UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Analytical results and sample locality map of stream-sediment and heavy-mineral-concentrate samples from the Diamond Breaks Wilderness Study Area (CO-010-214/UT-080-113), Moffat County, Colorado, and Daggett County, Utah

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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 Diamond Breaks Wilderness Study Area (CO-010-214/UT-080-113), Moffat County, Colorado, and Daggett County, Utah.

INTRODUCTION

In May 1985, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the Diamond Breaks Wilderness Study Area, Moffat County, Colorado, and Daggett County, Utah.

The Diamond Breaks Wilderness Study Area comprises about 35,380 acres (55 mi^2) (143.08 km^2) on the easternmost end of the Uinta Mountains, overlapping the Colorado-Utah border. The study area is located about 50 mi northwest of Maybell, Colorado, along state highway 318 and 40 mi northeast of Vernal, Utah, along paved roads (fig. 1). Access to the area is provided by graded dirt roads except on the west and southwest where the study area is bounded by Dinosaur National Monument.

The study area lies on the southern limb of the east-west-trending Uinta anticline and is underlain by Precambrian Uinta Mountain Group sandstone and siltstone. North of the study area is Brown's Park, a broad, flat valley formed along the axis of the Uinta anticline. The valley contains Tertiary Browns Park Formation sediments of gravel, sand, clay, and volcanic ash. In the WSA, the Brown's Park Formation, as well as Quaternary gravels, lie unconformably upon the Uinta Mountain Formation.

The WSA has moderately rugged terrain with many shallow northeast-trending canyons containing intermittent streams. The minimum elevation in the area is 5,400 ft (1,646 m) above sea level and the maximum elevation is 8,673 ft (2,636 m) above sea level. The climate is arid to semiarid and much of the area is covered with juniper trees and sagebrush. Locally, three phases of plutonic rock have been identified within the WSA (Miller and Webb, 1940). These are the Sacatar quartz diorite, the Sacatar contaminated facies, and the Sacatar mixed facies. Bergquist and Nitkiewiez (1982) and Smith (1964) classified these rocks as a tonalite.

METHODS OF STUDY

Sample Media

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

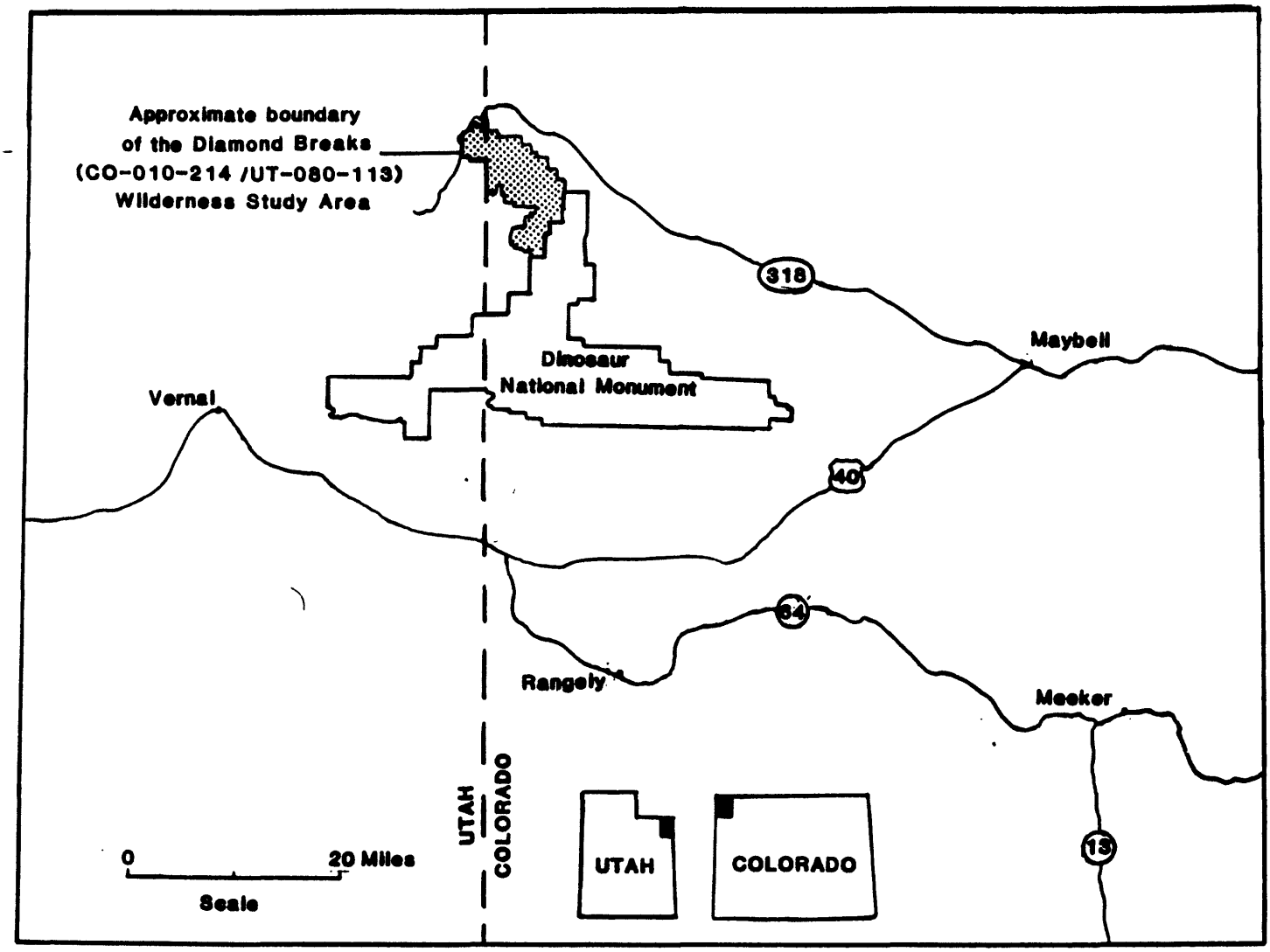

Figure 1. Location map of the Diamond Breaks Wilderness Study Area (CO-010-214/UT-080-113), Moffat County, Colorado, and Daggett County, Utah.

Sample Collection

Heavy-mineral-concentrate and stream-sediment samples were collected at 24 sites (plate 1). Sampling density was about one sample site per 2.29 mi^2 for the stream sediments and heavy-mineral concentrates. The area of the drainage basins sampled ranged from 0.5 mi^2 to 2 mi^2.

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 (plate 1). Each sample was composited from several localities within an area that may extend as much as 50 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 hand ground and 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, and the second fraction, largely ferromagnesian silicates and iron oxides, were 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.

Sample Analysis

Spectrographic method

The stream-sediment, heavy-mineral-concentrate, and rock samples were analyzed for 31 elements using semiquantitative, direct-current arc emission spectrographic methods. The analyses for heavy-mineral-concentrate samples were performed by analysts in the Branch of Exploration Geochemistry using the method of Grimes and Marranzino (1968); analyses for stream-sediment and rock samples were performed by analysts in the Branch of Analytical Chemistry using

the method of Myers and others (1961). The elements analyzed and their lower limits of determination are listed in table 1. For arsenic (As), gold (Au), cadmium (Cd), lanthanum (La), and thorium (Th), the lower limits of determination of the two analytical methods vary. The values in the parentheses are the limits of determination for Myers and others (1961). Spectrographic results were obtained by visual comparison of spectra derived from the sample against spectra obtained from standards made from pure oxides and carbonates. Standard concentrations are geometrically spaced over any given order of magnitude of concentration as follows: 100, 50, 20, 10, and so forth. Samples whose concentrations are estimated to fall between those values are assigned values of 70, 30, 15, and so forth. The precision of the analytical method is approximately plus or minus one reporting interval at the 83 percent confidence level and plus or minus two reporting intervals at the 96 percent confidence level (Motooka and Grimes, 1976). Values determined for the major elements, iron, magnesium, calcium, and titanium, are given in weight percent; all others are given in parts per million (micrograms/gram). Analytical data for samples from the Diamond Breaks WSA are listed in tables 3 and 4.

Chemical methods

Other analytical methods used on stream-sediment samples from the Diamond Breaks Wilderness Study Area are summarized in table 2.

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

ROCK ANALYSIS STORAGE SYSTEM

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

DESCRIPTION OF DATA TABLES

Tables 3 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; and "Dna" 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. 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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TABLE 1.--Limits of determination for the spectrographic analysis of 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

[DN = delayed neutron]

Element or constituent determined	Sample type	Method	Determination limit (micrograms/ gram or ppm)	Reference
Uranium (U)	rock	DN	.1 ppm	Millard, 1976.

TABLE 3. RESULTS OF ANLYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DIAMOND PEAKS WILDERNESS STUDY AREA, MOFFAT COUNTY, COLORADO AND DAGGETT COUNTY, UTAH

[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
86DB001S	40 47 25	109 4 36	3.0	.30	.2	.3	300	N	N	N
86DB002S	40 47 20	109 4 33	2.0	.50	.5	.2	500	N	N	N
86DB003S	40 43 32	108 54 0	1.5	.20	.2	.3	300	N	N	N
86DB004S	40 44 33	108 53 54	2.0	.30	.3	.3	300	N	N	N
86DB005S	40 46 39	108 55 37	2.0	.50	.7	.3	300	N	N	N
86DB006S	40 46 43	108 55 44	1.5	.50	.7	.3	300	N	N	N
86DB007S	40 47 38	108 56 35	3.0	.30	.5	.5	500	N	N	N
86DB008S	40 48 7	108 57 50	2.0	.30	.7	.2	300	N	N	N
86DB009S	40 47 37	108 59 16	1.5	.50	1.0	.2	500	N	N	N
86DB010S	40 48 30	109 0 5	1.5	.30	.5	.3	300	N	N	N
86DB011S	40 49 16	109 0 36	1.5	.50	1.5	.2	300	N	N	N
86DB012S	40 49 13	109 0 39	2.0	.50	.7	.3	300	N	N	N
86DB013S	40 49 34	109 0 51	3.0	.50	1.5	.7	500	N	N	N
86DB014S	40 49 34	109 1 58	3.0	.30	1.0	.5	300	N	N	N
86DB015S	40 49 59	109 3 34	2.0	.50	.5	.3	300	N	N	N
86DB016S	40 50 7	109 3 31	5.0	.50	1.0	.7	500	N	N	N
86DB017S	40 43 38	109 1 5	3.0	.30	.3	.7	500	N	N	N
86DB018S	40 38 42	108 57 55	1.5	.50	.3	.3	300	N	N	N
86DB019S	40 39 35	108 58 48	1.0	.15	.2	.2	100	N	N	N
86DB020S	40 40 21	108 59 37	3.0	.70	1.5	.7	500	N	N	N
86DB021S	40 41 30	108 57 42	2.0	.20	.2	.5	300	N	N	N
86DB022S	40 41 27	108 57 40	1.5	.30	.2	.3	300	N	N	N
86DB023S	40 43 10	108 57 14	2.0	.50	.5	.3	500	N	N	N
86DB024S	40 43 18	108 58 22	2.0	.50	.5	.5	500	N	N	N

TABLE 3. RESULTS OF ANLYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DIAMOND BREAKS WILDERNESS STUDY AREA, MOFFAT COUNTY, COLORADO AND DAGGETT COUNTY, UTAH--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	Ni-ppm s
86DB001S	50	500	<1	N	N	10	30	10	30	N	<20	5
86DB002S	70	300	1	N	N	10	20	15	50	N	N	7
86DB003S	50	300	<1	N	N	7	50	10	50	N	20	<5
86DB004S	70	500	<1	N	N	10	20	5	70	N	<20	<5
86DB005S	50	300	<1	N	N	10	30	7	100	N	<20	<5
86DB006S	50	300	1	N	N	7	20	5	100	N	<20	<5
86DB007S	50	300	1	N	N	15	30	5	70	N	N	7
86DB008S	50	300	<1	N	N	7	20	5	50	N	<20	5
86DB009S	70	300	1	N	N	10	20	15	30	N	N	7
86DB010S	50	500	1	N	N	7	20	10	20	N	<20	<5
86DB011S	30	300	1	N	N	10	20	7	20	N	<20	<5
86DB012S	50	300	1	N	N	10	20	15	30	N	<20	10
86DB013S	50	500	1	N	N	15	200	10	100	N	<20	20
86DB014S	70	700	<1	N	N	10	30	<5	100	N	<20	5
86DB015S	30	500	<1	N	N	7	30	5	N	N	<20	7
86DB016S	30	700	1	N	N	20	100	7	100	N	<20	10
86DB017S	30	300	<1	N	N	15	50	<5	100	N	<20	7
86DB018S	150	300	<1	N	N	5	70	15	20	N	<20	5
86DB019S	30	300	<1	N	N	5	15	7	N	N	N	<5
86DB020S	30	500	1	N	N	15	30	20	50	N	<20	5
86DB021S	50	300	<1	N	N	10	30	5	N	N	<20	5
86DB022S	30	300	<1	N	N	10	20	7	N	N	N	7
86DB023S	70	300	1	N	N	20	30	15	30	N	<20	15
86DB024S	50	300	1	N	N	20	30	15	20	N	<20	15

TABLE 3. RESULTS OF ANLYSES OF STREAM-SEDIMENT SAMPLES COLLECTED FROM THE DIAMOND PEAKS WILDERNESS STUDY AREA, MOFFAT COUNTY, COLORADO AND DAGGETT COUNTY, UTAH--Continued

Sample	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	Dna-th	Dna-u
86DB001S	N	N	5	N	100	150	N	30	N	>1,000	N	12.60	4.09
86DB002S	10	N	7	N	100	70	N	15	N	700	N	12.20	3.46
86DB003S	N	N	7	N	150	70	N	50	N	>1,000	N	11.90	5.88
86DB004S	N	N	<5	N	100	100	N	15	N	1,000	N	13.30	3.70
86DB005S	N	N	5	N	150	70	N	20	N	>1,000	N	13.40	3.63
86DB006S	N	N	5	N	150	70	N	15	N	>1,000	N	11.10	3.00
86DB007S	N	N	7	N	150	150	N	30	N	>1,000	N	19.40	4.01
86DB008S	N	N	5	N	150	70	N	30	N	>1,000	N	11.90	3.42
86DB009S	N	N	10	N	150	70	N	50	N	>1,000	N	10.30	2.98
86DB010S	<10	N	<5	N	150	70	N	15	N	700	N	8.64	2.78
86DB011S	<10	N	<5	N	300	70	N	15	N	1,000	N	11.80	4.45
86DB012S	<10	N	5	N	200	100	N	20	N	>1,000	N	13.60	4.46
86DB013S	<10	N	5	N	200	100	N	100	N	>1,000	N	18.20	6.03
86DB014S	<10	N	<5	N	150	100	N	15	N	>1,000	N	13.10	3.84
86DB015S	N	N	<5	N	100	70	N	15	N	>1,000	N	9.73	3.01
86DB016S	<10	N	5	N	300	200	N	30	N	>1,000	N	20.00	2.95
86DB017S	N	N	7	N	100	150	N	100	N	>1,000	N	16.30	5.01
86DB018S	10	N	<5	N	N	70	N	20	N	>1,000	N	7.25	2.66
86DB019S	N	N	<5	N	100	50	N	20	N	>1,000	N	6.13	2.55
86DB020S	N	N	10	N	100	150	N	50	N	>1,000	N	10.40	4.34
86DB021S	N	N	<5	N	150	100	N	15	N	>1,000	N	8.40	3.47
86DB022S	N	N	<5	N	100	50	N	15	N	1,000	N	9.02	3.13
86DB023S	N	N	7	N	200	70	N	30	N	>1,000	N	11.70	3.05
86DB024S	<10	N	7	N	150	100	N	20	N	1,000	N	10.70	2.57

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DIAMOND BREAKS WILDERNESS STUDY AREA, MOFFAT COUNTY, COLORADO AND DAGGETT COUNTY, UTAH

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

Sample	Latitude	Longitude	Fe-pct. s	Mg-pct. s	Ca-pct. s	Ti-pct. s	Mn-ppm s	Ag-ppm s	As-ppm s	Au-ppm s	B-ppm s
86DB001C	40 47 25	109 4 36	2.0	.10	.30	2.0	700	N	N	N	300
86DB002C	40 47 20	109 4 33	2.0	.15	.20	1.5	700	N	N	N	500
86DB003C	40 43 32	108 54 0	.7	.07	.20	2.0	1,000	N	N	N	700
86DB004C	40 44 33	108 53 54	1.5	.20	.50	2.0	700	N	N	N	500
86DB005C	40 46 39	108 55 37	5.0	1.00	.70	2.0	1,000	N	N	N	1,000
86DB006C	40 46 43	108 55 44	3.0	.70	.70	1.5	700	N	N	N	500
86DB007C	40 47 38	108 56 35	.7	.15	.50	1.5	500	N	N	N	200
86DB008C	40 48 7	108 59 16	1.0	1.00	.70	2.0	700	N	N	N	500
86DB009C	40 47 37	108 59 16	2.0	.15	.15	2.0	700	N	N	N	500
86DB010C	40 48 30	109 0 5	2.0	.20	.30	1.5	700	N	N	N	500
86DB011C	40 49 16	109 0 36	2.0	2.00	3.00	2.0	1,000	N	N	N	200
86DB012C	40 49 13	109 0 39	.5	.15	.30	2.0	700	N	N	N	300
86DB013C	40 49 34	109 1 51	.7	.05	.30	2.0	700	N	N	N	100
86DB014C	40 49 34	109 1 58	.5	.05	.20	2.0	700	N	N	N	200
86DB015C	40 49 59	109 3 34	.5	.05	.20	2.0	700	N	N	N	200
86DB016C	40 50 7	109 13 31	.7	.07	1.00	2.0	500	N	N	N	150
86DB017C	40 43 38	109 1 5	.7	.07	.50	2.0	500	N	N	N	200
86DB018C	40 38 42	108 57 55	1.0	.05	.20	1.5	700	N	N	N	200
86DB019C	40 39 35	108 58 48	.5	<.05	.10	1.5	300	N	N	N	150
86DB020C	40 40 21	108 59 37	.7	<.05	.20	2.0	500	N	N	N	200
86DB021C	40 41 30	108 57 42	1.0	.15	.30	2.0	700	N	N	N	700
86DB022C	40 41 27	108 57 40	.5	.05	.20	1.5	300	N	N	N	300
86DB023C	40 43 10	108 57 14	.5	.05	.30	2.0	500	N	N	N	300
86DB024C	40 43 18	108 58 22	.7	.07	.50	2.0	500	N	N	N	200

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DIAMOND BREAKS WILDERNESS STUDY AREA, MOFFAT COUNTY, COLORADO AND DAGGETT COUNTY, UTAH--Continued

Sample	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	Ni-ppm s	Pb-ppm s
86DB001C	10,000	<2	N	N	15	100	N	1,000	N	N	10	70
86DB002C	7,000	<2	N	N	15	100	N	700	N	<50	10	70
86DB003C	7,000	<2	N	N	15	50	N	500	N	N	<10	50
86DB004C	10,000	<2	N	N	15	100	N	1,000	N	N	<10	70
86DB005C	>10,000	2	N	N	15	100	N	1,500	N	N	<10	70
86DB006C	>10,000	<2	N	N	15	70	N	1,000	N	N	<10	50
86DB007C	10,000	2	N	N	N	50	N	1,000	N	N	N	70
86DB008C	>10,000	<2	N	N	15	100	N	1,500	N	50	10	70
86DB009C	>10,000	2	N	N	15	100	N	500	N	70	<10	70
86DB010C	>10,000	<2	N	N	15	100	N	700	N	<50	<10	50
86DB011C	>10,000	<2	N	N	15	100	<10	1,000	N	50	<10	100
86DB012C	>10,000	<2	N	N	15	50	N	700	N	<50	<10	50
86DB013C	>10,000	<2	N	N	10	50	N	100	N	N	<10	150
86DB014C	>10,000	<2	N	N	10	70	N	500	N	<50	<10	70
86DB015C	>10,000	2	N	N	N	50	N	500	N	N	N	50
86DB016C	7,000	<2	N	N	10	50	N	500	N	50	N	30
86DB017C	300	<2	N	N	10	50	N	700	N	50	N	50
86DB018C	700	2	N	N	N	70	N	500	N	N	N	50
86DB019C	200	2	N	N	N	50	N	200	N	N	N	N
86DB020C	10,000	2	N	N	10	50	N	300	N	N	<10	30
86DB021C	500	2	N	N	10	100	N	700	N	N	<10	50
86DB022C	150	2	N	N	N	30	N	200	N	N	N	20
86DB023C	700	2	N	N	10	70	N	500	N	N	N	50
86DB024C	300	<2	N	N	15	50	N	500	N	<50	<10	30

TABLE 4. RESULTS OF ANALYSES OF HEAVY-MINERAL-CONCENTRATE SAMPLES COLLECTED FROM THE DIAMOND BREAKS WILDERNESS STUDY AREA, MOFFAT COUNTY, COLORADO AND DAGGETT COUNTY, 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	Dna-th	Dna-u
86DB001C	N	--	N	200	150	N	500	<500	>2,000	300	--	--
86DB002C	N	--	<20	300	150	N	700	N	>2,000	200	--	--
86DB003C	N	--	20	300	300	N	1,000	N	>2,000	<200	--	--
86DB004C	N	--	20	200	200	N	1,000	N	>2,000	200	--	--
86DB005C	N	--	20	500	300	N	1,000	N	>2,000	<200	--	--
86DB006C	N	--	N	500	200	N	1,000	N	>2,000	<200	--	--
86DB007C	N	--	<20	500	150	N	700	N	>2,000	<200	--	--
86DB008C	N	--	<20	500	200	N	700	N	>2,000	200	--	--
86DB009C	N	--	N	1,000	300	N	1,000	N	>2,000	N	--	--
86DB010C	N	--	N	1,000	300	N	1,000	N	>2,000	<200	--	--
86DB011C	N	--	500	1,000	150	N	500	N	>2,000	<200	--	--
86DB012C	N	--	N	700	300	N	700	<500	>2,000	200	--	--
86DB013C	N	--	N	200	300	N	500	N	>2,000	<200	--	--
86DB014C	N	--	N	500	500	N	500	<500	>2,000	<200	--	--
86DB015C	N	--	N	300	300	N	500	N	>2,000	N	--	--
86DB016C	N	--	20	300	150	N	500	N	>2,000	<200	--	--
86DB017C	N	--	N	200	200	N	500	N	>2,000	200	--	--
86DB018C	N	--	N	200	300	N	700	N	>2,000	200	--	--
86DB019C	N	--	N	N	200	N	500	N	>2,000	<200	--	--
86DB020C	N	--	N	200	200	N	500	N	>2,000	<200	--	--
86DB021C	N	--	N	200	300	N	500	N	>2,000	<200	--	--
86DB022C	N	--	N	N	150	N	700	N	>2,000	N	--	--
86DB023C	N	--	<20	N	200	N	500	N	>2,000	N	--	--
86DB024C	N	--	N	200	200	N	700	N	>2,000	<200	--	--