal coal-bearing unit west of the Green River and the Neslen Formation is the principal coal-bearing unit east of the Green River (Fisher, 1936).

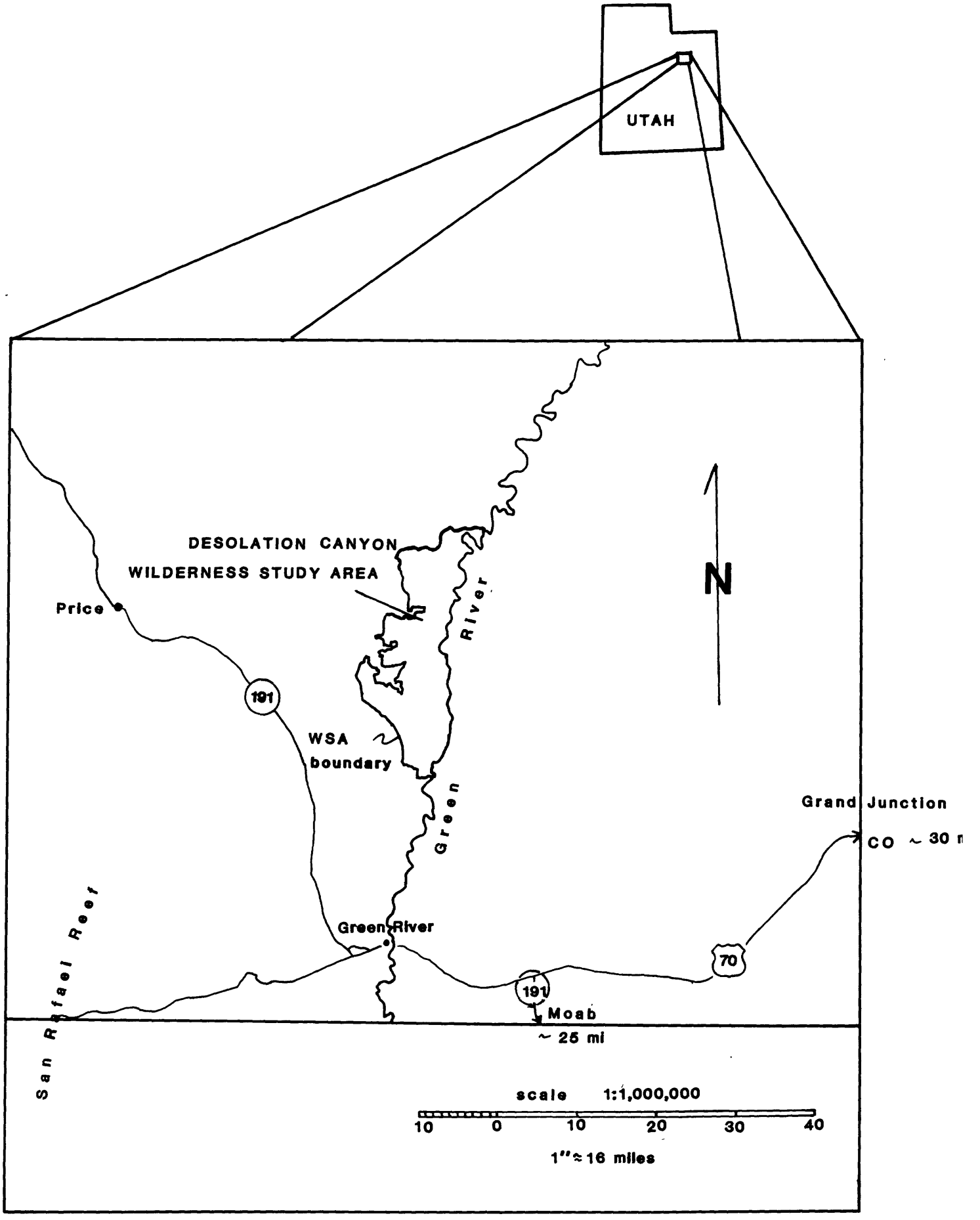

Figure 1. Location map of the Desolation Canyon Wilderness Study Area, Emery and Carbon Counties, Utah

METHODS OF STUDY

Sample Media

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

Sample Collection

Samples were collected at 175 sites (plate 1). At nearly all of those sites, both a stream-sediment sample and a heavy-mineral-concentrate sample were collected. Sampling density was about one sample site per 2.6 mi^2 for the stream sediments and heavy-mineral concentrates.

Stream-sediment samples

The stream-sediment samples consisted of active alluvium collected primarily from first-order (unbranched) and second-order (below the junction of two first-order) streams as shown on USGS topographic maps (scale = 1:100,000). Each sample was composited from several localities within an area that may extend as much as 100 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.

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 analysis/archival storage. The third fraction (the least magnetic material including 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 1.0 ampere to split the remainder of the sample into paramagnetic and nonmagnetic fractions.

Sample Analysis

Spectrographic method

The stream-sediment and heavy-mineral concentrate samples were analyzed for 31 elements using the semiquantitative, direct-current arc emission spectrographic method described by Grimes and Marranzino (1968). The elements analyzed and their 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 Desolation Canyon Wilderness Study Area are listed in tables 3 and 4.

Chemical methods

Selected samples of stream sediment were analyzed for gold (Au) by atomic absorption. The sample is treated with a hydrobromic acid-0.5 percent bromine solution. The gold-bromide complex which forms is extracted with MIBK (methyl isobutyl ketone). Potentially interfering iron is removed from the solution by washing the organic solvent with dilute hydrobromic acid. The MIBK is then atomized in an atomic absorption spectrophotometer to determine the Au content.

Analytical results for stream-sediment samples are listed in table 3.

ROCK ANALYSIS STORAGE SYSTEM

Upon completion of all analytical work, the analytical results were entered into a computer-based file called Rock Analysis Storage System (RASS). This data base contains both descriptive geological information and analytical data. Any or all of this information may be retrieved and converted to a binary form (STATPAC) for computerized statistical analysis or publication (VanTrump and Miesch, 1977).

DESCRIPTION OF DATA TABLES

Tables 3 and 4 list the results of analyses for the samples of stream sediment and heavy-mineral concentrate, respectively. For the two tables, the data are arranged so that column 1 contains the USGS-assigned sample numbers. These numbers correspond to the numbers shown on the site location map (plate 1). Columns in which the element headings show the letter "s" below the element symbol are emission spectrographic analyses; "aa" indicates

atomic absorption analyses. 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. If an element was observed but was below the lowest reporting value, a "less than" symbol (<) was entered in the tables in front of the lower limit of determination. 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 and 4 in place of an analytical value. Because of the formatting used in the computer program that produced tables 3 and 4, 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.

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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 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 and stream sediments]

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

TABLE 2.--Chemical methods used

[AA = atomic absorption]

Element or constituent determined	Method	Determination limit (micrograms/ gram or ppm)	Reference
Gold (Au)	AA	0.05	Thompson and others, 1968.

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH

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

Sample	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
DC001S	1.5	1.0	3.0	.15	150	N	N	N	100	300
DC002S	2.0	1.0	3.0	.15	300	N	N	N	150	500
DC003S	.7	.7	1.5	.10	100	N	N	N	50	200
DC004S	1.5	.7	2.0	.15	200	N	N	N	100	300
DC005S	1.5	.7	2.0	.10	200	N	N	N	70	300
DC006S	1.0	1.0	1.5	.15	300	N	N	N	70	500
DC007S	1.0	.7	1.5	.15	150	N	N	N	70	300
DC008S	1.0	1.0	1.5	.15	100	N	N	N	70	200
DC009S	1.0	1.0	2.0	.20	150	N	N	N	100	700
DC010S	.7	.7	1.5	.10	100	N	N	N	100	300
DC011S	2.0	1.5	2.0	.15	200	N	N	N	150	300
DC012S	1.0	1.0	1.5	.15	150	N	N	N	70	200
DC013S	1.0	1.0	1.5	.15	150	N	N	N	100	300
DC014S	.5	.5	.7	.10	100	N	N	N	100	100
DC015S	.5	.5	1.0	.10	100	N	N	N	50	200
DC016S	1.0	.7	1.0	.15	100	N	N	N	70	150
DC017S	.5	.5	1.0	.10	150	N	N	N	30	200
DC018S	.3	.5	1.0	.10	100	N	N	N	50	300
DC019S	1.0	.7	1.5	.15	200	N	N	N	20	500
DC020S	1.5	.7	1.5	.20	200	N	N	N	50	500
DC021S	1.0	.5	1.0	.20	200	N	N	N	50	1,000
DC022S	.5	.5	1.0	.10	100	N	N	N	30	300
DC023S	.5	.5	1.5	.10	150	N	N	N	50	200
DC024S	.7	.5	1.0	.07	30	N	N	N	30	150
DC025S	1.0	1.0	2.0	.15	200	N	N	N	70	300
DC026S	1.0	.7	2.0	.10	100	N	N	N	100	300
DC027S	.5	.5	1.0	.10	100	N	N	N	50	150
DC028S	1.5	.7	1.5	.20	150	N	N	N	50	200
DC029S	1.0	.5	1.0	.15	200	N	N	N	30	500
DC030S	1.0	.7	1.0	.15	100	N	N	N	50	150
DC031S	1.0	.5	1.0	.15	300	N	N	N	50	500
DC032S	1.0	.5	.7	.15	150	N	N	N	30	500
DC033S	1.5	.5	1.0	.20	200	N	N	N	50	1,000
DC034C	.7	.7	2.0	.20	200	N	N	N	50	1,000
DC035S	1.0	.7	1.0	.15	150	N	N	N	50	200
DC036S	.7	.5	2.0	.15	100	N	N	N	50	1,000
DC037S	1.0	.7	1.0	.15	200	N	N	N	50	150
DC038S	.5	1.0	1.5	.20	150	N	N	N	50	200
DC039S	1.0	.7	1.0	.20	200	N	N	N	70	300
DC040S	.7	.5	.7	.15	200	N	N	N	30	700
DC041S	.5	.5	.7	.10	150	N	N	N	30	200
DC042S	1.0	1.0	.7	.15	300	N	N	N	50	700
DC043S	1.0	.7	1.5	.10	150	N	N	N	30	200
DC044S	1.5	.7	1.0	.15	300	N	N	N	50	1,000
DC045S	1.0	.7	1.5	.15	300	N	N	N	30	1,000

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC001S	1.0	N	N	5	50	15	20	N	N	20	10
DC002S	1.5	N	N	7	50	20	20	N	N	20	30
DC003S	1.0	N	N	5	20	10	N	N	N	10	<10
DC004S	1.0	N	N	7	30	20	<20	N	N	15	<10
DC005S	1.0	N	N	7	30	15	<20	N	N	15	10
DC006S	1.0	N	N	7	20	20	<20	N	N	15	15
DC007S	1.0	N	N	7	30	10	N	N	N	10	<10
DC008S	1.0	N	N	5	30	10	N	N	N	10	<10
DC009S	1.5	N	N	7	30	15	<20	N	N	15	10
DC010S	<1.0	N	N	7	20	10	N	N	N	7	<10
DC011S	1.5	N	N	10	50	20	N	N	N	20	15
DC012S	<1.0	N	N	5	20	10	N	N	N	5	10
DC013S	<1.0	N	N	5	30	15	N	N	N	5	10
DC014S	<1.0	N	N	5	30	7	70	N	N	7	<10
DC015S	<1.0	N	N	5	15	7	<20	N	N	5	<10
DC016S	1.0	N	N	7	20	10	N	N	N	10	10
DC017S	<1.0	N	N	5	10	5	N	N	N	7	<10
DC018S	<1.0	N	N	5	20	5	<20	N	N	5	N
DC019S	<1.0	N	N	5	10	10	<20	N	N	7	10
DC020S	1.0	N	N	10	30	15	50	N	N	10	10
DC021S	1.0	N	N	7	30	15	100	N	N	5	10
DC022S	<1.0	N	N	5	15	10	N	N	N	5	10
DC023S	<1.0	N	N	5	10	10	<20	N	N	5	10
DC024S	<1.0	N	N	5	20	7	N	N	N	5	<10
DC025S	1.0	N	N	7	50	10	<20	N	N	10	10
DC026S	<1.0	N	N	7	20	10	<20	N	N	7	10
DC027S	<1.0	N	N	5	30	5	N	N	N	5	10
DC028S	1.0	N	N	7	30	15	30	N	N	15	15
DC029S	1.0	N	N	7	15	10	20	N	N	10	10
DC030S	1.0	N	N	5	20	15	30	N	N	10	10
DC031S	1.5	N	N	7	15	15	20	N	N	10	15
DC032S	<1.0	N	N	7	15	10	N	N	N	10	10
DC033S	1.0	N	N	10	30	15	50	N	N	15	10
DC034C	1.0	N	N	5	70	7	20	N	<20	10	15
DC035S	1.0	N	N	7	30	10	20	N	N	10	15
DC036S	<1.0	N	N	5	10	7	30	N	N	5	10
DC037S	1.0	N	N	10	20	20	20	N	N	10	20
DC038S	1.0	N	N	7	20	7	20	N	N	7	10
DC039S	1.0	N	N	7	20	10	30	N	N	10	10
DC040S	1.5	N	N	5	15	10	30	N	N	10	10
DC041S	1.0	N	N	5	15	7	20	N	N	10	20
DC042S	1.0	N	N	10	20	20	100	N	N	15	15
DC043S	1.0	N	N	7	15	10	20	N	N	10	15
DC044S	1.0	N	N	7	20	15	20	N	N	15	15
DC045S	1.0	N	N	7	20	10	20	N	N	10	10

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC001S	N	5	N	500	70	N	15	N	200	N	--
DC002S	N	7	N	200	100	N	20	N	200	N	--
DC003S	N	5	N	100	30	N	10	N	300	N	--
DC004S	N	5	N	100	70	N	15	N	500	N	--
DC005S	N	5	N	100	70	N	20	N	200	N	--
DC006S	N	5	N	100	70	N	15	N	500	N	--
DC007S	N	5	N	100	70	N	15	N	300	N	--
DC008S	N	5	N	100	50	N	15	N	500	N	--
DC009S	N	5	N	150	70	N	20	N	1,000	N	--
DC010S	N	<5	N	100	30	N	10	N	500	N	--
DC011S	N	7	N	100	100	N	15	N	200	N	--
DC012S	N	5	N	100	50	N	15	N	500	N	--
DC013S	N	<5	N	100	50	N	20	N	>1,000	N	--
DC014S	N	<5	N	100	50	N	10	N	700	N	--
DC015S	N	<5	N	100	30	N	15	N	500	N	--
DC016S	N	5	N	100	70	N	15	N	500	N	--
DC017S	N	<5	N	100	30	N	10	N	100	N	--
DC018S	N	<5	N	150	30	N	20	N	1,000	N	--
DC019S	N	5	N	150	50	N	15	N	300	N	--
DC020S	N	7	N	100	100	N	20	N	500	N	--
DC021S	N	7	N	150	100	N	30	N	>1,000	N	--
DC022S	N	<5	N	100	30	N	10	N	500	N	--
DC023S	N	<5	N	150	50	N	10	N	500	N	--
DC024S	N	<5	N	100	20	N	<10	N	200	N	--
DC025S	N	5	N	100	70	N	15	N	700	N	--
DC026S	N	N	N	100	50	N	<10	N	300	N	--
DC027S	N	<5	N	100	50	N	<10	N	200	N	--
DC028S	N	5	N	100	100	N	20	N	700	N	--
DC029S	N	<5	N	100	100	N	15	N	500	N	--
DC030S	N	<5	N	100	70	N	15	N	1,000	N	--
DC031S	N	5	N	150	100	N	15	N	200	N	N
DC032S	N	<5	N	N	50	N	10	N	500	N	N
DC033S	N	7	N	100	100	N	20	N	700	N	N
DC034C	N	5	N	150	50	N	30	N	>1,000	N	N
DC035S	N	5	N	100	100	N	20	N	700	N	N
DC036S	N	<5	N	150	30	N	20	N	>1,000	N	N
DC037S	N	5	N	100	70	N	20	N	500	N	N
DC038S	N	<5	N	100	70	N	20	N	700	N	N
DC039S	N	5	N	100	100	N	20	N	700	N	N
DC040S	N	<5	N	100	70	N	10	N	300	N	N
DC041S	N	<5	N	100	50	N	10	N	200	N	N
DC042S	N	5	N	150	100	N	20	N	500	N	N
DC043S	N	<5	N	100	70	N	10	N	200	N	N
DC044S	N	5	N	100	70	N	15	N	700	N	N
DC045S	N	5	N	150	70	N	15	N	1,000	N	N

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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
DC046S	.7	.5	1.0	.15	150	<.5	N	N	30	500
DC047S	1.5	.7	1.5	.15	200	N	N	N	50	1,000
DC048S	1.0	.5	1.5	.10	200	N	N	N	50	1,000
DC049S	1.0	.5	1.0	.15	150	N	N	N	30	300
DC050S	1.5	.7	2.0	.15	200	N	N	N	50	1,500
DC051S	1.0	.7	2.0	.20	300	N	N	N	30	300
DC052S	.7	.5	1.0	.10	100	N	N	N	20	300
DC053S	1.0	.5	1.5	.15	200	N	N	N	20	500
DC054S	1.0	.7	1.0	.15	200	N	N	N	50	500
DC055S	.7	.7	1.5	.10	200	N	N	N	30	500
DC056S	1.0	.5	1.0	.10	300	N	N	N	30	300
DC057S	1.0	.3	.7	.15	150	N	N	N	50	700
DC058S	.7	.5	1.5	.10	200	N	N	N	20	300
DC059S	1.0	.7	1.5	.15	300	N	N	N	70	500
DC060S	.5	.3	1.0	.07	100	N	N	N	20	300
DC061S	.7	.3	.5	.15	100	N	N	N	20	200
DC062S	1.0	.5	1.0	.15	200	N	N	N	50	300
DC063S	.7	.2	.7	.10	100	N	N	N	20	500
DC064S	1.0	.7	2.0	.10	200	N	N	N	30	700
DC065S	.5	.2	.5	.10	100	N	N	N	20	300
DC066S	.7	.5	2.0	.15	150	N	N	N	20	300
DC067S	.7	.3	.7	.15	150	N	N	N	30	200
DC068S	1.0	.5	.7	.15	200	5.0	N	N	50	200
DC069S	.7	.5	1.5	.10	150	N	N	N	30	300
DC070S	1.0	.3	.7	.10	150	N	N	N	20	300
DC071S	1.5	.5	1.0	.15	300	N	N	N	30	300
DC072S	1.0	.5	.7	.10	200	N	N	N	30	200
DC073S	1.0	.5	1.0	.15	200	N	N	N	50	500
DC074S	2.0	.7	1.0	.15	300	N	N	N	50	700
DC075S	1.5	1.0	2.0	.10	500	N	N	N	30	2,000
DC076S	1.5	.5	1.0	.20	200	1.0	N	N	50	500
DC077S	1.5	1.0	3.0	.15	300	<.5	N	N	30	700
DC078S	1.0	.5	1.5	.10	150	N	N	N	30	200
DC079S	1.0	.3	.5	.15	200	N	N	N	50	1,000
DC080S	1.5	.7	1.5	.15	200	N	N	N	20	300
DC081S	1.5	1.0	1.5	.20	300	N	N	N	50	500
DC082S	1.5	1.0	1.5	.15	300	N	N	N	30	500
DC083S	1.0	.7	1.5	.10	200	N	N	N	50	700
DC084S	1.5	1.0	2.0	.15	300	<.5	N	N	50	700
DC085S	1.5	1.0	2.0	.15	300	N	N	N	30	300
DC086S	1.0	.5	1.5	.15	200	N	N	N	30	500
DC087S	1.5	1.0	2.0	.15	300	N	N	N	30	300
DC088S	1.5	.7	1.5	.10	300	N	N	N	50	500
DC089S	1.5	1.5	3.0	.30	500	N	N	N	50	1,500
DC090S	1.0	.5	.7	.15	200	N	N	N	50	1,000

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC046S	1.0	N	N	7	15	15	20	N	N	15	15
DC047S	1.0	N	N	10	20	15	30	N	N	15	15
DC048S	1.0	N	N	7	30	10	50	N	N	10	15
DC049S	1.0	N	N	7	10	10	70	N	N	10	10
DC050S	1.0	N	N	10	30	20	20	N	N	15	15
DC051S	1.0	N	N	10	15	10	30	N	20	15	10
DC052S	<1.0	N	N	5	10	5	N	N	N	5	10
DC053S	<1.0	N	N	7	15	15	<20	N	N	10	15
DC054S	1.5	N	N	7	30	15	30	N	N	15	20
DC055S	1.0	N	N	7	15	7	50	N	N	7	10
DC056S	1.0	N	N	10	15	15	20	N	N	10	20
DC057S	1.0	N	N	7	15	10	30	N	N	10	10
DC058S	<1.0	N	N	5	15	10	20	N	N	10	10
DC059S	1.0	N	N	10	20	15	50	N	N	15	15
DC060S	<1.0	N	N	5	10	5	20	N	N	5	10
DC061S	1.0	N	N	7	15	7	20	N	N	10	10
DC062S	1.0	N	N	10	15	15	30	N	N	15	15
DC063S	1.0	N	N	5	10	7	20	N	N	5	10
DC064S	1.0	N	N	7	20	10	100	N	N	10	15
DC065S	1.0	N	N	5	10	5	20	N	N	10	10
DC066S	1.0	N	N	5	15	15	50	N	<20	10	15
DC067S	1.0	N	N	7	20	10	20	N	N	10	15
DC068S	1.0	N	N	10	20	15	30	N	N	15	20
DC069S	1.0	N	N	7	10	10	30	N	N	10	10
DC070S	1.0	N	N	7	10	10	30	N	N	10	<10
DC071S	1.0	N	N	10	20	15	30	N	N	15	20
DC072S	1.0	N	N	7	15	10	20	N	N	15	10
DC073S	1.0	N	N	10	20	10	20	N	<20	10	<10
DC074S	1.0	N	N	10	30	20	20	N	N	20	15
DC075S	1.0	N	N	10	20	10	20	N	N	10	20
DC076S	1.0	N	N	10	20	15	70	N	N	15	10
DC077S	<1.0	N	N	10	30	20	50	N	N	20	20
DC078S	1.0	N	N	7	15	7	20	N	N	15	10
DC079S	1.0	N	N	5	30	10	20	N	N	10	10
DC080S	<1.0	N	N	10	20	10	20	N	N	15	10
DC081S	1.0	N	N	10	20	10	50	N	N	15	10
DC082S	1.0	N	N	10	20	15	20	N	N	15	10
DC083S	1.0	N	N	7	15	10	30	N	N	15	10
DC084S	1.0	N	N	10	30	20	30	N	N	20	15
DC085S	1.0	N	N	10	30	20	50	N	N	20	15
DC086S	1.0	N	N	7	20	15	30	N	N	15	10
DC087S	<1.0	N	N	10	30	15	20	N	N	15	20
DC088S	1.0	N	N	10	30	20	20	N	N	20	10
DC089S	1.0	N	N	10	30	10	50	N	<20	10	15
DC090S	1.0	N	N	7	20	10	30	N	N	10	10

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC046S	N	5	N	100	70	N	15	N	300	N	N
DC047S	N	7	N	100	70	N	20	N	500	N	N
DC048S	N	5	N	100	70	N	20	N	700	N	N
DC049S	N	<5	N	100	70	N	20	N	200	N	N
DC050S	N	5	N	150	100	N	15	N	200	N	N
DC051S	N	7	N	150	70	N	20	N	1,000	N	N
DC052S	N	<5	N	100	50	N	10	N	300	N	N
DC053S	N	5	N	100	70	N	15	N	300	N	N
DC054S	N	5	N	150	100	N	15	N	150	N	N
DC055S	N	<5	N	150	50	N	20	N	500	N	N
DC056S	N	<5	N	100	70	N	15	N	200	N	N
DC057S	N	5	N	100	70	N	20	N	700	N	N
DC058S	N	<5	N	150	50	N	10	N	300	N	N
DC059S	N	5	N	150	100	N	20	N	500	N	N
DC060S	N	N	N	150	30	N	10	N	300	N	N
DC061S	N	5	N	150	50	N	20	N	700	N	N
DC062S	N	5	N	100	70	N	20	N	700	N	N
DC063S	N	<5	N	100	50	N	10	N	500	N	N
DC064S	N	5	N	200	70	N	20	N	300	N	N
DC065S	N	<5	N	100	50	N	10	N	100	N	N
DC066S	N	5	N	150	70	N	15	N	300	N	N
DC067S	N	5	N	100	50	N	15	N	500	N	N
DC068S	N	7	N	150	70	N	15	N	100	N	N
DC069S	N	5	N	150	50	N	15	N	200	N	N
DC070S	N	<5	N	150	50	N	15	N	150	N	N
DC071S	N	5	N	150	70	N	20	N	200	N	N
DC072S	N	5	N	100	70	N	20	N	200	N	N
DC073S	N	5	N	100	50	N	15	N	500	N	N
DC074S	N	7	N	100	100	N	20	N	1,000	N	N
DC075S	N	5	N	150	70	N	20	N	500	N	N
DC076S	N	7	N	100	70	N	20	N	200	N	N
DC077S	N	7	N	200	100	N	15	N	200	N	N
DC078S	N	<5	N	100	70	N	15	N	100	N	N
DC079S	N	5	N	100	50	N	20	N	500	N	N
DC080S	N	5	N	150	70	N	15	N	150	N	N
DC081S	N	5	N	150	70	N	20	N	200	N	N
DC082S	N	7	N	150	100	N	20	N	700	N	N
DC083S	N	5	N	100	70	N	20	N	500	N	N
DC084S	N	7	N	150	100	N	20	N	150	N	N
DC085S	N	7	N	150	100	N	20	N	150	N	N
DC086S	N	5	N	150	70	N	15	N	100	N	N
DC087S	N	5	N	150	70	N	15	N	300	N	N
DC088S	N	7	N	150	70	N	15	N	150	N	N
DC089S	N	7	N	200	100	N	20	N	200	N	N
DC090S	N	5	N	100	70	N	150	N	>1,000	N	N

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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
DC091S	1.0	.5	1.0	.15	200	N	N	N	30	1,500
DC092S	1.0	.7	2.0	.15	150	N	N	N	20	300
DC093S	1.5	1.0	2.0	.15	300	N	N	N	30	5,000
DC094S	1.0	.7	1.5	.15	200	N	N	N	70	500
DC095S	2.0	1.5	5.0	.20	300	N	N	N	50	1,500
DC096S	1.5	1.0	2.0	.20	300	N	N	N	30	700
DC097S	1.5	1.0	3.0	.20	300	N	N	N	30	3,000
DC098S	1.5	1.0	3.0	.10	300	N	N	N	30	1,500
DC099S	1.0	1.0	1.5	.20	300	N	N	N	50	700
DC100S	1.5	.7	1.5	.20	300	N	N	N	30	500
DC101S	1.5	1.0	2.0	.15	200	<.5	N	N	30	300
DC102S	2.0	2.0	7.0	.70	2,000	N	N	N	50	3,000
DC103S	1.0	1.0	2.0	.20	200	N	N	N	50	1,000
DC104S	1.5	1.0	2.0	.20	300	N	N	N	30	700
DC105S	1.5	1.5	5.0	.20	500	N	N	N	50	1,000
DC106S	1.5	1.0	3.0	.20	300	N	N	N	50	500
DC107S	1.5	.7	1.5	.20	300	N	N	N	70	500
DC108S	1.5	1.0	2.0	.20	500	N	N	N	50	500
DC109S	1.5	1.0	3.0	.15	200	N	N	N	30	500
DC110S	1.5	1.0	2.0	.15	300	N	N	N	70	1,000
DC111S	1.5	1.0	2.0	.20	500	N	N	N	50	5,000
DC112S	1.5	1.0	2.0	.15	300	N	N	N	30	3,000
DC113S	1.0	1.0	2.0	.15	300	N	N	N	30	500
DC114S	1.5	1.0	3.0	.30	200	<.5	N	N	70	1,000
DC115S	1.5	1.0	2.0	.20	300	N	N	N	50	2,000
DC116S	1.5	1.0	3.0	.15	300	N	N	N	30	2,000
DC117S	1.5	1.0	3.0	.20	300	N	N	N	50	1,000
DC118S	1.5	1.0	2.0	.15	500	<.5	N	N	30	700
DC119S	1.5	1.0	2.0	.20	500	N	N	N	50	700
DC120S	1.5	1.0	3.0	.15	300	N	N	N	50	500
DC121S	1.5	1.0	2.0	.15	500	N	N	N	100	700
DC122S	1.5	1.0	2.0	.15	300	<.5	N	N	50	700
DC123S	1.5	1.0	2.0	.20	300	N	N	N	50	300
DC124S	1.0	.7	1.0	.15	300	N	N	N	50	500
DC125S	2.0	1.5	3.0	.20	300	N	N	N	50	500
DC126S	1.0	.7	3.0	.10	200	N	N	N	30	500
DC127S	2.0	.7	1.0	.20	300	N	N	N	70	300
DC128S	1.0	.7	1.5	.15	300	N	N	N	30	500
DC129S	1.5	1.0	1.0	.20	500	N	N	N	70	300
DC130S	1.5	1.0	2.0	.20	300	N	N	N	70	500
DC131S	1.0	.7	1.5	.20	500	N	N	N	30	700
DC132S	1.5	.7	1.0	.20	300	N	N	N	50	500
DC133S	1.5	1.0	1.5	.20	300	N	N	N	50	500
DC134S	1.0	.7	.7	.15	200	N	N	N	50	300
DC135S	1.5	1.0	2.0	.15	300	N	N	N	50	500

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC091S	1.0	N	N	7	20	10	30	N	N	10	10
DC092S	1.0	N	N	7	20	10	30	N	N	10	15
DC093S	1.0	N	N	7	30	20	20	N	<20	10	15
DC094S	1.0	N	N	5	20	15	<20	N	N	15	10
DC095S	<1.0	N	N	10	150	20	20	N	N	20	20
DC096S	1.0	N	N	10	30	20	30	N	N	15	15
DC097S	1.0	N	N	10	30	15	70	N	<20	10	15
DC098S	1.0	N	N	10	30	15	20	N	N	15	15
DC099S	1.0	N	N	7	20	15	N	N	N	15	15
DC100S	1.0	N	N	7	20	10	30	N	N	10	10
DC101S	1.0	N	N	10	30	20	100	N	N	15	15
DC102S	1.0	N	N	15	50	15	50	N	N	15	20
DC103S	1.0	N	N	7	20	15	30	N	<20	10	15
DC104S	1.0	N	N	7	20	15	30	N	N	10	10
DC105S	1.0	N	N	10	50	20	50	N	N	15	20
DC106S	1.0	N	N	10	30	15	30	N	N	15	15
DC107S	1.0	N	N	10	50	15	50	N	N	15	20
DC108S	1.0	N	N	10	30	15	50	N	N	15	20
DC109S	1.0	N	N	10	30	15	20	N	N	15	15
DC110S	1.0	N	N	10	50	15	50	N	N	15	15
DC111S	1.0	N	N	7	20	15	30	N	N	15	10
DC112S	1.0	N	N	7	30	15	20	N	N	10	15
DC113S	1.0	N	N	7	20	15	20	N	N	10	15
DC114S	1.0	N	N	10	30	20	50	N	<20	15	20
DC115S	1.0	N	N	7	30	30	100	N	N	10	20
DC116S	1.0	N	N	10	30	20	20	N	N	15	15
DC117S	1.0	N	N	7	30	20	50	N	<20	10	20
DC118S	1.0	N	N	10	30	20	N	N	N	15	20
DC119S	1.0	N	N	10	30	20	30	N	N	20	20
DC120S	1.0	N	N	10	50	20	50	N	N	15	15
DC121S	1.0	N	N	10	30	20	20	N	N	15	20
DC122S	1.5	N	N	10	30	30	20	N	N	20	20
DC123S	1.0	N	N	10	50	20	70	N	N	15	30
DC124S	1.5	N	N	10	20	15	20	N	N	15	10
DC125S	1.0	N	N	10	30	30	100	N	N	15	30
DC126S	<1.0	N	N	7	20	15	20	N	N	10	20
DC127S	1.0	N	N	15	30	20	70	N	N	15	20
DC128S	1.0	N	N	10	30	10	N	N	N	10	20
DC129S	1.0	N	N	15	50	20	20	N	N	15	20
DC130S	1.0	N	N	10	30	20	20	N	N	15	30
DC131S	1.0	N	N	10	20	10	20	N	N	10	10
DC132S	1.0	N	N	10	30	15	50	N	N	15	20
DC133S	1.0	N	N	10	30	15	50	N	N	15	20
DC134S	1.0	N	N	10	20	15	50	N	N	10	20
DC135S	1.0	N	N	10	20	15	20	N	N	15	15

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC091S	N	5	N	150	100	N	15	N	500	N	N
DC092S	N	5	N	150	70	N	20	N	300	N	N
DC093S	N	5	N	100	70	N	20	N	>1,000	N	N
DC094S	N	5	N	100	50	N	10	N	300	N	N
DC095S	N	7	N	100	70	N	20	N	500	N	N
DC096S	N	5	N	150	70	N	15	N	300	N	N
DC097S	N	7	N	150	70	N	100	N	>1,000	N	N
DC098S	N	5	N	150	50	N	100	N	500	N	N
DC099S	N	<5	N	100	70	N	20	N	500	N	N
DC100S	N	5	N	100	70	N	30	N	500	N	N
DC101S	N	5	N	100	70	N	15	N	200	N	N
DC102S	N	20	N	500	150	N	30	N	500	N	N
DC103S	N	5	N	150	70	N	15	N	200	N	N
DC104S	N	7	N	150	100	N	20	N	500	N	N
DC105S	N	10	N	300	100	N	30	N	1,000	N	N
DC106S	N	7	N	100	70	N	20	N	300	N	N
DC107S	N	7	N	100	70	N	20	N	700	N	N
DC108S	N	7	N	200	70	N	30	N	700	N	N
DC109S	N	5	N	100	70	N	15	N	200	N	N
DC110S	N	7	N	100	70	N	15	N	200	N	N
DC111S	N	5	N	100	100	N	15	N	200	N	N
DC112S	N	<5	N	100	70	N	10	N	300	N	N
DC113S	N	5	N	200	50	N	30	N	100	N	N
DC114S	N	7	N	100	100	N	20	N	300	N	N
DC115S	N	7	N	150	100	N	20	N	700	N	N
DC116S	N	7	N	150	70	N	15	N	150	N	N
DC117S	N	7	N	150	70	N	30	N	500	N	N
DC118S	N	5	N	150	100	N	20	N	200	N	N
DC119S	N	10	N	150	100	N	20	N	300	N	N
DC120S	N	10	N	150	100	N	20	N	150	N	N
DC121S	N	7	N	150	100	N	15	N	150	N	N
DC122S	N	10	N	150	100	N	15	N	200	N	N
DC123S	N	5	N	150	70	N	15	N	1,000	N	N
DC124S	N	7	N	150	70	N	20	N	700	N	N
DC125S	N	10	N	150	100	N	50	N	200	N	N
DC126S	N	<5	N	200	50	N	15	N	200	N	N
DC127S	N	10	N	150	70	N	30	N	300	N	N
DC128S	N	5	N	150	50	N	20	N	200	N	N
DC129S	N	10	N	150	100	N	20	N	200	N	N
DC130S	N	7	N	300	70	N	20	N	300	N	N
DC131S	N	7	N	150	100	N	20	N	200	N	N
DC132S	N	7	N	150	70	N	20	N	500	N	N
DC133S	N	7	N	150	70	N	20	N	500	N	N
DC134S	N	5	N	100	50	N	15	N	500	N	N
DC135S	N	5	N	150	70	N	15	N	500	N	N

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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
DC136S	1.0	.5	1.0	.20	300	N	N	N	30	300
DC137S	1.5	.5	.7	.20	200	N	N	N	50	500
DC138S	1.0	.7	1.5	.20	200	N	N	N	50	500
DC139S	1.0	.5	2.0	.20	200	N	N	N	30	300
DC140S	1.0	.5	1.5	.20	300	N	N	N	70	500
DC141S	1.5	.7	1.5	.15	200	N	N	N	50	500
DC142S	2.0	1.0	3.0	.20	500	N	N	N	70	500
DC143S	1.5	2.0	10.0	.20	500	<.5	N	N	70	700
DC144S	1.0	1.0	2.0	.10	200	N	N	N	50	300
DC145S	2.0	1.0	3.0	.20	300	N	N	N	70	1,500
DC146S	1.5	1.0	2.0	.15	300	N	N	N	50	300
DC147S	1.0	1.0	5.0	.10	200	N	N	N	70	200
DC148S	1.5	1.0	1.5	.20	300	N	N	N	50	700
DC149S	1.5	.7	1.5	.20	300	N	N	N	50	500
DC150S	1.5	.7	2.0	.15	200	N	N	N	70	500
DC151S	1.5	1.0	3.0	.20	200	N	N	N	70	500
DC152S	1.0	.5	1.0	.15	200	N	N	N	70	700
DC153S	2.0	1.0	2.0	.15	500	N	N	N	50	500
DC154S	2.0	1.0	2.0	.20	300	N	N	N	70	500
DC155S	2.0	1.0	3.0	.15	300	N	N	N	70	300
DC156S	1.0	1.0	3.0	.20	300	N	N	N	100	500
DC157S	1.5	1.5	5.0	.15	500	N	N	N	50	1,000
DC158S	1.5	.7	2.0	.15	300	N	N	N	50	700
DC159S	.7	.5	1.0	.10	300	N	N	N	30	300
DC160S	1.0	1.0	2.0	.15	500	N	N	N	50	500
DC161S	.7	.7	2.0	.15	300	N	N	N	30	300
DC162S	1.5	1.5	5.0	.20	300	N	N	N	100	500
DC163S	1.0	1.0	5.0	.15	300	N	N	N	70	500
DC164S	2.0	2.0	7.0	.15	500	N	N	N	100	500
DC165S	1.5	1.5	5.0	.15	300	N	N	N	70	300
DC166S	1.0	1.0	5.0	.15	200	N	N	N	50	300
DC167S	1.5	2.0	7.0	.20	500	N	N	N	100	300
DC168S	2.0	5.0	10.0	.20	500	N	N	N	70	700
DC169S	1.0	1.0	3.0	.15	200	N	N	N	50	500
DC170S	1.5	3.0	10.0	.20	500	N	N	N	70	300
DC171S	1.5	2.0	7.0	.10	300	N	N	N	70	500
DC172S	1.5	2.0	10.0	.15	500	N	N	N	100	500
DC173S	1.5	1.0	3.0	.15	300	N	N	N	70	300
DC174S	2.0	3.0	10.0	.20	500	N	N	N	70	700
DC175S	2.0	3.0	10.0	.15	300	N	N	N	100	500

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC136S	1.0	N	N	10	20	15	20	N	N	15	15
DC137S	1.0	N	N	10	15	15	N	N	N	15	15
DC138S	1.0	N	N	7	70	15	70	N	N	15	15
DC139S	1.0	N	N	7	20	10	70	N	N	15	10
DC140S	1.0	N	N	10	30	10	20	N	N	15	15
DC141S	1.0	N	N	10	30	20	50	N	N	20	20
DC142S	1.0	N	N	15	70	20	50	N	<20	20	20
DC143S	1.0	N	N	10	50	20	50	N	N	15	30
DC144S	<1.0	N	N	7	30	10	20	N	N	10	20
DC145S	1.0	N	N	10	50	20	30	N	N	20	15
DC146S	<1.0	N	N	7	20	15	30	N	N	15	50
DC147S	1.0	N	N	7	20	10	20	N	N	10	10
DC148S	1.0	N	N	10	30	20	50	N	N	15	20
DC149S	1.0	N	N	10	30	20	50	N	N	20	20
DC150S	1.0	N	N	10	30	15	20	N	N	15	20
DC151S	1.0	N	N	10	50	15	30	N	N	15	15
DC152S	1.0	N	N	10	20	10	30	N	N	5	10
DC153S	1.0	N	N	15	50	20	30	N	N	20	15
DC154S	1.0	N	N	15	50	20	30	N	N	20	20
DC155S	1.0	N	N	15	50	20	50	N	N	15	20
DC156S	1.0	N	N	7	30	15	50	N	N	7	15
DC157S	1.0	N	N	10	50	20	30	N	N	15	30
DC158S	1.0	N	N	10	20	15	20	N	N	15	15
DC159S	<1.0	N	N	5	15	7	20	N	N	5	10
DC160S	1.0	N	N	7	20	15	30	N	N	10	15
DC161S	1.0	N	N	7	20	10	20	N	N	10	10
DC162S	1.0	N	N	10	30	15	20	N	N	10	20
DC163S	1.0	N	N	5	20	10	N	N	N	7	15
DC164S	1.0	N	N	10	50	15	20	N	N	15	30
DC165S	1.0	N	N	7	20	10	20	N	N	10	10
DC166S	1.0	N	N	7	70	7	30	N	N	10	15
DC167S	<1.0	N	N	10	700	15	20	N	N	15	20
DC168S	<1.0	N	N	10	30	15	30	N	N	15	20
DC169S	1.0	N	N	5	20	7	20	N	N	7	10
DC170S	<1.0	N	N	10	30	15	30	N	N	10	30
DC171S	1.0	N	N	10	20	15	20	N	N	15	30
DC172S	1.0	N	N	10	30	10	30	N	N	10	15
DC173S	1.0	N	N	10	30	10	30	N	N	10	20
DC174S	1.0	N	N	10	30	15	30	N	N	15	20
DC175S	1.0	N	N	15	30	15	30	N	N	15	20

TABLE 3. RESULTS OF ANALYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC136S	N	5	N	150	70	N	30	N	300	N	N
DC137S	N	5	N	150	50	N	15	N	700	N	N
DC138S	N	5	N	200	70	N	20	N	1,000	N	N
DC139S	N	5	N	150	70	N	20	N	500	N	N
DC140S	N	5	N	150	50	N	15	N	300	N	N
DC141S	N	7	N	150	70	N	20	N	200	N	N
DC142S	N	10	N	200	100	N	20	N	200	N	N
DC143S	N	10	N	500	70	N	30	N	300	N	N
DC144S	N	N	N	150	30	N	10	N	200	N	N
DC145S	N	7	N	300	100	N	20	N	150	N	N
DC146S	N	7	N	150	50	N	15	N	200	N	N
DC147S	N	5	N	200	50	N	15	N	200	N	N
DC148S	N	7	N	150	100	N	20	N	500	N	N
DC149S	N	10	N	150	100	N	30	N	200	N	N
DC150S	N	7	N	150	70	N	15	N	300	N	N
DC151S	N	5	N	200	70	N	15	N	300	N	--
DC152S	N	5	N	150	50	N	15	N	500	N	--
DC153S	N	10	N	200	100	N	30	N	100	N	--
DC154S	N	10	N	200	100	N	30	N	200	N	--
DC155S	N	7	N	200	50	N	20	N	300	N	--
DC156S	N	7	N	200	70	N	20	N	700	N	--
DC157S	N	7	N	300	70	N	15	N	200	N	--
DC158S	N	7	N	200	70	N	15	N	200	N	--
DC159S	N	<5	N	150	50	N	15	N	200	N	--
DC160S	N	7	N	300	70	N	15	N	300	N	--
DC161S	N	5	N	200	50	N	20	N	200	N	--
DC162S	N	7	N	300	70	N	20	N	500	N	--
DC163S	N	5	N	200	50	N	15	N	150	N	--
DC164S	N	7	N	200	70	N	15	N	100	N	--
DC165S	N	7	N	200	70	N	20	N	300	N	--
DC166S	N	5	N	300	50	N	15	N	100	N	--
DC167S	N	7	N	200	70	N	15	N	300	N	--
DC168S	N	10	N	500	100	N	20	N	300	N	--
DC169S	N	5	N	300	50	N	10	N	200	N	--
DC170S	N	7	N	300	70	N	15	N	200	N	--
DC171S	N	7	N	200	50	N	15	N	150	N	--
DC172S	N	7	N	500	70	N	20	N	100	N	--
DC173S	N	5	N	200	50	N	20	N	200	N	--
DC174S	N	10	N	300	70	N	30	N	200	N	--
DC175S	N	7	N	300	70	N	20	N	300	N	--

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH

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

Sample	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
DC001C	1.00	.50	.7	.70	70	N	N	N	<20	>10,000
DC002C	2.00	.20	1.5	.50	100	N	N	N	20	>10,000
DC003C	.70	.20	1.5	1.00	70	N	N	N	<20	>10,000
DC004C	2.00	.20	.7	.20	100	N	N	N	<20	>10,000
DC005C	1.00	<.05	.3	.20	50	N	N	N	<20	>10,000
DC006C	1.50	.50	1.5	.50	100	N	N	N	<20	>10,000
DC007C	.50	.70	2.0	1.50	30	N	N	N	20	>10,000
DC008C	.70	.50	1.0	1.00	30	N	N	N	20	>10,000
DC009C	.30	.30	1.0	1.00	30	N	N	N	<20	>10,000
DC010C	1.00	.50	1.0	1.50	30	N	N	N	20	>10,000
DC011C	.30	.70	1.5	2.00	50	N	N	N	50	>10,000
DC012C	1.50	.30	1.0	1.50	100	N	N	N	<20	>10,000
DC013C	.20	.50	.7	2.00	30	N	N	N	30	>10,000
DC014C	.20	.70	1.0	>2.00	50	N	N	N	70	>10,000
DC015C	.20	1.00	1.0	2.00	50	N	N	N	50	>10,000
DC016C	.50	.30	.7	1.00	50	N	N	N	20	>10,000
DC017C	.30	1.00	1.0	2.00	100	N	N	N	100	>10,000
DC018C	.30	1.50	3.0	2.00	70	N	N	N	70	>10,000
DC019C	.20	.50	1.5	2.00	50	N	N	N	70	>10,000
DC020C	.10	.05	.3	.50	30	N	N	N	<20	>10,000
DC021C	.20	.30	.7	1.50	50	N	N	N	20	>10,000
DC022C	.70	.50	2.0	2.00	100	N	N	N	30	>10,000
DC023C	.50	2.00	2.0	1.50	100	N	N	N	50	>10,000
DC024C	1.00	.50	1.0	.70	70	N	N	N	30	>10,000
DC025C	.70	1.00	1.0	1.50	70	N	N	N	20	>10,000
DC026C	3.00	.30	1.0	1.00	100	N	N	N	20	>10,000
DC027C	.50	.30	1.5	2.00	70	N	N	N	70	>10,000
DC028C	.70	.70	1.0	2.00	50	N	N	N	30	>10,000
DC029C	.30	.30	1.0	2.00	70	N	N	N	30	>10,000
DC030C	1.50	1.00	1.0	2.00	100	N	N	N	50	>10,000
DC031C	.50	.50	1.0	1.50	70	N	N	N	50	>10,000
DC032C	.30	.20	.7	1.00	30	N	N	N	70	>10,000
DC033C	.50	.20	1.0	1.50	50	N	N	N	20	>10,000
DC034C	.30	.20	.7	1.00	30	N	N	N	70	>10,000
DC035C	.70	.70	.7	1.00	50	N	N	N	50	>10,000
DC036C	.50	.30	2.0	1.50	70	N	N	N	70	>10,000
DC037C	.70	.15	.7	1.00	70	N	N	N	50	>10,000
DC038C	.30	.10	.7	.70	50	N	N	N	20	>10,000
DC039C	1.50	.10	.3	1.00	70	<1	N	N	20	>10,000
DC040C	.15	.07	.5	.30	20	N	N	N	20	>10,000
DC041C	.50	.20	1.0	.50	50	N	N	N	30	>10,000
DC042C	.15	.07	.7	.30	20	N	N	N	<20	>10,000
DC043C	.20	.15	.5	.70	50	N	N	N	20	>10,000
DC044C	.10	.10	1.0	.50	30	N	N	N	<20	>10,000
DC045C	.20	.15	1.0	1.00	30	N	N	N	20	>10,000

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC001C	<2	N	N	N	<20	20	N	N	<50	N	20
DC002C	<2	N	N	N	<20	30	N	N	<50	10	20
DC003C	<2	N	N	N	<20	<10	N	N	<50	N	N
DC004C	<2	N	N	N	<20	50	N	N	N	10	20
DC005C	<2	N	N	N	<20	20	N	N	N	N	<20
DC006C	<2	N	N	N	<20	50	N	N	N	N	20
DC007C	<2	N	N	N	20	N	N	N	<50	N	N
DC008C	<2	N	N	N	20	N	N	N	<50	N	N
DC009C	<2	N	N	N	<20	N	N	N	<50	N	N
DC010C	<2	N	N	N	<20	N	N	N	<50	N	N
DC011C	<2	N	N	N	30	N	N	N	50	N	<20
DC012C	<2	N	N	N	<20	30	N	N	<50	10	<20
DC013C	<2	N	N	N	50	N	N	N	50	N	N
DC014C	<2	N	N	N	70	N	N	N	70	N	30
DC015C	<2	N	N	N	100	N	N	N	50	N	20
DC016C	<2	N	N	N	<20	N	N	N	<50	N	N
DC017C	<2	N	N	N	100	N	100	N	70	N	70
DC018C	<2	N	N	N	30	N	200	N	50	N	20
DC019C	<2	N	N	N	<20	N	200	N	50	N	N
DC020C	<2	N	N	N	<20	N	70	N	<50	N	N
DC021C	<2	N	N	N	<20	N	200	N	<50	N	<20
DC022C	<2	N	N	N	20	10	50	N	50	10	20
DC023C	<2	N	N	N	70	N	50	N	<50	N	30
DC024C	<2	N	N	N	<20	20	N	N	N	N	N
DC025C	<2	N	N	N	20	20	N	N	50	N	30
DC026C	<2	N	N	N	20	50	70	N	<50	30	70
DC027C	<2	N	N	N	30	N	150	N	50	N	20
DC028C	<2	N	N	N	20	N	N	N	<50	N	N
DC029C	<2	N	N	N	20	N	300	N	50	N	50
DC030C	<2	N	N	N	30	30	N	N	<50	N	70
DC031C	2	N	N	N	30	N	300	N	50	N	50
DC032C	2	N	N	N	<20	N	300	N	<50	N	30
DC033C	2	N	N	N	<20	N	200	N	50	N	20
DC034C	<2	N	N	N	<20	N	100	N	<50	N	20
DC035C	<2	N	N	N	<20	10	N	N	<50	N	20
DC036C	<2	N	N	N	50	50	300	N	70	N	20
DC037C	<2	N	N	N	<20	20	N	N	<50	N	50
DC038C	<2	N	N	N	<20	10	50	N	N	N	<20
DC039C	<2	N	N	N	20	50	N	N	<50	N	<20
DC040C	<2	N	N	N	N	<10	50	N	N	N	N
DC041C	<2	N	N	N	20	10	50	N	<50	N	<20
DC042C	<2	N	N	N	N	10	50	N	N	N	N
DC043C	<2	N	N	N	<20	N	N	N	<50	N	<20
DC044C	<2	N	N	N	<20	N	150	N	N	N	N
DC045C	<2	N	N	N	<20	N	50	N	N	N	<20

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC001C	N	<10	N	5,000	50	N	100	N	>2,000	N	--
DC002C	N	<10	N	10,000	30	N	100	N	>2,000	N	--
DC003C	N	10	N	7,000	50	N	150	N	>2,000	N	--
DC004C	N	N	N	10,000	<20	N	70	500	2,000	N	--
DC005C	N	N	N	5,000	<20	N	50	N	>2,000	N	--
DC006C	N	N	N	3,000	20	N	70	N	>2,000	N	--
DC007C	N	20	N	5,000	50	N	200	N	>2,000	N	--
DC008C	N	20	N	5,000	50	N	200	N	>2,000	N	--
DC009C	N	15	N	5,000	30	N	150	N	>2,000	N	--
DC010C	N	15	N	7,000	50	N	200	N	>2,000	N	--
DC011C	N	50	N	3,000	100	N	300	N	>2,000	N	--
DC012C	N	30	N	5,000	70	N	200	N	>2,000	N	--
DC013C	N	100	N	2,000	100	N	500	N	>2,000	N	--
DC014C	N	100	20	2,000	100	N	500	N	>2,000	N	--
DC015C	N	70	N	1,000	100	N	500	N	>2,000	N	--
DC016C	N	20	N	5,000	50	N	300	N	>2,000	N	--
DC017C	N	70	<20	700	100	N	500	N	>2,000	N	--
DC018C	N	50	N	3,000	70	N	300	N	>2,000	N	--
DC019C	N	20	N	3,000	70	N	300	<500	>2,000	N	--
DC020C	N	<10	N	5,000	20	N	100	N	>2,000	N	--
DC021C	N	30	N	5,000	70	N	500	N	>2,000	<200	--
DC022C	N	20	N	5,000	70	N	300	700	>2,000	N	--
DC023C	N	50	N	2,000	100	N	500	N	>2,000	N	--
DC024C	N	10	N	10,000	30	N	100	500	>2,000	N	--
DC025C	N	20	N	3,000	50	N	200	N	>2,000	N	--
DC026C	N	15	N	3,000	30	N	150	1,000	>2,000	N	--
DC027C	N	50	N	>10,000	100	N	300	N	>2,000	N	--
DC028C	N	50	N	5,000	100	N	300	N	>2,000	N	--
DC029C	N	50	N	3,000	100	N	300	N	>2,000	N	--
DC030C	N	70	N	5,000	100	N	500	1,000	>2,000	N	--
DC031C	N	50	N	3,000	70	N	300	N	>2,000	N	--
DC032C	N	50	N	5,000	70	N	500	N	>2,000	N	--
DC033C	N	50	100	3,000	70	<100	500	N	>2,000	N	--
DC034C	N	70	N	3,000	50	<100	500	N	>2,000	N	--
DC035C	N	30	N	5,000	50	N	200	N	>2,000	N	--
DC036C	N	30	N	5,000	70	N	300	N	>2,000	N	--
DC037C	N	15	N	10,000	50	N	200	N	>2,000	N	--
DC038C	N	15	N	7,000	30	N	150	N	>2,000	N	--
DC039C	N	50	N	3,000	50	N	300	N	>2,000	N	--
DC040C	N	<10	N	5,000	30	N	100	N	>2,000	N	--
DC041C	N	20	N	5,000	30	N	200	N	>2,000	N	--
DC042C	N	10	20	5,000	30	N	100	N	>2,000	N	--
DC043C	N	20	N	2,000	50	N	200	1,000	>2,000	N	--
DC044C	N	15	N	5,000	30	N	200	N	>2,000	N	--
DC045C	N	50	N	3,000	70	N	500	N	>2,000	N	--

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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
DC046C	.30	.20	1.5	1.00	70	N	N	N	30	>10,000
DC047C	.20	.10	1.0	.50	50	N	N	N	20	>10,000
DC048C	.30	<.05	.5	.50	50	N	N	N	30	>10,000
DC049C	.20	.10	1.0	1.00	50	N	N	N	50	>10,000
DC050C	.20	.10	1.0	.70	50	N	N	N	<20	>10,000
DC051C	.30	.70	2.0	1.00	100	N	N	N	100	>10,000
DC052C	.50	.20	2.0	1.50	70	<1	N	N	50	>10,000
DC053C	.15	<.05	1.0	.50	20	N	N	N	20	>10,000
DC054C	<.10	<.05	.3	.20	N	N	N	N	<20	>10,000
DC055C	.10	.07	.7	.70	30	N	N	N	<20	>10,000
DC056C	.20	.50	1.5	.70	70	N	N	N	50	>10,000
DC057C	.20	.05	.5	.70	30	N	N	N	<20	>10,000
DC058C	.50	.70	3.0	2.00	100	1	N	N	50	>10,000
DC059C	.50	.30	1.5	1.00	50	N	N	N	20	>10,000
DC060C	.50	.70	3.0	1.50	150	N	N	N	30	>10,000
DC061C	.30	.05	.7	.70	50	N	N	N	30	>10,000
DC062C	.30	.05	1.0	1.50	50	N	N	N	30	>10,000
DC063C	.15	<.05	1.0	.50	30	N	N	N	<20	>10,000
DC064C	.20	.07	1.0	1.00	50	N	N	N	20	>10,000
DC065C	.30	.10	1.5	1.00	70	N	N	N	70	>10,000
DC066C	.70	1.00	2.0	1.00	150	N	N	N	50	>10,000
DC067C	.20	.10	2.0	1.00	70	N	N	N	70	>10,000
DC068C	.20	.07	2.0	1.00	100	N	N	N	20	>10,000
DC069C	.30	.10	2.0	1.00	100	N	N	N	20	>10,000
DC070C	.50	.15	2.0	1.00	150	N	N	N	<20	>10,000
DC071C	.70	.70	1.5	.70	200	N	N	N	70	>10,000
DC072C	.30	.15	1.0	.50	50	N	N	N	20	>10,000
DC073C	.50	.30	1.5	1.00	100	N	N	N	20	>10,000
DC074C	.20	<.05	.5	.50	<20	N	N	N	<20	>10,000
DC075C	.20	.15	1.5	1.00	50	N	N	N	50	>10,000
DC076C	.20	.15	1.0	1.00	50	N	N	N	30	>10,000
DC077C	.50	.20	2.0	1.50	100	N	N	N	50	>10,000
DC078C	.10	.10	1.0	.30	50	N	N	N	20	>10,000
DC079C	.20	.10	3.0	2.00	70	N	N	N	30	>10,000
DC080C	.20	.10	.7	1.00	70	N	N	N	100	>10,000
DC081C	.30	1.00	1.5	1.00	70	N	N	N	70	>10,000
DC082C	.10	.07	1.0	.50	20	N	N	N	<20	>10,000
DC083C	.20	.50	1.5	2.00	70	N	N	N	20	>10,000
DC084C	.20	.20	1.0	.30	50	N	N	N	<20	>10,000
DC085C	.30	2.00	3.0	1.00	200	N	N	N	50	>10,000
DC086C	.20	.30	2.0	1.00	50	N	N	N	20	>10,000
DC087C	.30	.50	2.0	1.00	50	N	N	N	30	>10,000
DC088C	.50	1.00	3.0	.70	200	N	N	N	20	>10,000
DC089C	.50	.70	2.0	1.50	100	N	N	N	20	>10,000
DC090C	.20	<.05	.3	1.00	30	N	N	N	20	>10,000

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC046C	<2	N	N	N	20	N	150	N	<50	N	20
DC047C	<2	N	N	N	<20	<10	50	N	<50	N	70
DC048C	2	N	N	N	N	N	N	N	N	N	20
DC049C	<2	N	N	N	<20	N	100	N	<50	N	20
DC050C	<2	N	N	N	<20	N	100	N	<50	N	50
DC051C	<2	N	N	N	20	N	150	N	<50	N	20
DC052C	<2	N	N	N	20	N	100	N	50	N	20
DC053C	<2	N	N	N	N	N	50	N	N	N	20
DC054C	<2	N	N	N	N	N	N	N	N	N	N
DC055C	<2	N	N	N	N	N	N	N	<50	N	N
DC056C	<2	N	N	N	<20	<10	50	N	<50	N	100
DC057C	<2	N	N	N	20	N	N	N	<50	N	100
DC058C	<2	N	N	N	30	N	300	N	70	N	70
DC059C	<2	N	N	N	<20	<10	200	N	<50	N	20
DC060C	<2	N	N	N	20	N	200	N	50	N	N
DC061C	<2	N	N	N	<20	N	100	N	<50	N	N
DC062C	<2	N	N	N	<20	N	150	N	<50	N	20
DC063C	<2	N	N	N	N	N	200	N	<50	N	<20
DC064C	<2	N	N	N	N	N	N	N	<50	10	20
DC065C	<2	N	N	N	<20	N	100	N	<50	N	<20
DC066C	<2	N	N	N	20	<10	200	N	50	N	50
DC067C	<2	N	N	N	<20	N	200	N	<50	N	30
DC068C	<2	N	N	N	N	N	200	N	N	N	50
DC069C	<2	N	N	N	N	N	150	N	<50	N	<20
DC070C	<2	N	N	N	N	N	150	N	<50	N	50
DC071C	<2	N	N	N	<20	<10	200	N	<50	N	20
DC072C	<2	N	N	N	20	<10	70	N	N	N	N
DC073C	<2	N	N	10	<20	N	200	N	<50	N	N
DC074C	<2	N	N	N	<20	N	50	N	N	N	N
DC075C	<2	N	N	N	<20	N	N	N	<50	N	N
DC076C	<2	N	N	N	N	N	50	N	N	N	N
DC077C	<2	N	N	N	<20	N	300	N	<50	N	20
DC078C	<2	N	N	N	N	N	N	N	<50	N	N
DC079C	<2	N	N	N	N	15	70	N	N	N	20
DC080C	<2	N	N	N	<20	N	300	N	50	N	50
DC081C	<2	N	N	N	N	N	70	N	50	N	20
DC082C	<2	N	N	N	N	N	N	N	N	N	N
DC083C	<2	N	N	N	<20	N	200	N	50	N	30
DC084C	<2	N	N	N	N	N	N	N	N	N	N
DC085C	<2	N	N	N	<20	10	200	N	<50	N	20
DC086C	<2	N	N	N	<20	N	70	N	<50	N	N
DC087C	<2	N	N	N	20	N	200	N	50	N	30
DC088C	<2	N	N	N	20	N	70	N	<50	N	50
DC089C	<2	N	N	N	<20	N	200	N	70	10	50
DC090C	<2	N	N	N	<20	N	50	N	50	N	N

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC046C	N	50	70	5,000	70	N	500	N	>2,000	N	--
DC047C	N	15	N	5,000	50	N	150	N	>2,000	N	--
DC048C	N	50	100	5,000	70	N	300	N	>2,000	N	--
DC049C	N	20	100	5,000	70	N	200	N	>2,000	N	--
DC050C	N	15	N	5,000	50	N	200	N	>2,000	N	--
DC051C	N	20	N	3,000	50	N	300	N	>2,000	N	--
DC052C	N	30	N	3,000	100	N	300	N	>2,000	N	--
DC053C	N	<10	N	7,000	30	N	100	N	>2,000	N	--
DC054C	N	N	N	5,000	20	N	30	N	>2,000	N	--
DC055C	N	15	N	3,000	20	N	200	N	>2,000	N	--
DC056C	N	15	N	5,000	50	N	200	N	>2,000	N	--
DC057C	N	20	N	10,000	50	N	300	N	>2,000	N	--
DC058C	N	20	<20	2,000	100	N	200	N	>2,000	N	--
DC059C	N	15	N	5,000	70	N	200	N	>2,000	N	--
DC060C	N	50	N	2,000	100	N	300	N	>2,000	N	--
DC061C	N	20	N	5,000	70	N	200	N	>2,000	N	--
DC062C	N	20	N	5,000	70	N	200	N	>2,000	N	--
DC063C	N	15	50	5,000	30	N	200	N	>2,000	N	--
DC064C	N	70	20	3,000	70	N	500	N	>2,000	N	--
DC065C	N	20	N	5,000	70	N	200	N	>2,000	N	--
DC066C	N	20	N	2,000	100	N	300	N	>2,000	N	--
DC067C	N	50	N	2,000	70	N	500	N	>2,000	N	--
DC068C	N	20	N	2,000	50	N	300	N	>2,000	N	--
DC069C	N	15	N	3,000	50	N	200	N	>2,000	N	--
DC070C	N	50	N	1,500	50	N	500	N	>2,000	N	--
DC071C	N	15	N	1,000	50	N	200	N	>2,000	N	--
DC072C	N	10	N	5,000	30	N	150	N	>2,000	N	--
DC073C	N	30	N	5,000	70	N	300	N	>2,000	N	--
DC074C	N	20	N	3,000	50	N	200	N	>2,000	N	--
DC075C	N	15	20	5,000	50	N	150	N	>2,000	N	--
DC076C	N	20	N	2,000	50	N	200	500	>2,000	N	--
DC077C	N	30	N	5,000	100	N	500	N	>2,000	N	--
DC078C	N	<10	N	3,000	20	N	100	N	>2,000	N	--
DC079C	N	20	<20	3,000	100	N	500	N	>2,000	N	--
DC080C	N	30	150	3,000	100	N	300	N	>2,000	N	--
DC081C	N	20	70	2,000	70	N	200	N	>2,000	N	--
DC082C	N	<10	N	2,000	20	N	100	N	>2,000	N	--
DC083C	N	50	<20	3,000	100	N	700	N	>2,000	N	--
DC084C	N	N	N	5,000	20	N	70	N	>2,000	N	--
DC085C	N	15	N	5,000	70	N	300	N	>2,000	N	--
DC086C	N	20	N	3,000	50	N	200	N	>2,000	N	--
DC087C	N	20	N	3,000	70	N	300	N	>2,000	N	--
DC088C	N	15	N	7,000	50	N	150	N	>2,000	N	--
DC089C	N	50	20	1,000	100	N	500	N	>2,000	N	--
DC090C	N	30	50	5,000	100	N	300	N	>2,000	N	--

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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
DC091C	.30	.20	.5	.30	50	N	N	N	50	>10,000
DC092C	.30	1.00	2.0	2.00	150	N	N	N	50	>10,000
DC093C	.15	<.05	.2	.50	30	N	N	N	20	>10,000
DC094C	.15	.05	1.0	1.00	50	N	N	N	70	>10,000
DC095C	.20	.05	.7	.50	50	N	N	N	<20	>10,000
DC096C	.70	2.00	3.0	1.50	100	N	N	N	50	>10,000
DC097C	.50	.50	3.0	1.50	100	N	N	N	30	>10,000
DC098C	.50	.50	2.0	1.00	70	N	N	N	30	>10,000
DC099C	.30	.70	2.0	2.00	150	N	N	N	20	>10,000
DC100C	.50	.30	2.0	1.50	100	N	N	N	50	>10,000
DC101C	.50	1.00	2.0	2.00	150	N	N	N	30	>10,000
DC102C	.50	.30	2.0	2.00	100	N	N	N	50	>10,000
DC103C	.50	2.00	2.0	1.00	100	N	N	N	20	>10,000
DC104C	.20	.20	.7	1.00	50	N	N	N	20	>10,000
DC105C	.70	.70	2.0	2.00	70	N	N	N	70	>10,000
DC106C	.70	1.50	3.0	2.00	200	N	N	N	70	>10,000
DC107C	.50	.20	2.0	2.00	200	<1	N	N	30	>10,000
DC108C	.50	.20	3.0	2.00	300	N	N	N	30	>10,000
DC109C	.15	.70	2.0	1.50	50	N	N	N	<20	>10,000
DC110C	.30	2.00	2.0	.50	70	N	N	N	20	>10,000
DC111C	.30	1.00	2.0	1.50	70	N	N	N	50	>10,000
DC112C	.20	.50	1.5	1.00	50	N	N	N	30	>10,000
DC113C	.50	.70	2.0	1.50	100	<1	N	N	50	>10,000
DC114C	.30	.30	.7	1.00	50	N	N	N	20	>10,000
DC115C	.20	1.00	1.5	.70	150	N	N	N	<20	>10,000
DC116C	N	.05	.5	.07	20	N	N	N	N	>10,000
DC117C	.10	.07	.5	.20	50	N	N	N	N	>10,000
DC118C	.15	.30	1.5	.20	70	N	N	N	<20	>10,000
DC119C	.20	.30	1.0	.30	100	N	N	N	N	>10,000
DC120C	.15	.70	1.5	.50	100	N	N	N	<20	>10,000
DC121C	<.10	.10	.7	.20	50	N	N	N	N	>10,000
DC122C	.20	1.00	2.0	1.00	100	N	N	N	<20	>10,000
DC123C	.30	1.00	2.0	1.50	100	N	N	N	30	>10,000
DC124C	.20	1.00	3.0	1.50	100	N	N	N	30	>10,000
DC125C	.15	.70	1.5	.70	100	N	N	N	<20	>10,000
DC126C	.15	.70	3.0	1.00	70	N	N	N	50	>10,000
DC127C	.15	.05	1.0	1.50	50	N	N	N	20	>10,000
DC128C	.20	.50	2.0	1.00	100	N	N	N	20	>10,000
DC129C	.20	.50	2.0	1.50	100	N	N	N	20	>10,000
DC130C	.15	.30	2.0	1.00	70	N	N	N	50	>10,000
DC131C	.20	5.00	3.0	.50	100	N	N	N	20	>10,000
DC132C	.20	.20	2.0	1.50	70	N	N	N	50	>10,000
DC133C	.20	1.00	2.0	1.50	100	N	N	N	30	>10,000
DC134C	.15	.05	1.5	1.50	100	N	N	N	50	>10,000
DC135C	.15	1.00	2.0	1.50	50	N	N	N	20	>10,000

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC091C	<2	N	N	N	N	N	100	N	N	N	20
DC092C	<2	N	N	N	<20	N	300	N	70	10	50
DC093C	N	N	N	N	N	N	50	N	<50	N	N
DC094C	N	N	N	N	N	N	200	N	50	N	N
DC095C	N	N	N	N	N	N	N	N	N	N	N
DC096C	N	N	N	N	<20	N	200	N	50	N	N
DC097C	N	N	N	N	<20	N	150	N	<50	N	20
DC098C	N	N	N	N	<20	N	100	N	N	N	20
DC099C	N	N	N	N	30	N	100	N	50	N	50
DC100C	N	N	N	N	<20	N	300	N	N	N	50
DC101C	N	N	N	N	<20	N	150	N	50	N	<20
DC102C	N	N	N	N	20	N	300	N	<50	N	70
DC103C	N	N	N	N	<20	N	100	N	<50	N	<20
DC104C	N	N	N	N	<20	N	200	N	<50	N	N
DC105C	N	N	N	N	20	N	500	N	50	N	N
DC106C	N	N	N	N	100	N	500	N	70	N	70
DC107C	N	N	N	N	20	N	300	N	50	N	30
DC108C	N	N	N	N	20	10	300	N	<50	N	50
DC109C	N	N	N	N	N	<10	100	N	<50	N	N
DC110C	N	N	N	N	N	10	50	N	N	N	<20
DC111C	N	N	N	N	<20	N	200	N	50	N	N
DC112C	N	N	N	N	N	N	100	N	50	N	N
DC113C	N	N	N	N	<20	N	200	N	50	N	20
DC114C	N	N	N	N	<20	N	150	N	<50	N	<20
DC115C	N	N	N	N	N	30	150	N	N	N	<20
DC116C	N	N	N	N	N	N	N	N	N	N	N
DC117C	<2	N	N	N	N	N	N	N	N	N	N
DC118C	<2	N	N	N	N	N	N	N	N	N	N
DC119C	<2	N	N	N	N	N	N	N	N	N	N
DC120C	<2	N	N	N	N	N	200	N	N	N	N
DC121C	N	N	N	N	N	N	N	N	N	N	70
DC122C	N	N	N	N	<20	N	150	N	50	N	50
DC123C	N	N	N	N	<20	10	300	N	<50	N	<20
DC124C	N	N	N	N	20	N	300	N	<50	N	<20
DC125C	N	N	N	N	N	N	50	N	N	N	200
DC126C	N	N	N	N	20	N	100	N	50	N	<20
DC127C	N	N	N	N	<20	N	200	N	N	N	70
DC128C	N	N	N	N	N	N	200	N	N	N	<20
DC129C	N	N	N	N	<20	30	200	N	<50	N	<20
DC130C	N	N	N	N	N	N	200	N	<50	N	<20
DC131C	N	N	N	N	N	N	100	N	N	N	N
DC132C	N	N	N	N	20	N	200	N	<50	N	30
DC133C	N	N	N	N	<20	N	200	N	<50	N	30
DC134C	N	N	N	N	N	N	200	N	<50	N	<20
DC135C	N	N	N	N	N	N	200	N	N	N	<20

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC091C	N	10	<20	5,000	50	N	200	N	>2,000	N	--
DC092C	N	50	50	3,000	100	N	500	N	>2,000	N	--
DC093C	N	10	50	2,000	50	N	200	N	>2,000	N	--
DC094C	N	15	N	2,000	70	N	200	N	>2,000	N	--
DC095C	N	20	N	2,000	50	N	300	N	>2,000	N	--
DC096C	N	20	N	1,500	70	N	200	N	>2,000	N	--
DC097C	N	30	N	1,500	100	N	300	N	>2,000	N	--
DC098C	N	70	50	2,000	70	N	500	N	>2,000	N	--
DC099C	N	50	20	2,000	100	N	300	N	>2,000	N	--
DC100C	N	100	20	1,500	70	N	500	N	>2,000	N	--
DC101C	N	20	N	1,000	100	N	200	N	>2,000	N	--
DC102C	N	100	<20	2,000	100	N	500	N	>2,000	N	--
DC103C	N	15	N	3,000	70	N	150	N	>2,000	N	--
DC104C	N	30	200	2,000	50	N	300	N	>2,000	N	--
DC105C	N	70	N	2,000	100	N	500	N	>2,000	N	--
DC106C	N	70	N	1,000	70	N	500	N	>2,000	N	--
DC107C	N	70	N	500	100	N	500	N	>2,000	N	--
DC108C	N	50	N	700	70	N	500	N	>2,000	N	--
DC109C	N	15	100	3,000	50	N	150	N	>2,000	N	--
DC110C	N	15	N	2,000	30	N	100	N	>2,000	N	--
DC111C	N	20	N	3,000	70	N	200	N	>2,000	N	--
DC112C	N	15	N	2,000	50	N	150	N	>2,000	N	--
DC113C	N	50	50	1,000	100	N	300	N	>2,000	N	--
DC114C	N	20	500	5,000	50	N	200	N	>2,000	N	--
DC115C	N	<10	N	5,000	30	N	100	N	>2,000	N	--
DC116C	N	N	N	2,000	<20	N	N	N	2,000	N	--
DC117C	N	N	N	1,500	20	N	50	N	>2,000	N	--
DC118C	N	N	N	2,000	20	N	70	N	>2,000	N	--
DC119C	N	N	N	2,000	30	N	50	N	>2,000	N	--
DC120C	N	N	N	1,500	30	N	70	N	>2,000	N	--
DC121C	N	N	N	2,000	<20	N	30	N	>2,000	N	--
DC122C	N	30	N	2,000	50	N	200	N	>2,000	N	--
DC123C	N	30	N	1,000	70	N	300	N	>2,000	N	--
DC124C	N	50	N	700	70	N	300	N	>2,000	N	--
DC125C	N	N	30	2,000	30	N	100	N	>2,000	N	--
DC126C	N	20	N	1,000	70	N	200	N	>2,000	N	--
DC127C	N	50	N	1,500	70	N	300	N	>2,000	N	--
DC128C	N	50	N	1,000	50	N	500	N	>2,000	N	--
DC129C	N	30	N	1,000	50	N	200	N	>2,000	N	--
DC130C	N	20	N	1,000	50	N	300	N	>2,000	N	--
DC131C	N	<10	N	500	20	N	70	N	>2,000	N	--
DC132C	N	30	N	700	70	N	300	N	>2,000	N	--
DC133C	N	30	50	1,000	50	N	300	N	>2,000	N	--
DC134C	N	20	N	1,500	50	N	200	N	>2,000	N	--
DC135C	N	20	N	1,000	50	N	300	N	>2,000	N	--

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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
DC136C	.20	1.00	2.0	1.00	70	N	N	N	70	>10,000
DC137C	.20	.70	2.0	2.00	100	N	N	N	50	>10,000
DC138C	.20	.50	1.5	1.00	70	N	N	N	50	>10,000
DC139C	.15	.05	1.0	.70	50	N	N	N	20	>10,000
DC140C	.30	.70	3.0	2.00	150	<1	N	N	50	>10,000
DC141C	.50	.50	3.0	1.00	150	N	N	N	30	>10,000
DC142C	.30	.07	1.5	1.50	100	N	N	N	20	>10,000
DC143C	.20	.20	2.0	1.50	100	N	N	N	20	>10,000
DC144C	.50	.30	2.0	1.50	200	N	N	N	70	>10,000
DC145C	.50	.30	1.5	1.50	100	N	N	N	30	>10,000
DC146C	.20	.50	2.0	1.00	150	N	N	N	20	>10,000
DC147C	.70	.20	2.0	1.50	100	N	N	N	30	>10,000
DC148C	.20	.70	2.0	1.00	100	N	N	N	20	>10,000
DC149C	.20	.70	3.0	2.00	150	<1	N	N	50	>10,000
DC150C	.30	.10	1.5	1.50	100	N	N	N	50	>10,000
DC151C	.20	.50	3.0	.70	100	N	N	N	20	>10,000
DC152C	.30	.10	1.0	1.50	70	N	N	N	20	>10,000
DC153C	.20	.15	3.0	1.00	100	N	N	N	20	>10,000
DC154C	.50	.30	2.0	2.00	150	N	N	N	50	>10,000
DC156C	.50	.50	2.0	1.00	100	N	N	N	30	>10,000
DC157C	.15	.10	2.0	.70	50	N	N	N	20	>10,000
DC158C	.30	.20	3.0	1.00	100	N	N	N	20	>10,000
DC159C	.20	.70	3.0	1.50	100	N	N	N	30	>10,000
DC160C	.20	.30	2.0	1.50	100	N	N	N	50	>10,000
DC161C	.20	.50	1.5	1.50	100	N	N	N	50	>10,000
DC162C	.20	.50	2.0	1.00	70	N	N	N	20	>10,000
DC163C	.20	.10	1.0	1.00	50	N	N	N	50	>10,000
DC164C	.15	.15	1.0	.20	70	N	N	N	20	>10,000
DC165C	.50	1.00	5.0	1.50	200	N	N	N	50	>10,000
DC166C	.20	.20	3.0	.70	100	N	N	N	30	>10,000
DC167C	.30	.70	3.0	1.00	150	N	N	N	50	>10,000
DC168C	.30	1.00	3.0	1.50	150	N	N	N	70	>10,000
DC169C	.50	.70	3.0	2.00	150	N	N	N	70	>10,000
DC170C	.30	1.00	2.0	1.00	150	N	N	N	50	>10,000
DC171C	1.00	2.00	3.0	1.50	500	N	N	N	100	>10,000
DC172C	.30	2.00	3.0	.70	300	N	N	N	50	>10,000
DC173C	.20	1.00	3.0	1.00	150	N	N	N	50	>10,000
DC174C	.30	.70	2.0	.70	100	N	N	N	20	>10,000
DC175C	.50	1.00	3.0	1.50	200	N	N	N	50	>10,000

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--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
DC136C	N	N	N	N	N	N	200	N	50	N	N
DC137C	N	N	N	N	20	N	500	N	50	<10	50
DC138C	N	N	N	N	N	N	200	N	50	N	<20
DC139C	<2	N	N	N	N	N	100	N	<50	N	N
DC140C	<2	N	N	N	<20	N	300	N	50	N	20
DC141C	<2	N	N	N	<20	10	200	N	50	N	30
DC142C	<2	N	N	N	N	N	200	N	N	N	30
DC143C	<2	N	N	N	<20	N	300	N	<50	N	20
DC144C	<2	N	N	N	<20	N	300	N	50	N	30
DC145C	<2	N	N	N	<20	N	300	N	<50	N	20
DC146C	<2	N	N	N	<20	N	200	N	<50	N	20
DC147C	<2	N	N	N	<20	N	200	N	<50	N	30
DC148C	<2	N	N	N	<20	10	300	N	50	N	30
DC149C	<2	N	N	N	<20	<10	500	N	<50	N	50
DC150C	<2	N	N	N	<20	N	200	N	<50	N	20
DC151C	<2	N	N	N	N	N	200	N	<50	N	20
DC152C	<2	N	N	N	<20	N	500	N	N	N	70
DC153C	<2	N	N	N	N	20	200	N	<50	N	20
DC154C	<2	N	N	N	20	N	500	N	<50	N	70
DC156C	<2	N	N	N	30	N	200	N	<50	N	50
DC157C	<2	N	N	N	N	N	100	N	<50	N	N
DC158C	<2	N	N	N	<20	10	500	N	<50	N	50
DC159C	<2	N	N	N	<20	N	200	N	<50	N	50
DC160C	<2	N	N	N	30	N	300	N	<50	N	20
DC161C	<2	N	N	N	<20	N	200	N	50	<10	30
DC162C	<2	N	N	N	<20	N	150	N	<50	N	20
DC163C	<2	N	N	N	N	N	100	N	50	N	N
DC164C	<2	N	N	N	N	<10	50	N	N	N	N
DC165C	<2	N	N	N	<20	<10	300	N	<50	N	50
DC166C	<2	N	N	N	N	<10	200	N	<50	N	30
DC167C	<2	N	N	N	<20	<10	200	N	<50	N	30
DC168C	<2	N	N	N	<20	N	200	N	<50	N	30
DC169C	<2	N	N	N	<20	<10	300	N	70	N	20
DC170C	<2	N	N	N	20	10	200	N	<50	N	30
DC171C	<2	N	N	N	<20	10	300	N	50	N	20
DC172C	<2	N	N	N	N	N	100	N	N	N	20
DC173C	<2	N	N	N	N	N	500	N	<50	N	20
DC174C	<2	N	N	N	N	N	150	N	N	N	20
DC175C	N	N	N	N	<20	N	200	N	<50	N	<20

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DESOLATION CANYON WILDERNESS STUDY AREA, UTAH--Continued

Sample	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	Au-ppm aa
DC136C	N	15	N	2,000	50	N	200	N	>2,000	N	--
DC137C	N	50	N	300	100	N	300	N	>2,000	N	--
DC138C	N	15	N	1,000	70	N	150	<500	>2,000	N	--
DC139C	N	15	N	2,000	30	N	200	N	>2,000	N	--
DC140C	N	20	N	1,000	70	N	300	N	>2,000	N	--
DC141C	N	20	N	2,000	50	N	300	N	>2,000	N	--
DC142C	N	50	N	2,000	70	N	500	N	>2,000	N	--
DC143C	N	30	N	1,500	100	N	300	N	>2,000	N	--
DC144C	N	50	N	1,000	100	N	500	N	>2,000	N	--
DC145C	N	30	N	1,500	50	N	300	N	>2,000	N	--
DC146C	N	20	N	2,000	50	N	300	N	>2,000	N	--
DC147C	N	50	N	1,500	70	N	300	N	>2,000	N	--
DC148C	N	30	30	1,500	50	N	300	N	>2,000	N	--
DC149C	N	30	N	1,500	100	N	500	N	>2,000	N	--
DC150C	N	30	N	2,000	70	N	200	N	>2,000	N	--
DC151C	N	20	N	1,500	30	N	200	N	>2,000	N	--
DC152C	N	50	30	1,000	50	N	500	N	>2,000	<200	--
DC153C	N	20	N	--	50	N	300	N	>2,000	N	--
DC154C	N	50	50	--	70	N	300	N	>2,000	N	--
DC156C	N	50	N	--	70	N	500	N	>2,000	<200	--
DC157C	N	10	N	--	30	N	150	N	>2,000	N	--
DC158C	N	20	N	--	50	N	300	N	>2,000	N	--
DC159C	N	70	N	--	70	N	500	N	>2,000	N	--
DC160C	N	50	N	--	70	N	500	N	>2,000	N	--
DC161C	N	50	N	--	70	100	500	N	>2,000	N	--
DC162C	N	15	N	--	30	N	200	N	>2,000	N	--
DC163C	N	10	N	3,000	50	N	150	N	>2,000	N	--
DC164C	N	<10	N	5,000	20	N	70	N	>2,000	N	--
DC165C	N	30	N	2,000	70	N	500	N	>2,000	N	--
DC166C	N	20	N	3,000	50	N	300	N	>2,000	N	--
DC167C	N	20	<20	2,000	70	N	300	N	>2,000	N	--
DC168C	N	50	N	2,000	70	N	500	N	>2,000	<200	--
DC169C	N	20	N	3,000	50	N	300	N	>2,000	N	--
DC170C	N	20	N	2,000	50	N	500	N	>2,000	N	--
DC171C	N	20	N	1,500	100	N	500	N	>2,000	N	--
DC172C	N	15	N	2,000	30	N	200	N	>2,000	N	--
DC173C	N	20	N	2,000	50	N	500	N	>2,000	N	--
DC174C	N	15	N	5,000	50	N	300	N	>2,000	N	--
DC175C	N	20	N	3,000	70	N	300	N	>2,000	N	--