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 Floy Canyon Wilderness Study Area (UT-060-068B), Grand County, Utah

By

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

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STUDIES RELATED TO WILDERNESS

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 survey certain areas on Federal lands to determine their mineral resource potential. Results must be made available to the public and submitted to the President and the Congress. This report presents the results of a geochemical survey of the Floy Canyon Wilderness Study Area (WSA) (UT-060-068B), western Grand County, Utah.

INTRODUCTION

During the 1986 summer and fall field seasons, the U.S. Geological Survey conducted a reconnaissance geochemical survey of the Floy Canyon Wilderness Study Area (UT-060-068B), Utah. The area comprises 23,140 acres (36.2 mi^2; 93.8 km^2) in western Grand County approximately 70-80 miles west of Grand Junction, Colorado, and 5-10 miles northeast of Green River, Utah (fig. 1). Interstate 70 is located just south of the area. The primary access is unimproved roads which more or less follow Tusher Wash and Floy and Sego Canyons.

The study area extends about 21 miles E-W with a maximum width N-S of about 11 miles. Elevations range from about 4,300 ft, where Tusher Wash crosses the western boundary, up to 8,878 ft at the top of a ridge north of Floy Canyon in the northeastern portion of the area. The area covers the dissected southern and southwestern rim of the huge Tavaputs Plateau; the Book Cliffs form the steep southern escarpment rising abruptly almost 1,000 ft above the broad valley to the south and west. Streams in the western part of the area flow west or southwest toward the Green River, whereas those in the eastern part flow southerly. Above about 6,000 ft the area is highly vegetated with juniper trees.

Stream-sediment samples, nonmagnetic heavy-mineral concentrates derived from the stream sediment samples, and rock samples were collected as part of the mineral resource potential survey of the wilderness area. The analytical results for all samples are presented in this report.

GENERAL GEOLOGY

The Floy Canyon Wilderness Study Area has been mapped by Cashion (1973); descriptions of rock units are included in Fisher and others (1960). The area lies on the southern and southwest structural limbs of the Uinta Basin. The surface rocks in the region dip gently northward and northeastward toward the trough of the basin. The area consists entirely of sedimentary rocks of Upper Cretaceous and Paleocene age. The oldest of these is the Mancos Shale which underlies the Green River valley west of the Book Cliffs at the western end of the area. The Mancos Shale grades upward into the Castlegate Sandstone, the lowest formation of the Mesa Verde Group; the Castlegate Sandstone is overlain by the Sego Sandstone, which in turn is overlain by the Nelso Formation and the Farrer Formation. Unconformably overlying this formation is the Tusher Formation, the uppermost unit of the Mesa Verde Group. Finally, unconformably overlying the Tusher Formation is the Wasatch Formation of Paleocene age, which caps the higher ridges in the central and northeastern parts of the area.

There are a few widely scattered prospects and mines in the area, most of which are coal mines in the Nelson Formation (Fisher, 1936). Small amounts of uranium were also mined from the basal part of the Wasatch Formation at the headwaters of Crescent Canyon (Cashion, 1973).

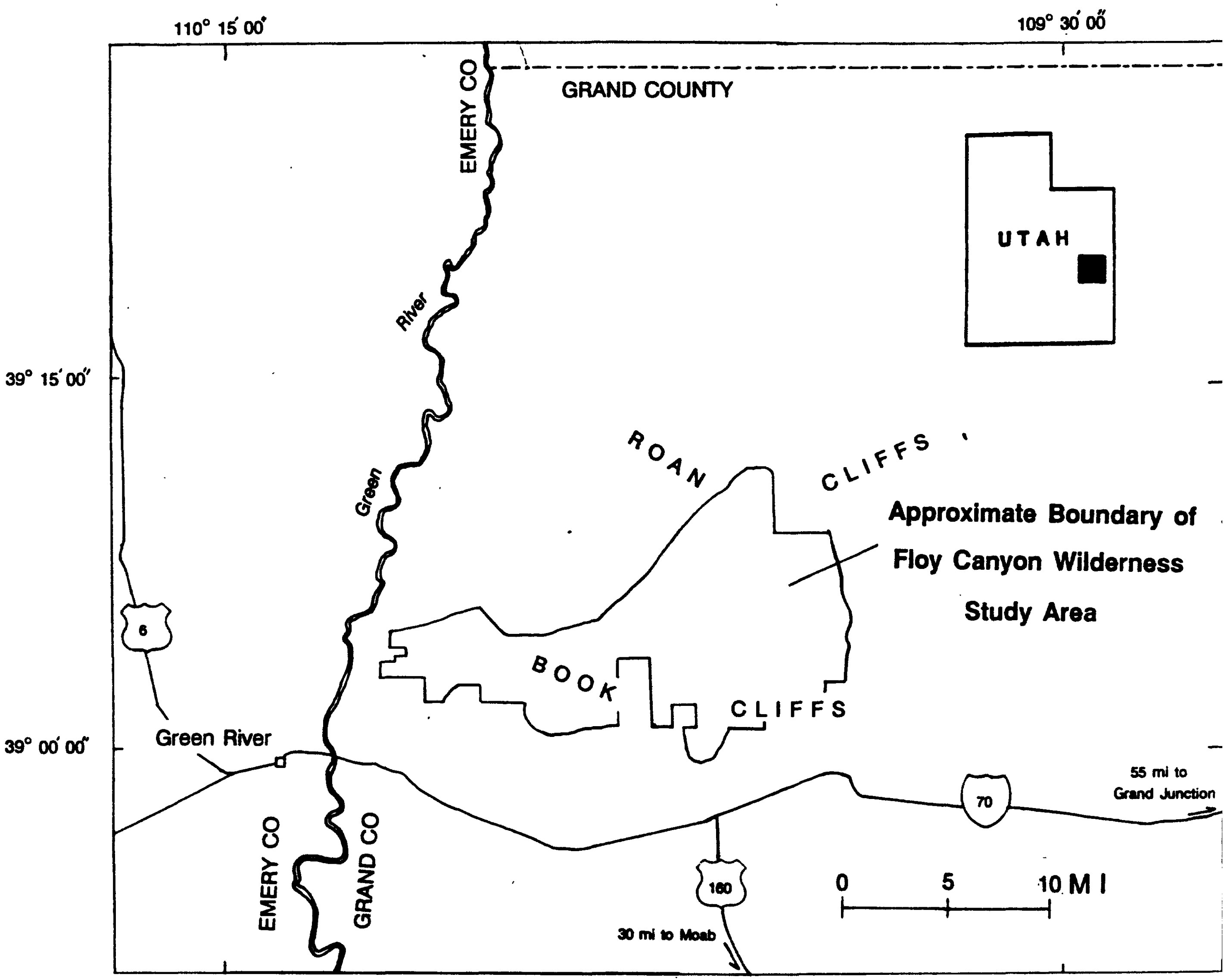

Figure 1. Location map of the Floy Canyon Wilderness (UT-060-068B) Study Area, Utah

METHODS OF STUDY

Sample Media

Forty-five unconsolidated stream-sediment samples and heavy-mineral concentrates derived from the sediments, and 22 rock samples were collected for this study (plate 1). Stream sediments are useful sample media because they represent the chemistry of the rock material eroded from the drainage basin upstream from the sample site. Minus-80-mesh stream sediments contain relatively fine material, whereas minus-30-mesh stream sediments contain coarse material. The minus-30-mesh sediments are useful in arid environments because they do not contain the very fine material deposited by wind which may possibly contaminate the sample.

The nonmagnetic fraction of heavy-mineral concentrates are particularly useful in locating mineralized areas because primary and secondary ore-related minerals are commonly contained in this fraction. This selective concentration of heavy minerals permits determination of some elements that are not easily detected in stream-sediment samples.

Analyses of unaltered or unmineralized rock samples provide necessary information on geochemical background values; rock samples from prospects and mines provide information on the suites of elements that are associated with mineralization or alteration.

Sample collection

Sediment samples were collected from first- or second-order drainages (dry washes) at an approximate density of one site per square mile. Approximately 10 lbs of sediment were collected from each site; the sample was composited from several localities within an area that may extend as much as 20 feet from the site plotted on the map. Each bulk sample was screened with a 10-mesh (2.0-mm) screen to remove the coarse material. Approximately 1 lb of sieved material was saved for preparation and analysis. The remaining material was concentrated by panning in available streams near the study area.

Unaltered, altered, and mineralized rock samples (a total of 22) were collected from outcrops or exposures in the vicinity of the plotted site location.

Sample preparation

After air-drying, the sediment samples were first sieved using a stainless steel 80-mesh (0.177 mm opening) screen. The minus 80-mesh fraction (that portion of sediment passing through the screen) was saved for analysis. The plus-80-mesh fraction was then sieved using a 30-mesh (0.59 mm) screen. The minus-30-mesh fraction was also analyzed.

The concentrate sample was air-dried, and the highly magnetic material (i.e., magnetite, ilmenite) was removed with an electromagnet. Any lightweight material remaining after panning was then separated by bromoform (specific gravity 2.8). The resulting heavy-mineral fraction was separated into three fractions using a large electromagnet (in this case a modified Frantz Isodynamic Separator). The most magnetic fraction, primarily magnetite, was not analyzed. The second fraction, largely ferromagnesian silicates and iron oxides, was saved for archival storage. The nonmagnetic fraction (at 0.6 ampere), may include zircon, sphene, and ore-related sulfides and oxides. Given sufficient material, the nonmagnetic fraction was split using a Jones splitter. One split was hand ground for spectrographic analysis; the other split was saved for mineralogical analysis.

All rocks were crushed and then pulverized to a fine powder (minus-100-mesh) with ceramic plates.

Sample Analysis

Spectrographic method

The stream sediment, nonmagnetic heavy-mineral-concentrate, and rock samples were analyzed for 31 elements using a semiquantitative, direct-current arc emission spectrographic method (Grimes and Marranzino, 1968). The elements analyzed and their lower limits of determination are listed in table 1. Spectrographic results were obtained by visual comparison of spectra derived from the sample against spectra obtained from standards. Standard concentrations are geometrically spaced over any given order of magnitude of concentration as follows: 100, 70, 50, 30, 20, 15, 10, and so forth. The precision of the analytical method is +/- one reporting interval at the 83% confidence level and +/- two intervals at the 96% confidence level (Motooka and Grimes, 1976). Values determined for major elements (Fe, Mg, Ca, Ti) are given in weight percent; all others are in parts per million (micrograms/gram or ppm).

Minus-30-mesh and minus-80-mesh stream-sediment samples and rock samples were also analyzed for U and Th by delayed neutron analysis. A description of the method is given in McKown and Millard (1987).

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, 1976).

DESCRIPTION OF DATA TABLES

Tables 2-5 list the analyses for nonmagnetic heavy-mineral concentrates, minus-30-mesh sediments, minus-80-mesh sediments, and rocks, respectively. Rock descriptions are given in table 7. For tables 2-5, the data are arranged so that column 1 contains the USGS-assigned sample numbers, which 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; those with "Dna" were analyzed by delayed neutron counting, and "inst" signifies analyses for uranium by fluorimetric methods. Qualified values are those not detected, less than the lower limit of determination, or greater than the upper limit of determination. Therefore, 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.

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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 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. Results of analysis of nonmagnetic heavy-mineral-concentrate samples from the Floy Canyon Wilderness Study Area
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown; s, analysis by semiquantitative emission spectrographic method]

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
KDFC001C	39 4 51	110 3 56	.7	<.05	<.1	.07	30	N	N	N
KDFC002C	39 3 8	110 5 30	.3	.15	1	2	150	N	N	N
KDFC003C	39 2 52	110 2 15	.5	.05	.15	.2	30	N	N	N
KDFC004C	39 2 52	110 1 10	.3	.1	.2	1	30	N	N	N
KDFC005C	39 2 35	109 59 20	.2	.05	.3	.5	30	N	N	N
KDFC007C	39 1 22	109 52 30	.2	.15	.3	.5	30	N	N	N
KDFC008C	39 1 9	109 52 3	.2	.15	.3	.5	30	N	N	N
KDFC011C	39 3 30	109 48 50	.3	.3	1	2	100	N	N	N
KDFC012C	39 3 40	109 49 13	.2	.5	.7	2	70	N	N	N
KDFC013C	39 2 45	109 49 58	.2	.07	.3	.3	50	N	N	N
KDFC015C	39 1 25	109 49 58	.5	.5	1	1	200	N	N	N
KDFC016C	39 0 10	109 49 2	.2	.1	.2	.5	50	N	N	N
KDFC017C	39 0 10	109 49 2	.7	1.5	1.5	.5	200	N	N	N
KCFC019C	39 0 46	109 48 0	.2	.1	.5	2	70	N	N	N
KDFC020C	39 1 0	109 47 40	.2	.1	.5	1	50	N	N	N
KDFC021C	39 1 8	109 47 51	.2	.5	1	.7	70	N	N	N
KDFC025C	39 6 12	109 42 10	.2	.15	.5	1	50	N	N	N
KDFC027C	39 3 35	109 42 9	.3	.2	.7	1	70	N	N	N
KDFC033C	39 2 25	109 54 30	.5	.5	3	1.5	100	N	N	N
KDFC034C	39 2 27	109 54 16	<.1	.7	2	.15	50	N	N	N
KDFC035C	39 5 22	109 49 10	.7	3	10	.3	150	N	N	N
KDFC036C	39 6 45	109 48 4	1	5	15	.7	200	N	N	N
KDFC037C	39 6 50	109 48 15	.3	.3	1.5	1.5	70	N	N	N
KDFC038C	39 5 22	109 47 1	1	1	7	>2	300	N	N	N
KDFC039C	39 3 48	109 46 37	.15	.15	1	.7	70	N	N	N
KDFC040C	39 4 9	109 54 30	.3	1	3	.3	70	N	N	N
KDFC041C	39 5 38	109 53 12	1	2	10	.7	200	N	N	N
JGFC001C	39 5 10	110 2 30	.2	.2	.5	.2	20	N	N	N
JGFC002C	39 4 30	109 58 15	.5	.5	.5	.5	100	N	N	N
JGFC003C	39 4 40	109 58 15	.2	.15	.7	2	70	N	N	N
JGFC004C	39 2 45	109 56 9	.15	.07	.5	.3	50	N	N	N
JGFC005C	39 0 50	109 56 45	.15	.07	.5	.7	30	N	N	N
JGFC006C	39 0 32	109 57 35	.2	.07	.3	.7	30	N	N	N
JGFC007C	39 0 45	109 55 49	.1	<.05	.1	.15	<20	N	N	N
JGFC008C	39 2 29	109 43 40	.2	.15	2	1	70	N	N	N
JGFC009C	39 3 7	109 43 19	.2	.1	1	2	70	N	N	N
JGFC010C	39 4 59	109 43 12	.15	.2	1.5	1	100	N	N	N
JGFC011C	39 4 45	109 42 51	.2	.1	.5	1	70	N	N	N
JGFC012C	39 4 55	109 43 50	.15	.15	1.5	2	100	N	N	N
JGFC013C	39 5 15	109 44 58	.2	.1	.5	.5	150	N	N	N
JGFC014C	39 5 18	109 44 40	.3	.1	1.5	2	150	N	N	N
JGFC015C	39 8 0	109 50 50	.2	.15	1	2	100	N	N	N
JGFC016C	39 7 59	109 50 53	.3	.07	.7	1	70	N	N	N
JGFC017C	39 9 50	109 49 30	.2	.2	1.5	2	100	N	N	N
JGFC018C	39 7 25	109 52 2	.2	.2	.7	1.5	100	N	N	N

Table 2. Results of analysis of nonmagnetic heavy-mineral-concentrate samples---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
KDFC001C	20	>10,000	N	N	N	N	N	10	N	N	N
KDFC002C	70	>10,000	3	N	N	N	20	N	1,000	N	N
KDFC003C	30	>10,000	N	N	<50	N	N	20	N	N	N
KDFC004C	50	>10,000	<2	N	N	N	<20	N	150	N	N
KDFC005C	50	>10,000	N	N	N	N	N	N	<50	N	N
KDFC007C	30	>10,000	N	N	N	N	<20	N	N	N	N
KDFC008C	30	>10,000	N	N	N	N	<20	N	150	N	N
KDFC011C	100	>10,000	<2	N	N	N	50	N	150	N	N
KDFC012C	70	>10,000	2	N	N	N	N	N	150	N	<50
KDFC013C	20	>10,000	N	N	N	N	<20	N	<50	N	N
KDFC015C	70	>10,000	N	N	N	<10	70	<10	150	N	<50
KDFC016C	20	>10,000	N	N	N	N	N	N	N	N	N
KDFC017C	50	>10,000	N	N	N	<10	<20	<10	<50	N	N
KDFC019C	50	>10,000	<2	N	N	N	<20	N	100	N	N
KDFC020C	20	>10,000	N	N	N	N	N	N	150	N	N
KDFC021C	30	>10,000	N	N	N	N	N	N	<50	N	<50
KDFC025C	50	>10,000	2	N	N	N	N	N	200	N	N
KDFC027C	30	>10,000	N	N	N	N	N	10	200	N	<50
KDFC033C	30	>10,000	2	N	N	N	70	10	500	N	<50
KDFC034C	<20	>10,000	N	N	N	N	N	50	<50	N	N
KDFC035C	20	>10,000	N	N	N	N	50	10	70	N	N
KDFC036C	50	>10,000	N	N	N	N	50	<10	100	N	N
KDFC037C	70	>10,000	<2	N	N	N	20	10	100	N	N
KDFC038C	100	>10,000	<2	N	N	N	150	15	300	N	<50
KDFC039C	<20	>10,000	N	N	N	N	<20	<10	50	N	N
KDFC040C	N	>10,000	N	N	N	N	N	<10	<50	N	N
KDFC041C	70	>10,000	<2	N	N	N	<20	10	70	N	N
JGFC001C	20	>10,000	N	N	N	N	<20	N	<50	N	N
JGFC002C	50	>10,000	N	N	N	<10	N	<10	<50	N	N
JGFC003C	30	>10,000	<2	N	N	N	<20	N	100	N	N
JGFC004C	20	>10,000	N	N	N	N	<20	N	<50	N	50
JGFC005C	20	>10,000	N	N	N	N	N	N	<50	N	N
JGFC006C	20	>10,000	N	N	N	N	N	N	<50	N	N
JGFC007C	20	>10,000	N	N	N	N	N	N	<50	N	N
JGFC008C	30	>10,000	<2	N	N	N	<20	N	150	N	N
JGFC009C	50	>10,000	<2	N	N	N	<20	N	150	N	<50
JGFC010C	50	>10,000	<2	N	N	N	N	N	200	N	N
JGFC011C	50	>10,000	N	N	N	N	<20	N	100	N	<50
JGFC012C	30	>10,000	<2	N	N	N	N	N	150	N	N
JGFC013C	50	>10,000	N	N	N	N	N	N	<50	N	N
JGFC014C	70	>10,000	2	N	N	N	N	N	200	N	50
JGFC015C	50	>10,000	<2	N	N	N	<20	N	200	N	<50
JGFC016C	70	>10,000	N	N	N	N	N	N	<50	N	<50
JGFC017C	70	>10,000	2	N	N	N	<20	N	150	N	<50
JGFC018C	30	>10,000	N	N	N	N	N	N	<50	N	N

Table 2. Results of analysis of nonmagnetic heavy-mineral-concentrate samples---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
KDFC001C	<10	N	N	N	N	10,000	20	N	20	N	2,000	N
KDFC002C	15	50	N	100	<20	1,500	70	N	1,000	N	>2,000	200
KDFC003C	N	N	N	N	N	10,000	20	N	100	1,000	>2,000	N
KDFC004C	<10	<20	N	<10	N	10,000	30	N	300	N	>2,000	N
KDFC005C	<10	<20	N	N	N	7,000	30	N	150	N	>2,000	N
KDFC007C	<10	<20	N	N	N	5,000	20	N	70	N	>2,000	N
KDFC008C	<10	N	N	N	N	7,000	30	N	200	N	>2,000	N
KDFC011C	10	30	N	50	30	5,000	70	N	500	N	>2,000	N
KDFC012C	10	<20	N	50	30	2,000	70	N	500	N	>2,000	N
KDFC013C	<10	<20	N	<10	N	5,000	30	N	150	N	>2,000	N
KDFC015C	10	<20	N	N	20	500	50	N	150	N	>2,000	N
KDFC016C	<10	N	N	N	N	7,000	20	N	100	N	>2,000	N
KDFC017C	10	N	N	N	N	1,000	30	N	70	N	>2,000	N
KCFC019C	<10	30	N	30	N	7,000	50	N	300	N	>2,000	N
KDFC020C	<10	<20	N	<10	30	5,000	50	N	300	N	>2,000	N
KDFC021C	<10	N	N	<10	N	2,000	30	N	150	N	>2,000	N
KDFC025C	<10	30	N	50	20	1,500	30	N	500	N	>2,000	<200
KDFC027C	<10	<20	N	<10	N	1,500	50	N	200	N	>2,000	N
KDFC033C	N	50	N	10	N	3,000	70	N	500	N	>2,000	N
KDFC034C	N	N	N	10	N	5,000	<20	N	150	N	>2,000	N
KDFC035C	N	20	N	10	N	1,000	30	N	100	N	>2,000	N
KDFC036C	N	20	N	10	N	500	50	N	150	N	>2,000	N
KDFC037C	N	<20	N	10	N	3,000	50	N	200	N	>2,000	N
KDFC038C	N	50	N	10	N	2,000	150	N	500	N	>2,000	N
KDFC039C	N	N	N	10	N	3,000	20	N	100	N	>2,000	N
KDFC040C	N	N	N	<10	N	3,000	<20	N	50	<500	1,500	N
KDFC041C	N	20	N	10	N	2,000	50	N	150	N	>2,000	N
JGFC001C	<10	<20	N	N	N	5,000	20	N	30	N	>2,000	N
JGFC002C	<10	N	N	N	N	7,000	20	N	70	N	>2,000	N
JGFC003C	10	20	N	30	N	7,000	70	N	500	N	>2,000	N
JGFC004C	10	N	N	N	N	5,000	20	N	100	N	>2,000	N
JGFC005C	10	<20	N	<10	N	5,000	30	N	300	N	>2,000	N
JGFC006C	<10	N	N	<10	N	7,000	30	N	300	<500	>2,000	N
JGFC007C	<10	N	N	N	N	10,000	20	N	50	N	>2,000	N
JGFC008C	<10	700	N	<10	<20	2,000	50	N	300	N	>2,000	N
JGFC009C	<10	20	N	<10	N	2,000	70	N	300	N	>2,000	N
JGFC010C	15	70	N	50	N	1,500	30	N	700	N	>2,000	N
JGFC011C	<10	N	N	N	N	3,000	50	N	150	N	>2,000	N
JGFC012C	10	70	N	30	30	2,000	70	N	500	N	>2,000	N
JGFC013C	<10	N	N	<10	N	2,000	30	N	100	N	>2,000	N
JGFC014C	10	20	N	50	N	1,500	70	N	500	N	>2,000	N
JGFC015C	10	20	N	<10	300	2,000	50	N	300	N	>2,000	N
JGFC016C	<10	N	N	N	N	2,000	50	N	100	N	>2,000	N
JGFC017C	10	50	N	50	N	2,000	70	N	500	N	>2,000	N
JGFC018C	10	20	N	<10	N	3,000	50	N	200	N	>2,000	N

Table 3. Results of analysis of minus-30-mesh stream-sediment samples from the Floy Canyon Wilderness Study Area
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown; s, analysis by semiquantitative emission spectrography; Dna, analysis be delayed neutron activation; inst, analysis by fluorimetry]

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
KDFC001S	39 4 51	110 3 56	1	.5	1.5	.1	150	N	N	N	70
KDFC002S	39 3 8	110 5 30	1	.3	1.5	.1	150	N	N	N	30
KDFC003S	39 2 52	110 2 15	1.5	.5	1.5	.15	150	N	N	N	50
KDFC004S	39 2 52	110 1 10	1.5	.3	1.5	.1	300	N	N	N	50
KDFC005S	39 2 35	109 59 20	1.5	.3	1.5	.15	300	N	N	N	30
KDFC007S	39 1 22	109 52 30	1.5	.5	2	.15	300	N	N	N	50
KDFC008S	39 1 9	109 52 3	1.5	.3	1.5	.15	300	N	N	N	30
KDFC011S	39 3 30	109 48 50	1.5	.3	.7	.15	200	N	N	N	50
KDFC012S	39 3 40	109 49 13	1.5	.7	1.5	.15	300	N	N	N	30
KDFC013S	39 2 45	109 49 58	1.5	.5	1.5	.15	300	N	N	N	50
KDFC015S	39 1 25	109 49 58	1.5	.5	1.5	.15	500	N	N	N	50
KDFC016S	39 0 10	109 49 2	2	.5	1.5	.15	500	N	N	N	70
KDFC017S	39 0 10	109 49 2	1.5	2	3	.2	200	N	N	N	100
KDFC019S	39 0 46	109 48 0	2	.3	1.5	.15	300	N	N	N	50
KDFC020S	39 1 0	109 47 40	1.5	.3	1	.15	300	N	N	N	30
KDFC021S	39 1 8	109 47 51	1.5	.5	1.5	.15	500	N	N	N	50
KDFC025S	39 6 12	109 42 10	1.5	.7	1.5	.15	500	N	N	N	50
KDFC027S	39 3 35	109 42 9	1.5	.7	2	.15	500	N	N	N	50
KDFC033S	39 2 25	109 54 30	1	.3	.7	.1	150	N	N	N	30
KDFC034S	39 2 27	109 54 16	1	.3	1	.1	200	N	N	N	30
KDFC035S	39 5 22	109 49 10	1.5	.7	1.5	.1	200	N	N	N	50
KDFC036S	39 6 45	109 48 4	.7	.3	1.5	.07	150	N	N	N	30
KDFC037S	39 6 50	109 48 15	1.5	.5	1.5	.15	150	N	N	N	30
KDFC038S	39 5 22	109 47 1	1.5	.5	1.5	.15	200	N	N	N	30
KDFC039S	39 3 48	109 46 37	1.5	.5	1.5	.15	200	N	N	N	30
KDFC040S	39 4 9	109 54 30	1.5	.5	1.5	.15	200	N	N	N	50
KDFC041S	39 5 38	109 53 12	1	.3	1.5	.07	200	N	N	N	50
JGFC001S	39 5 10	110 2 30	2	.7	1.5	.15	300	N	N	N	70
JGFC002S	39 4 30	109 58 15	1.5	.3	1.5	.1	300	N	N	N	30
JGFC003S	39 4 40	109 58 15	1.5	.3	1	.1	300	N	N	N	20
JGFC004S	39 2 45	109 56 9	2	.5	1.5	.1	500	N	N	N	100
JGFC005S	39 0 50	109 56 45	1.5	.3	1.5	.1	200	N	N	N	20
JGFC006S	39 0 32	109 57 35	1.5	.5	1.5	.1	300	N	N	N	30
JGFC007S	39 0 45	109 55 49	1.5	.3	1.5	.1	300	N	N	N	30
JGFC008S	39 2 29	109 43 40	2	.5	1.5	.2	500	N	N	N	50
JGFC009S	39 3 7	109 43 19	1.5	.7	1.5	.15	300	N	N	N	50
JGFC010S	39 4 59	109 43 12	1.5	.7	2	.15	300	N	N	N	50
JGFC011S	39 4 45	109 42 51	2	1	2	.2	300	N	N	N	50
JGFC012S	39 4 55	109 43 50	1.5	.5	1.5	.15	300	N	N	N	30
JGFC013S	39 5 15	109 44 58	2	1	3	.2	500	N	N	N	70
JGFC014S	39 5 18	109 44 40	1.5	.7	1.5	.2	300	N	N	N	50
JGFC015S	39 8 0	109 50 50	1.5	.7	2	.2	300	N	N	N	50
JGFC016S	39 7 59	109 50 53	1.5	1	2	.2	500	N	N	N	50
JGFC017S	39 9 50	109 49 30	1	.3	1.5	.15	200	N	N	N	30
JGFC018S	39 7 25	109 52 2	1.5	.7	2	.15	300	N	N	N	50

Table 3. Results of analyses of minus-30-mesh stream-sediment samples---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
KDFC001S	700	<1	N	N	N	30	20	20	N	N	15	15
KDFC002S	500	<1	N	N	N	20	7	20	N	N	10	15
KDFC003S	1,500	<1	N	N	7	50	20	<20	N	N	15	20
KDFC004S	1,000	<1	N	N	5	30	10	20	N	N	10	20
KDFC005S	1,500	1	N	N	5	30	15	20	N	N	15	20
KDFC007S	700	1	N	N	7	50	15	20	N	N	20	20
KDFC008S	500	<1	N	N	<5	20	20	20	N	N	10	20
KDFC011S	500	1	N	N	5	20	15	20	N	N	15	20
KDFC012S	700	1	N	N	<5	20	20	20	N	N	15	20
KDFC013S	1,500	<1	N	N	<5	30	20	20	N	N	15	20
KDFC015S	300	1	N	N	7	15	15	20	N	N	15	20
KDFC016S	1,500	1	N	N	7	50	20	20	N	N	20	20
KDFC017S	100	1	N	N	7	70	10	20	N	N	20	20
KDFC019S	700	1	N	N	7	30	15	20	N	N	15	20
KDFC020S	700	1	N	N	7	15	10	20	N	N	15	20
KDFC021S	700	1	N	N	5	20	20	20	N	N	15	20
KDFC025S	700	1	N	N	5	30	20	20	N	N	15	20
KDFC027S	300	1	N	N	7	30	30	20	N	N	20	20
KDFC033S	500	<1	N	N	5	10	10	<20	N	N	7	10
KDFC034S	1,500	1	N	N	5	30	15	<20	N	N	7	10
KDFC035S	500	1	N	N	7	30	20	20	N	N	10	10
KDFC036S	500	1	N	N	<5	15	7	<20	N	N	7	15
KDFC037S	1,000	1	N	N	7	30	7	20	N	N	15	<10
KDFC038S	500	1.5	N	N	10	50	10	<20	N	N	15	10
KDFC039S	1,500	1	N	N	7	30	10	<20	N	N	7	15
KDFC040S	1,500	<1	N	N	10	50	10	20	N	N	15	15
KDFC041S	300	1	N	N	7	15	10	<20	N	N	7	15
JGFC001S	700	1	N	N	7	30	20	20	N	N	20	20
JGFC002S	1,500	1	N	N	5	30	10	<20	N	N	15	20
JGFC003S	500	<1	N	N	5	30	15	20	N	N	15	20
JGFC004S	700	1	N	N	7	30	20	20	N	N	20	20
JGFC005S	300	<1	N	N	<5	30	10	<20	N	N	10	15
JGFC006S	700	1	N	N	<5	30	15	<20	N	N	10	20
JGFC007S	2,000	1	N	N	N	15	20	20	N	N	15	20
JGFC008S	500	1	N	N	7	30	20	20	N	N	15	30
JGFC009S	1,500	1.5	N	N	5	50	20	20	N	N	15	20
JGFC010S	500	1	N	N	7	50	20	20	N	N	15	20
JGFC011S	1,500	1	N	N	10	50	20	20	N	N	20	20
JGFC012S	300	1.5	N	N	N	20	15	20	N	N	15	20
JGFC013S	1,000	1.5	N	N	10	30	30	20	N	N	20	30
JGFC014S		500	1.5	N	N	7	30	20	20	N	15	20
JGFC015S	500	1.5	N	N	7	30	50	20	N	N	20	15
JGFC016S	700	1.5	N	N	7	50	20	20	N	N	20	30
JGFC017S	500	1.5	N	N	<5	15	15	20	N	N	10	15
JGFC018S	1,500	1.5	N	N	N	30	15	20	N	N	15	20

Table 3. Results of analyses of minus-30-mesh stream-sediment samples---contiunued

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	U-ppm inst	Th-ppm Dna	U-ppm Dna
KDFC001S	N	<5	N	100	50	N	15	N	100	N	--	3.7	1.67
KDFC002S	N	<5	N	200	50	N	N	N	100	N	--	4.93	1.55
KDFC003S	N	<5	N	<100	50	N	15	N	150	N	--	4.62	1.63
KDFC004S	N	<5	N	N	50	N	20	N	100	N	--	5.01	1.67
KDFC005S	N	5	N	<100	50	N	15	N	100	N	--	5.75	1.95
KDFC007S	N	<5	N	<100	50	N	15	N	150	N	--	4	1.95
KDFC008S	N	<5	N	N	30	N	10	N	150	N	--	6.01	1.91
KDFC011S	N	5	N	100	70	N	15	N	100	N	--	6.5	2.69
KDFC012S	N	<5	N	150	50	N	15	N	150	N	--	6.59	2.22
KDFC013S	N	<5	N	150	70	N	15	N	100	N	--	6.55	3.07
KDFC015S	N	<5	N	<100	50	N	15	N	70	N	--	6.95	2.29
KDFC016S	N	5	N	<100	70	N	15	N	100	N	--	4.7	2.41
KDFC017S	N	5	N	N	50	N	15	N	150	N	--	9.19	3.69
KDFC019S	N	<5	N	<100	70	N	15	N	150	N	--	6.8	1.85
KDFC020S	N	<5	N	N	50	N	15	N	150	N	--	5.57	2.32
KDFC021S	N	<5	N	100	70	N	15	N	70	N	--	5.67	3.05
KDFC025S	N	<5	N	100	70	N	15	N	100	N	--	8.18	2.26
KDFC027S	N	<5	N	100	70	N	15	N	100	N	--	6.33	2.85
KDFC033S	N	<5	N	N	50	N	10	N	50	N	1.7	--	--
KDFC034S	N	N	N	100	50	N	15	N	50	N	1.6	--	--
KDFC035S	N	<5	N	150	50	N	15	N	70	N	1.2	--	--
KDFC036S	N	<5	N	100	30	N	<10	N	30	N	.85	--	--
KDFC037S	N	<5	N	150	50	N	10	N	150	N	1.2	--	--
KDFC038S	N	<5	N	150	70	N	15	N	30	N	1.5	--	--
KDFC039S	N	5	N	<100	70	N	10	N	150	N	1.5	--	--
KDFC040S	N	<5	N	100	50	N	15	N	150	N	1.1	--	--
KDFC041S	N	<5	N	<100	50	N	10	N	50	N	1.7	--	--
JGFC001S	N	5	N	150	70	N	15	N	150	N	--	4.1	2.1
JGFC002S	N	<5	N	<100	30	N	15	N	70	N	--	5.34	2.03
JGFC003S	N	<5	N	<100	50	N	15	N	100	N	--	3.7	2.33
JGFC004S	N	5	N	150	50	N	15	N	70	N	--	4.7	2.26
JGFC005S	N	<5	N	100	50	N	15	N	70	N	--	2.8	2.04
JGFC006S	N	<5	N	100	50	N	15	N	70	N	--	5.65	2.52
JGFC007S	N	<5	N	150	50	N	15	N	70	N	--	3.2	2.47
JGFC008S	N	<5	N	<100	70	N	20	N	150	N	--	6.01	2.45
JGFC009S	N	<5	N	150	70	N	10	N	100	N	--	4.6	3.44
JGFC010S	N	<5	N	<100	70	N	15	N	50	N	--	6.35	3.74
JGFC011S	N	5	N	100	70	N	15	N	50	N	--	6.77	3.45
JGFC012S	N	<5	N	N	70	N	15	N	50	N	--	6.7	2.68
JGFC013S	N	5	N	150	100	N	20	N	150	N	--	9.08	3.82
JGFC014S	N	<5	N	100	70	N	15	N	70	N	--	8.01	2.43
JGFC015S	N	5	N	150	70	N	15	N	100	N	--	6.93	2.38
JGFC016S	N	5	N	100	70	N	15	N	70	N	--	8.26	2.72
JGFC017S	N	<5	N	100	30	N	10	N	100	N	--	7.53	1.65
JGFC018S	N	<5	N	150	70	N	15	N	100	N	--	6.59	2.36

Table 4. Results of analyses of minus-80-mesh stream-sediment samples from the Floy Canyon Wilderness Study Area.
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown; s, analysis by semiquantitative emission spectrography; Dna, analysis by delayed neutron activation; inst, analysis by fluorimetry]

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
KDFC001S	39 4 51	110 3 56	1.5	.7	1.5	.2	150	N	N	N	70
KDFC002S	39 3 8	110 5 30	1.5	.5	2	.3	300	N	N	N	50
KDFC003S	39 2 52	110 2 15	1	.7	1.5	.2	150	N	N	N	70
KDFC004S	39 2 52	110 1 10	1.5	.7	1.5	.2	200	N	N	N	100
KDFC005S	39 2 35	109 59 20	1.5	.7	1.5	.2	300	N	N	N	70
KDFC007S	39 1 22	109 52 30	1	.7	1.5	.1	150	N	N	N	70
KDFC008S	39 1 9	109 52 3	1.5	.7	1.5	.2	150	N	N	N	50
KDFC011S	39 3 30	109 48 50	1.5	.7	1	.2	300	N	N	N	70
KDFC012S	39 3 40	109 49 13	1	.7	1.5	.15	150	N	N	N	50
KDFC013S	39 2 45	109 49 58	1.5	.7	1.5	.2	300	N	N	N	70
KDFC015S	39 1 25	109 49 58	1.5	.7	1.5	.2	300	N	N	N	70
KDFC016S	39 0 10	109 49 2	1.5	.5	1	.2	150	N	N	N	70
KDFC017S	39 0 10	109 49 2	1.5	1.5	3	.2	150	N	N	N	100
KDFC019S	39 0 46	109 48 0	1	.5	.7	.2	150	N	N	N	70
KDFC020S	39 1 0	109 47 40	1	.7	1.5	.15	200	N	N	N	50
KDFC021S	39 1 8	109 47 51	1.5	.7	1.5	.2	300	N	N	N	70
KDFC025S	39 6 12	109 42 10	1.5	.5	1.5	.3	200	N	N	N	70
KDFC027S	39 3 35	109 42 9	1.5	.7	1.5	.2	300	N	N	N	50
KDFC033S	39 2 25	109 54 30	1	.7	1.5	.2	300	N	N	N	70
KDFC034S	39 2 27	109 54 16	1	.7	2	.15	200	N	N	N	50
KDFC035S	39 5 22	109 49 10	1	.7	3	.15	300	N	N	N	50
KDFC036S	39 6 45	109 48 4	1	.7	3	.2	300	N	N	N	50
KDFC037S	39 6 50	109 48 15	1.5	.7	2	.2	300	N	N	N	50
KDFC038S	39 5 22	109 47 1	1.5	1	3	.2	300	N	N	N	50
KDFC039S	39 3 48	109 46 37	1.5	.7	3	.2	300	N	N	N	70
KDFC040S	39 4 9	109 54 30	1.5	.7	1.5	.2	150	N	N	N	50
KDFC041S	39 5 38	109 53 12	1.5	.7	2	.2	300	N	N	N	70
JGFC001S	39 5 10	110 2 30	1.5	.7	1.5	.3	200	N	N	N	70
JGFC002S	39 4 30	109 58 15	1.5	.7	1.5	.3	200	N	N	N	70
JGFC003S	39 4 40	109 58 15	1.5	.7	1.5	.2	200	N	N	N	70
JGFC004S	39 2 45	109 56 9	1.5	.7	1.5	.2	200	N	N	N	50
JGFC005S	39 0 50	109 56 45	1.5	.7	2	.2	200	N	N	N	70
JGFC006S	39 0 32	109 57 35	1.5	.7	2	.2	200	N	N	N	70
JGFC007S	39 0 45	109 55 49	1.5	.7	1.5	.15	200	N	N	N	70
JGFC008S	39 2 29	109 43 40	1.5	.7	1.5	.2	300	N	N	N	70
JGFC009S	39 3 7	109 43 19	1.5	.7	2	.2	300	N	N	N	50
JGFC010S	39 4 59	109 43 12	1.5	.7	2	.2	300	N	N	N	70
JGFC011S	39 4 45	109 42 51	1.5	1	2	.2	300	N	N	N	70
JGFC012S	39 4 55	109 43 50	1.5	.7	2	.3	500	N	N	N	70
JGF0C13S	39 5 15	109 44 58	1.5	.7	2	.2	300	N	N	N	70
JGFC014S	39 5 18	109 44 40	1.5	.7	1.5	.2	300	N	N	N	50
JGFC015S	39 8 0	109 50 50	1.5	.7	2	.2	300	N	N	N	50
JGFC016S	39 7 59	109 50 53	1	.7	1.5	.1	200	N	N	N	50
JGFC017S	39 9 50	109 49 30	.7	.7	2	.1	200	N	N	N	50
JGFC018S	39 7 25	109 52 2	1.5	.7	2	.2	300	N	N	N	70

Table 4. Results of analyses of minus-80-mesh stream-sediment samples---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
KDFC001S	200	1	N	N	7	70	20	20	N	N	20	20
KDFC002S	300	<1	N	N	7	50	10	<20	N	N	15	20
KDFC003S	500	<1	N	N	N	20	10	<20	N	N	10	20
KDFC004S	500	1	N	N	5	50	20	20	N	N	15	20
KDFC005S	1,500	1	N	N	7	50	20	20	N	N	15	20
KDFC007S	300	<1	N	N	N	20	7	20	N	N	10	20
KDFC008S	500	<1	N	N	<5	30	10	20	N	N	10	20
KDFC011S	700	1	N	N	7	30	20	20	N	N	15	20
KDFC012S	700	1	N	N	N	20	7	50	N	N	7	15
KDFC013S	700	1	N	N	7	50	20	20	N	N	15	20
KDFC015S	500	1	N	N	10	15	15	20	N	N	20	20
KDFC016S	300	1	N	N	5	30	10	20	N	N	15	20
KDFC017S	200	1.5	N	N	5	70	15	20	N	N	20	20
KDFC019S	300	1.5	N	N	N	20	5	20	N	N	7	15
KDFC020S	500	1.5	N	N	7	30	10	20	N	N	10	20
KDFC021S	700	1	N	N	5	50	15	20	N	N	15	20
KDFC025S	500	1	N	N	5	30	10	20	N	N	15	20
KDFC027S	500	1	N	N	5	50	10	20	N	N	15	20
KDFC033S	500	1	N	N	10	20	15	<20	N	N	15	15
KDFC034S	700	1.5	N	N	7	30	15	20	N	N	10	15
KDFC035S	500	1.5	N	N	7	30	15	20	N	N	15	15
KDFC036S	300	1.5	N	N	7	30	15	20	N	N	15	15
KDFC037S	1,000	1	N	N	10	30	15	20	N	N	15	20
KDFC038S	700	1	N	N	10	50	20	20	N	N	20	20
KDFC039S	500	1	N	N	10	50	20	20	N	N	15	20
KDFC040S	300	1	N	N	7	50	15	20	N	N	15	20
KDFC041S	500	1	N	N	10	50	20	20	N	N	20	20
JGFC001S	300	1	N	N	7	50	15	20	N	N	20	20
JGFC002S	1,000	1.5	N	N	7	50	20	20	N	N	20	20
JGFC003S	500	1	N	N	10	70	20	<20	N	N	20	20
JGFC004S	500	1	N	N	7	50	15	20	N	N	15	20
JGFC005S	700	1	N	N	5	30	15	20	N	N	10	20
JGFC006S	500	1	N	N	7	50	20	20	N	N	15	20
JGFC007S	300	1	N	N	7	50	15	<20	N	N	15	30
JGFC008S	500	1.5	N	N	10	30	20	<20	N	N	20	20
JGFC009S	700	1	N	N	7	30	20	20	N	N	15	20
JGFC010S	700	1	N	N	7	30	15	<20	N	N	15	20
JGFC011S	1,500	1	N	N	7	50	20	20	N	N	15	20
JGFC012S	500	1	N	N	7	50	15	30	N	N	10	20
JGF0C13S	300	1	N	N	7	20	20	20	N	N	15	20
JGFC014S	1,000	1.5	N	N	7	30	15	20	N	N	15	20
JGFC015S	700	1	N	N	7	50	15	20	N	N	15	20
JGFC016S	700	1	N	N	<5	30	10	<20	N	N	10	15
JGFC017S	500	1.5	N	N	N	30	10	20	N	N	7	15
JGFC018S	500	1.5	N	N	5	30	15	<20	N	N	15	20

Table 4. Results of analyes of minus-80-mesh stream-sediment samples--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	U-ppm inst	Th-ppm Dna	U-ppm Dna
KDFC001S	N	5	N	N	70	N	15	N	200	N	--	8.02	2.89
KDFC002S	N	5	N	200	100	N	15	N	200	N	--	30	5.28
KDFC003S	N	<5	N	N	50	N	15	N	300	N	--	7.27	2.4
KDFC004S	N	5	N	N	70	N	15	N	150	N	--	10.1	3.42
KDFC005S	N	5	N	<100	70	N	15	N	150	N	--	9.81	2.85
KDFC007S	N	<5	N	N	30	N	15	N	100	N	--	5.34	1.93
KDFC008S	N	<5	N	N	50	N	15	N	500	N	--	7.4	2.32
KDFC011S	N	<5	N	<100	70	N	15	N	150	N	--	9.33	3.58
KDFC012S	N	<5	N	<100	50	N	15	N	50	N	--	11	2.77
KDFC013S	N	<5	N	<100	70	N	15	N	500	N	--	19	4.45
KDFC015S	N	<5	N	N	50	N	15	N	500	N	--	5.5	2.6
KDFC016S	N	5	N	N	50	N	15	N	150	N	--	5.3	2.05
KDFC017S	N	5	N	<100	50	N	15	N	200	N	--	7.25	3.56
KDFC019S	N	<5	N	N	30	N	15	N	300	N	--	5.24	1.95
KDFC020S	N	<5	N	<100	50	N	15	N	150	N	--	8.75	3.03
KDFC021S	N	<5	N	<100	70	N	15	N	200	N	--	6.86	2.96
KDFC025S	N	5	N	<100	70	N	70	N	700	N	--	10.2	2.97
KDFC027S	N	5	N	100	50	N	10	N	150	N	--	10.5	2.78
KDFC033S	N	5	N	<100	70	N	20	N	500	N	2.2	--	--
KDFC034S	N	<5	N	150	50	N	15	N	500	N	1.7	--	--
KDFC035S	N	<5	N	150	50	N	15	N	150	N	1.6	--	--
KDFC036S	N	5	N	150	70	N	20	N	150	N	1.5	--	--
KDFC037S	N	5	N	150	70	N	15	N	150	N	1.2	--	--
KDFC038S	N	5	N	150	70	N	20	N	200	N	.95	--	--
KDFC039S	N	5	N	150	70	N	15	N	200	N	1.7	--	--
KDFC040S	N	5	N	<100	50	N	15	N	500	N	.9	--	--
KDFC041S	N	5	N	150	70	N	20	N	200	N	1.2	--	--
JGFC001S	N	5	N	N	70	N	15	N	200	N	--	5.88	2.71
JGFC002S	N	<5	N	<100	70	N	20	N	200	N	--	6	2.86
JGFC003S	N	<5	N	100	70	N	15	N	150	N	--	6.49	3.11
JGFC004S	N	5	N	100	70	N	15	N	200	N	--	8.06	3.13
JGFC005S	N	<5	N	100	70	N	15	N	150	N	--	6.3	3.57
JGFC006S	N	<5	N	150	70	N	15	N	200	N	--	4.9	3.24
JGFC007S	N	<5	N	<100	70	N	15	N	200	N	--	6.97	3.39
JGFC008S	N	<5	N	<100	70	N	15	N	100	N	--	5.96	3.01
JGFC009S	N	5	N	100	70	N	20	N	200	N	--	8.43	4.05
JGFC010S	N	<5	N	<100	70	N	15	N	150	N	--	7.47	3.34
JGFC011S	N	5	N	<100	70	N	20	N	500	N	--	10.3	3.8
JGFC012S	N	<5	N	100	50	N	20	N	150	N	--	11.5	3.79
JGFC013S	N	<5	N	100	70	N	15	N	70	N	--	7.86	3.07
JGFC014S	N	<5	N	150	70	N	15	N	70	N	--	8.08	3.45
JGFC015S	N	<5	N	100	70	N	15	N	150	N	--	6.86	2.91
JGFC016S	N	<5	N	150	50	N	<10	N	100	N	--	9.39	2.75
JGFC017S	N	<5	N	150	30	N	15	N	70	N	--	12.4	2.71
JGFC018S	N	5	N	100	50	N	15	N	100	N	--	9.2	3.07

Table 5. Results of analyses of rock samples from the Floy Canyon Wilderness Study Area
[N, not detected; <, detected but below the limit of determination shown; >, determined to be greater than the value shown; s, analysis by semiquantitave emission spectrography; Dna, analysis by delayed neutron activation; inst, analysis by fluorimetry]

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
JGFC004R	39 2 35	109 43 29	3	.5	.7	.3	70	.7	N	N	100	300
KDFC003R	39 2 52	110 2 15	1.5	1	7	.07	300	N	N	N	20	100
KDFC004R	39 2 42	110 1 10	15	1	2	.07	1,500	N	N	N	50	500
KDFC005R	39 2 35	109 59 20	2	1	1.5	.15	300	.7	N	N	70	200
KDFC006R	39 2 35	109 59 20	.15	.3	.1	.02	20	N	N	N	10	<20
KDFC007R	39 1 22	109 52 30	1	1	3	.03	150	N	N	N	10	<20
KDFC009R	39 1 9	109 52 3	3	1	2	.07	700	N	N	N	30	150
KDFC010R	39 1 9	109 52 3	3	1	2	.2	1,000	N	N	N	30	>5,000
KDFC012R	39 3 40	109 49 13	.5	.07	.15	.015	50	N	N	N	10	200
KDFC013R	39 2 45	109 49 58	2	1	7	.15	1,000	N	N	N	30	500
KDFC014R	39 2 15	109 50 10	3	.7	.7	.2	150	N	N	N	50	300
KDFC016R	39 0 10	109 49 2	.07	.1	15	.03	20	N	N	N	10	N
KDFC019R	39 0 46	109 48 0	15	.7	1.5	.1	2,000	N	N	N	30	200
KDFC020R	39 1 0	109 47 40	10	.7	1.5	.15	1,500	N	N	N	30	200
KDFC022R	39 7 28	109 42 30	3	1	1.5	.3	200	N	N	N	100	300
KDFC023R	39 6 42	109 42 18	3	1	1.5	.3	200	N	N	N	100	500
KDFC024R	39 6 30	109 42 12	1.5	.7	5	.2	500	<.5	N	N	30	300
KDFC026R	39 5 42	109 42 2	1.5	.7	5	.1	700	<.5	N	N	30	300
KDFC029R	39 7 55	109 50 55	2	.3	.3	.07	70	<.5	N	N	20	>2,000
KDFC030R	39 7 55	109 50 55	1.5	.3	1	.07	200	N	N	N	30	300
KDFC031R	39 7 55	109 50 55	.3	1	>20	.015	50	N	N	N	<10	500
KDFC032R	39 9 50	109 49 20	3	.7	.7	.3	200	N	N	N	50	2,000

Table 5. Results of analyses of rock samples---continued

Sample	Be-ppm s	Bi-ppm s	Cd-ppm s	Co-ppm s	Cr-ppm s	Cu-ppm s	La-ppm s	Mo-ppm s	Nb-ppm s	Ni-ppm s	Pb-ppm s	Sb-ppm s
JGFC004R	3	N	N	50	100	50	20	7	N	150	100	N
KDFC003R	<1	N	N	N	20	5	<20	N	N	5	<10	N
KDFC004R	5	N	N	N	20	10	N	N	N	5	10	N
KDFC005R	N	N	N	7	20	20	N	N	N	15	50	N
KDFC006R	N	N	N	N	10	N	N	N	N	<5	<10	N
KDFC007R	N	N	N	N	10	<5	N	N	N	<5	10	N
KDFC009R	1.5	N	N	<5	20	10	N	N	N	20	10	N
KDFC010R	1	N	N	10	20	20	20	N	N	30	20	N
KDFC012R	N	N	N	N	150	<5	<20	N	N	5	N	N
KDFC013R	<1	N	N	5	20	10	<20	N	N	15	15	N
KDFC014R	N	N	N	<5	30	15	N	<5	N	15	15	N
KDFC016R	N	N	N	N	N	N	N	N	N	N	N	N
KDFC019R	3	N	N	<5	30	15	<20	N	N	15	15	N
KDFC020R	5	N	N	10	50	30	N	N	N	20	30	N
KDFC022R	3	N	N	15	100	50	20	N	N	5	20	N
KDFC023R	3	N	N	15	100	30	20	N	N	5	20	N
KDFC024R	<1	N	N	10	50	15	20	N	N	15	20	N
KDFC026R	<1	N	N	7	30	7	<20	N	N	15	30	N
KDFC029R	<1	N	N	5	20	15	<20	N	N	20	50	N
KDFC030R	<1	N	N	N	50	7	N	N	N	15	20	N
KDFC031R	N	N	N	N	10	<5	N	N	N	N	<10	N
KDFC032R	<1	N	N	7	50	20	20	N	N	30	30	N

Table 5. Results of analyses of rock samples---continued

Sample	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	U-ppm inst	Th-ppm Dna	U-ppm Dna
JGFC004R	10	N	N	150	N	20	300	150	N	--	17.7	12.5
KDFC003R	N	N	N	15	N	15	N	150	N	--	3	2.09
KDFC004R	7	N	N	70	N	20	N	100	N	--	6	3.96
KDFC005R	<5	N	150	30	N	10	N	50	N	--	--	--
KDFC006R	N	N	N	<10	N	N	N	50	N	--	2.7	.33
KDFC007R	N	N	N	<10	N	N	N	15	N	--	<1.5	.708
KDFC009R	<5	N	N	30	N	20	500	300	N	--	<2	2.2
KDFC010R	7	N	300	70	N	20	N	150	N	--	7.68	3.27
KDFC012R	N	N	N	15	N	N	N	20	N	--	<1.3	.27
KDFC013R	<5	N	150	50	N	15	N	100	N	--	8.33	2.26
KDFC014R	N	N	100	70	N	15	N	100	N	--	8	5.76
KDFC016R	N	N	200	10	N	N	N	50	N	--	<1.7	.352
KDFC019R	20	N	N	100	N	150	N	150	N	--	<3.8	7.21
KDFC020R	10	N	N	50	N	30	N	50	N	--	5	5.01
KDFC022R	10	N	<100	100	N	30	N	150	N	--	12.8	2.93
KDFC023R	10	N	N	100	N	20	N	150	N	--	10.1	2.67
KDFC024R	5	N	<100	70	N	15	N	70	N	--	8	7.65
KDFC026R	<5	N	<100	70	N	15	N	50	N	--	<3.3	4.48
KDFC029R	<5	N	<100	50	N	<10	N	50	N	--	<2.7	2.94
KDFC030R	<5	N	<100	70	N	N	N	50	N	--	2.7	1.47
KDFC031R	N	N	1,000	10	N	N	N	<10	N	--	<2.6	3.33
KDFC032R	7	N	200	100	N	30	N	150	N	--	15.3	2.28

Table 6. Description of rock samples

JGFC004R	Red-brown sandstone; coal-rich
KDFC003R	Red-brown sandstone
004R	Red-brown sandstone
005R	Caliche
006R	Clean well-sorted sandstone
007R	Well-sorted sandstone (Blackhawk Formation)
009R	Red-brown sandstone
010R	Green to brown conglomeratic sandstone
012R	Silica-cemented sandstone
013R	Clean well-sorted sandstone
014R	Caliche
016R	Gypsum
019R	Iron-manganese nodules
020R	Iron-manganese nodules
022R	Shale (Wasatch Formation)
023R	Iron-rich shale
024R	Conglomerate at base of Wasatch Formation
026R	Conglomerate at base of Wasatch Formation
029R	Conglomerate at base of Wasatch Formation (altered)
030R	Conglomerate of Wasatch Formation
031R	Calcite veinlet in conglomerate unit
032R	Red-brown sandstone